

AD687457

ATD Report 69-77-50-10

CBE FACTORS

Monthly Survey No. 40

ATD Work Assignment No. 50

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**Aerospace Technology Division
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TABLE OF CONTENTS

Foreword	111
I. Chemical Factors	1
List of Additional Accession Numbers . . .	137
II. Biological Factors	138
List of Additional Accession Numbers . . .	295
III. Environmental Factors	296
List of Additional Accession Numbers . . .	342
IV. General	343
Appendix I. Sources	355
Appendix II. Authors	360

FOREWORD

This report is the fortieth in a series of monthly surveys covering the following areas:

- I. CHEMICAL FACTORS
 - Pesticides,
 - Herbicides,
 - Fertilizers
 - Psychotomimetics,
 - Other Chemicals
- II. BIOLOGICAL FACTORS
 - Pathogens
- III. ENVIRONMENTAL FACTORS
 - Aerosols
 - Ecology
 - Micrometeorology
 - Soil Science.
- IV. GENERAL

Titles of publications cited in Sections I—IV are listed alphabetically in Appendix I. An author index is included as Appendix II. There is no bibliography.

I. CHEMICAL FACTORS

ACC NR: AP9004783

SOURCE CODE: UR/0062/68/000/011/2480/2484

AUTHOR: Abduvakhobov, A. A.; Agabekova, I. I.; Godovikov, N. N.; Kabachnik, M. I.; Rozengart, V. I.

ORG: Institute of Heteroorganic Compounds, Academy of Sciences SSSR (Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR); First Leningrad Medical Institute im. I. P. Pavlov (Pervyy Leningradskiy meditsinskiy institut)

TITLE: Action of O-alkyl s-n-butyl methylthiophosphonates with branched alkyl groups on cholinesterases

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 11, 1968, 2480-2484

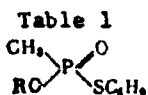
TOPIC TAGS: cholinesterase, butyrylcholinesterase, acetylcholinesterase, phosphonic acid, aliphatic ester, kinetic chemical reaction rate, thio-phosphonate ester

ABSTRACT: A study was made of the anticholinesterase activity of the O-alkyl S-butyl methylthiophosphonates (I-VI) shown in Table 1. The

Card 1/5

UDC: 541.69+661.718.1

ACC NR: AP9004783

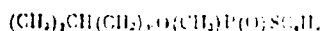


No.	R	Bp, °C (p in mm)	n_D^{20}	d_4^{20}
I	(CH ₃) ₂ CH	79(1.5)	1.4703	1.0166
II	(CH ₃) ₂ CHCH ₂	80(1.5)	1.4693	1.0053
III	(CH ₃) ₂ CH(CH ₂) ₂	106(2)	1.4698	0.9985
IV	(CH ₃) ₂ CH(CH ₂) ₃	73(3·10 ⁻²)	1.4725	0.9824
V	(CH ₃) ₂ CH(CH ₂) ₄	76(3·10 ⁻²)	1.4693	0.9835
VI	(CH ₃) ₂ CH(CH ₂) ₅	92-94(3·10 ⁻²)	1.4730	0.9818

inhibition rate constants of butyrylcholinesterase (BuChE) (from horse blood serum cholinesterase) and acetylcholinesterase (AcChE) (from bull erythrocytes) for I-VI (acetylcholine chloride substrate) are shown in Table 2. Also shown in Table 2 are the ionization constants (pK_a) of I-VI determined by measuring the pH of partially neutralized (40%, 60%, and 80%) water-alcohol solutions of the corresponding O-alkyl hydrogen methylthiophosphonates. Previously, it was shown that lengthening the alkyl radical in the series of O-n-alkyl S-butyl methylthiophosphonates does not cause a significant change in the electron affinity

Card 2/5

Table 2. Anti-ChE activity of I—VI and pK_a of the corresponding O-alkyl hydrogen methylthio-phosphonates



No.	n	k_2 1/(M-min)	k_2 1/(M-min)	pK_a in EtOH	
				60°	80°
I	0	$4.50 \cdot 10^5$	$(3.23 \pm 0.32) \cdot 10^5$	3.57	4.19
II	1	$(4.44 \pm 0.32) \cdot 10^5$	$(1.18 \pm 0.11) \cdot 10^6$	3.75	3.58
III	2	$(3.39 \pm 0.62) \cdot 10^5$	$(6.57 \pm 0.25) \cdot 10^5$	3.46	1.00
IV	3	$(3.89 \pm 0.37) \cdot 10^5$	$(2.29 \pm 0.12) \cdot 10^6$	—	—
V	4	$(6.55 \pm 0.16) \cdot 10^5$	$(9.32 \pm 0.07) \cdot 10^5$	—	—
VI	5	$(3.05 \pm 0.11) \cdot 10^5$	$(8.57 \pm 0.51) \cdot 10^5$	—	—

of the P atom in the compounds, as indicated by the constancy of the effective positive charge on P. The effective positive charge on P also remains constant in O-iso-alkyl hydrogen methylthiophosphonates, as indicated by the constancy of pK_a . Therefore, the changes in k_2 of these two series of compounds are due mainly to "hydrophobic reactions." Comparative data for the two series are shown in Figs. 1 and 2.

Card 3/5



Fig. 1

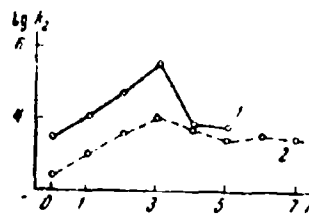


Fig. 2

Fig. 1. Reaction of BuChE with $RO(CH_3)P(O)SC_4H_9$:

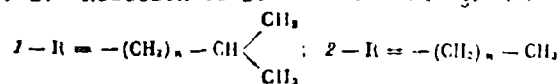
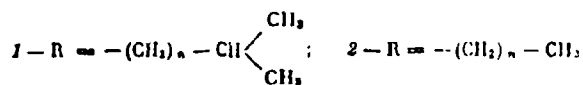
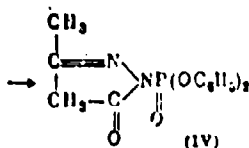


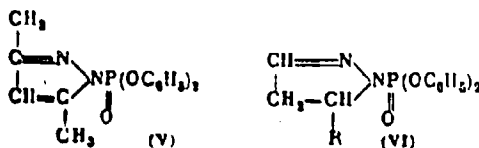
Fig. 2. Reaction of AcChE with $RO(CH_3)P(O)SC_4H_9$:



ACC NR: AP9004418



Thermal decomposition of the hydrazone III gave the pyrazole IV, mp 112—114°C. The reaction of compound I acetylacetone gave the pyrazole V, mp 93—95°C. The reactions of I with acrolein and



crotonic aldehyde gave the pyrazolines VIa (R = H), mp 128—130°C (yield 93%) and VIb (R = CH₃), mp 106—108°C (yield 82%), respectively. [WA-50; CBE No. 40][PS]

SUB CODE: 07/ SUBM DATE: 25Mar68/ OTH REF: 004

Card 2/2

ACC NR: AP9004409

SOURCE CODE: UR/0079/68/038/012/2768/2771

AUTHOR: Abramov, V. S. (Deceased); Tarasov, L. A.

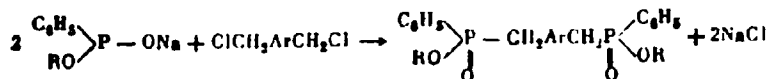
ORG: none

TITLE: Reactions of sodium phenylphosphonites with some dihalo derivatives. II. Synthesis of p-xylylenebis(phenylphosphinates) and 4,4'-ditolylenebis(phenylphosphinates)

SOURCE: Zhurnal obshchey khimii, v. 38, no. 12, 1968, 2768-2771

TOPIC TAGS: phosphinic acid, aliphatic ester, phosphinate ester

ABSTRACT: Diisopropyl 4,4'-ditolylenebis(phenylphosphinate) (VIII) was prepared by adding 4,4'-bis(chloromethyl)biphenyl in PhCH₃ to Na isopropyl phenylphosphonite and Na in PhCH₃ and heating for 4 hr at 85—90°C. Compounds I—VII, IX, and X were similarly prepared.



Card

1/4

UDC: 547.26'118

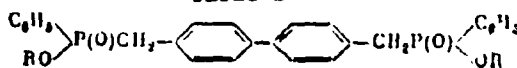
ACC NR: AP900440

Table 1



No.	R	% Yield	Mp, °C
I	C ₆ H ₅	51.1	188-189°
II	C ₆ H ₅	32.5	158-159
III	isoC ₆ H ₅	23.7	170-171
IV	isoC ₆ H ₅	12.7	162-163
V	H	35.2	147-148
		92.2	281-286

Table 2



No.	R	% Yield	Mp, °C
VI	C ₆ H ₅	44.2	220-221°

Card 2/4

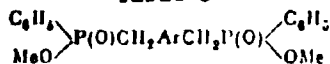
ACC NR: AP9004409

Table 2. (Cont.)

VII	C ₆ H ₅	53.3	200-201
VIII	isoC ₆ H ₅	13.2	222-223
		39.7	195-196
X	C ₆ H ₅	45.3	176-177
X	H	94.1	318-321

4,4'-Ditolylenebis(phenylphosphinic) acid (94.1% yield, mp 318-321°C) was prepared by heating a mixture of the isomers of VIII and 15% HCl in a sealed tube at 140-150°C for 3 hr. p-Xylylenebis(phenylphosphinic) acid (49.4% yield, mp 283-286°C) was obtained by heating I for 35 min at 275-285°C. p-Xylylenebis(phenylphosphinic) acid (82.9% yield, mp 284-286°C) was obtained by heating III at 235-240°C

Table 3



No.	Me	Ar	% Yield	Mp, °C
XI	Na	C ₆ H ₄	50.0	86-89°
XII	Li	C ₆ H ₄	46.2	>500
XIII	Na	C ₆ H ₄ C ₆ H ₄	46.4	109-112
XIV	Li	C ₆ H ₄ C ₆ H ₄	49.6	>500

Card 3/4

ACC NR: AP9004409

for 2—3 min. Disodium 4,4'-ditolylenebis(phenylphosphinate) (XIII) was prepared by heating VIII and NaCl at 240—250°C. Compounds XI, XII, and XIV were similarly prepared. Orig. art. has: 3 tables.
[WA-50; CBE No. 40][RT]

SUB CODE: 07/ SUBM DATE: 15Jan68/ ORIG REF: 003/ OTH REF: 003

Card 4/4

ACC NR: AP9005817

SOURCE CODE: UR/0426/68/021/009/0787/0792

AUTHOR: Akopyan, Zh. G.; Terzyan, A. G.; Tatevosyan, G. T.

ORG: Institute of Fine Organic Chemistry, AN ArmSSR (Institut tonkoy organicheskoy khimii AN ArmSSR)

TITLE: Indole derivatives. XXII. Dihydrazides and bis(phenylpiperazides) of α -alkyl-6-(2-methyl-5-carboxy-3-indolyl)propionic acids

SOURCE: Armyanskiy khimicheskiy zhurnal, v. 21, no. 9, 1968, 787-792

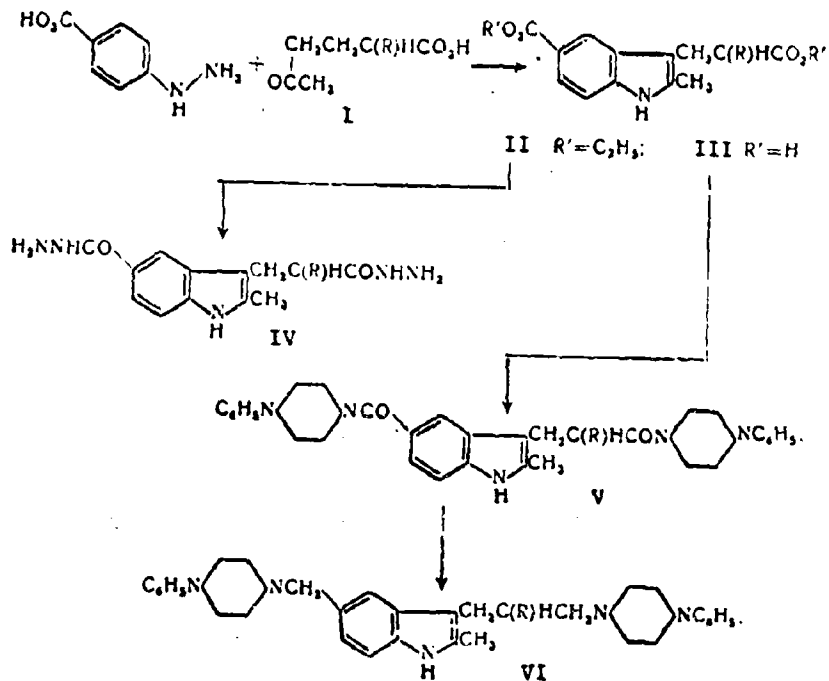
TOPIC TAGS: indole aerivative, central nervous system depressant, hydrazine compound, carboxylic acid, piperazine

ABSTRACT: Unsubstituted and α -substituted indolylpropionic acids display heteroauxin-like properties. Their hydrazides are inhibitors of monoamino oxidase. N-Phenylpiperazides of indolylaliphatic acids and their reduction products are CNS depressants. The title compounds were synthesized to study their biological properties. Diethyl α -alkyl-6-(2-methyl-5-carboxy-3-indolyl)propionates (II) were prepared by refluxing p-carboxyphenylhydrazine hydrochloride, I, EtOH, and H₂SO₄.

Card 1/7

UDC: 547.46'054+547.757

ACC NR: AP9005817



Card 2/7

ACC NR: AP9005817

Table 1. Propionates (II)

II R	Yield	Mp, °C
H	20.0	84
CH_3	31.3	89
C_2H_5	38.6	104
C_3H_7	34.0	93
C_4H_9	30.0	93-94
C_8H_5	40.0	173

for 18 hr. α -Alkyl-8-(2-methyl-5-carboxy-3-indolyl)propionic acids (III) were obtained by refluxing II and KOH in CH_3OH for 4 hr.

Card 3/7

ACC NR: AP9005817

Table 2. Propionic acids (III)

III R	% Yield	Mp, °C
H	74.0	229-230
CH ₃	79.3	234-235
C ₂ H ₅	81.9	224-225
C ₃ H ₇	77.3	275-276
C ₄ H ₉	82.2	248-250
C ₆ H ₅	62.3	165-166

α -Alkyl- β -(2-methyl-5-carboxy-3-indolyl)propionic acid dihydrazides (IV) were prepared by refluxing II and 85% H₂NNH₂·H₂O for 6-8 hr.

Card 4/7

ACC NR: AP9005817

Table 3. Dihydrazides (IV)

IV R	% Yield	Mp, °C	Mp of HCl salt, °C
H	69.4	208	257
CH ₃	78.3	235	273
C ₂ H ₅	76.5	246	260
C ₃ H ₇	82.7	225	248
C ₄ H ₉	76.8	220	246
C ₆ H ₅	75.5	211	321

α -Alkyl- β -(2-methyl-5-carboxy-3-indolyl)propionic acid bis(phenylpiperazides) (V) were obtained by heating III and N-phenylpiperazine

Card 5/7

ACC NR: AP9005817

Table 4. Bis(phenyl-piperazides) (V)

V R	% Yield	Mp, °C	Mp of HCl salt, °C
H	48,0	152	243
CH ₃	80,9	121	193
C ₂ H ₅	68,8	145	196
C ₃ H ₇	50,4	125	186
C ₄ H ₉	73,0	141	182
C ₆ H ₅	86,6	143	199

at 180—220°C. {2-Methyl-3-[(β -alkyl- γ -4-phenyl-1-piperazinyl)propyl]-5-[(4-phenyl-1-piperazinyl)methyl]}indoles (VI) were prepared by adding V to LiAlH₄ in ether and boiling for 18 hr. Results of a pharmacological

Card 6/7

ACC NR: AP9005817

Table 5. Indoles (VI)

VI R	% Yield	Mp of HCl salt, °C
H	51,5	160—161
CH ₃	74,4	181—182
C ₂ H ₅	68,3	158—159
C ₃ H ₇	64,2	175—176
C ₄ H ₉	63,2	172—173
C ₆ H ₅	65,1	155—156

study of the hydrochlorides of IV—VI will be published separately.
Orig. art. has: 5 tables. [WA-50; CBE No. 40][FT]

SUB CODE: 06, 07/ SUBM DATE: 24Jul67/ ORIG REF: 003/ GTH REF: 003

Card 7/7

ACC NR: AP9005094

SOURCE CODE: UR/0390/68/031/005/0525/0526

AUTHOR: Aleksandrova, A. Ye.; Smirnova, S. M.

ORG: Department of Pharmacology /Head--Prof. S. Ya. Arbuzov/, Military Medical Academy im. S. M. Kirov, Leningrad (Kafedra farmakologii, Voenno-meditsinskoy akademii)

TITLE: Pharmacological characteristics of the condensation product of Fenamin [amphetamine] and γ -aminobutyric acid

SOURCE: Farmakologiya i toksikologiya, v. 31, no. 5, 1968, 525-526

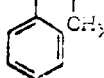
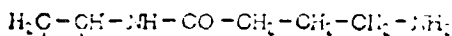
TOPIC TAGS: central nervous system stimulant, central nervous system depressant, amine derivative, amino acid derivative

ABSTRACT: Active analogs of Fenamin (i.e., amphetamine) have been sought at the authors' Department for many years. Active preparations have been obtained by adding various radicals (β -alanine, p-aminobenzoic acid, nicotinic acid, and pyridoxine) to the amino group of amphetamine. Gamofen (I) (the condensation product of amphetamine and γ -aminobutyric acid) is a white crystalline powder, freely soluble in water, and melting at 132--133°C.

Card 1/3

UDC: 615.214.31.015

ACC NR: AP9005094



(I)

HCl

Compound I is of low toxicity, ($\text{LD}_{50} = 290 \text{ mg/kg}$), lacks the action which is characteristic of amphetamine, and is not an antagonist of amphetamine. In chemical structure, I is close to Alafen (the condensation product of β -alanine and amphetamine). Alafen displays antiserotonin activity in a dose of 10 mg/kg. The antiserotonin activity of I is not pronounced and is displayed in a minimum effective dose of 100 mg/kg. Compound I does not display the pronounced hypotensive action characteristic of Pirodoksifen (i.e., pyridoxylamphetamine) and Fenatin (i.e., nicotinoyl-amphetamine) nor the central stimulating effect of Fenatin. Compound I does not display the antihypoxic action which is characteristic of Pabofen (i.e., p-aminobenzoylamphetamine). Compound I displays a characteristic central action. Electroencephalographic analysis of this action indicated that the most pronounced changes in the central nervous system occur in the hippocampus. This was also confirmed by experiments on white mice in which I intensified the convulsant action of Korazol (i.e., 6, 7, 8, 9-tetrahydro-5-azepotetrazole). It is known that this effect of Korazol is due to its stimulant effect on the limbic system as a whole and the hippocampus in particular. Compound I also displays some depressant properties. It weakens the orientational reflexes of

Card 2/3

ACC NR: AP9005094

white mice and potentiates the action of hypnotics and morphine. The central action of I is not linked with the adrenergic and cholinergic structures of the brain since I does not change the effect of amphetamine, nicotine, or arecoline. [WA-50; CBE No. 40] [FT]

SUB CODE: 06/ SUBM DATE: 06Jul67/ ORIG REF: 004/ OTH REF: 002

Card 3/3

ACC NR: AP9004789

SOURCE CODE: UR/0062/68/000/011/2611/2614

AUTHOR: Alimov, M. P.; Alimov, P. I.

ORG: Institute of Organic and Physical Chemistry im. A. Ye. Arbusov, Academy of Sciences SSSR (Institut organicheskoy i fizicheskoy khimii Akademii nauk SSSR)

TITLE: Intramolecular condensation of two-substituted N-phosphorylated imidoureas

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 11, 1968, 2611-2614

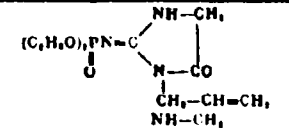
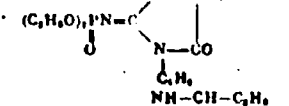
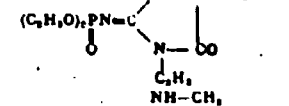
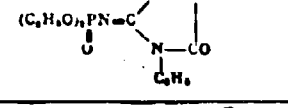
TOPIC TAGS: imide, aliphatic phosphorus compound, aromatic phosphorus compound, urea

ABSTRACT: A series of disubstituted N-diethylphosphorylated imidoureas was synthesized by the reaction:

Card 1/4

UDC: 542.953+661.718.1+547.495.2

ACC NR: AP9004789

4		160-162 (3)	1,4930	1,1735	40
5		166-167 (3)	1,4791	1,1313	55
6		149-151 (2)	1,4784	1,1401	56
7		Mp 142-143	-	-	15

The cyclic phosphates are characterized in the table.

[WA-50; CBE No. 40] [PS]

SUB CODE: 07/ SUBM DATE: 06May68/ ORIG REF: 002

Card 4/4

ACC NR: AP9004785

SOURCE CODE: UR/0062/68/000/011/2525/2529

AUTHOR: Arbuzov, B. A.; Polezhayeva, N. A.; Vinogradova, V. S.

ORG: Chemical Institute im. A. M. Butlerov, Kazan State University
im. V. I. Ul'yanov-Lenin (Khimicheskiy institut Kazanskogo gosudarstvennogo universiteta)

TITLE: The structure of products formed in the reaction of trialkyl phosphites with some azocarbonyl compounds

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 11, 1968, 2525-2529

TOPIC TAGS: aliphatic phosphorus compound, aromatic phosphorus compound, alkyl phosphite, organic azo compound, heterosubstituted carboxylic acid, heterocyclic nitrogen compound

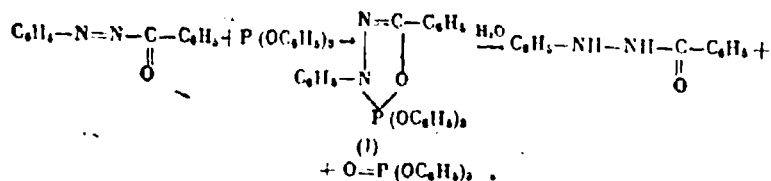
ABSTRACT: 2,2,2-Triphenoxy-3,5-diphenyl-1-oxa-2-phospha-3,4-diazacyclo-pent-4-ene (I), mp 116-117°C was synthesized by the reaction:

Card 1/3

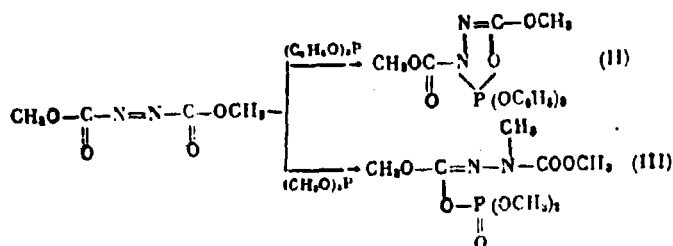
UDC: 541.6+542.91+661.718.1

- 15 -

ACC NR: AP9004785



The exothermic reaction takes place in dry nitrogen atmosphere with a slow-dropwise addition of triphenyl phosphite to keep the temperature below 45–50°C. The reaction is completed by standing for several days at room temperature. The structure of I was established by NMR and IR spectra. The reactions of dimethyl ester of azodicarboxylic acid with triphenyl phosphite and with trimethyl phosphite to form compounds II (mp 93–95°C) and III (bp 110–111°C/2 x 10⁻² mm), respectively, were conducted at 0°C in dry nitrogen atmosphere:



Card 2/3

ACC NR: AP9004785

The structure of compounds II and III was also established by NMR and IR spectra. Orig. art. has: 1 figure. [WA-50; CBE No. 40] [PS]

SUB CODE: 07/ SUBM DATE: 22Feb68/ ORIG REF: 005/ OTH REF: 004

Card 3/3

ACC NR: AP9005095

SOURCE CODE: UR/0390/68/031/005/0527/0529

AUTHOR: Arbuzov, S. Ya. (Head, Professor); Masyuta, G. F.

ORG: Department of Pharmacology /Head--Prof. S. Ya. Arbuzov/, Military Medical Academy im. S. M. Kirov, Leningrad (Katedra farmakologii. Voenno-meditsinskoy akademii)

TITLE: Antiserotonin action of Alafen

SOURCE: Farmakologiya i toksikologiya, v. 31, no. 5, 1968, 527-529

TOPIC TAGS: serotonin, alanine, conditioned reflex, cholinergic blocking agent, acetylcholine, serotonin antagonist

ABSTRACT: Much attention is being given to finding and studying serotonin antagonists. A study was made of the antiserotonin properties of Alafen (an addition product of Phenamine and β -alanine). Rats were given serotonin (ip 5 mg/kg) with prior inhibition of monoaminooxidase by intraperitoneal administration of Iprazid (100 mg/kg) 24 hr previously. A study was made of the latent period and the strength of the conditioned reflex for food reinforcement. The administration of serotonin, especially in combination with Iprazid, produced disturbances of higher nervous activity up to complete lapse of conditioned

Card 1/4

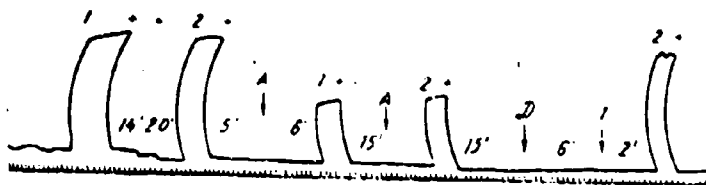
UDC: 615.217.22.015.4

ACC NR: AP9005095

reflexes for 3 hr and more. The combination of Alafen (sc 50 and 75 mg/kg) with serotonin and Iprazid increased the toxic effect of serotonin. When Alafen was given in a smaller dose (sc 25 mg/kg), the unfavorable effect of serotonin on conditioned-reflex activity became least 60 min after administration. Alafen (sc 50 mg/kg 20 min before giving (ip) 1 mg 5-hydroxytryptophan) almost completely inhibited the effect of 5-hydroxytryptophan on the propulsive activity of the intestine of white mice. The latent period for diarrhea was 27 min. A study was made of the effect of Alafen on the antidiuretic action of serotonin. Serotonin displayed pronounced antidiuretic activity for the first 2 hr. Only by the 4th or 5th hour of observations did Alafen exert a weak antidiuretic effect. Alafen and serotonin had no reliable effect on temperature. Alafen is able to react with serotonin. On the one hand, Alafen eliminates the tonic effect of serotonin on the smooth vascular musculature of isolated rabbit ears and the isolated rat uterus and intestine and eliminates the effect of serotonin on the propulsive activity of the intestine. On the other hand, Alafen intensifies or does not change the effect of serotonin on the central nervous system and on diuresis. A study was made of the effect of Alafen on D-serotonin receptors on an isolated rat uterus. Alafen had a distinct antiserotonin effect, which increased in proportion to the dose of Alafen. Alafen also inhibited the

Card 2/4

ACC NR: AP9005095



Effect of Alafen on serotonin receptors of an isolated rat uterus

1 - Serotonin creatinine phosphate $1:10^5$; + washout;
2 - acetylcholine $1:10^4$; A - Alafen $1:10^6$; D - Dibenamine $4:10^4$

functioning of the cholinergic receptors of the uterus. In earlier observations, it was shown that the preliminary administration of atropine and gangliolytics has no effect on the action of Alafen in the organism. Such an occurrence was noted only on the choline receptors of the rat uterus. A study was made of the effect of Alafen on the reaction of the isolated rat small intestine to the addition of serotonin and acetylcholine to the nutrient liquid. In this case,

Card 3/4

ACC NR: AP9005095

too, Alafen had an antiserotonin effect and did not influence the effects of acetylcholine. Orig. art. has: 1 table and 1 figure.
[WA-50; CBE No. 40][FT]

SUB CODE: 06/ SUBM DATE: 18Oct66/ ORIG REF: 005/ OTH REF: 001

Card 4/4

ACC NR: AP9005814

SOURCE CODE: UR/0426/68/021/009/0771/0778

AUTHOR: Aroyan, A. A.; Azaryan, A. S.

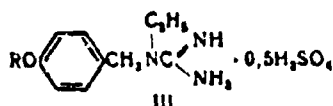
ORG: Institute of Fine Organic Chemistry, AN ArmSSR (Institut tonkoy organicheskoy khimii AN ArmSSR)

TITLE: Synthesis of guanidine derivatives

SOURCE: Armyanskiy khimicheskiy zhurnal, v. 21, no. 9, 1968, 771-778

TOPIC TAGS: guanidine, guanidine derivative, aromatic amine

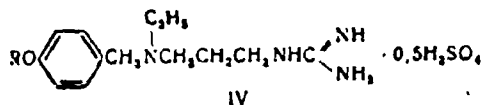
ABSTRACT: In a search for new hypotensive compounds, a series of 1-(4-alkoxybenzyl)-1-ethylguanidines (III) and guanidinopropyl-N-(4-alkoxybenzyl)-N-ethylamines (IV):



Card 1/8

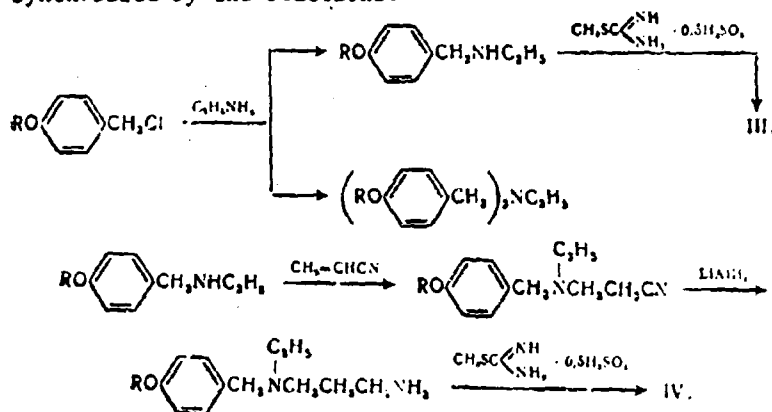
UDC: 541.69+547.495.9

ACC NR: AP9005814



R = CH₃, C₂H₅, C₃H₇, iso-C₃H₇, C₄H₉, iso-C₄H₉, C₅H₁₁, iso-C₅H₁₁

was synthesized by the reactions:

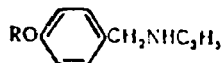


Card 2/8

ACC NR: AP9005814

The starting compounds in the synthesis of III, 4-alkoxybenzylethylamines, were synthesized by the reaction of alkoxybenzyl chloride with ethylamine in benzene solution at room temperature. They are characterized in Table 1. Reactions of 4-alkoxybenzylethylamines with

Table 1



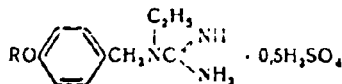
R	Formula	% Yield	Bp, °C/mm	d_4^{20}	n_D^{20}
CH ₃	C ₁₀ H ₁₃ NO	53.0	108-110.2	1.0011	1.5210
C ₂ H ₅	C ₁₁ H ₁₅ NO	46.6	115-118.3	0.9723	1.5161
C ₃ H ₇	C ₁₂ H ₁₇ NO	47.2	132-135.5	0.9515	1.5113
iso-C ₃ H ₇	C ₁₂ H ₁₇ NO	45.4	118-121/2	0.9523	1.5052
C ₄ H ₉	C ₁₃ H ₁₉ NO	52.7	119-121/1	0.9526	1.5073
iso-C ₄ H ₉	C ₁₃ H ₁₉ NO	53.2	123-125/2	0.9562	1.5038
C ₈ H ₁₁	C ₁₄ H ₁₉ NO	44.1	143-145.5	0.9426	1.5029
iso-C ₈ H ₁₁	C ₁₄ H ₁₉ NO	43.7	123-124.1	0.9469	1.5030

Card 3/8

ACC NR: AP9005814

S-methylisothiurea sulfate in ethanol on boiling on a water bath gave the 1-(4-alkoxybenzyl)-1-ethylguanidine sulfates characterized in Table 2.

Table 2



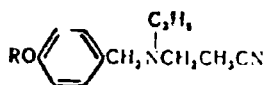
R	Formula	% Yield	Mp, °C
CH ₃	C ₁₁ H ₁₇ N ₃ O · 0.5H ₂ SO ₄	61.2	95-97
C ₂ H ₅	C ₁₃ H ₁₉ N ₃ O · 0.5H ₂ SO ₄	60.1	122-124
C ₃ H ₇	C ₁₅ H ₂₁ N ₃ O · 0.5H ₂ SO ₄	68.0	82-83
iso-C ₃ H ₇	C ₁₅ H ₂₁ N ₃ O · 0.5H ₂ SO ₄	79.3	97-98
C ₄ H ₉	C ₁₇ H ₂₃ N ₃ O · 0.5H ₂ SO ₄	69.0	84-85
iso-C ₄ H ₉	C ₁₇ H ₂₃ N ₃ O · 0.5H ₂ SO ₄	83.9	82-83
C ₈ H ₁₁	C ₁₉ H ₂₅ N ₃ O · 0.5H ₂ SO ₄	78.5	81-83

Card 4/8

ACC NR: AP9005814

The intermediates in the synthesis of compounds IV, β -(4-alkoxybenzyl)-ethylaminopropionitriles were obtained by heating a mixture of 4-alkoxybenzylethylamine and acrylonitrile in dry benzene on a water bath. The propionitriles are characterized in Table 3. The latter

Table 3



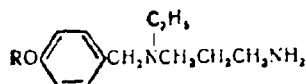
R	Formula	% Yield	Bp, °C/mm	d_4^{20}	n_D^{20}
CH ₃	C ₁₃ H ₁₈ N ₂ O	85.0	165-167.3	1.0320	1.5221
C ₂ H ₅	C ₁₄ H ₂₀ N ₂ O	77.7	192-195.5	1.0119	1.5145
C ₃ H ₇	C ₁₅ H ₂₂ N ₂ O	80.0	198-200.5	0.9999	1.5131
iso-C ₃ H ₇	C ₁₅ H ₂₂ N ₂ O	78.1	145-147.1	0.9957	1.5108
C ₄ H ₉	C ₁₆ H ₂₄ N ₂ O	90.9	158-160.2	0.9911	1.5082
iso-C ₄ H ₉	C ₁₆ H ₂₄ N ₂ O	78.5	176-180.2	0.9841	1.5076
C ₈ H ₁₇	C ₂₁ H ₂₈ N ₂ O	83.9	176-180.2	0.9791	1.5072
iso-C ₈ H ₁₇	C ₂₁ H ₂₈ N ₂ O	73.7	175-178.2	0.9793	1.5078

Card 5/8

ACC NR: AP9005814

compounds were reduced with LiAlH₄ in absolute ether to form the N-(4-alkoxybenzyl)-N-ethylpropylenediamines characterized in Table 4.

Table 4



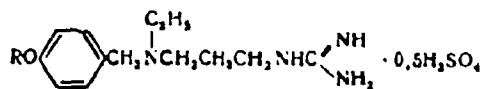
R	Formula	% Yield	Bp, °C/mm	d_4^{20}	n_D^{20}
CH ₃	C ₁₃ H ₂₂ N ₂ O	51.2	135-137.1	0.9943	1.5239
C ₂ H ₅	C ₁₄ H ₂₄ N ₂ O	50.0	165-167.4	0.9895	1.5179
C ₃ H ₇	C ₁₅ H ₂₆ N ₂ O	60.5	172-174.4	0.9702	1.5155
iso-C ₃ H ₇	C ₁₅ H ₂₆ N ₂ O	51.3	166-169.2	0.9657	1.5108
C ₄ H ₉	C ₁₆ H ₂₈ N ₂ O	52.9	175-178.2	0.9674	1.5108
iso-C ₄ H ₉	C ₁₆ H ₂₈ N ₂ O	67.1	165-167.1	0.9686	1.5096
C ₈ H ₁₇	C ₂₁ H ₃₀ N ₂ O	57.2	175-178.1	0.9513	1.5068
iso-C ₈ H ₁₇	C ₂₁ H ₃₀ N ₂ O	56.0	172-173.1	0.9459	1.5091

Card 6/8

ACC NR: AP9005814

The diamines were converted into the corresponding sulfates by heating a mixture of the diamine with S-methylisothiurea in ethanol. The

Table 5



R	Formula	% yield	Mp, °C
CH ₃	C ₁₄ H ₂₄ N ₄ O · 0.5H ₂ SO ₄	86.0	93-95
C ₂ H ₅	C ₁₅ H ₂₆ N ₄ O · 0.5H ₂ SO ₄	87.7	95-96
C ₃ H ₇	C ₁₆ H ₂₈ N ₄ O · 0.5H ₂ SO ₄	86.1	80-81
iso-C ₃ H ₇	C ₁₆ H ₂₈ N ₄ O · 0.5H ₂ SO ₄	84.2	111-113
C ₄ H ₉	C ₁₇ H ₃₀ N ₄ O · 0.5H ₂ SO ₄	62.0	98-100
iso-C ₄ H ₉	C ₁₇ H ₃₀ N ₄ O · 0.5H ₂ SO ₄	78.7	71-73
C ₅ H ₁₁	C ₁₈ H ₃₂ N ₄ O · 0.6H ₂ SO ₄	70.6	96-98
iso-C ₅ H ₁₁	C ₁₈ H ₃₂ N ₄ O · 0.5H ₂ SO ₄	75.2	93-94

Card 7/8

ACC NR: AP9005814

sulfates are characterized in Table 5. Orig. art. has: 5 tables.
[WA-50; CBE No. 40][PS]

SUB CODE: 07/ SUBM DATE: 24Jul67/ ORIG REF: 004/ OTH REF: 002

Card 8/8

ACC NR: AP9004704

SOURCE CODE: UR/0426/68/021/005/0407/0413

AUTHOR: Aroyan, A. A.; Yesayan, A. Ye.

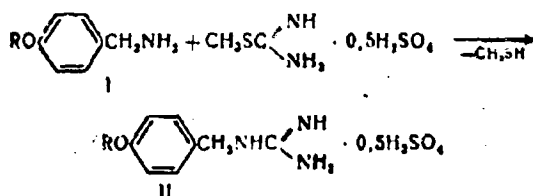
ORG: Institute of Fine Organic Chemistry, AN ArmSSR (Institut tonkoy organicheskoy khimii, AN ArmSSR)

TITLE: Synthesis of some 4-alkoxybenzylguanidines and aminoguanidines

SOURCE: Armyskiy khimicheskii zhurnal, v. 21, no. 5, 1968, 407-413

TOPIC TAGS: guanidine, aromatic amine, aminoguanidine

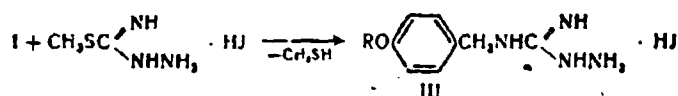
ABSTRACT: In a search for new biologically active compounds, a series of 4-alkoxybenzylguanidines (II) and aminoguanidines (III) was synthesized by the reactions of 4-alkoxybenzylamines with S-methylisothiourea and S-methylisothiosemicarbazide hydroiodide:



Card 1/7

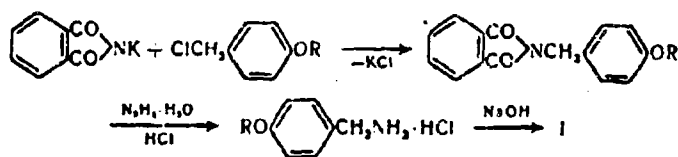
UDC: 547.495.9+547.497.1

ACC NR: AP9004704



R=CH₃, C₂H₅, C₃H₇, iso-C₃H₇, C₄H₉, iso-C₄H₉, C₃H₁₁, iso-C₄H₁₁.

The initial 4-alkoxybenzylamines were prepared by condensation of alkoxybenzyl chlorides with potassium phthalimide in dimethylformamide with subsequent treatment with hydrazine hydrate:



The sulfates of II were obtained by heating alkoxybenzylamines with S-methylisothiourea in water-alcohol (1:1) medium. The reaction of I with S-methylisothiosemicarbazide hydroiodide to form compounds III proceeds when the reaction mixture is heated for 5 hr in alcohol.

Card 2/7

ACC NR: AP9004704

The reaction of 4-methoxybenzylamine with 2-methylmercaptoimidazoline hydroiodide gave (79%) IV, mp 144-145°C:

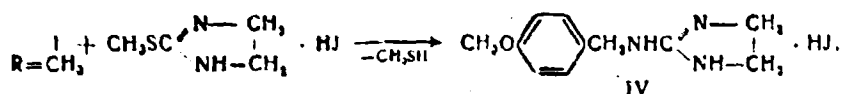
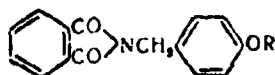


Table 1



R	% Yield	Mp, °C
CH ₃	75	123-124
C ₂ H ₅	62	102-104
C ₃ H ₇	61	92-93
iso-C ₃ H ₇	51	94-95

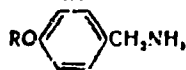
Cord 3/7

ACC NR: AP9004704

Table 1. (Cont.)

C ₄ H ₉	59	97-98
iso-C ₄ H ₉	51	99-101
C ₅ H ₁₁	54	78-79
iso-C ₅ H ₁₁	50	76-77

Table 2



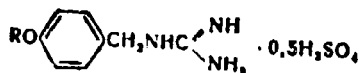
R	% Yield	Bp, °C (mm Hg)
CH ₃	78	95-97
C ₂ H ₅	73	110-112
C ₃ H ₇	71.5	125-127
iso-C ₃ H ₇	72	115-118
C ₄ H ₉	70	134-135

Cord 4/7

Table 2. (Cont.)

iso-C ₄ H ₉	62.5	129-130
C ₅ H ₁₁	63	143-145
iso-C ₃ H ₇	60	127-128

Table 3



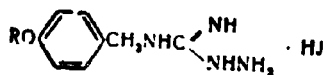
R	% Yield	Mp. °C
CH ₃	91.3	215-216
C ₂ H ₅	95	210-212
C ₃ H ₇	97.5	199-202
iso-C ₃ H ₇	95	223-225
C ₄ H ₉	80	198-199

Card 5/7

Table 3. (Cont.)

iso-C ₄ H ₉	81.5	205-210
C ₅ H ₁₁	85	190-191
iso-C ₃ H ₇	95	250-251

Table 4



R	% Yield	Mp. °C
CH ₃	92	112-115
C ₂ H ₅	82	115-118
C ₃ H ₇	86	158-159
iso-C ₃ H ₇	85	120-125
C ₄ H ₉	87	175-178
iso-C ₄ H ₉	86	143-148
C ₅ H ₁₁	85	172-175
iso-C ₃ H ₇	84	145-170

Card 6/7

ACC NR: AP9004704

The composition, yield, and physical constants of the compounds synthesized are given in Tables 1, 2, 3, and 4. Orig. art. has: 4 tables. [WA-50; CBE No. 40][PS]

SUB CODE: 07/ SUBM DATE: 07Mar67/ OTH REF: 001

Card 7/7

ACC NR: AP9006694

SOURCE CODE: UR/0409/68/000/006/1053/1054

AUTHOR: Azerbayev, I. N.; Sarbayev, T. G.; Abiyurov, B. D.

ORG: Institute of Chemical Sciences, Academy of Sciences KazSSR, Alma-Ata (Institut khimicheskikh nauk Akademii nauk KazSSR)

TITLE: Synthesis of 2,5-dimethyl- and 1,2,5-trimethyl-4-(dimethylphosphono)-4-piperidols

SOURCE: Khimiya geterotsiklicheskikh soyedineniy, no. 6, 1968, 1053-1054

TOPIC TAGS: organic phosphorous insecticide, phosphonic acid, nitrogen compound, piperidine, cyclic alcohol

ABSTRACT: The title synthesis was performed to study the effect of the piperidine system on the insecticidal properties of dialkyl α -hydroxy-piperidylphosphonates. These compounds, having several reactive centers, may be an important object of study for further transformations and the preparation of a whole series of promising physiologically active substances. 2,5-Dimethyl-4-(dimethylphosphono)-4-piperidol (IV) (83% yield, mp 165°C, decomp) (the hydrochloride (92% yield) of IV melts at

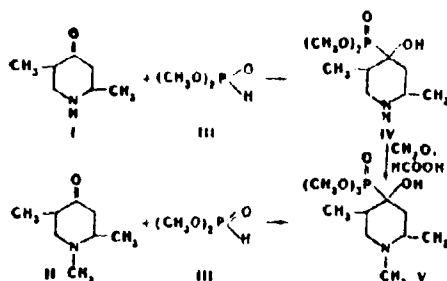
Card

1/2

UDC: 547.823.824.07:542.953:543.422.4

ACC NR: AP9006694

266—267°C) was prepared by adding CH_3ONa in CH_3OH to 2,5-dimethyl-4-piperidone (I) and $(\text{CH}_3\text{O})_2\text{POH}$ (III) at 20—25°C. 1,2,5-Trimethyl-4-(dimethylphosphono)-4-piperidol (V) (78% yield, mp 113—114°C) (its



hydrochloride (94% yield) melts at 185—187°C) was prepared by adding CH_3ONa in CH_3OH to 1,2,5-trimethyl-4-piperidone (II) and III from 18 to 60°C. Compound V (61% yield) was also obtained by heating IV, HCOOH , and 33% HCHO on a water bath for 4 hr. [WA-50; CBE No. 40][FT]

SUB CODE: 07/ SUBM DATE: 01Aug66/ ORIG REF: 014/ OTH REF: 001

Card 2/2

ACC NR: AP9006513

SOURCE CODE: UR/0062/69/000/001/0179/0179

AUTHOR: Baranov, G. M.; Mastyukova, T. A.; Perekalin, V. V.; Kabachnik, M. I.; Ponomarenko, M. V.

ORG: Institute of Heteroorganic Compounds, Academy of Sciences SSSR (Institut elementoorganicheskikh soedineniy Akademii nauk SSSR); Leningrad State Pedagogical Institute im. A. I. Gertsen (Leningradskiy gosudarstvennyy pedagogicheskiy institut)

TITLE: 1-Hydroxy-2-aminoisopropylphosphonic acid and its derivatives

SOURCE: AN SSSR. Izv. Ser khim, no. 1, 1969, 179

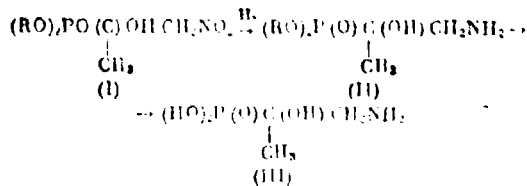
TOPIC TAGS: phosphonic acid, amine derivative, phosphonate ester

ABSTRACT: Dimethyl 1-hydroxy-2-amino-isopropylphosphonate (IIa) picrate (55% yield, mp 162—163°C) was prepared by reducing dimethyl 1-hydroxy-2-nitroisopropylphosphonate (Ia) with H_2 over Raney Ni. Diethyl 1-hydroxy-2-aminoisopropylphosphonate (IIb) picrate (50% yield, mp 157—158°C) and diisopropyl 1-hydroxy-2-aminoisopropylphosphonate (IIc) picrate (45% yield, mp 140—141°C) were similarly prepared. 1-hydroxy-2-aminoisopropylphosphonic acid (III) (58.1% yield, mp 239—240°C, decomp) was obtained by HCl hydrolysis of IIa—IIc.

Card 1/2

UDC: 542.91+661.718.1

ACC NR: AP9006513



This synthesis is a convenient way of preparing organophosphorus analogs of biogenic amines and complex-forming substances.

[WA-50; CBE No. 40] [FT]

SUB CODE: 07/ SUBM DATE: 18Jul68/ ORIG REF: 002

Card 2/2

ACC NR: AP9005096

SOURCE CODE: UR/0390/68/031/005/0533/0536

AUTHOR: Batulin, Yu. M.

ORG: Laboratory of Psychopharmacology /Head--Candidate of Medical Sciences Yu. I. Vikhlyayev/, Institute of Pharmacology and Chemotherapy /Director--Active Member of AMN SSSR V. V. Zakusov/, AMN SSSR, Moscow (Laboratoriya psikhofarmakologii Instituta farmakologii i khimioterapii AMN SSSR)

TITLE: Mechanism of the anticonvulsant action of some pyrazole derivatives

SOURCE: Farmakologiya i toksikologiya, v. 31, no. 5, 1968, 533-536

TOPIC TAGS: organic azole compound, pyrazole derivative, anti-convulsant drug, white rat, male rat, tranquilizer, muscle relaxant

ABSTRACT: A study was performed on white male rats (250-300 g) to establish the mechanisms of the anticonvulsant action of a series of pyrazole derivatives. Maximum electric shock was caused by stimulating the brain with corneal electrodes. A spinal electric shock seizure was produced by passing electric current through the spinal cord. The

Card 1/5

UDC: 615.213.015

- 26 -

ACC NR: AP9005096

following pyrazole derivatives were studied: Phemerazole (3-methyl-5-phenylpyrazole) (I), GF-10 (3,5-dimethyl-4-nitropyrazole) (II), GF-12 (3,5-dimethyl-4-bromopyrazole) (III), GF-13 (1,3,5-trimethyl-4-nitropyrazole) (IV), GF-69 (3-phenylpyrazole) (V), and T-53 (4-ethylpyrazole) (VI). Their action was compared with that of an anticonvulsant substance (phenobarbital) (VII), a tranquilizer (Meprotran, i.e., Meprobamate) (VIII), and a central muscle relaxant (Mephenisine) (IX). The test substances were administered intraperitoneally in an emulsion with Tween-80. In the study of the effect of I-IX on the development of tonic extension caused by passing electric current through the brain, a control determination was made of the duration of the extension of the posterior extremities prior to administering I-IX. The mean value of the duration of tonic extension in 540 animals was 10.7 ± 0.01 sec. The first experimental measurement of the extension was performed 30 min after injecting I-IX and was repeated every 30 or 60 min until the index began to reassume its initial value. The results are shown in column A of Table 1. In the experiments with stimulation of the spinal cord, control measurements of tonic extension were performed first. The control index of the duration of tonic extension was 8.8 ± 0.08 sec. After the

Card 2/5

ACC NR: AP9005096

Table 1. Comparative characteristics of the effect of I-IX on the tonic phase of maximum shock seizure produced by passing electric current through the brain (A) and the spinal cord (B) of rats

No.	Dose (in mg/kg) with confidence limits which reduces the tonic phase of the posterior extremities by one half ($LD_{0.5}$)	
	A	B
IX	17.9 (16.7-19.1)	18.0 (16.7-19.3)
VI	11.1 (9.9-12.3)	9.3 (8.14-10.5)
VIII	18.4 (17.2-19.6)	13.2 (12.1-14.3)
I	24.3 (21.5-27.1)	6.3 (5.16-7.44)
III	21.8 (20.6-23.0)	8.6 (7.47-9.84)
IV	16.2 (15.0-17.4)	11.3 (10.1-12.5)
V	6.7 (5.5-7.9)	3.5 (2.3-4.7)
VII	2.3 (1.0-3.6)	23.0 (21.5-24.5)
II	26.7 (25.1-28.3)	129.0 (128-130)

Card 3/5

control measurement, I—IX were administered with subsequent stimulation of the spinal cord, and the changes in the tonic phase of the

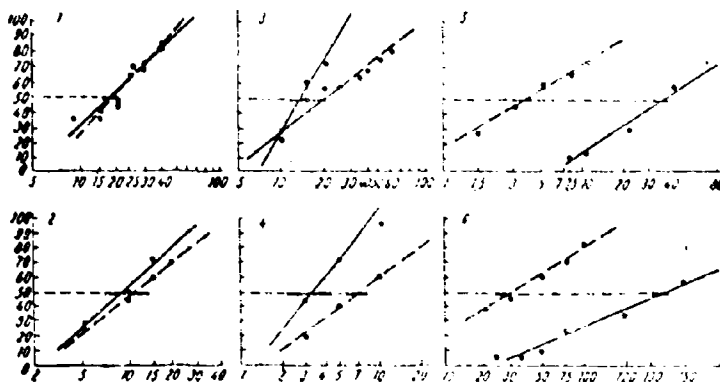


Fig. 1. Anticonvulsant activity of II and V—IX

On the axis of abscissas are shown the doses of II and V—IX (in mg/kg) on a logarithmic scale; on the axis of ordinates is shown the percent reduction of the phase of tonic extension. The horizontal lines indicate the confidence intervals for $ED_{0.5}$ for $P = 0.05$

Card 4/5

seizure were recorded every 15—30 min. The results are shown in column 8 of Table 1. Shown in Fig. 1 is the anticonvulsant activity of II and V—IX with respect to their effect on the tonic phase of convulsive seizure caused by electric stimulation of the brain (broken line) and spinal cord (solid line) of the rats. A comparison of the duration of the anticonvulsant action of I—IX in equieffective doses showed that IX (26 mg/kg) and VIII (50 mg/kg) eliminate tonic extension for 90 min during stimulation of the brain and for more than 120 min during stimulation of the spinal cord. Compound VII (20 mg/kg) acts for more than 300 min on the brain and 30 min on the spinal cord, and II (50 mg/kg) acts for 150 min on the brain and 20 min on the spinal cord. The action of I and III—VI is more pronounced with respect to spinal convulsions. Compounds I and III—VI apparently display a similar type of anticonvulsant action. With respect to their effect on the central nervous system, they are like VIII and IX. Their anticonvulsant activity is related to their ability to influence certain conductive systems of the spinal cord. The mechanism of the anticonvulsant action of II is probably the same as that of VII, i.e., the point of application is in the brain. Thus, there are pyrazole compounds with true anticonvulsant (antiepileptic) action, e.g., II, as well as compounds which are able to imitate an anticonvulsant effect by blocking conduction in the spinal cord. Orig. art. has: 1 table and 1 figure.

[WA-50; CBE No. 40][FT]

SUB CODE: 06/ SUBM DATE: 04Nov67/ ORIG REF: 003/ OTH REF: 002

Card 5/5

ACC NR: AP9006530

SOURCE CODE: UR/0079/69/039/001/0181/0185

AUTHOR: Bel'skiy, V. Ye.; Bezzubova, N. N.; Lustina, Z. V.;
Yeliseyenko, V. N.; Pudovik, A. N.

ORG: Institute of Organic and Physical Chemistry im. A. Ye. Arbusov,
Academy of Sciences SSSR, Kazan' (Institut organicheskoy i fizicheskoy
khimii Akademii nauk SSSR)

TITLE: Kinetics of the alkaline hydrolysis of dialkyl S-methyl
thiophosphates

SOURCE: Zhurnal obshchey khimii, v. 39, no. 1, 1969, 181-185

TOPIC TAGS: kinetic chemical reaction rate, phosphate ester, sulfur
compound, thiophosphate ester

ABSTRACT: An evaluation was made of the alkaline hydrolysis rate
constants of O,O-dialkyl S-methyl thiophosphates (I-V) in an aqueous
medium at 25-98°C, and the parameters of the Arrhenius equation were
calculated. Compounds I-VI were prepared by allowing $\text{CH}_3\text{SP}(\text{O})\text{Cl}_2$
to react with alcohol and Et_3N in ether below 0°C. The values of the

Card 1/4

UDC: 541.127.3:542.938:547.26'118

ACC NR: AP9006530

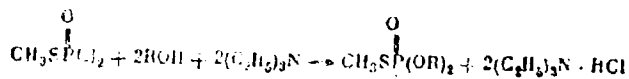


Table 1. Dialkyl S-methyl thiophosphates

No.	R	% Yield	Bp, °C (p in mm)	d_4^{20}	n_D^{20}
I	CH_3	61.2	87° (11)	1.2184	1.4552
II	C_2H_5	69.2	97 (29)	1.2434	1.4651
			112 (33)	1.1425	1.4607
III	$n\text{-C}_4\text{H}_9$	81.3	127-128.5 (20)	1.450	1.4607
			145 (29)	1.0804	1.4603
IV	$\text{iso-C}_4\text{H}_9$	48.1	67-67 (0.06)	1.0767	1.4555
V	$n\text{-C}_6\text{H}_{13}$	64.1	148-149 (11)	1.0481	1.4389
VI	$\text{iso-C}_6\text{H}_{13}$	46.2	88-89 (0.055)	1.0392	1.4558

rate constants are shown in Table 2. The values of the parameters of
the Arrhenius equation and the activation entropies of I-V are shown
in Table 3. There is a correlation between the rate constants for

Card 2/4

ACC NR: AP9006530

Table 2. Hydrolysis rate constants (k)

Temperature	$10^4 \cdot k$ (1/mol-sec)				
	R-CH ₃	R-n-C ₂ H ₅	R-n-C ₃ H ₇	R-iso-C ₄ H ₉	R-n-C ₄ H ₉
25°	3.0	0.45	0.35	—	—
40	7.7	0.99	0.87	—	—
50	13.2	1.80	1.40	0.075	1.88
60	22	3.2	2.6	0.166	3.2
70	40	5.7	4.0	0.33	5.3
80	53	8.9	7.0	0.61	8.5
90	—	16.5	12.2	1.18	12.3
98	—	—	—	2.2	18.3

Table 3. Arrhenius parameters and activation entropies

R	E (kg-cal/mole)	$\lg A$	ΔS^\ddagger (cal/mole-deg)
CH ₃	11.2	6.69	-29.9
C ₂ H ₅	12.0	6.50	-31.2
n-C ₃ H ₇	11.4	5.89	-33.6
iso-C ₄ H ₉	16.0	7.77	-23.0
n-C ₄ H ₉	11.2	5.86	-33.7

Card 3/4

ACC NR: AP9006530

I—V and the alkaline hydrolysis rate constants of dialkyl p-nitrophenyl phosphates with corresponding substituents at P. Orig. art. has: 4 tables and 3 figures. [WA-50; CBE No. 40][FT]

SUB CODE: 07/ SUBM DATE: 22Jan68/ ORIG REF: 006/ OTH REF: 011

Card 4/4

ACC NR: AP9006527

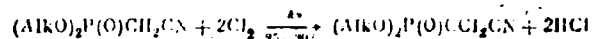
SOURCE CODE: UR/0079/69/039/001/0168/0172

AUTHOR: Bodnarchuk, N. D.; Malovik, V. V.; Derkach, I.

ORG: Institute of Organic Chemistry, Academy of Sciences UkrSSR
(Institut organicheskoy khimii Akademii nauk UkrSSR)

TITLE: Derivatives of dialkoxyphosphonacetoneitriles

SOURCE: Zhurnal obshchey khimii, v. 39, no. 1, 1969, 168-172

TOPIC TAGS: aliphatic phosphorus compound, acetonitrile substituted
amide, fungicide, chlorinated aliphosphazo compound, phosphazene,
phatic compoundABSTRACT: Dialkoxyphosphonacetoneitriles (I-IV) were prepared by
adding ClCH₂CN or ICH₂CN to trialkyl phosphite at 110-160°C, stirring
for 30 min, and distilling *in vacuo*. Dialkoxyphosphonodichloroacetonitriles
(V-VII) were obtained by passing Cl₂ into II-IV at 25-30°C
in the presence of UV radiation.

Card 1/4

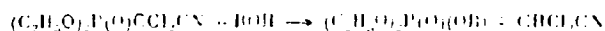
UDC: 547.241

ACC NR: AP9006527

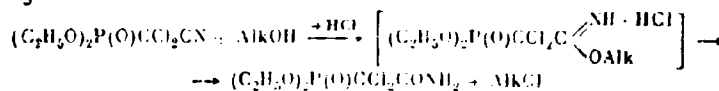
(AlkO)₂P(O)CN₂CN

No.	Alk	X	% Yield	Bp, °C (p in mm)	d ₄ ²⁰	n _D ²⁰
I	CH ₃	H	29	85-86° (0.7)	1.265	1.4350
II	C ₂ H ₅	H	75	118-120 (1)	1.135	1.4332
III	n-C ₃ H ₇	H	51	142 (0.5)	1.067	1.4363
IV	iso-C ₃ H ₇	H	63	126-128 (0.5)	1.055	1.4288
V	C ₂ H ₅	Cl	85	95 (0.8)	1.303	1.4480
VI	n-C ₃ H ₇	Cl	50	117 (0.3)	1.218	1.4518
VII	iso-C ₃ H ₇	Cl	65	86 (0.4)	1.181	1.4415

Methyl diethyl phosphate (60-70% yield, bp₇ 58°C, n_D²⁰ 1.4045, d₄²⁰ 1.1015) was obtained by adding V to CH₃OH and Et₃N (or KOH) and heating for 30 min on a water bath. Triethyl phosphate (30% yield, bp₇ 82°C, n_D²⁰ 1.4075) was similarly prepared.



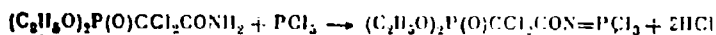
Diethoxyphosphonodichloroacetamide (VIII) (60% yield, mp 74-76°C) was prepared by passing dry HCl into V in CH₃OH at 0°C, distilling the excess CH₃OH *in vacuo* at 80-100°C.



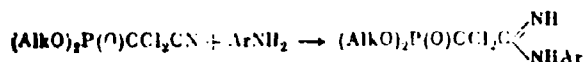
Card 2/4

ACC NR. AP9006527

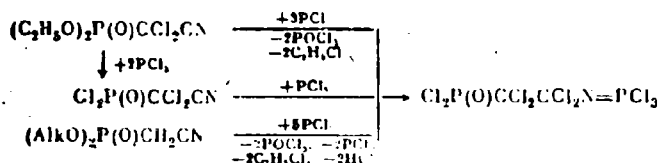
Viscous α -diethoxyphosphono- α,α -dichloroacetyltrichlorophosphazene (100% yield) was prepared by allowing VIII, PCl_5 , and HPh to react at 20°C for 20–30 min and heating at 40 – 50°C .



N-Phenyl- α -diethoxyphosphono- α,α -dichloroacetamidine (IX) (35% yield, mp 167 – 169°C) was prepared by allowing V, PhNH_2 , HPh, and petroleum ether to stand for 3–4 days. N-p-Carboethoxyphenyl- α -diethoxyphosphono- α,α -dichloroacetamidine (X) (30% yield, mp 210 – 213°C) was similarly prepared. Compounds IX and X display high fungicidal activity.



$\alpha,\alpha,\beta,\beta$ -Tetrachloro- β -dichlorophosphonylethyltrichlorophosphazene (XI) (90% yield, bp_{0.05} 78°C , n_D^{20} 1.5610, d_4^{20} 1.8470) was prepared by allowing II and PCl_5 to react at 20°C for 30 min and heating for 2 hr at 140 – 150°C .



Card 3/4

ACC NR. AP9006527

α -Dichlorophosphonyl- α,α -dichloroacetonitrile (XII) (70% yield, mp 96 – 98°C) was prepared by refluxing V and PCl_5 in POCl_3 for 10 hr and distilling the volatile components *in vacuo*. Compounds XI and XII may be used to synthesize new types of phosphoric and phosphonic acid derivatives. Orig. art. has: 1 table. [WA-50; CBE No. 40] [FT]

SUB CODE: 06, 07/ SUBM DATE: 12Feb68/ ORIG REF: 004/ OTH REF: 002

Card 4/4

ACC NR: AP9006745

SOURCE CODE: UR/0385/68/004/006/0494/0497

AUTHOR: Boldyrev, A. A.; Bobyleva, S. V.

ORG: Department of Animal Biochemistry, Moscow University im. M. V. Lomonosov (Kafedra biokhimi i zhivotnykh Moskovskogo universiteta)

TITLE: Effect of imidazole on the development of acetylcholine contracture

SOURCE: Zhurnal evolyutsionnoy biokhimi i fiziologii, v. 4, no. 6, 1968, 494-497

TOPIC TAGS: organic azole compound, imidazole, acetylcholine, muscle stimulation, frog

ABSTRACT: The ability of the natural muscle dipeptides carnosine and anserine to restore myoneural excitability has drawn attention to imidazole (I), a structural component of the dipeptides which exerts a similar effect on the neuro-muscular transmission of stimulation. It is assumed that the effect of I is due to an increase in the acetylcholine (AcCh) sensitivity of the postsynaptic zone of the synapses. A study was made of the effect of I on the sensitivity of *musculus rectus abdominis* of the frog to AcCh. The results are shown in Fig. 1, where the concentration of I (mM/L) is: a—9, b—25, c—45; 1 is the control

Cord 1/4

UDC: 591.175:597.82+612.815.2.019

ACC NR: AP9006745

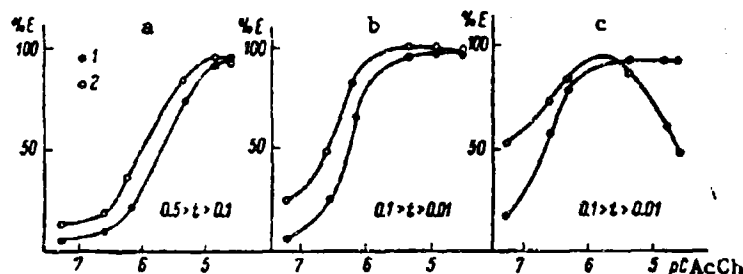


Fig. 1. Effect of I on the cumulative AcCh curve

and 2 is the experiment; t is the degree of confidence of the differences between the experiment and the control; each curve shows the mean data of 6 experiments; %E is the height of contraction (% of maximum); and pC AcCh is the negative logarithm of the concentration of AcCh. The application of I in a concentration of 45mM not only promotes an increase in the contractive response to AcCh, but also brings nearer the region of pessimal inhibition which normally begins when more AcCh is used. Figure 2 shows the relation between the ratio of K_m' (the concentration of AcCh which created a semi-maximum value of the contraction) of the control to K_m' of the experiment and the concentration

Cord 2/4

ACC NR: AP9006745

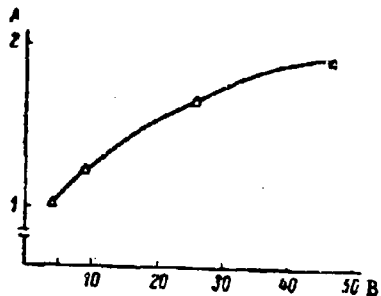


Fig. 2. Effect of various concentrations of I on the value of K_m' . A is the ratio of K_m' control to K_m' experiment; B is the concentration of I (mM/l)

Card 3/4

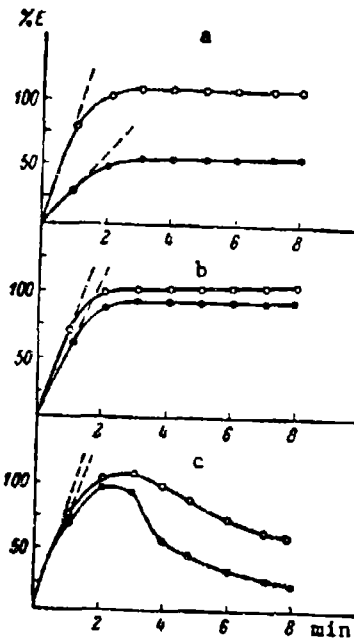


Fig. 3. Rate of the development of contracture

ACC NR: AP9006745

of I. The affinity of AcCh for choline receptors probably increases when the quantity of I in the surrounding solution increases. However, since the ratio of K_m' control to K_m' experiment increased only twofold when the content of I increased tenfold, it is possible that several molecules of I participated in the reaction of one molecule of AcCh with the active site of the receptor. The rate of the development of contracture in the control and in the presence of I (45 mM/l) with various concentrations of AcCh is shown in Fig. 3, where the concentrations (M/L) are: a— 5.5×10^{-8} , b— 1.4×10^{-5} , c— 5.5×10^{-5} ; length of the experiment is in minutes; and the slope of the broken curve defines the rate of the development of contracture. All these data support the assumption that the effect of I can occur when AcCh reacts with the choline receptors, and it can be manifested in an increase of the affinity of the mediator for the reception centers. Orig. art. has: 3 figures. [WA-50; CBE No. 40] [FT]

SUB CODE: 06/ SUBM DATE: 03May67/ ORIG REF: 008/ OTH REF: 002

Card 4/4

ACC NR: AP9005957

SOURCE CODE: BU/0011/68/021/011/1193/1196

AUTHOR: Davidkov, K.; Simov, D.

ORG: Department of Organic Technology, Chemistry Faculty, Sofia University (Lehrstuhl für organische Technologie an der Chemischen Fakultät der Universität Sofia)

TITLE: Preparation of 2-aminobenzoxazoles with substituents in the amino group

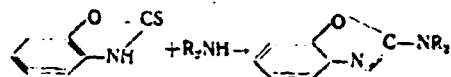
SOURCE: Bulgarska akademiya na naukite. Doklady, v. 21, no. 11, 1968, 1193-1196

TOPIC TAGS: heterocyclic oxygen compound, organic azole compound, benzene derivative, amine derivative, oxazole

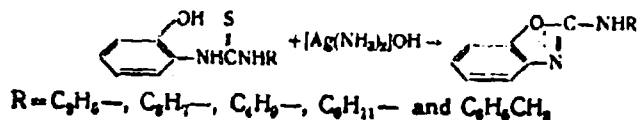
ABSTRACT: 2-Morpholinobenzoxazole (60% yield, mp 95—97°C) was prepared by heating benzoxazolethione and morpholine on a water bath for 4 hr. 2-Piperidinobenzoxazole (67.9% yield, mp 70—71°C) and 2-dimethylamino-benzoxazole (74.7% yield, mp 92—93°C) were similarly prepared. 2-Benzylaminobenzoxazole (I) (75.58% yield, mp 114—115°C) was prepared by adding AgNO₃ in NH₃ to N-(2-hydroxyphenyl)-N'-benzylthiourea (II) in 96% ETOH and stirring for 2 hr at 40—50°C. The following compounds were

Card 1/3

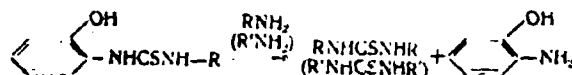
ACC NR: AP9005957



similarly prepared: 2-cyclohexylaminobenzoxazole (70% yield, mp 111—113°C), 2-butylaminobenzoxazole (71.4% yield, mp 93—94°C), 2-propylaminobenzoxazole (75.2% yield, mp 100—102°C), and 2-ethylaminobenzoxazole (72.6% yield, mp 90—91°C). N,N'-Dibenzylthiourea



(85.8% yield, mp 145—147°C) was prepared by heating II and benzylamine for 6 hr at 125—130°C. N,N'-Dicyclohexylthiourea (III) (64.51% yield, mp 180—181°C) was similarly prepared. Compound III



Card 2/3

ACC NR: AP9005957

(75.9% yield, mp 181—182°C) was also obtained by heating benzoxazole-thione and cyclohexylamine for 6 hr at 125°C. Compound I (11.6% yield) was also obtained by heating II and morpholine for 6 hr on a water bath, by heating II to boiling in 7% NaOH for 6 hr (23.2% yield), and by refluxing II and EtI in EtOH for 4 hr (0.19 g from 1.00 g II). The paper was presented by B. Kurtev, Corresponding Member of BAN, 31 July 68. Orig. art. has: 2 tables. [WA-50; CBE No. 40] [FT]

SUB CODE: 07/ SUBM DATE: none/ ORIG REF: 003/ OTH REF: 001

Card 3/3

ACC NR: AP9004405

SOURCE CODE: UR/0079/68/038/012/2686/2690

AUTHOR: Dorofeyenko, G. N.; Volovel'skiy, L. N.; Savin, B. M.

ORG: Rostov State University (Rostovskiy gosudarstvennyy universitet); Khar'kov Scientific Research Institute of Endocrinology and Hormone Chemistry (Khar'kovskiy nauchno-issledovatel'skiy institut endokrinologii i khimii gormonov); Khar'kov Plant of Endocrine Preparations (Khar'kovskiy zavod endokrinnykh preparatov)

TITLE: Synthesis of pyranilium and pyridine derivatives condensed with the A ring of androstane and cholestane

SOURCE: Zhurnal obshchey khimii, v. 38, no. 12, 1968, 2686-2690

TOPIC TAGS: steroid hormone, perchlorate, heterocyclic oxygen compound, pyridine derivative

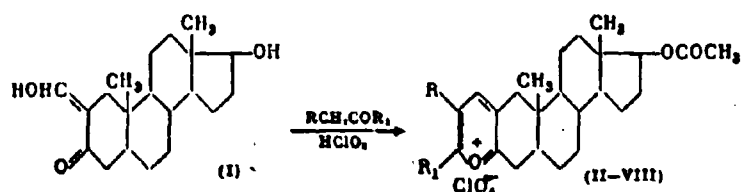
ABSTRACT: The title compounds were synthesized to find new potentially physiologically active steroids. Steroido[3,2-b]pyranilium perchlorates (II—VIII, X—XV, and XVII—XIX) were prepared by heating dihydrotestosterone (I), 17 α -methyl-dihydrotestosterone (IX), or cholestan-3-one (XVI), the corresponding ketone, and 70% HClO₄ in HOAc at 100°C

Card 1/5

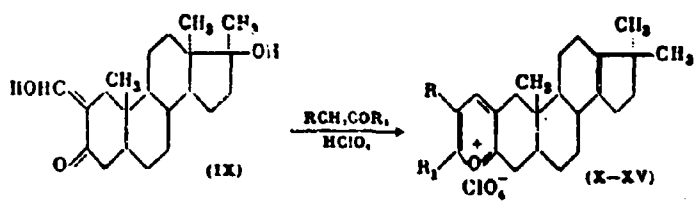
UDC: 547.144.3+547.284.572.3

- 36 -

ACC NR: AP9004405



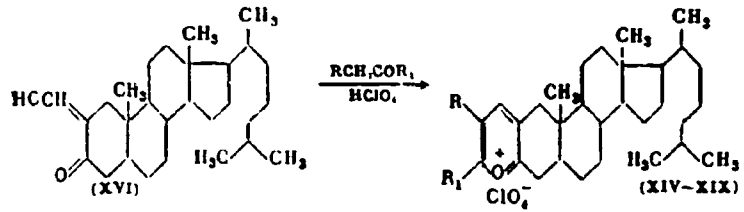
(II) R, R₁ = -(CH₂)₇; (III) R = R₁ = CH₃; (IV) R = H, R₁ = p-HOC₂H₅; (V) R = H, R₁ = p-CH₂C₆H₅; (VI) R = H, R₁ = p-BrC₆H₄; (VII) R = CH₃, R₁ = p-HOC₂H₅; (VIII) R = C₆H₅, R₁ = p-CH₂C₆H₅.



(X) R, R₁ = -(CH₂)₇; (XI) R = R₁ = CH₃; (XII) R = H, R₁ = p-HOC₂H₅; (XIII) R = H, R₁ = p-CH₂C₆H₅; (XIV) R = C₆H₅, R₁ = p-HOC₂H₅; (XV) R = C₆H₅, R₁ = p-CH₂OC₂H₅.

Card 2/5

ACC NR: AP9004405



(XVII) R = H, R₁ = C₆H₅; (XVIII) R = H, R₁ = p-HOC₂H₅; (XIX) R = H, R₁ = CH=CHC₆H₅.

Table 1. Steroido[3,2-b]pyranylum perchlorates

No.	% Yield	Mp, °C
II	30.0	211-213°
III	10.0	336
IV	28.2	250-252
V	9.8	279-281
VI	13.2	249-251
VII	28.0	202-204
VIII	10.0	330
X	12.3	221-222
XI	24.0	279-281

Card 3/5

ACC NR: AP9004405

Table 1. (Cont.)

XII	33.0	233--235
XIII	15.8	330
XIV	34.0	199--202
XV	18.1	330
XVII	23.4	227--229
XVIII	16.7	234--237
XIX	19.0	241--244

Table 2. Steroido[3,2-b]pyridines

Product No.	Starting compd	% Yield	Mp, °C
XX	II	70.0	222--224°
XXI	III	43.7	287--289
XXII	IV	76.4	260--263
XXIII	VI	33.4	218--220
XXIV	VII	59.4	258--259
XXV	VIII	51.0	322--326
XXVI	X	41.1	145--148
XXVII	XI	40.1	224--225
XXVIII	XII	70.2	175--177
XXIX	XIII	21.8	250--253
XXX	XIV	74.6	260--272
XXXI	XV	57.8	234--236
XXXII	XVII	41.5	247--252
XXXIII	XVIII	37.9	229--231
XXXIV	XIX	44.8	156--159

Card 4/5

ACC NR: AP9004405

for 30 min. Steroido[3,2-b]pyridines (XX--XXXIV) were prepared by boiling II--VIII, X--XV, and XVII--XIX and NH_4OAc in HOAc for 2 hr. Orig. art. has: 2 figures and 2 tables. [WA-50; CBE No. 40][FT]

SUB CODE: 06, 07/ SUBM DATE: 23Nov67/ ORIG REF: 010/ OTH REF: 004

Card 5/5

ACC NR: AP9004504

SOURCE CODE: UR/0063/68/013/006/0690/0699

AUTHOR: Dorokhov, Yu. V.; Baranov, N. A.

ORG: none

TITLE: Principles of the therapy of injuries caused by poisonous substances

SOURCE: Vsesoyuznoye khimicheskoye obshchestvo. Zhurnal, v. 13, no. 6, 1968, 690-699

TOPIC TAGS: poison effect, antidote, chelation, chelate compound, medical chelate compound, organophosphorus toxicology, BW antidote, cholinesterase reactivator, artificial respiration, lachrymator/ (U)TMB4 organophosphorus antidote

ABSTRACT: This article appears in Biological Factors

Card 1/1

UDC: 423.459

ACC NR: AP9004410

SOURCE CODE: UR/0079/68/038/012/2778/2780

AUTHOR: Drach, B. S.; Sinitza, A. D.

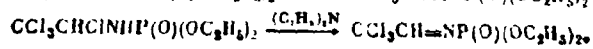
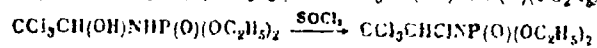
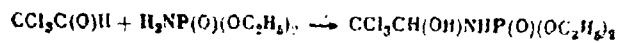
ORG: Institute of Organic Chemistry, Academy of Sciences UkrSSR (Institut organicheskoy khimii Akademii nauk UkrSSR)

TITLE: N-Diethoxyphosphonyl- β,β,β -trichloroethylideneimine

SOURCE: Zhurnal obshchey khimii, v. 38, no. 12, 1968, 2778-2780

TOPIC TAGS: organic imine compound, phosphonic acid, organic phosphate, substituted amide, phosphonic acid derivative

ABSTRACT: N-Diethoxyphosphonyl- β,β,β -trichloroethylideneimine (I) (70% yield, bp_{0.09} 94-95°C, n_D²⁰ 1.4724, d₄²⁰ 1.3562) was prepared by adding SOCl₂ to diethyl α -hydroxy- β,β,β -trichloroethylamidophosphate in benzene, allowing the mixture to stand for 5-6 hr at 40-50°C, dissolving the crystalline residue in benzene, cooling, and adding Et₃N in benzene.

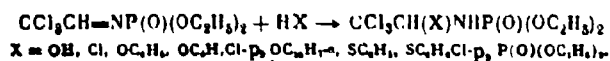


Card 1/3

UDC: 547.241+547.447

ACC NR: AP9004410

Tetraethyl α, α' -thiobis(β, β, β -trichloroethylamidophosphate) (mp 169—170.5°C) was obtained in theoretical yield by allowing I to react with H_2S .



Similarly prepared diethyl α -substituted β, β, β -trichloroethylamido-phosphates (theoretical yields) are shown in Table 1.

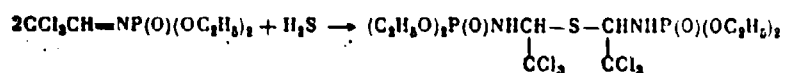


Table 1.

x	Mp, °C
OH	98—99°
Cl	95—110 (decomp)
OC_2H_5	96—97
OC_2H_4Cl-p	93—95
OC_2H_4-a	156—156.5

Card 2/3

ACC NR: AP9004410

Table 1. (Cont.)

SC_2H_5	81—82
SC_2H_4Cl-p	85—86
$P(O)(OC_2H_5)_2$	78—80

The authors thank A. V. Kirsanov for help and advice. Orig. art. has:
1 table. [WA-50; CBE No. 40] [FT]

SUB CODE: 67/ SUBM DATE: 11Dec67/ ORIG REF: 002/ OTH REF: 002

Card 3/3

ACC NR: AP9004407

SOURCE CODE: UR/0079/68/038/012/2706/2716

AUTHOR: Druzhkov, O. N.; Zhil'tsov, S. F.; Patukhov, G. G.

ORG: Institute of Chemistry, Gor'kiy State University (Institut khimii pri Gor'kovskom gosudarstvennom universitete)

TITLE: Study of the reactions of organomercury compounds with iso-propyl alcohol by isotopic and mass-spectrometric methods

SOURCE: Zhurnal obshchey khimii, v. 38, no. 12, 1968, 2706-2716

TOPIC TAGS: organomercury compound, propanol, mass spectrometry

ABSTRACT: The title study indicated that the thermal and photo reactions of $(CH_3)_2Hg$, Pr_2Hg , $(iso-Pr)_2Hg$, dicyclohexylmercury, and $(PhCH_2)_2Hg$ with iso-PrOH proceed by a free-radical mechanism. In the thermal reactions, the organomercury compounds (under certain conditions) undergo a molecular reaction with the alcohol which is inhibited by oxygen when the latter is passed into the reaction mixture. At large concentrations of the organomercury compounds, iso-PrOH is an almost inert solvent. The degree of completion of the reaction of the alkyl radicals with iso-PrOH increases considerably with a decrease in the concentration of the Hg compound and an increase in the reaction

Card 1/2

UDC: 547.254.9+547.263+539.183.2+543.51

ACC NR: AP9004407

temperature. The resulting sec-2-hydroxy-2-propyl radicals mostly disproportionate or are oxidized with the formation of acetone as the end product in the reactions conducted in the presence of oxygen.

Orig. art. has: 5 tables.

[WA-50; CBE No. 40][FT]

SUB CODE: 07/ SUBM DATE: 11Sep67/ ORIG REF: 006/ OTH REF: 001

Card 2/2

AUTHOR: Dzhyuvene, D.; Degutis, Yu.

ORG: Kaunas Polytechnic Institute (Kaunasskiy politekhnicheskii institut); Scientific Research Institute, Ministry of Public Health, LitSSR (Nauchno-issledovatel'skiy institut Ministerstva zdravookhraneniya LitSSR)

TITLE: Synthesis of 1-[p-(N,N'-diethyleneimidophosphorylamino)-phenylacetyl]-2,3,4,6-tetraacetyl-β-D-glucopyranose

SYNOPSIS: *Chem. Abstr.* 1969, v. 39, no. 1, 1969, 83-85

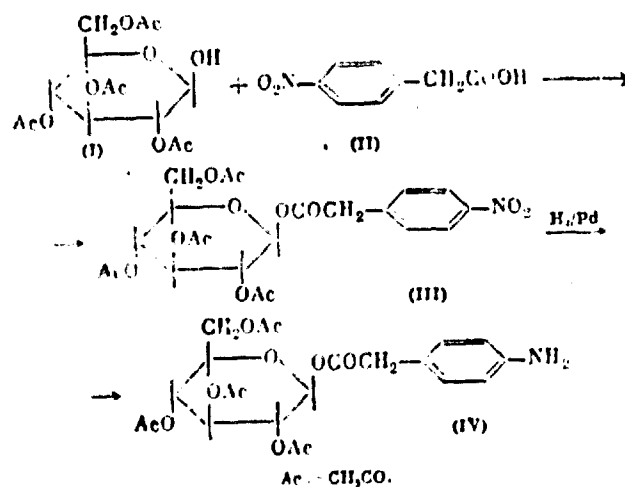
TOPIC TAGS: glucoside, phosphorus compound, imide, amine derivative

ABSTRACT: 1-(p-Nitrophenylacetyl)-2,3,4,6-tetraacetyl-β-D-glucopyranose (III) (89.5% yield, mp 134.5—135.5°C) was prepared by allowing 2,3,4,6-tetraacetyl-D-glucose (I), 1,3-dicyclohexylcarbodiimide, and p-nitrophenylacetic acid (II) to react in tetrahydrofuran and 1 drop of Et₃N at 20°C for 15 hr. Without Et₃N, the yield of III was 33.3%. 1-(p-Aminophenyl)-2,3,4,6-tetraacetyl-β-D-glucopyranose (IV) (84.1% yield, mp 118—119°C) was obtained by hydrogenating III in EtOH in the presence of Pd/CaCO₃. 1-[p-(N,N'-Diethyleneimidophosphorylamino)phenylacetyl]-2,3,4,6-tetraacetyl-β-D-glucopyranose (V) (73.8% yield, decomp 99°C)

Card 1/4

UDC: 547.455+547.558

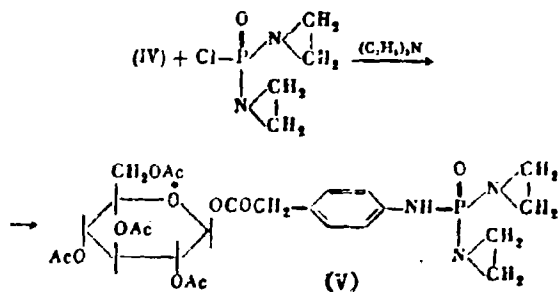
ACC NR: AP9006522



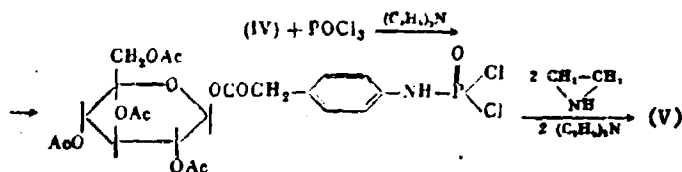
was prepared by adding ethyleneimine and Et₃N in tetrahydrofuran to POCl₂ in tetrahydrofuran at -10°C, stirring for 20 min at 20°C, adding IV and Et₃N in tetrahydrofuran, stirring for 2 hr, and allowing the mixture to stand for 15 hr. Compound V (16.4 % yield) was also obtained

Card: 2/4

ACC NR: AP9006522



by adding IV and Et₃N in tetrahydrofuran to POCl₃ in tetrahydrofuran at 20°C, stirring for 3 hr, adding the filtrate to ethyleneimine and Et₃N



in tetrahydrofuran at 0—5°C, stirring for 1 hr, and allowing the mixture to stand for 15 hr. [WA-50; CBE No. 40] [FT]

SUB CODE: 07/ SUBM DATE: 29Dec67/ ORIG REF: 004/ OTH REF: 001

ACC NR: AP9001079

SOURCE CODE: UR/0391/68/000/012/0044/0047

AUTHOR: Gadzhibalayev, A. A. (Chimkent, Kuybyshev); Goryayev, M. I. (Chimkent, Kuybyshev); Daknno, O. V. (Chimkent, Kuybyshev); Kanaulova, L. P. (Chimkent, Kuybyshev); Potapov, S. V. (Chimkent, Kuybyshev); Slepusev, V. S. (Chimkent, Kuybyshev); Churakov, V. I. (Chimkent, Kuybyshev); Dozorova, A. D. (Chimkent, Kuybyshev); Zharkova, I. I. (Chimkent, Kuybyshev); Fedrushkova, I. N. (Chimkent, Kuybyshev)

ORG: Chemical-Technological Institute (Khimiko-tehnologicheskii institut); Medical Institute (Meditsinskiy institut)

TITLE: Research on the comparative toxicity of some arylalkylphenols and their quaternary ammonium salts

SOURCE: Gigiyena truda i professional'nyye zabolevaniya, no. 12, 1968, 44-47

TOPIC TAGS: aryl radical, polymer chemical, ammonium salt, phenol

ABSTRACT: This article appears in Biological Factors

Card 1/1

UDC: 615.462:678.744/.099
- 43 -

ACC NR: AP9006514

SOURCE CODE: UR/0062/69/000/001/0185/0186

AUTHOR: Genkina, G. K.; Gilyarov, V. A.

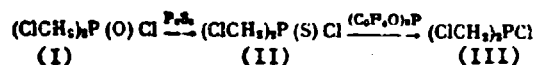
ORG: Institute of Heteroorganic Compounds, Academy of Sciences SSSR
(Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR)

TITLE: Synthesis of bis(chloromethyl)chlorophosphine

SOURCE: AN SSSR. Izv. Ser khim, no. 1, 1969, 185-186

TOPIC TAGS: phosphorus chloride, aliphatic phosphorus compound,
substituted amide, phosphinous amide, phosphine derivative

ABSTRACT: Bis(chloromethyl)thiophosphonyl chloride (II) (45 % yield, bp₆ 92.5—93.5°C, n_D²⁰ 1.5872, d₄²⁰ 1.5483) was prepared by heating (ClCH₂)₂P(O)Cl (I) and P₂S₅ in A at 160—170°C for 4 hr. Bis(chloromethyl)chlorophosphine (III) (70% yield, bp₁₇ 70—77°C, n_D²⁰ 1.5484, d₄²⁰ 1.4800) was obtained by adding II to (PhO)₃P at 175°C and 75 mm, distilling the colorless liquid, and heating for 1 hr at 180°C.

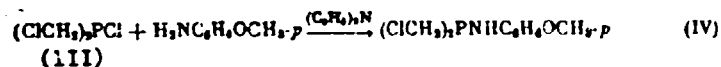


Card 1/2

UDC: 542.91+661.718.1

ACC NR: AP9006514

Bis(chloromethyl)phosphinous p-anisylamide (IV) (30% yield, mp 48—49.5°C) was prepared by allowing III and p-anisidine to react in Et₃N and HPh at



0—5°C. The authors thank B. Ye. Ivanov and I. M. Shermergorn for supplying I. [WA-50; CBE No. 40] [FT]

SUB CODE: 07/ SUBM DATE: 18Jul68/ ORIG REF: C02/ OTH REF: 002

Card 2/2

- 44 -

ACC NR: AP9005819

SOURCE CODE: UR/0426/68/021/009/0817/0818

AUTHOR: Gevorkyan, A. A.; Manukyan, A. A.

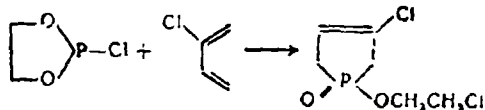
ORG: Institute of Organic Chemistry, AN ArmSSR (Institut organicheskoy khimii AN ArmSSR)

TITLE: Reaction of ethylene chlorophosphite with chloroprene

SOURCE: Armyanskiy khimicheskiy zhurnal, v. 21, no. 9, 1968, 817-818

TOPIC TAGS: chlorinated organic compound, phosphorus compound, phosphorous acid, phospholene derivative

ABSTRACT: The potentially physiologically active compound 1-(β -chloroethoxy)-3-chloro-3-phospholene oxide (bp 168°C/1 mm, d_4^{20} 1.4033, n_D^{20} 1.5125) was synthesized by heating a mixture of ethylene chlorophosphite, chloroprene, and $ZnCl_2$ in a sealed ampule for 30 hr on a water bath:

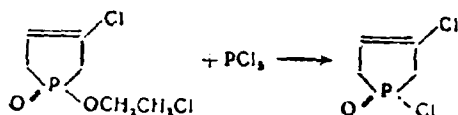


Card 1/2

UDC: 542.91

ACC NR: AP9005819

The reaction of 1-(β -chloroethoxy)-3-chloro-3-phospholene oxide with phosphorus pentaoxide on heating with reflux at 80–90°C gave



(48.7%) 1,3-dichloro-3-phospholene oxide, bp 140–143°C (13 mm), d_4^{20} 1.4700, n_D^{20} 1.5405. [WA-50; CBE No. 40][PS]

SUB CODE: 07/ SUBM DATE: 10Jul67/ ORIG REF: 004/ OTH REF: 001

Card 2/2

- 45 -

ACC NR: AP9006691

SOURCE CODE: UR/0409/68/000/006/1038/1040

AUTHOR: Granberg, I. I.; Afonina, N. I.; Zuyanova, T. I.

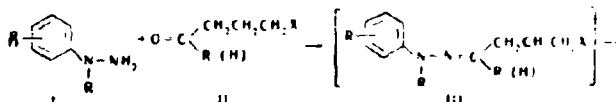
ORG: Agricultural Academy im. K. A. Timiryazev, Moscow (Sel'sko-khozyaystvennaya akademiya)

TITLE: Indoles. II. New method of the preparation of 1-substituted tryptamines

SOURCE: Khimiya geterotsiklicheskikh soyedineniy, no. 6, 1968, 1038-1040

TOPIC TAGS: indole derivative, tryptamine, amine derivative

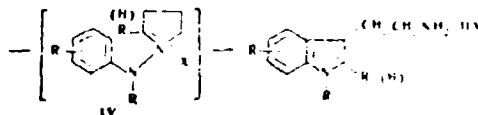
ABSTRACT: The new one-stage method for the preparation of 1-substituted tryptamines consists of boiling mixtures of α -substituted phenylhydrazines with γ -halogenated carbonyl compounds in aqueous-alcohol solutions:



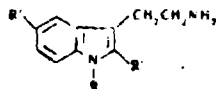
Card 1/3

UDC: 547.753.754.757.07

ACC NR: AP9006691



(where R is an alkyl or aryl; R' is any substituent; R'' is H or any other substituent, which does not change the character of CO group; and



R	R'	R''	Bp (°C mm hg)	Mp, °C	Yield %
CH ₃	H	CH ₃	162-164 (2)	—	63.3
C ₂ H ₅	H	CH ₃	186-187 (8)	n_D^{20} 1.586 d_4^{20} 0.9226	81
C ₆ H ₅ CH ₂	H	H	157-161 (0.1)	93-4	75.2

Card 2/3

ACC NR: AP9006691

(Cont.)

C ₆ H ₅ CH ₂	OCH ₃	H	—	97-99*	70
C ₆ H ₅ CH ₂	H	CH ₃	170-172 (0.5)	54-55	79
C ₆ H ₅ CH ₂	OCH ₃	CH ₃	—	57-58	69

X is Cl, Br, I, OSO₂, or C₆H₅). The substituted tryptamines are characterized in the table. [WA-50; CBE No. 40][PS]

SUB CODE: 07/ SUBM DATE: 19Aug66/ ORIG REF: 006/ OTH REF: 006

Card 3/3

ACC NR: AP9004403

SOURCE CODE: UR/0079/68/038/012/2658/2664

AUTHOR: Grapov, A. F.; Lebedeva, N. V.; Mel'nikov, N. N.

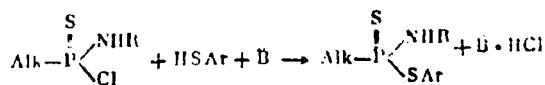
ORG: All-Union Scientific Research Institute of Chemicals for Plant Protection (Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh sredstv zashchity rasteniy)

TITLE: Organic insectofungicides. Reactions of chlorides of N-alkyl-amidoalkyl- and phenylthiophosphonic acids with thiophenols

SOURCE: Zhurnal obshchey khimii, v. 38, no. 12, 1968, 2658-2664

TOPIC TAGS: phosphonic acid derivative, thiophosphonic acid derivative, aromatic phosphorus compound, aromatic sulfur compound, aromatic ester, thiophosphonate ester

ABSTRACT: Reactions of alkylamidoalkylthiophosphonic chlorides with thiophenols to form dithiophosphonates:



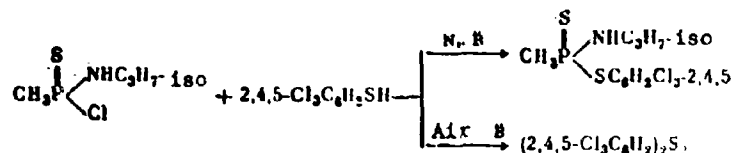
Card 1/5

UDC: 615.777/779

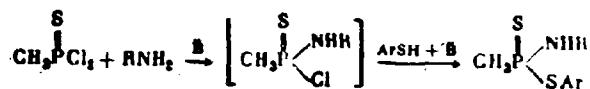
- 47 -

ACC NR: AP9004403

are conducted in an inert gas atmosphere to prevent the side reaction leading to the formation of diaryl disulfides and to a decrease in the yield of the desired product, e.g.:



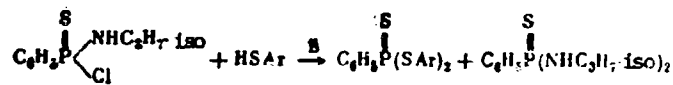
The preparation of S-aryl N-alkylamidoalkyldithiophosphonates may be carried out in one stage without separation of the chlorides:



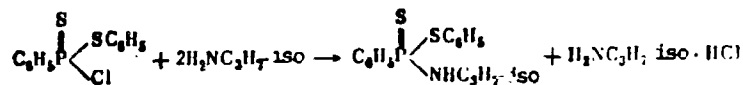
Card 2/5

ACC NR: AP9004403

The reaction of isopropylamidophosphonic chloride with thiophenol or 4-chlorothiophenol yielded S,S-diphenyl phenyltrithiophosphonate or S,S-dichlorophenyl phenyltrithiophosphonate and phenylthiophosphonic bis(N-isopropylamide):



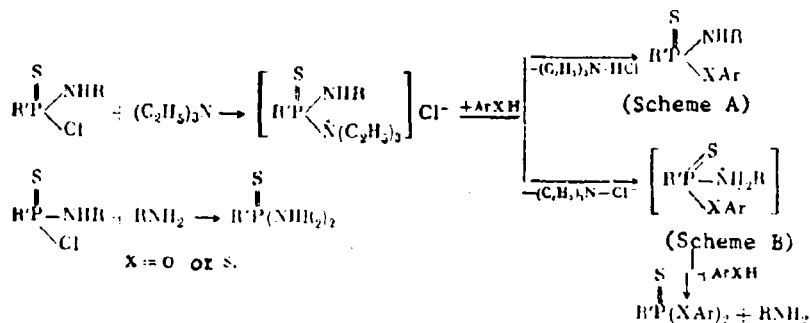
The reaction of S-phenyl phenyldithiophosphonic chloride with isopropylamine in the presence of triethylamine at 6-7°C gave S-phenyl isopropylamidophenylphosphonate:



Card 3/5

ACC NR: AP9004403

Based on experimental data, the following general reaction schemes of the formation of symmetrical diaryl trithiophosphonates and bis(alkylamido)phenylthiophosphonates are suggested:



When R' is an alkyl the reaction proceeds according to the scheme A; with N-alkylamidophenylthiophosphonic chlorides the reaction proceeds

Card 4/5

ACC NR: AP9004403



Ar	R	R'	% Yield	Mp, °C
C ₆ H ₅	C ₆ H ₅	CH ₃	51	68-69.5°
4-ClC ₆ H ₄	C ₆ H ₅	CH ₃	25	54.5-55.5
4-ClC ₆ H ₄	sec-C ₄ H ₉	CH ₃	50	•
Cl ₂ C ₆	iso-C ₄ H ₉	CH ₃	74.5	145-136.5
4-ClC ₆ H ₄	iso-C ₄ H ₉	C ₂ H ₅	19	70-71

• Mp 159-160° (0.34 mm), n_D²⁰ 1.6034, d₄²⁰ 1.2221, M_D 82.702

according to the scheme B. Physical constants and yield of new S-aryl and S-chloroaryl esters of alkylamidoalkyldithiophosphonic acids are given in the table. [WA-50; CBE No. 40][PS]

SUB CODE: 07/ SUBM DATE: 16Oct67/ ORIG REF: 006/ OTH REF: 002

Card 5/5

AUTHOR: Grapov, A. F.; Razvodovskaya, L. V.; Mel'nikov, N. N.

ORG: All-Union Scientific Research Institute of Chemicals for Plant Protection (Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh sredstv zashchity rasteniy)

TITLE: Action of amines on dithiocyclodiphosphazanes

SOURCE: Zhurnal obshchey khimii, v. 39, no. 1, 1969, 165-167

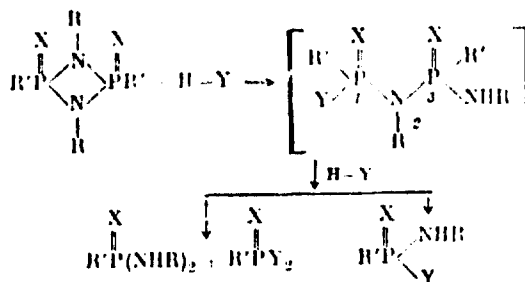
TOPIC TAGS: substituted amide, phosphonic acid, sulfur compound, thiophosphonic acid derivative

ABSTRACT: Methylthiophosphonic dianilide (I) (17.67% yield, mp 175—176°C), methylthiophosphonic N'-n-butyl-N-phenyldiamide (22.6 % yield, mp 72—73°C), and methylthiophosphonic N,N'-di-n-butyl-diamide were prepared by heating 1,3-diphenyl-2,4-dimethyl-2,4-dithiocyclodiphosphazane (II) and BuNH₂ in a sealed ampule for 28 hr at 150—160°C. Compound I (36.8 % yield) was also obtained by heating II

Card 1/2

UDC: 547.241

ACC NR: AP9006526



and p-chloroaniline in a sealed ampule for 14 hr at 150—160°C and (33.4 % yield) by heating 1,2,3,4-tetramethyl-2,4-dithiocyclodiphosphazane and PhNH₂ for 24 hr at 120—140°C. Phenyl(thiophosphonic) N,N'-di-p-ethoxyphenyldiamide (17.1 % yield, mp 150—151°C) was prepared by heating 1,3-di-p-ethoxyphenyl-2,4-diphenyl-2,4-dithiocyclodiphosphazane and Et₂NH for 4 hr at 160°C. Methylthiophosphonic N,N'-diethyl-N'-phenyldiamide (63.2 % yield, mp 111.5—112.5°C) was prepared by heating II and Et₂NH for 7.5 hr in a sealed ampule at 160°C. [WA-50; CBE No. 40] [FT]

SUB CODE: 07/ SUBM DATE: 08Feb67/ ORIG REF: 005/ OTH REF: 004

ACC NR: AP9006516

SOURCE CODE: UR/0062/69/000/001/0195/0195

AUTHOR: Grib, A. V.

ORG: Institute of Heteroorganic Compounds, Academy of Sciences SSSR
(Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR)

TITLE: Synthesis of tetraarylphosphonium salt under the conditions of the Ullmann reaction

SOURCE: AN SSSR. Izv. Ser khim, no. 1, 1969, 195

TOPIC TAGS: aromatic phosphorus compound, copper complex, iodide

ABSTRACT: Tetraphenylphosphonium cupriiodide (I) (44 % yield, mp 216—219°C) was prepared by boiling Ph_3P with PhI in pure $\text{HC(O)N(CH}_2)_2$ in the presence of Cu and CuI . The iodide of I melts at 332—334°C and the borofluoride of I melts at 345—346°C. *p*-Tolyltriphenylphosphonium cupriiodide (II) (13% yield, mp 186—186.5°C) was similarly prepared. The borofluoride of II melts at 204—205°C.
[WA-50; CBE No. 40] [FT]

SUB CODE: 07/ SUBM DATE: 24Sep68/ OTH REF: 003

Card 1/1

UDC: 542.91+661.718.1

ACC NR: AP9006528

SOURCE CODE: UR/0079/69/000/001/0172/0175

AUTHOR: Grinblat, M. P.; Klebanskiy, A. L.; Pron, V. N.

ORG: All-Union Scientific Research Institute of Synthetic Rubber im. Academician S. V. Lebedev (Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo kauchuka)

TITLE: Synthesis of some alkylperfluoroalkyl phosphorus derivatives

SOURCE: Zhurnal obshchey khimii, v. 39, no. 1, 1969, 172-175

TOPIC TAGS: aliphatic phosphorus compound, fluorine compound, phosphine derivative, amine derivative, chlorine compound

ABSTRACT: *N,N*-Diethylaminotrifluoromethylchlorophosphine (83.0% yield, bp_{28} 61—63°C, d_4^{20} 1.2257, n_D^{20} 1.4176) was prepared by adding Et_2NH to F_3CPCl_2 in hexane in A at -40°C. *N,N*-Diethylaminotrifluoromethyliodophosphine (I) (75.6% yield, bp_{17} 88—90°C, d_4^{20} 1.6858, n_D^{20} 1.5046) and *N,N*-diethylaminoheptafluoropropyl iodophosphine (87.1% yield, bp_6 71°C, d_4^{20} 1.7093, n_D^{20} 1.4480) were similarly prepared. *N,N*-Diethylaminotrifluoromethylmethylphosphine (II) (76.8% yield, bp_{13} 32°C, d_4^{20} 1.0644,

Card 1/3

UDC: 547.241

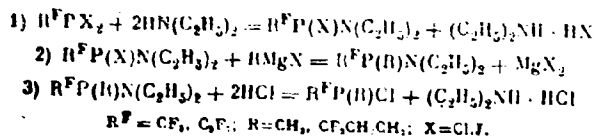
- 51 -

ACC NR: AP9006528

n_D^{20} 1.4025) was prepared by adding CH_3MgCl in ether to I in ether at -45°C for 30 min, heating to 20°C , boiling for 2 hr, and allowing the mixture to stand for 15 hr. N,N-Diethylaminotrifluoromethyl-3,3,3-trifluoropropylphosphine (55.6% yield, bp_{17} $59-61^\circ\text{C}$, d_4^{20} 1.2161,

n_D^{20} 1.3920) and N,N-diethylaminoheptafluoropropylmethylphosphine (76.8% yield, bp_{13} $51-53^\circ\text{C}$, d_4^{20} 1.2834, n_D^{20} 1.3800) were similarly prepared.

Trifluoromethylmethylchlorophosphine (74.8% yield, bp $52-54^\circ\text{C}$) was prepared by passing dry HCl at 20°C into II in octane, stirring for 2 hr, and allowing the mixture to stand for 15 hr. Trifluoromethyl-3,3,3-trifluoropropylchlorophosphine (III) (67.9% yield, bp $100-100.5^\circ\text{C}$) and heptafluoropropylmethylchlorophosphine (64.9% yield, bp 92.5°C) were

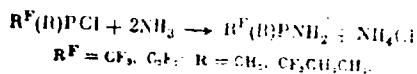


similarly prepared. Trifluoromethyl-3,3,3-trifluoropropylaminophosphine (44.4% yield, bp_{10} $42-44^\circ\text{C}$) was obtained by adding III to NH_3 in ether

Card 2/3

ACC NR: AP9006529

in the cold and heating to 20°C . Heptafluoropropylmethylaminophosphine (75.2% yield, bp_{20} $44-46^\circ\text{C}$) was similarly prepared. Trifluoromethyl-3,3,3-trifluoropropylphosphorus trichloride (62.6% yield, bp_c $39-40.8^\circ\text{C}$,



bp_{754} 158°C , n_D^{20} 1.4150) was prepared by passing Cl_2 into III in hexane at -40°C and heating to 20°C . Heptafluoropropylmethylphosphorus trichloride (57.6% yield, bp_{15} $64-66^\circ\text{C}$) was similarly prepared.

Asymmetric alkylperfluoroalkylchlorophosphines and alkylperfluoroalkylphosphorus trichlorides do not undergo cleavage in acidic or neutral media. Orig. art. has: 1 table. [WA-50; CBE No. 40][PT]

SUB CODE: 07/ SUBM DATE: 22Jan68/ OTH REF: 006

Card 3/3

ACC NR: AP9004411

SOURCE CODE: UR/0079/68/038/012/2780/2782

AUTHOR: Gupalo, A. P.; Zemlyanskiy, N. I.

ORG: L'vov State University im. I. Franko (L'vovskiy gosudarstvennyy universitet)

TITLE: Amino esters of thiophosphoric acids. IV. Alkiodides of amino esters of dithio- and trithiophosphoric acids

SOURCE: Zhurnal obshchey khimii, v. 38, no. 12, 1968, 2780-2782

TOPIC TAGS: iodide, amine derivative, phosphate ester, dithiophosphate ester

ABSTRACT. O-Dimethylaminoethyl S,S-dimethyl trithiophosphate methiodide (70% yield, mp 39—40°C) was prepared by adding CH_3I to di-K O-dimethylaminoethyl trithiophosphate and boiling for 1.5 hr. The following compounds were similarly prepared: O-diethylaminopropyl S,S-dimethyl trithiophosphate methiodide (70% yield, mp 130—131°C), O-(N- α -ethylpiperidino) S,S-dimethyl trithiophosphate methiodide (68% yield, mp 129—130°C), O-(N- δ -ethylmorpholino) S,S-dimethyl trithiophosphate methiodide (72% yield, mp 106—108°C), and O-dimethylaminoethyl S,S-dipropyl trithiophosphate propiodide (69% yield,

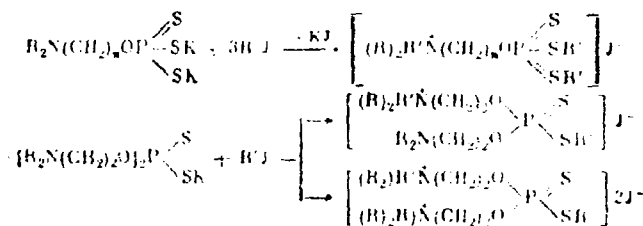
Card

1/3

UDC: 547.185

ACC NR: AP9004411

mp 75—76°C). O-Dimethylaminobutyl S,S-dimethyl trithiophosphate methiodide (60% yield, mp 50—51°C) was prepared by refluxing CH_3I and di-K O-dimethylaminobutyl trithiophosphate in EtOH for 5—6 hr. O,O-Bis(dimethylaminoethyl) S-methyl dithiophosphate methiodide (78% yield, mp 216—218°C, decomp) was obtained by boiling CH_3I and K O,O-bis(dimethylaminoethyl) dithiophosphate in ether for 50 hr.



O,O-Bis(dimethylaminoethyl) S-methyl dithiophosphate diethiodide (84% yield, mp 166.5—167°C, decomp) was obtained by boiling CH_3I and K O,O-bis(dimethylaminoethyl) dithiophosphate for 10 min. O,O-bis(dimethylaminoethyl) S-methyl dithiophosphate dimethiodide (80% yield, mp 143—144°C, decomp) and O,O-bis(N- γ -ethylmorpholino) S-methyl

Card

2/3

- 53 -

ACC NR: AP9004411

dithiophosphate dimethiodide (71% yield, mp 149—151°C, decomp) were similarly prepared. O,O-Bis(N-*β*-ethylpiperidino) S-methyl dithiophosphate dimethiodide (87% yield, mp 152—153°C, decomp) was prepared by boiling CH₃I and K O,O-bis(N-*β*-ethylpiperidino) dithiophosphate in acetone for 1 hr. Orig. art. has: 1 table. [WA-50; CBE No. 40][FT]

SUB CODE: 07/ SUBM DATE: 23Dec67/ ORIG REF: 002

Card 3/3

ACC NR: AP9004419

SOURCE CODE: UR/0079/68/038/012/2816/2817

AUTHOR: Ignat'yeva, G. V.; Arbisman, Ya. S.; Kondrat'yev, Yu. A.; Bal'chenko, R. K.; Ivin, S. Z.

ORG: none

TITLE: Rearrangement of propargyl esters of trivalent phosphorus acids containing trifluoromethyl radicals

SOURCE: Zhurnal obshchey khimii, v. 38, no. 12, 1968, 2816-2817

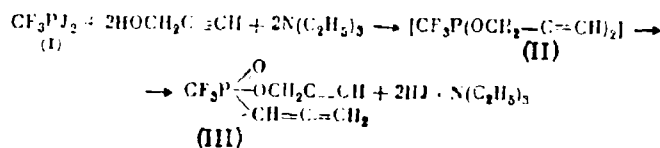
TOPIC TAGS: aliphatic ester, aliphatic phosphorus compound, fluorinated organic compound, phosphinic acid derivative

ABSTRACT: The reaction of trifluoromethyldiiodophosphine (I) with propargyl alcohol in the presence of triethylamine gave O-propargyl trifluoromethylallenylphosphinate (III), bp 53—58°C (9 x 10⁻³ mm), d_4^{20} 1.2910, n_D^{20} 1.440. This indicates that the anticipated reaction product (II) undergoes isomerization into III:

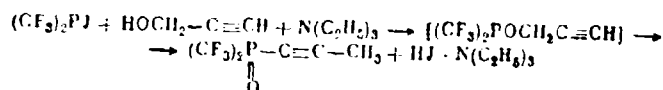
Card 1/2

UDC: 547.341
- 54 -

ACC NR: AP9004419



Under similar conditions, I reacted with an equimolar mixture of ethanol and propargyl alcohol to form O-ethyl trifluoromethylallenylphosphinate, bp 67°C (1 mm), d_4^{20} 1.3100, n_D^{20} 1.4240. The reaction of



bis-(trimethyl)iodophosphine with propargyl alcohol gave bis-(trifluoromethyl)- α,β -propynylphosphine oxide, bp 65—66°C (19 mm).

[WA-50; CBE No. 40][PS]

SUB CODE: 07/ SUBM DATE: 25Apr68/ ORIG REF: 002

Card 2/2

ACC NR: AP9006521

SOURCE CODE: UR/0079/69/039/001/0078/0083

AUTHOR: Ioffe, I. S.; Tomchin, A. B.; Zhukova, Ye. N.

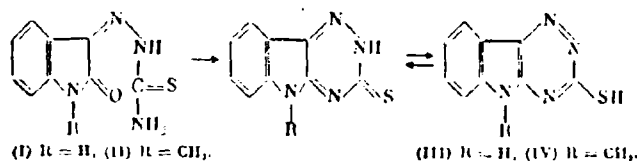
ORG: none

TITLE: Semicarbazones and thiosemicarbazones of the heterocyclic series. II. Cyclization of isatin-, thiosemicarbazone.

SOURCE: Zhurnal obshchey khimii, v. 39, no. 1, 1969, 78-83

TOPIC TAGS: organic azole compound, mercaptan, cyclization, carbazole derivative

ABSTRACT: 2-Mercapto-1,3,4-triazacarbazole (III) (92% yield, mp > 350°C) was prepared by boiling isatin- β -thiosemicarbazone (I) in 1 N NaOH for 3 hr. 2-Mercapto-1,3,4-triaza-9-methylcarbazole (IV) (90% yield, mp 275°C) was similarly prepared from II. Bis(1,3,4-triaza-2-carbazolyl)

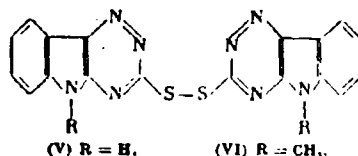


Card 1/2

UDC: 547.288.3

ACC NR: AP9006521

disulfide (V) (79.5 % yield, mp > 350°C) was obtained by adding H₂O and 0.1 N iodine to III in 0.1 N aqueous NaOH, stirring, adding 0.5 N HCl to pH 3, heating to boiling, and cooling. Bis(1,3,4-triaza-9-methyl-2-carbazolyl) disulfide (VI) (85.7 % yield, mp 278°C) was prepared by adding 0.1 N iodine to IV in EtOH and 1 N NaOH at 20°C and heating after several hr. In the crystalline state, III and IV have a thione



structure. In alkaline solutions, anions of III and IV have a thiolate structure. Orig. art. has: 5 figures. [WA-50; CBE No. 40] [FT]

SUB CODE: 07/ SUBM DATE: 18Jul67/ ORIG REF: 003/ OTH REF: 002

Card 2/2

ACC NR: AP9006520

SOURCE CODE: UR/0079/69/039/001/0070/0078

AUTHOR: Ioffe, I. S.; Tomchin, A. B.; Zhukova, Ye. N.

ORG: none

TITLE: Semicarbazones and thiosemicarbazones of the heterocyclic series. I. Structure and properties of β -thiosemicarbazones of isatin and N-methylisatin

SOURCE: Zhurnal obshchey khimii, v. 39, no. 1, 1969, 70-78

TOPIC TAGS: indole aerivative, small pox, sulfur compound, semicarbazone

ABSTRACT: Isatin- β -thiosemicarbazone (I) and N-methylisatin- β -thiosemicarbazone (II) display specific antiviral activity and inhibit the development of smallpox. Isatin- β -thiosemicarbazones (I, III, V, and VII (mp 257°C)) and N-methylisatin- β -thiosemicarbazones (II, IV, VI, and VIII (mp 228.5°C)) were prepared in theoretical yields by condensing isatin or N-methylisatin with the corresponding thiosemicarbazides.

Card 1/3

UDC: 547.288.3

- 56 -

ACC NR: AP9006520

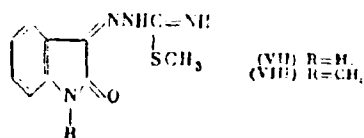
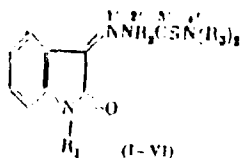


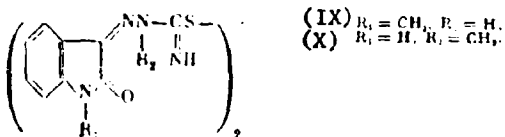
Table 1. β -Thiosemicarbazones

No.	R ₁	R ₂	R ₃	Mp, °C
I	H	H	H	255
II	CH ₃	H	H	242
III	H	H	CH ₃	230
IV	CH ₃	H	CH ₃	196
V	H	CH ₃	H	195
VI	CH ₃	CH ₃	H	172.5

Card 2/3

ACC NR: AP9006520

Bis[2-(1-methyl-2-keto-3-indolenyl)-hydrazinoiminomethyl] disulfide (IX) (5% yield, mp 267°C) was obtained by adding iodine in EtOH to II in HC(O)N(CH₃)₂ for 20 min and shaking for 10 min. Bis[1-methyl-2-(2-keto-3-indolenyl)hydrazinoiminomethyl] disulfide (X) 65% yield, mp > 350°C) was obtained by dissolving V in 1 N NaOH, diluting with H₂O, and adding 0.1 N aqueous iodine. Compounds: —IV, VII, and VIII have an



(IX) R₁ = CH₃, R₂ = H.
(X) R₁ = H, R₂ = CH₃.

intermolecular H bond between H at the 2' N and the α -carbonyl of the indole ring in both the crystalline state and solutions. In the solid state, the thione form predominates in all isatin- β -thiosemicarbazones capable of thione-thiol tautomerism. In alkaline solutions, dissociation occurs with the formation of thiolate ions. Orig. art. has: 6 figures and 1 table. [WA-50; CBE No. 40] [FT]

Card 3/3

ACC NR. AP9006506

SOURCE CODE: UR/0062/69/000/001/0154/0156

AUTHOR: Ivanov, B. Ye.; Ageyeva, A. B.; Pasmanyuk, S. V.; Shagidullin, R. R.

ORG: Institute of Organic and Physical Chemistry im. A. Ye. Arbuzov, Academy of Sciences SSSR (Institut organicheskoy i fizicheskoy khimii Akademii nauk SSSR)

TITLE: Hydrolysis of the products of the reaction of phosphorous hexaethyltriamide with 2-diethylaminomethyl-6-methylphenol

SOURCE: AN SSSR. Izvestiya Seriya khimicheskaya, no. 1, 1969, 154-156

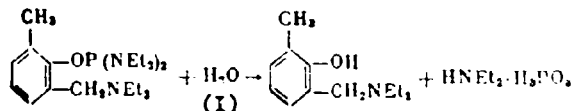
TOPIC TAGS: alkyl phosphite, phenol derivative, amine derivative, heterocyclic oxygen compound, heterocyclic phosphorus compound

ABSTRACT: Diethylamine trihydrogen phosphite (90% yield, mp 114—115°C) was obtained by adding H₂O to 2-diethylaminomethyl-6-methylphenyl bis(N-diethylamido)phosphite (I) in ether. 2-Diethylaminomethyl-6-methylphenol trihydrogen phosphite (38.2% yield, mp 178—180°C) was

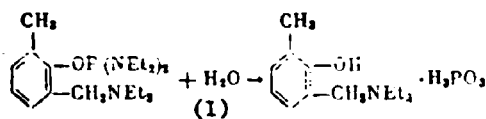
Card 1/4

UDC: 542.938+661.718.1

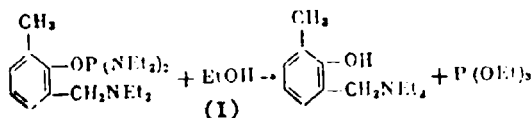
ACC NR: AP9006506



similarly obtained in 4 days. Triethyl phosphite (30% yield, bp₁₄ 45°C,



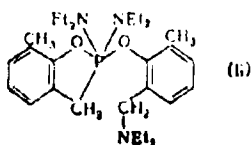
n_D^{20} 1.4140) and 2-diethylaminomethyl-6-methylphenol (25% yield, bp_{0.035} 78—79°C, n_D^{20} 1.5115) were obtained by refluxing I in EtOH for 20 hr at



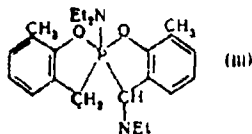
Card 2/4

ACC NR: AP9006506

100—110°C. 3',9"-Dimethyl-2,3,5,6-dibenzo-7a-oxo-1,7-dioxo-7a-phosphatetrahydroindan (50% yield, mp 228—230°C) was obtained by adding H₂O to 2,2-bis(diethylamido)-2-(2-methyl-6-diethylaminomethyl)phenoxy-7-methyl-1-oxa-2-phosphaindan (II). A compound of undetermined structure



(C₂₀H₂₈PO₄N) (84.81% yield, mp 195—197°C) was obtained by adding H₂O to 3',8"-dimethyl-2,3,7,8-dibenzo-4,5-bis(diethylamino)-1,6-dioxo-5-phosphaspiro[4.4]nonane (III) in CHCl₃ and allowing the mixture to stand



Card 3/4

ACC NR: AP9006506

at 20°C. A compound of undetermined structure (C₂₄H₂₅PO₄) (68.82% yield, mp 218—220°C) was obtained by adding 10% HCl to III in EtOH. Orig. art. has: 1 figure. [WA-50; CBE No. 40][FT]

SUB CODE: 07/ SUBM DATE: 09Jul68/ ORIG REF: 002

Card 4/4

ACC NR: AP9004790

SOURCE CODE: UR/0062/68/000/011/2614/2616

AUTHOR: Ivanov, B. Ye.; Zheltukhin, V. F.; Shagidulin, R. R.

ORG: Institute of Organic and Physical Chemistry im. A. Ye. Arbuзов, Academy of Sciences SSSR (Institut organicheskoy i fizicheskoy khimii Akademii nauk SSSR)

TITLE: Kinetics of the reaction of triethyl phosphite with 8-acetoxyethyl methyl ketone

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 11, 1968, 2614-2616

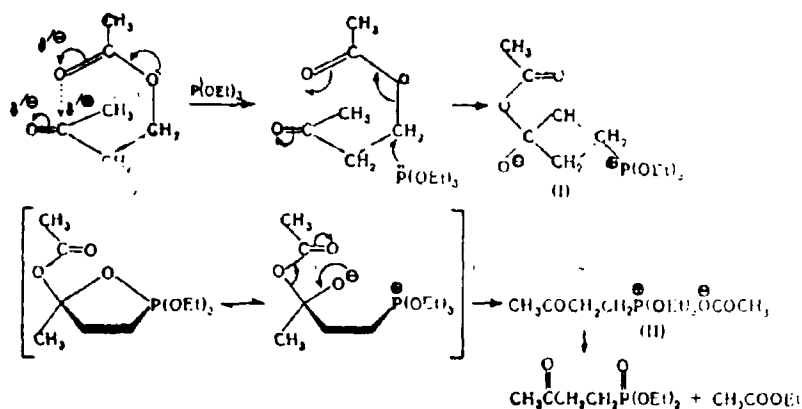
TOPIC TAGS: phosphonic acid, aliphatic ester, phosphonate ester, spectrophotometry, chemical kinetics

ABSTRACT: On the basis of spectrophotometric data, it was determined that the title reaction probably proceeds by the mechanism shown, with the formation of diethyl 8-acetyloxyethylphosphonate and EtOAc.

Card 1/3

UDC: 541.127+542.91+661.718.1

ACC NR: AP9004790



The relation of $1/C$ to time for $\nu = 925 \text{ cm}^{-1}$ for the title reaction in

Card 2/3

- 60 -

ACC NR: AP9004790

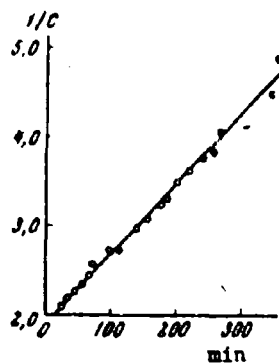


Fig. 1. Relation of $1/C$ to time

$\text{HCON}(\text{CH}_3)_2$ at 20°C ($C_0 = 0.5 \text{ m/l}$) is shown in Fig. 1. Orig. art. has: 2 figures. [WA-50; CBE No. 40] [FT]

SUB CODE: 07/ SUBM DATE: 06May68/ ORIG REF: 003

Card 3/3

ACC NR: AP9005959

SOURCE CODE: BU/0011/68/021/011/1233/1235

AUTHOR: Ivanov, I.; Bourkova, T.

ORG: Institute of Labor Protection and Occupational Diseases

TITLE: Experimental comparative morphological and enzymohistochemical studies with Ceazine and Herbazine

SOURCE: Bulgarska akademiya na naukite. Doklady, v. 21, no. 11, 1968, 1233-1235

TOPIC TAGS: organic azine compound, triazine derivative, herbicide, gastrointestinal tract, liver disease, genitourinary system disease, white rat, enzymology

ABSTRACT: Herbazine and Ceazine are herbicides with a selective action, owing to which they are of great economic interest to Bulgaria. Their manufacture is to be started soon. Both preparations belong to the group of triazine derivatives about which it is known that they have a pronounced toxicity with respect to the gastrointestinal tract. The purpose of the present experimental work was to investigate, by means of enzymohistochemical research, the earliest structural changes in the liver and testes, two organs on which Ceazine and Herbazine produce a selective action when applied chronically (according to preliminary studies). As test animals

Card 1/6

- 61 -

ACC NR. AP9005959

40 white rats of the Wistar breed were used, weighing 130 g each. They were divided into three experimental groups of 12 each and a control group of 12 rats. The first group was treated with $1/5 LD_{50}$ Ceazine, the second with $1/10 LD_{50}$ Ceazine, and the third with $1/5 LD_{50}$ Herbazine, all for four months. After the rats were decapitated, their liver and testes were immediately removed, frozen at $70^{\circ}C$, and cut on a cryostat with a thickness of 8-10 μ . This was followed by alkali and acid phosphatase (AF:As) according to Burston, succinedehydrogenase (SDH), lactatedehydrogenase (LDH), and diphosphopyridine-nucleotide diaphorase (DPND) according to Nachlass, and non-specific esterase according to Seligman. The material designed for morphological treatment was stained with hemalaun-eosine Van Gizon and for reticular fibres according to Gomory. The glycogen content in the liver was investigated with a PAS reaction according to MacManus and lipidine with sudan III. The morphological changes in the liver and testes of the first groups of animals, treated chronically with a high dose ($1/5 LD_{50}$) of Ceazine, were considerable. Against a background of generally preserved architectonics, strongly pronounced vessel disturbances were observed with a dilatation of the *v. centrales* and *v. hepaticae*, plasmorrhagia and haemorrhagia. The Dissel spaces were dilated. The strongly pronounced cholangiostasis was accompanied by the proliferation of the bilious epithelia and the formation of

Card 2/6

ACC NR. AP9005959

pseudobilious channels. The most serious changes, however, were found in the parenchymatous cells of the liver. They were subjected to parenchymatous dystrophia. In certain sectors of the liver, the hydropic dystrophia comprised almost entirely the liver deltas. Besides the dystrophia changes in the hepatocytes, necrosis of individual parenchymatous cells or groups thereof, usually located in the center of the acinus, was observed. Some of the animals, along with hydropic dystrophia and necrotic changes, revealed large drops of fatty infiltration, the hepatocytes being destroyed in places and fatty cysts being formed. An increased number of binuclear cells, as well as individual cells in mitosis were found in the periphery of the liver deltas, and rare inflammatory infiltrates were found in the periportal connective tissue. The active mesenchyme of the liver was inhibited, i.e. it did not react to injuries. With a stronger dose ($1/5 LD_{50}$) necrosis of the channels was observed with a desquamation of the Leidig cells in their lumen and an absence of spermatozoids. A weaker Ceazine dose ($1/10 LD_{50}$) caused dystrophic changes in the channels, but here too there was practically no spermatogenesis. Even in the channels where spermatozoids were found, they were deformed and strongly reduced in number. The histological changes in the liver and testes were accompanied by changes in the activity of the enzyme systems of these organs. Succinedehydrogenase in the liver of the test

- 62 -

Card 3/6

ACC NR: AP9005959

animals was strongly reduced in activity, especially in the central fields of the liver deltas. Only around the periportal spaces were they found to be comparatively more preserved. The activity of lactate dehydrogenase in the liver showed a distribution similar to SDH, but in the central sectors of the liver it decreased much more than SDH and in some places it disappeared completely. DPND showed a slight reduction in activity only around *v. centrales*. In contrast to the respiratory enzymes, the activity of the alkali phosphatase and non-specific esterase, enzymes connected with proliferation processes in the liver, was higher. The activity of the respiratory enzymes AC — esterase in the testes was also reduced, especially in the Sartoliev cells. It was found to be comparatively more preserved in the interstitium and in the Leinig cells of the testes. The activity of the alkali phosphatase in the membranes of the channels and in the blood vessels was strongly increased (Table 1). In contrast to Ceazine, Herbazine affects primarily the liver of the animals. These changes were expressed in stasis, parenchymatous dystrophias in the centrally located hepatocytes, cholangiostasis and cholangiohepatitis.

Card 4/6

ACC NR: AP9005959

Table 1
Ceazine

Organ	AI		AS-esterase		SDH		LDH		DPND	
	Liver	Testes	Liver	Testes	Liver	Testes	Liver	Testes	Liver	Testes
Exper. 1/5 LD ₅₀	+++	++++	+++	+++	+	++	+++	++	++	+++
Exper. 1/10 LD ₅₀	++	+++	+++	+++	++	+++	++++	++	+++	++++
Control	++	++	+	++	+++	+++	++++	+++	++++	+++

Here, however, a reaction of the mesenchyme was observed, with hyperplasia of the Kupfer cells and proliferation of the fibroblasts and fibrocytes. In spots, especially around the *v. centrales* or in the periportal connective tissue, the mesenchymatous cells formed granulomas which aggravated the stasis. The morphological picture in the testes revealed an interstitial edema and dilatation of the blood vessels. The channels were preserved, but there were practically no spermatozooids. Enzymohistochemical investigations showed a slight reduction in the activity of LDH and DNPD in the liver, and at that

Card 5/6

ACC NR: AP90J5959

Table 2
Herbazine

I.I.D. ₀	AF		AS-esterase		SDH		LDH		DPND ₁	
	Liver	Testes	Liver	Testes	Liver	Testes	Liver	Testes	Liver	Testes
Experimental	+++	++	++	+++	+++	+++	+++	+++	+++	+++
Control	++	++	++	++	+++	+++	+++	+++	+++	+++

in the center of the acinus. The activity of SDH and AC-esterase was preserved, and that of the alkali phosphatase was even increased in the mesenchymatous structures. The activity of the investigated enzymes in the testes was almost normal (Table 2). The paper was presented by P. Nikolov, Corresponding Member of BAN, 13 Jul 68. Orig. art. has: 2 tables and 3 figures. [Original article in English]

[WA-50; CBE No. 40][FT]

SUB CODE: 06/ SUBM DATE: none/ ORIG REF: 001/ OTH REF: 001

Card 6/6

ACC NR: AP9006537

SOURCE CODE: UR/0079/69/039/001/0213/0214

AUTHOR: Katayev, Ye. G.; Tantasheva, F. R.

ORG: Kazan' State University im. V. I. Ul'yanov-Lenin (Kazanskiy gosudarstvennyy universitet)

TITLE: Reaction of triphenylphosphine with trans- β -bromovinylphenylsulfone

SOURCE: Zhurnal otshchey khimii, v. 39, no. 1, 1969. 213-214

TOPIC TAGS: phosphorus compound, aromatic sulfur compound, benzene derivative, phosphonium compound

ABSTRACT: Bromovinyl(triphenyl)phosphonium phenylsulfonate (PhSOO⁻[BrCH:CHPh⁺Ph₃]) (72.4% yield, mp 212—214°C) was prepared by adding Ph₃P to PhSO₂CH:CHBr in HPh in N and heating for 3 hr.

[WA-50; CBE No. 40] [FT]

SUB CODE: 07/ SUBM DATE: 01Jul68/ ORIG REF: 002/ OTH REF: 001

Card 1/1

UDC: 547.341

ACC NR: AP9005097

SOURCE CODE: UR/0390/68/031/005/0538/0541

AUTHOR: Khanov, M.; Kurmukov, A. G.; Sultanov, M. B.; Akhmedkhodzhayeva, Kh. S.

ORG: Institute of Chemistry of Plant Substances, AN UzSSR, Tashkent (Institut khimii rastitel'nykh veshchestv AN UzSSR)

TITLE: Effect of Vincarine on the central nervous system

SOURCE: Farmakologiya i toksikologiya, v. 31, no. 5, 1968, 538-541

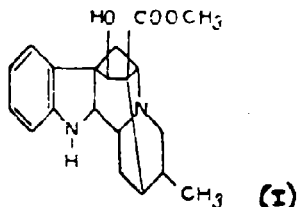
TOPIC TAGS: central nervous system depressant, muscle relaxant, conditioned reflex, bioelectric phenomenon

ABSTRACT: A study was made of the effect of Vincarine (I) (isolated from the roots of *Vinca erecta* Rgl et Schmalh) on the central nervous system of 125 white mice (18-24 g), five rats, and eight rabbits. Compound I (ip 50 mg/kg) inhibited the spontaneous mobility of mice. As the dose was increased, pronounced inhibition developed, accompanied by ataxia up to complete muscular relaxation, when the mice

Card 1/7

UDC: 612.82.014.46:615.322:582.937

ACC NR: AP9005097



lay prostrate, drooping their heads, or fell into a lateral position. With larger doses (180-200 mg/kg), the action lasted for over 24 hr. LD₅₀ ip is 330 (311.32-349.80) mg/kg. The same basic behavioral changes were observed with subcutaneous administration. LD₅₀ sc is 520 (472.07-577.2) mg/kg. The orientational reactions of the mice (20 mice) were inhibited by I beginning with 10 mg/kg ip. Increasing the dose to 25-50 mg/kg intensified the effect, and a dose of up to 75-100 mg/kg completely eliminated the reactions. In a dose of 20 mg/kg, I displayed the first signs of inhibiting the conditioned defensive reflex, where the latent period lengthened by 5%. From a dose of 40 mg/kg, the latent period lengthened by 70%, and the conditioned reflex was abolished in two out of five rats. From a dose of 80 mg/kg, it was abolished in all five rats. ED₅₀ ip (for

Card 2/7

ACC NR: AP9005097

reflex abolition) is 46 (38.3—55.2) mg/kg. The central muscle relaxant action of I was studied in 120 white mice (21—24 g). For the rotating rod test, ED₅₀ ip is 140 (123.8—158.2) mg/kg, and ED₅₀ sc is 145 (128.32—163.85) mg/kg. The antagonism of I toward some CNS analeptics was studied in 90 white mice (18—22 g). In doses of 30—120 mg/kg, I lengthened the latent period of the appearance of convulsions, but did not eliminate and did not protect the mice from convulsions and death caused by Korazol (i.e., Metrazol) (II), strychnine (III), and nicotine. In the same doses, I did not affect tremor caused by arecoline (IV), but did lengthen its latent period.

Table 1. Effect of I on the latent period of the appearance of convulsions caused by II and III and on tremor caused by IV

Compds and their combinations	Dose (in mg/kg)	Animals	Time from administering analeptic to appearance of convulsions (in min)
III I	1.2	6	7.4 (6.1—8.9)
III I	40	6	13.7 (10.9—16.5)
III I	60	6	23.0 (16.3—29.7)
III I	120	6	17.0 (8.4—25.6)
III II	76.5	5	4.62 (2.66—6.42)

Card 3/7

ACC NR: AP9005097

Table 1. (Cont.)

I	30	5	8.4 (5.62—11.18)
II I	76.5	5	9.25 (3.56—14.94)
II I	60	5	15.28 (1.67—28.83)
II I	76.5	5	2 (1.34—2.66)
IV I	25	6	6 (4.2—7.8)
IV I	40	6	4.7 (3.7—5.7)
IV I	25	6	
IV I	80	6	
IV I	25	6	

These data are shown in Table 1. In doses of 25, 50, and 75 mg/kg, I did not eliminate amphetamine stimulation, and only in a dose of 100 mg/kg did I reduce the activity of the mice. When I was administered in combination with hexobarbital sodium (V) and chloral hydrate (VI), I prolonged the sleep caused by V and VI. The data are shown in Table 2. A study was made of the effect of I on the spontaneous bioelectric activity of the rabbit brain with electrodes chronically implanted in various areas. Compound I displayed its action beginning

Card 4/7

Table 2. Effect of I on the duration of sleep caused by V and VI (white mice)

Comps	Dose (in mg/kg)	Duration of sleep (in min)
V	75	28 (15+41)
I	5	} 46 (35+57)
V	75	
I	10	} 187 (71+303)
V	75	
I	20	} 260 (15+355)
V	75	
VI	300	94 (52+136)
I	5	} 179 (94+264)
VI	300	
I	10	} 246 (179+313)
VI	300	
I	20	} 213 (130+332)
VI	300	

Card 5/7

with 0.5—1 mg/kg, when more frequent "spindles" appeared against the background of high-amplitude slow potentials. In addition, an increase

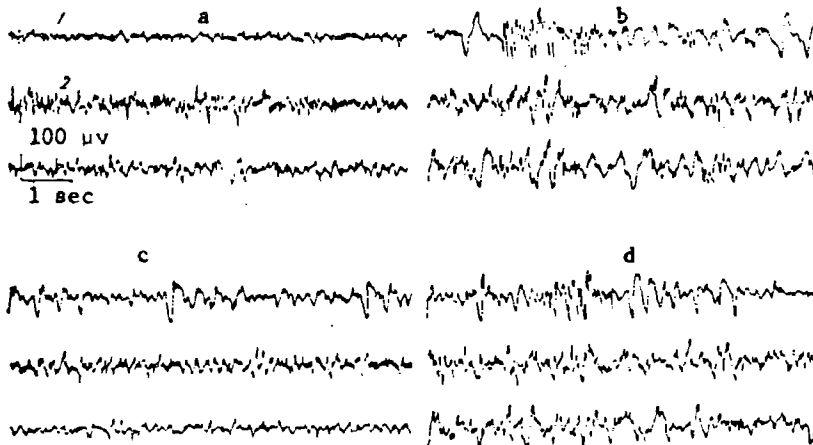


Fig. 1. Effect of I (10 mg/kg) on the rabbit EEG.

a - Control recording; b - 5 min after I (10 mg/kg); c - after II (10 mg/kg); d - 3 min after giving II.

1 - EEG of frontal areas of cortex; 2 - of medial thalamus; 3 - of reticular formation of midbrain

Card 6/7

ACC NR: AP9005097

in amplitude and a retardation of potentials were recorded from the hippocampus, medial thalamus, and reticular formation of the midbrain. As is shown in Fig. 1, the effect was especially pronounced with a dose of 5--10 mg/kg, and it lasted for more than 3 hr. Compound II (10 mg/kg) eliminated on this background the synchronous waves which developed under the influence of I. The action of II lasted for 1--2 min. Compound I (3--5 mg/kg) did not eliminate and did not prevent the activation of the potentials caused by Phenamine (3 mg/kg).
Orig. art. has: 2 tables and 1 figure. [WA-50; CBE No. 40][FT]

SUB CODE: 06/ SUBM DATE: 30May67/ ORIG REF: 005/ OTH REF: 001

Card 7/7

ACC NR: AP9006533

SOURCE CODE: UR/0079/69/039/001/0191/0193

AUTHOR: Khaskin, A. N.; Zavlin, P. M. Ionin, B. I.

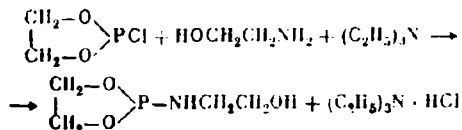
ORG: Leningrad Institute of Motion Picture Engineers (Leningradskiy institut kinoinzhenerov)

TITLE: Reaction of ethylene glycol phosphorous acid chloride with ethanalamine

SOURCE: Zhurnal obshchey khimii, v. 39, no. 1, 1969, 191-193

TOPIC TAGS: phosphorous acid, substituted amide, alkyl phosphite, ethylene glycol

ABSTRACT: Ethylene glycol phosphorous acid β -hydroxyethylamide (I) (68% yield, mp 55--56°C) was prepared by adding ethylene glycol phosphorous acid chloride in ether to ethanalamine and Et₃N in ether at 0--5°C.



β -Aminoethyl β -chloroethyl hydrogen phosphite hydrochloride (II) (81% yield, mp 76--78°C) was prepared by adding ethylene glycol phosphorous

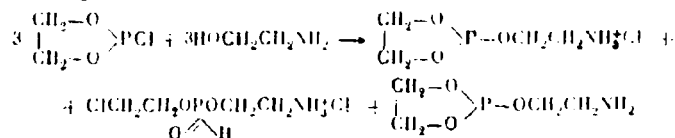
Card 1/2

UDC: 547.26'118

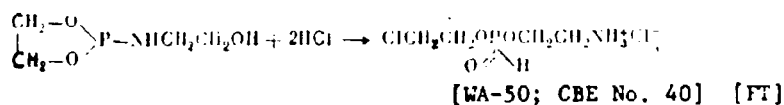
- 68 -

ACC NR: AP9006533

acid chloride in ether to ethanolamine in ether and passing HCl into the precipitate in CHCl_3 at 62°C .



Compound II (84% yield, mp $77-78^\circ\text{C}$) was also obtained by passing HCl into I in CHCl_3 at 62°C for 2 hr.



SUB CODE: 07/ SUBN DATE: 25Jun68/ ORIG REF: 002

Card 2/2

ACC NR: AP9004402

SOURCE CODE: UR/0079/68/038/012/2652/2658

AUTHOR: Khaskin, B. A.; Taturina, N. N.; Mel'nikov, N. N.

ORG: All-Union Scientific Research Institute of Chemicals for Plant Protection (Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh sredstv zashchity rasteniy)

TITLE: Organic insectofungicides. Thione-thiol isomerization of quaternary phosphonium O,O-dialkyl dithiophosphates

SOURCE: Zhurnal obshchey khimii, v. 38, no. 12, 1968, 2652-2658

TOPIC TAGS: pesticide, fungicide, bactericide, organic phosphate, dithiophosphate ester

ABSTRACT: In connection with the rapid development of the chemistry of organophosphorus pesticides, researchers have recently become more and more interested in the reactivity of salts of the thio and dithio phosphorus acids. Diethylphenyloctadecylphosphonium bromide (IX) was prepared by heating octadecyl bromide and Et_2PhP for 2 hr in a sealed tube in N at $90-100^\circ\text{C}$. Compounds I-VIII and X were similarly

Card 1/6

UDC: 615.777/779

- 69 -

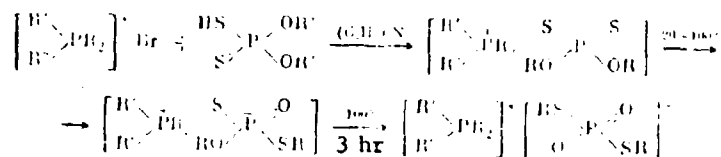
Table 1
 [R'R''PR''']-Br⁻

No.	R	R'	R''	R'''	% Yield	Mp, °C
I	C ₂ H ₅	C ₂ H ₅	C ₂ H ₅	C ₁₂ H ₂₅	35	100-111 ^a
II	C ₃ H ₇	C ₃ H ₇	C ₃ H ₇	C ₁₂ H ₂₅	79	
III	C ₃ H ₇	C ₄ H ₉	C ₄ H ₉	C ₁₂ H ₂₅	65	
IV	C ₆ H ₅	C ₂ H ₅	C ₂ H ₅	C ₁₂ H ₂₅	79	59.5-61
V	C ₆ H ₅	C ₆ H ₅	C ₂ H ₅	C ₁₂ H ₂₅	45	73-75
VI	C ₂ H ₅	C ₂ H ₅	C ₂ H ₅	C ₁₈ H ₃₇	75	138-139
VII	C ₃ H ₇	C ₃ H ₇	C ₃ H ₇	C ₁₈ H ₃₇	88	68-69
VIII	C ₄ H ₉	C ₄ H ₉	C ₄ H ₉	C ₁₈ H ₃₇	72	61.5-66
LX	C ₆ H ₅	C ₂ H ₅	C ₂ H ₅	C ₁₈ H ₃₇	98	82-83
X	C ₂ H ₅	C ₆ H ₅	C ₂ H ₅	C ₁₈ H ₃₇	88	91-92

Card 2/6

ACC NR: AP9004402

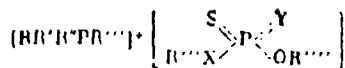
obtained. S-Diethylphenyloctadecylphosphonium O,S-dimethyl dithiophosphate (XIX) was prepared by adding Et₃N in HPh to IX and O,O-dimethyl hydrogen dithiophosphate in HPh. Compounds XI—XVIII and XX were similarly prepared. Triethyloctadecylphosphonium O,O-diethyl dithiophosphate (XXVI) was obtained by adding Et₃N in HPh to VI and O,O-diethyl hydrogen dithiophosphate in HPh and allowing the mixture to stand for 1.5—2 hr at 18—20°C. Compounds XXI—XXV and XXVII to XXX were similarly prepared. Triethyloctadecylphosphonium O,S-diethyl dithiophosphate was obtained by heating XXVI for 3 hr at 100°C. The



R = C₁—C₂-alkyl, R' = alkyl or aryl, R'' = C₁₂—C₁₈-alkyl

Card 3/6

Table 2



No.	R	R'	R''	R'''	R''''	X	Y	Yield %	Mp, °C	n _D ²⁰	d ₄ ²⁰
XI	C ₂ H ₅	C ₂ H ₅	C ₂ H ₅	C ₁₂ H ₂₃	CH ₃	S	O	91	—	1.5142	1.0381
XII	C ₃ H ₇	C ₃ H ₇	C ₃ H ₇	C ₁₂ H ₂₃	CH ₃	S	O	96	—	1.5053	1.1207
XIII	C ₄ H ₉	C ₄ H ₉	C ₄ H ₉	C ₁₂ H ₂₃	CH ₃	S	O	87	—	1.5060	1.1114
XIV	C ₆ H ₁₃	C ₆ H ₁₃	C ₆ H ₁₃	C ₁₂ H ₂₃	CH ₃	S	O	89	—	1.5372	1.0520
XV	C ₆ H ₁₃	C ₆ H ₁₃	C ₆ H ₁₃	C ₁₂ H ₂₃	CH ₃	S	O	94	—	1.5868	1.0601
XVI	C ₂ H ₅	C ₂ H ₅	C ₂ H ₅	C ₁₈ H ₃₇	CH ₃	S	O	93	—	Mp 37-38°	—
XVII	C ₃ H ₇	C ₃ H ₇	C ₃ H ₇	C ₁₈ H ₃₇	CH ₃	S	O	70	—	1.5041	1.0701
XVIII	C ₄ H ₉	C ₄ H ₉	C ₄ H ₉	C ₁₈ H ₃₇	CH ₃	S	O	80	—	1.5009	1.0822
XIX	C ₆ H ₁₃	C ₆ H ₁₃	C ₆ H ₁₃	C ₁₈ H ₃₇	CH ₃	S	O	95	—	1.5290	1.0860
XX	C ₆ H ₁₃	C ₆ H ₁₃	C ₆ H ₁₃	C ₁₈ H ₃₇	CH ₃	S	O	88	—	Mp 54-55.5°	—
XXI	C ₂ H ₅	C ₂ H ₅	C ₂ H ₅	C ₁₂ H ₂₃	C ₂ H ₅	O	S	96	—	1.5159	1.1111

Card 4/6

Table 2. (Cont.)

XXII	C ₃ H ₇	C ₃ H ₇	C ₃ H ₇	C ₁₂ H ₂₃	C ₄ H ₉	O	S	93	—	1.5098	1.1102
XXIII	C ₄ H ₉	C ₄ H ₉	C ₄ H ₉	C ₁₂ H ₂₃	C ₄ H ₉	O	S	84	—	1.5875	1.0901
XXIV	C ₆ H ₁₃	C ₆ H ₁₃	C ₆ H ₁₃	C ₁₂ H ₂₃	C ₆ H ₁₃	O	S	92	—	1.5423	1.1054
XXV	C ₆ H ₁₃	C ₆ H ₁₃	C ₆ H ₁₃	C ₁₂ H ₂₃	C ₆ H ₁₃	O	S	85	—	1.5856	1.1001
XXVI	C ₂ H ₅	C ₂ H ₅	C ₂ H ₅	C ₁₈ H ₃₇	C ₃ H ₇	O	S	93	—	Mp 34-36°	—
XXVII	C ₃ H ₇	C ₃ H ₇	C ₃ H ₇	C ₁₈ H ₃₇	C ₂ H ₅	O	S	97	—	1.5100	1.1024
XXVIII	C ₄ H ₉	C ₄ H ₉	C ₄ H ₉	C ₁₈ H ₃₇	C ₂ H ₅	O	S	89	—	1.5635	1.1022
XXIX	C ₂ H ₅	C ₂ H ₅	C ₂ H ₅	C ₁₈ H ₃₇	C ₂ H ₅	O	S	91	—	Mp 50-51.5°	—
XXX	C ₆ H ₁₃	C ₆ H ₁₃	C ₆ H ₁₃	C ₁₈ H ₃₇	C ₂ H ₅	O	S	87	—	1.5741	1.1094

majority of XI—XXX display very pronounced fungicidal and bactericidal activity. Compound XXV (1:8,000,000 dilution) inhibits the growth of *Mycobacterium tuberculosis* Human, *Mycobacterium tuberculosis* Avium, and *Actinomyces*. In 1:500,000 dilution, XXV inhibits the growth of *Staphylococcus aureus*, *Bacterium Anthracoides*, and *Microsporium lanosum*. The authors thank A. F. Vasil'yev for the use of his laboratory to photograph the IR spectra and G. N. Pershin and S. N. Milovanova for

Card 5/6

ACC NR: AP9004402

the VNIKhFI for studying the fungicidal and bactericidal activity of
XI-XXX. Orig. art. has: 2 tables. [WA-50; CBE No. 40][FT]

SUB CODE: 06, 07/ SUBM DATE: 02Oct67/ ORIG REF: 011/ OTH REF: 005

Card 6/6

ACC NR: AP9004422

SOURCE CODE: UR/0079/68/038/012/2819/2820

AUTHOR: Kolokol'tseva, I. G.; Chistokletov, V. N.; Petrov, A. A.

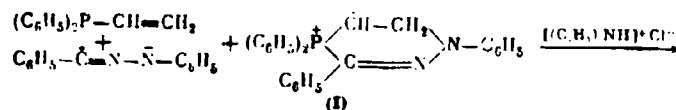
ORG: Leningrad Technological Institute im. Lensovet (Leningradskiy
tekhnologicheskii institut)

TITLE: α, β -unsaturated phosphines in the reactions with 1,3-bipolar
addition

SOURCE: Zhurnal obshchey khimii, v. 38, no. 12, 1968, 2819-2820

TOPIC TAGS: alkylphosphine, phosphine derivative, hydrazine compound,
chlorinated organic compound

ABSTRACT: The reaction of diphenylvinylphosphine with N'- α -chloro-
benzylidene-N''-phenylhydrazine in dry benzene in the presence of tri-
ethylamine at room temperature or with heating for 1-1.5 hr on a
water bath gave the cyclic compound I which was isolated in form of
the salt II, mp 240-242°C:

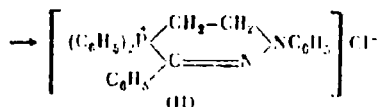


Card 1/3

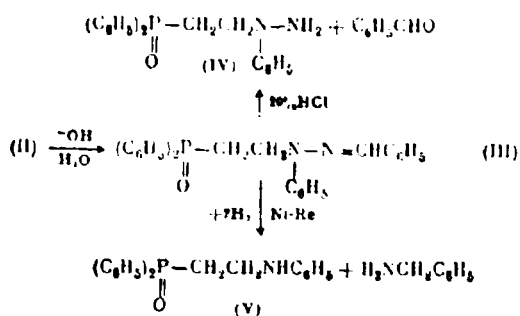
UDC: 547.341

- 72 -

ACC NR: AP9004422



The structure of compound II was established by IR spectra and by chemical conversions. The reaction of II with alkalis yielded (70—82%) the hydrazone III, mp 184—186°C:



Card 2/3

ACC NR: AP9004422

Compound III was hydrolyzed and hydrogenated to form the known compounds IV and V. [WA-50; CBE No. 40][PS]

SUB CODE: 07/ SUBM DATE: 06May68/ ORIG REF: 002

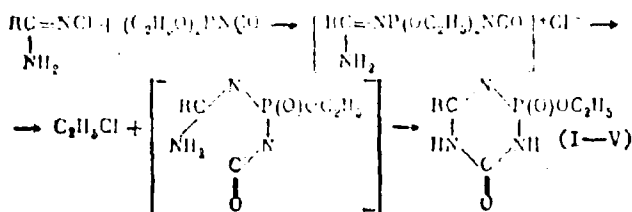
Card 3/3

AUTHOR: Koletilo, M. V.; Matyusha, A. G.; Derkach, G. I.

ORG: Institute of Organic Chemistry, Academy of Sciences UkrSSR
(Institut organicheskoy khimii Akademii nauk UkrSSR)

TITLE: Phosphotriazine derivatives

SOURCE: Zhurnal Obshchey Khimii, v. 39, no. 1, 1969, 188-191

TOPIC TAGS: phosphorus compound, heterocyclic phosphorus compound,
organic azine compound, triazine derivativeABSTRACT: Phosphotriazines (I-V) were prepared by adding $(EtO)_2PNCO$ in HPh to N-chloroamidines in HPh and refluxing for 2 hr. Diphenoxyisocyanatophenylamidinophosphonium chloride (VI) (74% yield, mp 45-50°C,

Card 2/4

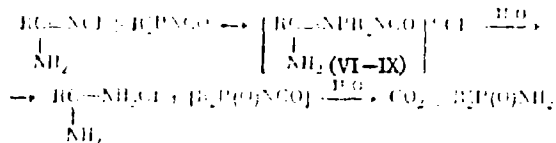
UDC: 547.26'118

ACC NR: AP900532

Table 1. Phosphotriazines (I-V)

No.	R	% Yield	Mp, °C
I	CHCl_3	46	178° (decomp)
II	CCl_4	60	214-216
III	C_6H_5	86	245-248
IV	$p\text{-ClC}_6\text{H}_4$	90	234-236
V	$p\text{-BrC}_6\text{H}_4$	87	230-242

decomp) was prepared by adding N-chlorobenzamide in ether to $(\text{PhO})_2\text{PNCO}$ in ether and allowing the mixture to stand for 4 hr at 20°C. Unstable $[\text{PhC}(\text{NH}_2):\text{NPPH}_2\text{NCO}]^+\text{Cl}^-$ (VII), diphenoxyisocyanato(p-tolyl)-amidinophosphonium chloride (VIII), and diphenylisocyanato(p-tolyl)-amidinophosphonium chloride (IX) were similarly prepared. Diphenyl phosphamate (98% yield) and phenylamine hydrochloride (90% yield) were obtained by allowing VI to react with H_2O for 40 hr at 20°C.



Card 2/4

ACC NR: AP9006532

2-Diphenoxy-4-oxo-6-phenyl-2-phospha-1,3,5-triazine (X) was prepared by refluxing VI, 3N , and HPh for 2 hr. Compounds XI—XIII were

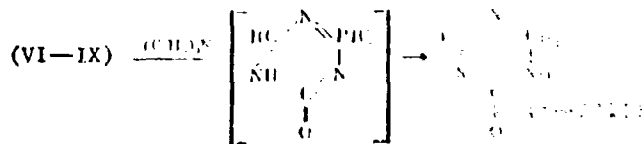
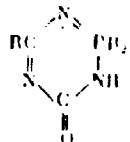


Table 2

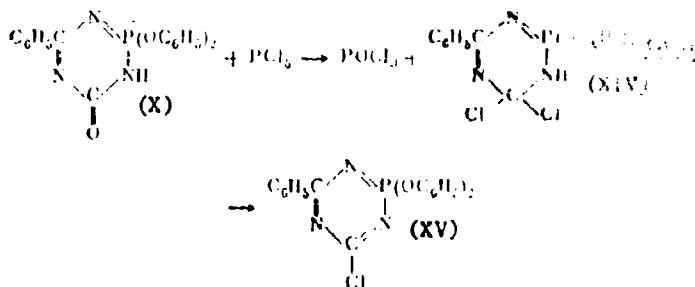


No.	R	R	Yield	Mp	C
X	C ₆ H ₅	OC ₆ H ₅	66%	147-149	190
XI	C ₆ H ₅	C ₆ H ₅	66%	147-149	190
XII	p-ClC ₆ H ₄	OC ₆ H ₅	66%	147-149	190
XIII	p-ClC ₆ H ₄	C ₆ H ₅	66%	147-149	190

Card 3/4

ACC NR: AP9006532

similarly prepared. 2,2-Diphenoxy-4,4-dichloro-6-phenyl-2-phospha-1,3,5-triazine (XIV) (63.5% yield, n_D^{20} 1.5963) was prepared by heating X and PCl₅ for 2 hr to 100°C. 2,2-Diphenoxy-4-chloro-6-phenyl-2-phospha-1,3,5-triazine (XV) (84% yield, mp 147—149°C) was obtained by



adding pyridine in CHCl₃ to XIV in CHCl₃. Orig. art. has a reaction. [WA 501 CHE. P. 43] [P]

SUB CODE: 07/ SUBM DATE: 18Mar68/ ORIG REF: 001 GIN 413. 613

Card 4/4

ACC NR: AP9005104

SOURCE CODE: UR/0390/68/031/005/0618/0620

AUTHOR: Kosmacheskaya, E. A.; Tikhodeyeva, I. I.

ORG: Laboratory of Pathological Embryology /Head--Prof. A. P. Dyban/, Department of Embryology, Institute of Experimental Medicine /Director--Active Member of the AMN SSSR Prof. D. A. Biryukov/, AMN SSSR, Leningrad (Laboratoriya patologicheskoy embriologii ot dela embriologii Instituta eksperimental'noy meditsiny AMN SSSR)

TITLE: Embryotoxic action of some pyrimidine derivatives

SOURCE: Farmakologiya i toksikologiya, v. 31, no. 5, 1968, 618-620

TOPIC TAGS: uracil, embryology, nucleic acid metabolism, rat embryo, pyrimidine derivative

ABSTRACT: A study was made of the lethal and teratogenic effect of 5-hydroxymethyluracil (I), uracil (II), 4-methyl-5-hydroxymethyluracil (III), 4-methyl-5-hydroxyuracil (IV), 4-methyl-5-nitrouracil (V), and 4-methyluracil (VI) on chick embryo embryogenesis. Compounds I--VI were administered on the first day of embryogenesis, and the autopsy was performed on the seventh day. Compound VI (4 mg) displayed the greatest lethal activity and was exceeded only by IV in teratogenic

Card 1/3

UDC: 618.33-02:615.277.3+612.277.3.065:618.33

ACC NR: AP9005104

activity. The embryotoxicity of VI noticeably increased with increasing dosage. Most often, VI caused cerebral hernias, aplasia and anoria of the cerebral sacs, non-union of the anterior end of the neural tube, anophthalmia, microphthalmia, and non-union of the anterior abdominal wall with the eventration of the internal organs. The lethal and teratogenic action of V was slightly less than that of VI. Like VI, V affected the rudiments of the nervous system. Compound IV most often caused various degrees of caudal reductions, micromyelia, ectrodactylism, non-union of the anterior pectoral and abdominal walls,

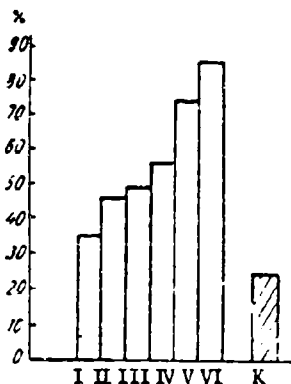


Fig. 1. Comparative activity of I--VI

On axis of abscissas: compounds; on axis of ordinates: total amount of dead and deformed embryos (in %). K is the control

Card 2/3

ACC NR: AP9005104

ectopia cordis, etc. The comparative action of I—VI (4 mg) on chick embryogenesis is shown in Fig. 1. The mechanism of the teratogenic and embryotoxic activity of I—VI is still unclear. Compounds I—VI possibly act like other inhibitors of nucleic metabolism, i.e., either become chemically bound to RNA, or disturb its structure and reduplicative processes, or else they inhibit the activity of the enzymes which ensure the synthesis of RNA precursors, or they enter into competitive relations with the natural metabolites of RNA synthesis. Compound VI did not display teratogenic action on rat embryos. Therefore, the studies on chick embryos cannot serve as a basis for making conclusions about the real danger of I—VI for the development of mammals and man. The experiments on chick embryos can only serve as a model for studying the relation between the chemical structure of I—VI and their embryotoxicity. Orig. art. has: 1 figure. [WA-50; CBE No. 40][FT]

SUB CODE: 06/ SUBM DATE: 22Feb67/ ORIG REF: 003

Card 3/3

ACC NR: AP9006543

SOURCE CODE: UR/0079/69/039/001/0223/0224

AUTHOR: Kosovtsev, V. V.; Chistokletov, V. N.; Petrov, A. A.

ORG: Leningrad Technological Institute im. Lensoveta (Leningradskiy tekhnologicheskii institut)

TITLE: α, β -unsaturated phosphites in reactions with 1,3-bipolar additions

SOURCE: Zhurnal obshchey khimii, v. 39, no. 1, 1969, 223-224

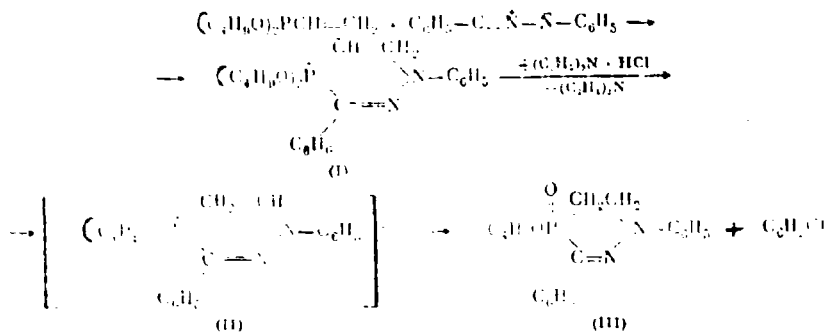
TOPIC TAGS: phosphorous acid derivative, phosphinate ester, phosphite ester, organic phosphorus compound, aliphatic ester

ABSTRACT: α, β -Unsaturated phosphites react with 1,3-bipolar oxygenless systems by the 3+3=6 scheme to form cyclic phosphorus compounds, e.g., the reaction of dibutyl vinylphosphonite with diphenylnitrilimine in toluene at 80—90°C gave (70%) the cyclic phosphinate III, mp 49—51°C:

Card 1/2

UDC: 547.341
- 77 -

ACC NR: AP9006543



The reaction proceeds via formation of cyclic compound I which forms an unstable quasiphosphonium salt with triethylamine hydrochloride. The latter undergoes Arbuzov rearrangement to form III.

[WA-50; CBE No. 40][PS]

SUB CODE: 07/ SUBM DATE: 22Jul68

Card 2/2

ACC NR: AP9006541

SOURCE CODE: UR/0079/69/039/001/0216/0217

AUTHOR: Krasil'nikova, Ye. A.; Moskva, N. A.; Razumov, A. I.

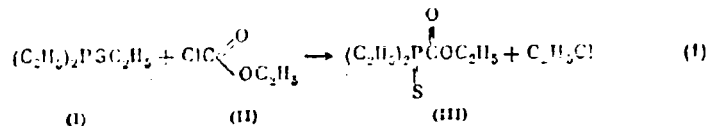
ORG: Kazan Institute of Chemical Technology (Kazanskiy khimiko-tekhnologicheskiy institut)

TITLE: Reaction of the ethyl ester of diethylthiophosphinous acid with the ethyl ester of chloroformic acid

SOURCE: Zhurnal obshchey khimii, v. 39, no. 1, 1969, 216-217

TOPIC TAGS: aliphatic phosphorus compound, aliphatic sulfur compound, phosphine derivative, phosphine oxide derivative

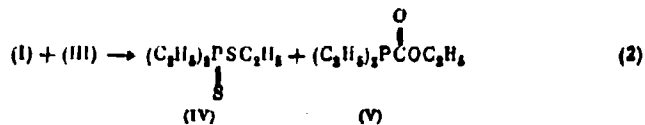
ABSTRACT: The reaction of the ethyl ester of diethylthiophosphinous acid (I) with ethyl chloroformate (II) at 60-130°C in nitrogen atmosphere proceeds by the following two mechanisms:



Card 1/2

UDC: 547.241

ACC NR: AP9006541



with the formation of compound III, bp 73°C (0.02 mm), n_D^{20} 1.5099; compound IV, bp 67°C (0.035 mm); and compound V, bp 68.5—70°C (13 mm), n_D^{20} 1.4633. Compound V adds S to form compound III. The reaction mechanism and the structure of the compounds formed was confirmed by IR spectra. [WA-50; CBE No. 40][PS]

SUB CODE: 07/ SUBM DATE: 06Jul68

Card 2/2

ACC NR: AP9006540

SOURCE CODE: UR/0079/69/039/001/0215/0216

AUTHOR: Kruglyak, Yu. L.; Landau, M. A.; Leybovskaya, G. A.; Martynov, I. V.; Saltykova, L. I.; Sokal'skiy, M. A.

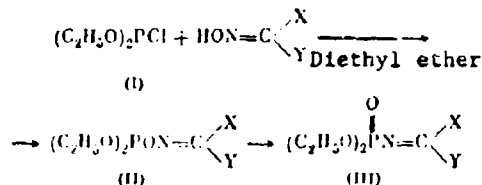
ORG: none

TITLE: Reaction mechanism of chlorophosphites with oximes

SOURCE: Zhurnal obshchey khimii, v. 39, no. 1, 1969, 215-216

TOPIC TAGS: chlorinated organic compound, phosphite ester, phosphate ester, phosphoramidate

ABSTRACT: An earlier study suggests that the formation of amidophosphates in the reaction of chlorophosphites with oximes proceeds via the intermediate compound II:



Card 1/2

UDC: 547.241

ACC NR: AP9006540

(where X and Y = CH₃ and OC₂H₅, CH₃ and C₂H₅). This reaction mechanism was confirmed by NMR spectra of the reaction mixture measured at -20 to 20°C and 20 MHz. [WA-50; CBE No. 40][PS]

SUB CODE: 07/ SUBM DATE: 06Jul68/ ORIG REF: 002/ OTH REF: 001

Card 2/2

ACC NR: AP9004413

SOURCE CODE: UR/0079/68/038/012/2787/2788

AUTHOR: Lapitskiy, G. A.; Granenkina, L. S.; Khokhlov, P. S.; Bliznyuk, N. K.

ORG: Moscow Institute of Fine Chemical Technology im. M. V. Lomonosov (Moskovskiy institut tonkoy khimicheskoy tekhnologii)

TITLE: Synthesis of S,S-(dialkylstannyl) bis(O,O-dialkyl thio- and dithiophosphates)

SOURCE: Zhurnal obshchey khimii, v. 38, no. 12, 1968, 2787-2788

TOPIC TAGS: organotin compound, organic phosphate, thiophosphate ester, dithiophosphate ester, physiologically active compound

ABSTRACT: Organotin compounds have recently acquired great practical importance mainly in connection with their physiological activity and effective stabilizing ability with respect to the destruction of polymers. S,S-(Dibutylstannyl) bis(O,O-diethyl thiophosphate) (84% yield, mp 197-198°C, n_D²⁰ 1.5073) was prepared by adding Bu₂SnCl₂ in HPh to ammonium O,O-diethyl thiophosphate in HPh and boiling for 6 hr.

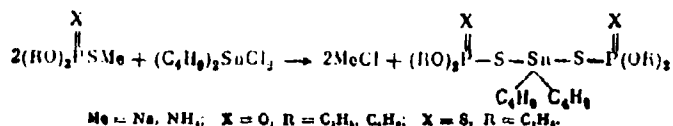
Card 1/2

UDC: 547.185

- 80 -

ACC NR: AP9004413

S,S-(Dibutylstannyl) bis(O,O-dibutyl thiophosphate) (85% yield, mp 183—184°C, n_D^{20} 1.4961) and viscous S,S-(dibutylstannyl)



bis(O,O-diethyl dithiophosphate) (72% yield, n_D^{20} 1.5553, d_4^{20} 1.3310) were similarly prepared. [WA-50; CBE No. 40][FT]

SUB CODE: 07/ SUBM DATE: 10Jan68/ ORIG REF: 001/ OTH REF: 003

Card 2/2

ACC NR: AP9004788

SOURCE CODE: UR/0062/68/000/011/2609/2611

AUTHOR: Levin, Ya. A.; Gorzhan, I. P.; Salikhov, S. G. (deceased)

ORG: Institute of Organic and Physical Chemistry im. A. Ye. Arbusov, Academy of Sciences SSSR (Institut organicheskoy i fizicheskoy khimii Akademii nauk SSSR); Physico-Technical Institute, Academy of Sciences SSSR (Fiziko-tehnicheskii institut Akademii nauk SSSR)

TITLE: Penta- and tetracoordinate phosphorus in reactions of diacetyl with diethyl acetyl phosphites and diethyl chlorophosphites

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 11, 1968, 2609-2611

TOPIC TAGS: phosphate ester, phosphorus compound, heterocyclic phosphorus compound, butene

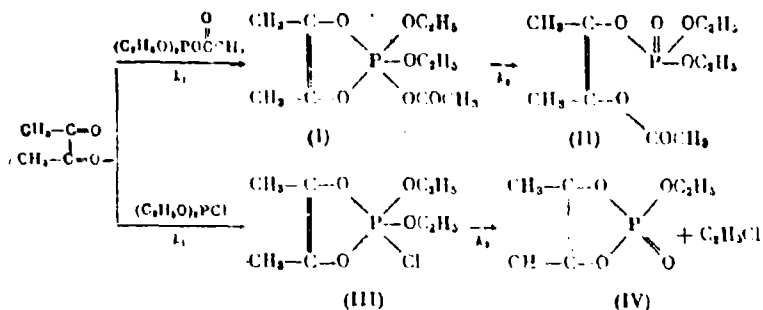
ABSTRACT: Diethyl 3-acetoxy-2-buten-2-yl phosphate (II) (100% yield, bp 152—153°C, n_D^{20} 1.4408, d_4^{20} 1.1409) was prepared by allowing 1.18 g diethyl acetyl phosphite to react with 0.56 g diacetyl in an ampoule at 20°C for 60 hr. 2-Ethoxy-2-oxo-4,5-dimethyl-1,3,2-dioxaphospholene (IV) and unstable unidentified high-boiling products were similarly obtained from diethyl chlorophosphite and diacetyl.

Card 1/2

UDC: 542.91+661.718.1

- 81 -

ACC NR: AP9004788



The structures of the unstable intermediates I and III were confirmed by NMR spectroscopy. [WA-50; CBE No. 40] [FT]

SUB CODE: 07/ SUBM DATE: 13Feb68/ ORIG REF: 006/ OTH REF: 004

Card 2/2

ACC NR: AP9006531

SOURCE CODE: UR/0079/69/039/001/0185/0188

AUTHOR: Listvan, V. N.; Dombrovskiy, A. V.

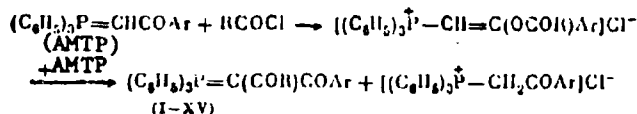
ORG: Chernovtsy State University (Chernovitskiy gosudarstvennyy universitet)

TITLE: Reaction of aroylmethylenetriphenylphosphoranes with acyl chlorides

SOURCE: Zhurnal obshchey khimii, v. 39, no. 1, 1969, 185-188

TOPIC TAGS: phosphorus compound, phosphorane, acyl radical, benzene derivative

ABSTRACT: Aroyl- α -acylmethylenetriphenylphosphoranes (I—III and XII—XV) were prepared by adding acyl chloride in HPh to the corresponding boiling aroylmethylenetriphenylphosphoranes (AMTP) in HPh for 2—3 hr and boiling for 1—2 hr. Compounds IV—XI were prepared by adding acyl chloride in HPh to AMTP in HPh for 25—30 min at 55—60°C and heating at 55—60°C for 1—2 hr.



Card 1/2

UDC: 547.341
- 82 -

ACC NR: AP9006531



No.	R	R'	Yield, %	Mp, °C
I	CH ₃	CH ₃	45	210-211°
II	CH ₃	CH ₃ O	70	195-196
III	C ₆ H ₅	CH ₃ O	20	170-177
IV	ClCH ₂	H	62	190°
V	ClCH ₂	CH ₃	51	140°
VI	ClCH ₂	CH ₃ O	60	150°
VII	ClCH ₂	Cl	65	210°
VIII	CCl ₂	H	69	170°
IX	CCl ₂	CH ₃	69	158°
X	CCl ₂	CH ₃ O	72	174°
XI	CCl ₂	Cl	80	160°
XII	C ₆ H ₅	H	51	187-188
XIII	C ₆ H ₅	CH ₃	60	172-173
XIV	C ₆ H ₅	CH ₃ O	63	182-183
XV	C ₆ H ₅	Cl	23	166-167

* Decompose

Benzoyl- α -benzoylmethylenetriphenylphosphorane (XII) (70% yield) and p-chlorobenzoyl- α -benzoylmethylenetriphenylphosphorane (XV) (55% yield) were also obtained by boiling β -benzoato- β -phenylvinyltriphenylphosphonium chloride and the corresponding AMTP in HPh and CHCl₃ for 4-5 hr. Orig. art. has: 1 table. [WA-50; CBE No. 40] [FT]

SUB CODE: 07/ SUBM DATE: 29Jan68/ ORIG REF: 002/ OTH REF: 002

Card 2/2

ACC NR: AP9006692

SOURCE CODE: UR/0409/68/000/006/1041/1043

AUTHOR: Lomakin, A. N.; Terent'yeva, I. V.

ORG: Institute of Chemistry, Academy of Sciences MoldSSR, Kishinev (Institut khimii Akademii nauk MoldSSR)

TITLE: Mononitro- β -carboline

SOURCE: Khimiya geterotsiklicheskih soyedineniy, no. 6, 1968, 1041-1043

TOPIC TAGS: aromatic nitro compound, nitration, carboline, nitrogen compound

ABSTRACT: The title compounds were synthesized to study the nitration of β -carboline in HOAc. 3-Methylharmane (Ib) (71% yield, mp 173-174°C) was prepared by heating 3,4-dihydro-3-methylharmane, 13% Pd/C, and PhPh for 1.5 hr at 290-295°C. 1-Isopropyl- β -carboline (Id) (80% yield, mp 159-160°C) was prepared by allowing tryptophan, 2% H₂SO₄, and (CH₃)₂CHCHO to stand for 15 hr, alkalizing with NH₃, extracting with ether, neutralizing, diluting with H₂O, and oxidizing with K₂Cr₂O₇. 1-Ethyl- β -carboline (Ic) (mp 209-210°C) and 1-n-propyl- β -carboline (Ie) (mp 190-191°C) were similarly prepared. 6-Nitroharmane (IIa) (60% yield) and 8-nitroharmane (IIIa) (20% yield) were prepared by heating

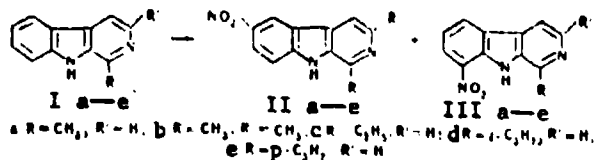
Card 1/2

UDC: 547.759.3:542.958.1:543.544'422.4

- 83 -

ACC NR: AP9006692

harmans (Ia) in HNO_3 at 80°C for 3 hr. Compounds IIa (60% yield) and IIIa (23% yield) were also obtained by boiling Ia, HOAc, and HNO_3 for



5 hr. 6-Nitro-3-methylharmans (IIb) (50% yield, mp $305-308^\circ\text{C}$), 8-nitro-3-methylharmans (IIIb) (20% yield, mp $224-226^\circ\text{C}$), 6-nitro-1-ethyl- β -carboline (IIc) (40% yield, mp $230-232^\circ\text{C}$), and 8-nitro-1-ethyl- β -carboline (IIIc) (20% yield, mp $146-147^\circ\text{C}$) were similarly prepared in the presence of HOAc. 6-Nitro-1-isopropyl- β -carboline (IIId) (45% yield, mp $218-219^\circ\text{C}$) and 8-nitro-1-isopropyl- β -carboline (IIIId) (22% yield, mp $160-162^\circ\text{C}$) were prepared by heating 1-isopropyl- β -carboline (Id) and HNO_3 at 40°C for 2 hr. 6-Nitro-1-n-propyl- β -carboline (IIe) (50% yield, mp $267-268^\circ\text{C}$) and 8-nitro-1-n-propyl- β -carboline (IIIe) (22% yield, mp $117-118^\circ\text{C}$) were similarly prepared. The products were separated by column chromatography. [WA-50; CBE No. 40][FT]

SUB CODE: 07/ SUBM DATE: 08Aug66/ ORIG REF: 003/ OTH REF: 005

Card 2/2

ACC NR: AP9004787

SOURCE CODE: UR/0062/68/000/011/2591/2593

AUTHOR: Makhaumov, A. G.; Rakhimova, I. V.; Sladkov, A. M.

ORG: Institute of Heteroorganic Compounds, Academy of Sciences SSSR (Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR)

TITLE: Synthesis of propargyl ethers having bactericidal properties

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 11, 1968, 2591-2593

TOPIC TAGS: propyne, ether, bactericide, staphylococcus, shigella, Escherichia coli

ABSTRACT: Seven new propargyl ethers were synthesized to study their antimicrobial activity. Also tested were seven known compounds: di-propargyl hexafluoro-2,2-bis(4-hydroxyphenyl)propyl ether (I), propargyl benzoate (III), dipropargyl 4,4-dihydroxydiphenyl ether (V), dipropargyl-urethane hexamethylene diisocyanate (VI), dipropargylurethane toluene diisocyanate (VII), dipropargyl maleate (X), and propargyl p-nitrophenyl ether (XIII). Propargyl o-chlorophenyl ether (VIII) (64% yield, bp₂₄ 120°C , n_D^{20} 1.5508) was prepared by refluxing o-chlorophenol, HCCl_2 , and K_2CO_3 in acetone. Iodopropargyl o-chlorophenyl ether (II) (54% yield, mp $34.5-35^\circ\text{C}$) was

Card 1/3

UDC: 542.91+547.362.3

- 84 -

ACC NR: AP9004787

obtained by adding iodine to the Cu acetylenide of VIII in ether. 1,1'-Dichloro-diphenoxy-2,4-hexadiyne (IV) (67% yield, mp 68°C) was prepared by acrating VIII and CuCl in pyridine and CH₃OH at 40°C for 3.5 hr. Iodopropargyl benzyl ether (72% yield, mp 32.5-33°C) and iodopropargyl-phenylurethane (IX) (72% yield, mp 133-134°C) were prepared like II. Propargyl pentachlorophenyl ether (XI) (83% yield, mp 131-132°C) was obtained by adding HCC;CH₂Br to Na pentachlorophenoxide in EtOH, heating to 70-80°C for 7 hr, and treating the products with 5% KOH. Propargyl o-nitrophenyl ether (XII) (82% yield, mp 55-56°C) and propargyl 2,4-dibromophenyl ether (XIV) (79% yield, mp 64°C) were prepared like VIII. The antimicrobial data are shown in Table 1, where

Table 1. Antimicrobial action of I-XIV

Microorganism	Compound													
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV
<i>Staph aureus</i>	+	+	+	+	+	+	+	+	+	15	40	30	+	44
<i>E. coli</i>	15	+	15	+	+	+	+	20	20	20	48	30	+	18
<i>Shigella flexneri</i>	-	-	-	-	-	-	-	21	20	40	20	+	+	24
<i>B. typhi</i>	+	19	+	+	+	+	+	+	21	20	20	12	+	28
<i>Protobus vulgaris</i>	+	+	+	+	+	+	+	+	+	18	24	16	+	+
Control	+	+	+	+	+	+	+	+	+	+	+	+	+	+

Card 2/3

ACC NR: AP9004787

the Arabic numerals indicate the reduction in the diameter of the bacterial culture in mm, + indicates the growth of bacteria, and - indicates the absence of bacterial growth. Orig. art. has: 2 tables.

[WA-50; CBE No. 40] [FT]

SUB CODE: 06, 07/ SUBM DATE: 31Jan68/ ORIG REF: 005/ OTH REF: 001

Card 3/3

ACC NR: AP9005357

SOURCE CODE: UR/0249/68/024/010/0035/0039

AUTHOR: Mamedov, Sh.; Guseynov, Yu. Ya.; Avanesyan, M. A.

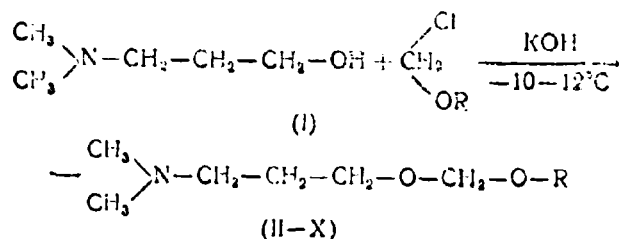
ORG: INKhP

TITLE: Ethers and their derivatives. Synthesis of alkoxymethyl ethers of 3-dimethylamino-1-propanol

SOURCE: AN AzerbSSR. Doklady, v. 24, no. 10, 1968, 35-39

TOPIC TAGS: aliphatic ether, amine derivative, physiologically active compound

ABSTRACT: The physiologically active choline homologs, alkoxymethyl ethers of 3-dimethylamino-1-propanol, were synthesized by the reaction:

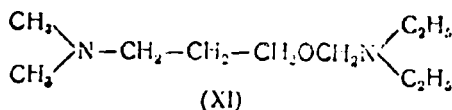


Card 1/5

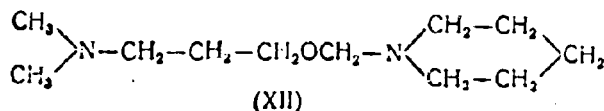
ACC NR: AP9005357

R = CH₃ (II), C₂H₅ (III), iso-C₃H₇ (IV), C₃H₇ (V), iso-C₄H₉ (VI), C₄H₉ (VII), iso-C₅H₁₁ (VIII), C₅H₁₁ (XI), C₆H₁₃ (X).

The reaction takes place in diethyl ether in the presence of NaOH with dropwise addition of the chlorinated ether at -12 to -14°C, with subsequent heating to 30-40°C. The reaction of 3-dimethylamino-1-propanol with paraformaldehyde and diethylamine in benzene solution at 20-50°C gave (77%) the amino ether (XI), bp 61-62°C (4 mm Hg):



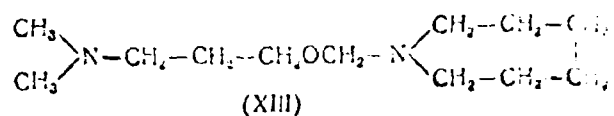
The reaction of 3-dimethylamino-1-propanol with piperidine in benzene solution at 90-95°C in the presence of paraformaldehyde gave (72%) the ether (XII), bp 85-86°C (3 mm Hg):



Card 2/5

ACC NR: AP9005357

Under similar conditions, 3-dimethylamino-1-propanol was allowed to react with hexamethylimine to form (71%) ether (XIII), bp 74-75°C (1 mm Hg):



Characteristics of the new alkoxymethyl ethers of 3-dimethylamino-1-propanol are given in the table. A preliminary study of some of the

Table 1. Alkoxy ethers of 3-dimethylamino-1-propanol

Compd No.	R	Bp, °C (mm)	% Yield	n_D^{20}	d_4^{20}
II	CH ₃	74-75/35	15	1.4145	0.8912

Card 3/5

ACC NR: AP9005357

Table 1. (Cont.)

III	C ₂ H ₅	76-80/15	21.8	1.4166	0.8972
IV	iso-C ₃ H ₇	90-93/35	56.0	1.4161	0.8979
V	C ₃ H ₇	62-64/15	28.6	1.4184	0.8933
VI	iso-C ₄ H ₉	98-100/35	42.0	1.4161	0.8974
VII	C ₄ H ₉	96-95/15	51.0	1.4207	0.8991
VIII	iso-C ₅ H ₁₁	95-100/15	59.0	1.4200	0.8953
IX	C ₅ H ₁₁	108-109/15	32.0	1.4239	0.8961
X	C ₆ H ₁₃	120-122/15	63.0	1.4211	0.8993

alkoxymethyl ethers of 3-dimethylamino-1-propanol revealed that they have distinct cardiotoxic and hypotensive action. The results of

Card 4/5

ACC NR: AP9005357

pharmacological study of the new compounds will be published separately.
Presented by Academician A. M. Kuliyeu, AN AzerbSSR.

[WA-50; CBE No. 40][PS]

SUB CODE: 07/ SUBM DATE: 13Nov67/ ORIG REF: 005

Card 5/5

ACC NR: AP9004401

SOURCE CODE: UR/0079/68/038/012/2648/2651

AUTHOR: Mel'nikov, N. N.; Razvodovskaya, L. V.; Grapov, A. F.

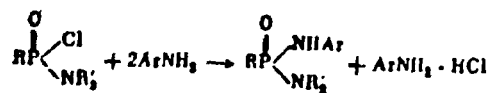
ORG: All-Union Scientific Research Institute of Chemicals for Plant Protection (Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh sredstv zashchity rasteniy)

TITLE: Reactions of chlorides of N,N-dialkylamidoalkyl- and phenylphosphonic acids with anilines

SOURCE: Zhurnal obshchey khimii, v. 38, no. 12, 1968, 2648-2651

TOPIC TAGS: phosphonic acid derivative, aromatic phosphorus compound, substituted amide, chlorinated organic compound, phosphonamide

ABSTRACT: A series of unsymmetrical diamides of alkylphosphonic acids was synthesized by the reaction:



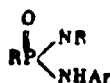
Card 1/3

UDC: 661.718+632.95

- 88 -

ACC NR: AP9004401

which takes place in benzene solution at 50—60°C. The diamides are characterized in the table. The reaction of N,N-dimethylamidochloromethylphosphonic chloride with m-chloroaniline in benzene solution

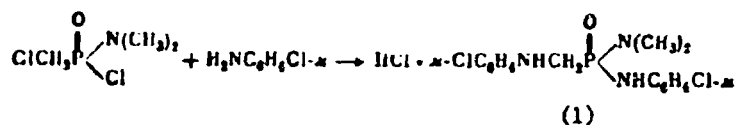


R	R'	R''	(%) Yield	Mp
iso-C ₆ H ₅	CH ₃	m-Cl-C ₆ H ₄	84	171—173°
iso-C ₆ H ₅	C ₂ H ₅	C ₆ H ₅	14	126—127
iso-C ₆ H ₅	C ₂ H ₅	m-Cl-C ₆ H ₄	Low	138—139
ClCH ₂	C ₂ H ₅	C ₆ H ₅	97	82—83
ClCH ₂	C ₂ H ₅	m-Cl-C ₆ H ₄	76	66.5—68.5
ClCH ₂	CH ₃	C ₆ H ₅	63	134—136

Cord 2/3

ACC NR: AP9004401

at room temperature gave (34%) the hydrochloride I, bp 96°C (0.3 mm):



The reaction of phenylphosphonic dichloride with dimethylamine in dry benzene in the presence of triethylamine at room temperature gave the known diphenyldiamide of phenylphosphonic acid. The reaction of phenylphosphonic dichloride with diethylamine in benzene solution at 60—70°C gave (71%) phenylphosphonic N,N-diethyl-N'-m'-chlorophenyldiamide, an oil with n_D^{25} 1.5772. [WA-50; CBE No. 40][PS]

SUB CODE: 07/ SUBM DATE: 05Oct67/ ORIG REF: 092/ OTH REF: 001

Cord 3/3

ACC NR: AP9006699

SOURCE CODE: UR/0409/68/000/006/1083/1088

AUTHOR: Mikhlina, Ye. Ye.; Vorob'yeva, V. Ya.; Turchin, K. F.;
Rubtsov, M. V. (Deceased)

ORG: All-Union Scientific-Research Chemical and Pharmaceutical Institute
in. S. Ordzhonikidze, Moscow (Vsesoyuznyy nauchno-issledovatel'skiy
khimiko-farmatsevticheskiy institut)

TITLE: Synthesis of 3-alkyl(aryl)-3-aminoquinuclidines

SOURCE: Khimiya geterotsiklicheskiy soedineniy, no. 6, 1968, 1083-
1088

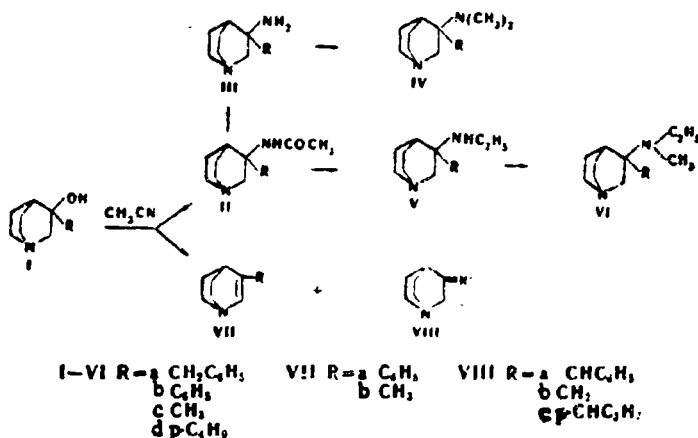
TOPIC TAGS: amine derivative, quinuclidine, heterocyclic nitrogen com-
pound

ABSTRACT: A series of 3-alkyl(aryl)-3-aminoquinuclidines was synthe-
sized by the reaction of 3-alkyl(aryl)-3-hydroxyquinuclidines (I) with
acetonitrile in the presence of concentrated sulfuric acid via 3-alkyl
(aryl)-3-acetaminoquinuclidines which are hydrolyzed with potash to
form the substituted aminoquinuclidines. In addition to the latter
compounds, the reaction of I with acetonitrile also yields 3-alkyl-
 Δ^2 -dehydroquinuclidines and 3-alkylidenequinuclidines:

Card 1/4

UDC: 547.834.4.07:541.67

ACC NR: AP9006699

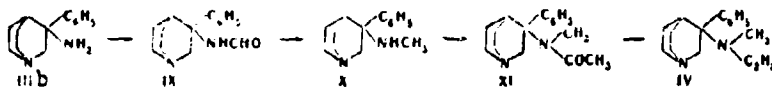


The structure of the latter compounds was established by NMR spectra.
The reaction of compound IIIb with formic acid in the presence of
acetanhydride at 50°C gave 3-phenyl-3-formylaminoquinuclidine (IX),

Card 2/4

ACC NR: AP9006699

which was reduced with lithium aluminum hydride to 3-phenyl-3-methyl-
aminoquinuclidine (X). The latter was acetylated to 3-phenyl-3-methyl-
acetaminoquinuclidine (XI) which was reduced with lithium aluminum
hydride to compound VIB:



Compd	R	R'	R''	Bp (mm), mp, °C	% Yield
IIIa	CH ₂ C ₆ H ₅	H	H	145-146 (1)	57
IIIb	C ₆ H ₅	H	H	131-132 (2)	97
IIIc	CH ₃	H	H	58-60	92.2
IIId	n-C ₄ H ₉	H	H	82-83 (0.4)	47.5
IVa	CH ₂ C ₆ H ₅	CH ₃	CH ₃	140-141 (2) 26-28	74

Card 3/4

ACC NR: AP9006699

(Cont.)

IVb	C ₆ H ₅	CH ₃	CH ₃	104-106	78.6
IVc	CH ₃	CH ₃	CH ₃	71-72 (2)	82.3
Va	CH ₂ C ₆ H ₅	C ₆ H ₅	H	132-134 (2)	50.6
Vb	CH ₃	C ₆ H ₅	H	140-141 (10)	53.2
VIa	CH ₂ C ₆ H ₅	C ₆ H ₅	CH ₃	140-141 (1)	76.8
VIc	CH ₃	C ₆ H ₅	CH ₃	61-63 (1)	81.5
IX	C ₆ H ₅	CHO	H	275-280 (0.8) 52-54	58.5
X	C ₆ H ₅	CH ₃	H	127-129 (1)	64
XI	C ₆ H ₅	CH ₃	COCH ₃	180-192 (1)	63.4
VIB	C ₆ H ₅	CH ₃	C ₂ H ₅	128-130 (1.5)	29.5

The new compounds are characterized in the table.

[WA-50; CBE No. 40][PS]

SUB CODE: 07/ SUBM DATE: 13Oct66/ ORIG REF: 003/ OTH REF: 002

Card 4/4

ACC NR: AP9006707

SOURCE CODE: UR/0409/68/000/006/1116/1118

AUTHOR: Mikstays, U. Ya.; Aren, A. K.

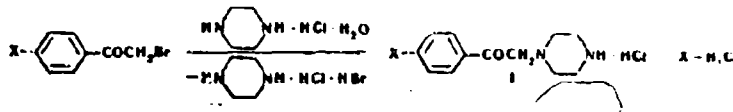
ORG: Riga Polytechnic Institute (Rizhskiy politekhnicheskiy institut)

TITLE: Synthesis of unsubstituted α -piperazine ketones and diketones

SOURCE: Khimiya geterotsiklicheskiy sovedineniy, no. 6, 1968, 1116-1118

TOPIC TAGS: ketone, piperazine, heterocyclic nitrogen compound, physiologically active compound

ABSTRACT: In a search for new physiologically active compounds, a series of unsubstituted α -piperazine ketones and diketones was synthesized by the reactions:

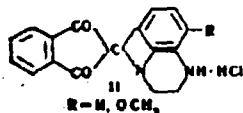


Card 1/3

UDC: 547.861.3.07:543.422.4:541.69

ACC NR: AP9006707

which are conducted in methanol at room temperature. Compounds II



were synthesized by the reaction of piperazine monohydrochloride with the appropriate 2-bromo-arylidene-1,3-diones. Monochlorides of II are yellow, water and alcohol soluble crystals. On boiling in dioxane with *p*-nitrobenzoyl chloride, compounds II undergo acylation to form the acyl derivatives which are characterized in the table along with compounds I and II:



R	R'	A	Mp, °C	$\nu_{C=O}$, cm^{-1}	Yield %
$C_6H_5COCH_2$	H	HCl	192-193 (Decomp)	1687	79
<i>p</i> -ClC ₆ H ₄ COCH ₂	H	HCl	182 (Decomp)	1693	73

Card 2/3

ACC NR: AP9006707

(Cont.)

$C_6H_5COCH_3$	$COCH_3$	HCl C_6H_5OH	225-226 (Decomp)	1694 1653	76
$p-ClC_6H_4COCH_3$	$COCH_3$	HCl C_6H_5OH	212-213 (Decomp)	1696 1646	70
$C_6H_5(CO)_2CC_6H_5$	H	HCl	223-224 (Decomp)	1741 1710	61
$C_6H_5(CO)_2CC_6H_4OCH_3-p$	H	HCl	224-245 (Decomp)	1741 1701	55
$C_6H_5(CO)_2CC_6H_5$	$COC_6H_4NO_2-p$	-	180	1742 1701 1696	75
$C_6H_5(CO)_2CC_6H_4OCH_3-p$	$COC_6H_4NO_2-p$	-	209	1734 1703 1637	80

The presence of the CO group was established by IR spectra.
[WA-50; CBE No. 40][PS]

SUB CODE: 07/ SUBM DATE: 11Oct66/ ORIG REF: 004/ OTH REF: 005

Card 3/3

ACC NR: AP9004806

SOURCE CODE: UR/0062/68/000/011/2666/2666

AUTHOR: Mitin, Yu. V.; Glinskaya, O. V.

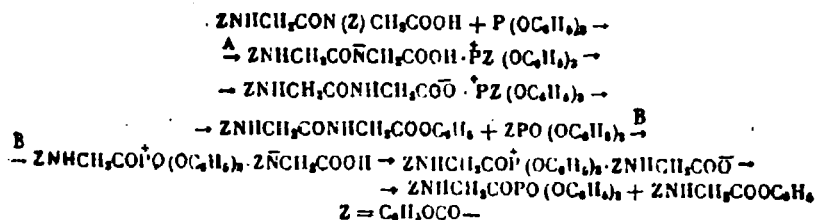
ORG: Institute of High-Molecular-Weight Compounds, Academy of Sciences
SSSR (Institut vysokomolekulyarnykh soyedineniy Akademii nauk SSSR)

TITLE: Reactions of N,N-diacyl- α -aminoacids with triphenyl phosphite

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 11, 1968, 2666

TOPIC TAGS: phosphorous acid, phosphorous acid derivative, aromatic
phosphorus compound, phosphite ester, amino acid derivative

ABSTRACT: The reaction of triphenyl phosphite with N,N'-dicarbobenzoxy-
diglycine at 80°C in the presence of triethylamine proceeds by the
following two mechanisms (A, B):



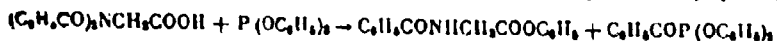
Card 1/2

UDC: 542.91+547.466+547.558.1

- 93 -

ACC NR: AP9004806

By this method, phenyl carbobenzyoxydiglycinate (mp 136—137°C) was obtained in yield of 29%. The reaction of triphenyl phosphite with dibenzoylglycine gave phenyl hippurate and diphenyl benzoylphosphonate:



[WA-50; CBE No. 40] [PS]

SUB CODE: 07/ SUBM DATE: 09Jul68/ OTH REF: 003

Card 2/2

ACC NR: AP9005816

SOURCE CODE: UR/0426/68/021/009/0783/0786

AUTHOR: Mndzhoyan, A. L.; Afrikyan, V. G.; Kazaryan, L. Z.; Aleksanyan, R. A.; Vasil'yana, S. S.

ORG: Institute of Fine Organic Chemistry AN ArmSSR (Institut tonkoy organicheskoy khimii AN ArmSSR)

TITLE: Synthesis of p-alkoxybenzoic acid derivatives. XXV. Some heterocyclic amides of 3,4-dialkyloxybenzoic acids and the corresponding amines

SOURCE: Armyanskiy khimicheskij zhurnal, v. 21, no. 9, 1968, 783-786

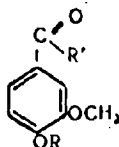
TOPIC TAGS: substituted amide, aromatic amine, amine derivative, circulatory drug

ABSTRACT: The title compounds were synthesized to study their pharmacological properties. Pyrrolidinyl-, morpholinyl-, and N-formalpiperezyl amides of 3-methoxy-4-alkoxybenzoic acids were synthesized by the reactions of chlorides of the acids with the appropriate amines in dry benzene upon heating in sealed ampoules on a water bath. The new amides are characterized in Table 1. The amides were reduced with

Card 1/5

UDC: 547.582.4+547.587.12'

Table 1



R	R'	Yield	Mp, °C
CH ₃	C ₆ H ₅ N	92.3	87-88
C ₂ H ₅	.	87.5	96-97
C ₃ H ₇	.	65.2	114-115
iso-C ₃ H ₇	.	81.0	•
C ₄ H ₉	.	89.7	121-123
iso-C ₄ H ₉	.	80.2	•
CH ₃	C ₆ H ₅ NO	85.2	56-57
C ₂ H ₅	.	82.1	91-92
C ₃ H ₇	.	64.2	107-108
iso-C ₃ H ₇	.	96.4	101-102

Card 2/5

Table 1. (Cont.)

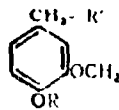
C ₄ H ₉	.	86.9	112-113
iso-C ₄ H ₉	.	74.8	100-102
CH ₃	NC ₆ H ₅ NCHO	85.7	159-160
C ₂ H ₅	.	84.0	168-169
C ₃ H ₇	.	81.7	181-182
iso-C ₃ H ₇	.	78.4	•
C ₄ H ₉	.	84.6	186-187
iso-C ₄ H ₉	.	79.3	•

*Viscous liquids

LiAlH₄ in dry ether to form the corresponding amines which are characterized in Table 2. The amines were converted into hydrochlorides and alkylidides. The hypotensive properties of the new compounds were studied on narcotized cats. Most of the compounds have no effect as hypotensive drugs. Some of them show a short duration hypotensive action. The effect of the new compounds on the coronary blood circulation was also studied on narcotized cats. Compounds with butyl and

Card 3/5

Table 2



R	R'	Yield	Bp, °C/mm	Formula	d ₄ ²⁰	n _D ²⁰	Mp, °C		
							Hydrochloride	Methiodide	Ethiodide
CH ₃	C ₄ H ₉ N	76.9	155-156/4	C ₁₃ H ₁₉ NO ₂	1.0968	1.5131	186-187	166-167	190-220
C ₂ H ₅	.	84.4	158-160/4	C ₁₄ H ₂₁ NO ₂	1.0490	1.5327	179-180	155-156	150-151
C ₃ H ₇	.	79.7	166-168/4	C ₁₅ H ₂₃ NO ₂	1.0265	1.5294	183-184	-	-
iso-C ₃ H ₇	.	73.3	162-165/4	C ₁₅ H ₂₃ NO ₂	1.0261	1.5240	171-175	157-158	133-134
C ₄ H ₉	.	86.0	183-185/4	C ₁₆ H ₂₅ NO ₂	1.0175	1.5234	192-193	167-168	139-140
iso-C ₄ H ₉	.	77.2	171-173/4	C ₁₆ H ₂₅ NO ₂	1.0079	1.5210	170-171	145-146	-
CH ₃	C ₄ H ₉ NO	78.5	159-160/4	C ₁₃ H ₁₉ NO ₂	1.1321	1.5464	190-191	185-186	-
C ₂ H ₅	.	70.8	164-165/4	C ₁₄ H ₂₁ NO ₂	1.1103	1.5393	183-184	155-156	131-135
C ₃ H ₇	.	89.4	171-172/4	C ₁₅ H ₂₃ NO ₂	1.0869	1.5333	180-181	152-153	-
iso-C ₃ H ₇	.	77.0	160-163/4	C ₁₅ H ₂₃ NO ₂	1.0701	1.5262	175-176	183-184	-
C ₄ H ₉	.	80.7	178-180*/4	C ₁₆ H ₂₅ NO ₂	-	-	160-161	-	-

Card 4/5

Table 2. (Cont.)

iso-C ₄ H ₉	.	85.1	164-166/4	C ₁₆ H ₂₅ NO ₂	1.0512	1.5208	193-194	145-146	-
CH ₃	NC ₄ H ₉ NCH ₃	72.3	152-153/5	C ₁₄ H ₂₁ N ₂ O ₂	1.0912	1.5444	239-240	-	1
C ₂ H ₅	.	72.7	165-166/5	C ₁₅ H ₂₃ N ₂ O ₂	1.0601	1.5364	225-226	218-219	-
C ₃ H ₇	.	71.0	176-178/4	C ₁₆ H ₂₅ N ₂ O ₂	1.0584	1.5337	230-231	224-225	-
iso-C ₃ H ₇	.	75.0	162-163/3	C ₁₆ H ₂₅ N ₂ O ₂	1.0478	1.5258	233-234	221-222	205-206
C ₄ H ₉	.	72.3	188-190/4	C ₁₇ H ₂₇ N ₂ O ₂	1.0320	1.5253	245-246	-	-
iso-C ₄ H ₉	.	86.3	172-174/4	C ₁₇ H ₂₇ N ₂ O ₂	1.0079	1.5191	235-236	-	-

* On standing crystallizes and melts at 45°.

isobutyl radicals in 3-position of the benzene ring of the N-methyl-piperazylamine series showed two-phase effect on coronary blood circulation. In the form of hydrochlorides and alkiodides in doses of 1-3 mg/kg, they decrease the rate of blood circulation for the first hour after injection, after which they increase the coronary blood circulation by 40-50%, as compared with the initial blood circulation. Orig. art. has: 2 tables. [WA-50; CBE No. 40][PS]

SUB CODE: 06, 07/ SUBM DATE: 24Jul67/ ORIG REF: 001/ OTH REF: 001

Card 5/5

ACC NR: AP9005201

SOURCE CODE: UR/0390/68/031/005/0581/0582

AUTHOR: Mokeyeva, Z. D.

ORG: Department of General Chemistry /Head--Docent V. I. Batalin/ and Department of Biochemistry /Head--Professor I. V. Sidorenkov/, Kuybyshev Medical Institute (Kafedra obshchey khimii i kafedra biologicheskoy khimii Kuybyshevskogo meditsinskogo instituta)

TITLE: The effect of polychloropinene on the respiratory activity of brain, liver, and kidney tissues of white mice

SOURCE: Farmakologiya i toksikologiya, v. 31, no. 5, 1968, 581-582

TOPIC TAGS: chlorinated organic compound, poison effect, toxin, breathing

ABSTRACT: Studies in vivo (on white mice) revealed that a prolonged inhalation of polychloropinene aerosol in a dose of 0.0025 mg/l. (3 hr daily for four weeks) decreases the intensity of respiration of the brain, kidney, and liver tissue by 70.4, 68.6, and 62.8%, respectively. The addition of polychloropinene to brain, kidney, and liver tissues during in vitro experiments showed that the poluchloropinene

Card

1/2

UDC: 615.285.7.015.42:612.26

ACC NR: AP9005201

inhibits the absorption of oxygen in kidney, brain, and liver tissues by 68.6, 61.8, and 33.2%, respectively. [WA-50; CBE No. 40][PS]

SUB CODE: 06, 07/ SUBM DATE: 18Jan68

Card

2/2

- 97 -

AUTHOR: Morozovskaya, L. M.; Kolesnikova, M. A.; Suvorov, N. N.

ORC: none

TITLE: Indole derivatives. XLVI. Phosphate esters of serotonin

SOURCE: Zhurnal obshchey khimii, v. 38, no. 12, 1968, 2788-2791

TOPIC TAGS: indole derivative, phosphate ester, serotonin, hallucinogen, biologically active compound

ABSTRACT: The title compounds were synthesized to study their pharmacological properties, since it is known that organic phosphates are biologically active substances and play an important role in life processes. Psilocybin, N,N-dimethyl-4-hydroxytryptamine phosphate, displays powerful hallucinogenic activity. Diethyl 3-(β -N-tritylaminoethyl)-5-indolyl phosphate (IIa) (51.5% yield, mp 159–161°C) was prepared by adding CH_3ONa to N-tritylserotonin (I) in CH_3OH , evaporating to dryness, adding CH_2Cl_2 and diethyl chlorophosphate, stirring for 2 hr at about 20°C, and allowing the mixture to stand for 12 hr at 20°C. Dibenzyl 3-(β -N-tritylaminoethyl)-5-indolyl phosphate (IIb)

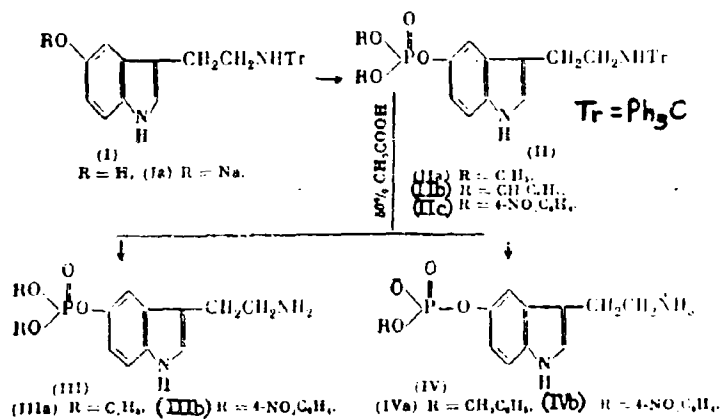
Card

1/4

UDC: 547.26'18

ACC NR: AP9004414

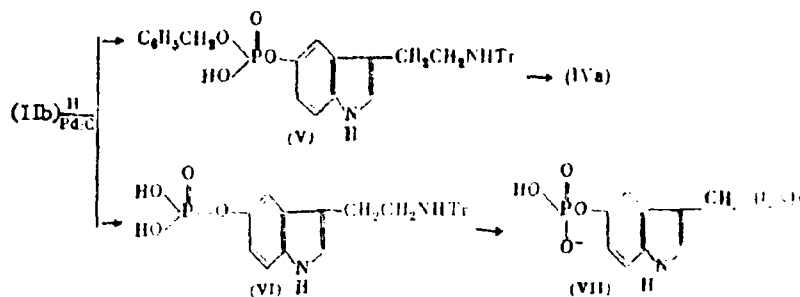
(45% yield, mp 148–149.5°C) was similarly obtained. Bis(p-nitrophenyl) 3-(β -N-tritylaminoethyl)-5-indolyl phosphate (IIc) (62% yield, mp 183–184°C) was prepared by heating I and bis(p-nitrophenyl) chlorophosphate in pyridine for 8–10 hr at 60°C. Diethyl 3-(β -aminoethyl)-5-indolyl phosphate (IIIa) adipate (70% yield, mp 123–125°C) was prepared



Card

2/4

ACC NR: AP9004414



by boiling IIa and 50% of HOAc for 10 min and cooling in adipic acid and acetone for 12 hr. Benzyl 3-(β-aminoethyl)-5-indolyl hydrogen phosphate (IVa) was obtained by boiling IIa and 50% HOAc for 30-40 min. p-Nitrophenyl 3-(β-aminoethyl)-5-indolyl hydrogen phosphate (IVb) (50% yield, mp 278-279°C, decomp) was similarly prepared. Bis(p-nitrophenyl) 3-(β-aminoethyl)-5-indolyl phosphate (IIIb) acetate (mp 187.5-189.5°C) and IVb were prepared by boiling IIc and 50% HOAc for 5-10 min. Benzyl 3-(β-N-tritylaminoethyl)-5-indolyl hydrogen phosphate (V) (69% yield, mp 174-175°C) was obtained by hydrogenating IIb in dioxane in the presence of Pd/C (10%) at about 20°C and 760 mm for 7-8 hr. Compound IVa (90% yield, mp 219-220°C) was also

Card 3/4

ACC NR: AP9004414

prepared by boiling V and 50% HOAc for 10-15 min. 3-(β-N-Tritylaminoethyl)-5-indolyl dihydrogen phosphate (VI) (2.5 g from 5 g IIb, mp 160°C, decomp) was obtained by dissolving IIb and NaOH in CH₃OH and hydrogenating in the presence of Pd/C (10%) at about 20°C and 760 mm. 3-(β-Aminoethyl)-5-indolyl dihydrogen phosphate (VII) (mp about 26°C, decomp) was prepared by boiling VI and 50% HOAc for 15 min.

[WA-50; CBE No. 40]; FT]

SUB CODE: 06, 07/ SUBM DATE: 11Dec67/ ORIG REF: 001/ OTH REF: 002

Card 4/4

ACC NR: AP9004791

SOURCE CODE: UR/0062/68/000/011/2616/2618

AUTHOR: Muslinkin, A. A.; Loginov, V. B.

ORG: Institute of Organic and Physical Chemistry im. A. Ye. Arbuzov, Academy of Sciences SSSR (Institut organicheskoy i fizicheskoy khimii Akademii nauk SSSR)

TITLE: Synthesis of acryl and α -substituted acryl derivatives of chlorophos and some of its analogs

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 11, 1968, 2616-2618

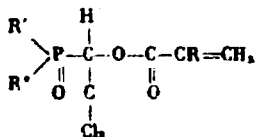
TOPIC TAGS: phosphonate ester, phosphonic acid derivative, aliphatic ester, aliphatic phosphorus compound, aromatic phosphorus compound, phosphine oxide derivative, chlorinated organic compound

ABSTRACT: The previously unreported phosphonates and phosphine oxide characterized in the table were synthesized by the reactions of chlorides of acrylic, methacrylic, and α -fluoroacrylic acids with chlorophos and its phosphine oxide analog at room temperature in the presence of HCl

Card 1/2

UDC: 542.91+661.718.1

ACC NR: AP9004791



R	R'	R''	Yield %	n_D^{20}	n_D^{20}	Mp, °C
CH ₃	CH ₃ O	CH ₃ O	34	1,3980	1,4850	*
F	ClCH ₂ CH ₂ O	ClCH ₂ CH ₂ O	78	1,5422	1,4985	**
CH ₃	C ₆ H ₅ O	C ₆ H ₅ O	36	—	—	95,3+95,3
H	C ₆ H ₅	C ₆ H ₅	88	—	—	89,2+90,1

* Distilled at 110—111° C (0.05 mm)

** Decomposes during distillation in vacuum (0.05 mm)

acceptors (pyridine or soda). The structure of the new compounds and the presence of the double bond was established by IR spectra.

[WA-50; CBE No. 40] [PS]

SUB CODE: 07/ SUBM DATE: 06May68/ ORIG REF: 004/ OTH REF: 003

Card 2/2

- 100 -

ACC NR: AP9006509

SOURCE CODE: UR/0062/69/000/001/0169/0169

AUTHOR: Nuretdinov, I. A.; Buina, N. A.; Grechkin, I. P.

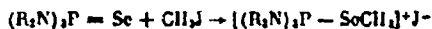
ORG: Institute of Organic and Physical Chemistry im. A. Ye. Arbuzov,
Academy of Sciences SSSR (Institut organicheskoy i fizicheskoy khimii
Akademii nauk SSSR)

TITLE: Alkylselenophosphonium salts

SOURCE: AN SSSR. Izv. Ser khim, no. 1, 1969, 169

TOPIC TAGS: selenium compound, alkylphosphonium salt, iodated organic
compound

ABSTRACT: Alkylamides of selenophosphoric and selenophosphonic acids
readily add CH_3I at room temperature to form phosphonium salts:



The following phosphonium salts were prepared for the first time:
hexamethyltriamidoselenophosphonium iodide, mp 97—98°C; hexaethyl-
triamidoselenophosphonium iodide, mp 37—38°C; tetramethyldiamido-
ethylselenophosphonium iodide, mp 105—106°C; and tetraethyldiamido-

Card 1/2

UDC: 661.718.1

ACC NR: AP9006509

ethylselenophosphonium iodide, mp 66—67°C. The structure of the
salts was established by NMR spectra. [WA-50; CBE No. 40] [PS]

SUB CODE: 07/ SUBM DATE: 15Jul68/

Card 2/2

ACC NR: AP9004835

SOURCE CODE: UR/0718/68/006/53/6023/0118

INVENTOR: Panteleyeva, A. R.; Shermergorn, I. M.

ORG: none

TITLE: Method of preparing phosphetane derivatives. Class 12, No. 231548 [announced by Institute of Organic and Physical Chemistry in. A. Ye. Arbuzov (Institut organicheskoy i fizicheskoy khimii)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 36, 1968, 28

TOPIC TAGS: phosphorus compound, heterocyclic phosphorus compound, phosphinic acid

ABSTRACT: An Author Certificate has been issued for a method of preparing phosphetane derivatives. Derivatives of bis(chloromethyl)-phosphinic acid are allowed to react with a sodium malonate ester in the presence of KI as a catalyst in an inert organic solvent, e.g., tetrahydrofuran, at the boiling point of the latter with subsequent isolation of the product by known procedures. [WA-50; CBE No. 40][FT]

SUB CODE: 07/ SUBM DATE: 18May67

Card 1/1

UDC: 547.26'118.07

ACC NR: AP9004505

SOURCE CODE: UR/0063/68/013/006/0699/0703

AUTHOR: Petrov, I. G.

ORG: none

TITLE: Deactivation, degassing and disinfection

SOURCE: Vsesoyuznoye khimicheskoye obshchestvo. Zhurnal, v. 13, no. 6, 1968, 699-703

TOPIC TAGS: degassing, BW antidote, bacterial antipersonnel agent, bacterial anticrop agent, bacteriologic warfare, biologic decontamination, biologic decontamination kit, biologic decontamination material

ABSTRACT: This article appears in Biological Factors

Card 1/1

UDC: 623.445.7
- 102 -

ACC NR: AP9006693

SOURCE CODE: UR/0409/68/000/006/1050/1052

AUTHOR: Prostakov, N. S.; Pleshakov, V. G.

ORG: University of Peoples' Friendship im. P. Lumumba, Moscow
(Universitet druzhy narodov)

TITLE: Synthesis of 1,2,5-trimethyl-4-carbomethoxymethyl-4-piperidol
and its analogs

SOURCE: Khimiya geterotsiklicheskiikh soyedineniy, no. 6, 1968, 1050-1052

TOPIC TAGS: analgesic drug, anesthetic, aliphatic ester, nitrogen compound, piperidine

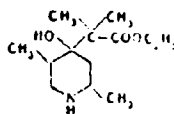
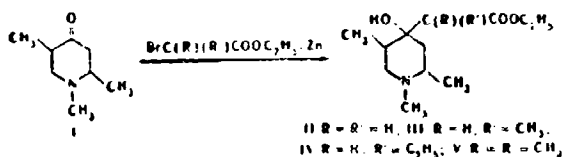
ABSTRACT: Derivatives of tertiary γ -piperidols, as a rule, display diverse physiological activity. In particular, some of them exert a strong analgetic and locally anesthetic effect. Ethyl 1,2,5-trimethyl-4-hydroxy-4-piperidylacetate (II) (40% yield, bp₄ 131—132°C, n_D²⁰ 1.4738) was prepared by adding 1,2,5-trimethyl-4-piperidone (I) and BrCH₂COOEt to Zn dust in HPh at 70°C and boiling for 45 min. The following compounds were similarly prepared: ethyl α -(1,2,5-trimethyl-4-hydroxy-4-piperidyl)propionate (III) (30% yield, bp_{0.5} 105—107°C, n_D²⁰ 1.4710),

Card 1/4

UDC: 547.821.413'823'824.07

ACC NR: AP9006693

ethyl α -(1,2,5-trimethyl-4-hydroxy-4-piperidyl)butyrate (IV) (23% yield, bp₃ 134—140°C), ethyl α -(1,2,5-trimethyl-4-hydroxy-4-piperidyl)-isobutyrate (V) (43% yield, bp₂ 123—125°C, n_D²⁰ 1.4796), and ethyl α -(2,5-dimethyl-4-hydroxy-4-piperidyl)-isobutyrate (VI) (10% yield, bp_{0.5} 111—112°C, n_D²⁰ 1.4862). A mixture of dehydration products (VII and VIII)

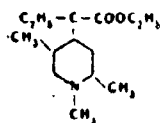


VI

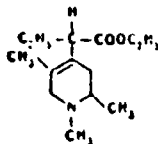
Card 2/4

ACC NR: AP9006693

(bp_{0.5} 91—92°C, n_D²⁰ 1.4688) was also obtained in the synthesis of IV.

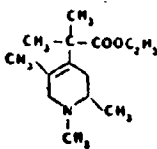


VII



VIII

Ethyl α -(1,2,5-trimethyl- Δ^4 -dehydro-4-piperidyl)isobutyrate (IX)
(49.3% yield, bp₃ 120—122°C, n_D²⁰ 1.5016) was prepared by adding POCl₃



IX

Card 3/4

ACC NR: AP9006693

to V in HPh at 20°C for 15 min, stirring for 1 hr at 20°C, and for
30 min at 80°C. [WA-50; CBE No. 40][FT]

SUB CODE: 06, 07/ SUBM DATE: 03Sep67/ ORIG REF: 001

Card 4/4

ACC NR: AP9006695

SOURCE CODE: UR/0409/68/000/006/1055/1060

AUTHOR: Prostakov, N. S.; Pleshakov, V. G.; Zvolinskiy, V. P.

ORG: University of Peoples' Friendship im. Patris Lumumba, Moscow
(Universitet druzhby narodov)

TITLE: 1-Hydroxy- and 1-nitroso-2,5-dimethyl-4-piperidones and their derivatives

SOURCE: Khimiya geterotsiklicheskikh soyedineniy, no. 6, 1968, 1055-1060

TOPIC TAGS: ketone, cyclic alcohol, nitrogen compound, piperidine, organic nitroso compound

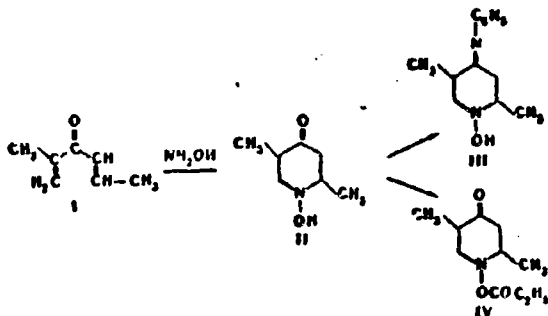
ABSTRACT: N-Hydroxy- and N-nitroso-substituted γ -piperidones and γ -piperidols are of interest as starting substances for the synthesis of physiologically active substances and may also serve as convenient objects for studying the stereochemistry of piperidine systems. 1-Hydroxy-2,5-dimethyl-4-piperidylideneaniline (III) (59.6% yield, bp₁ 143–145°C) was prepared by heating 1-hydroxy-2,5-dimethyl-4-piperidone (II) (from

Card 1/5

UDC: 547.824:543.422.4

ACC NR: AP9006695

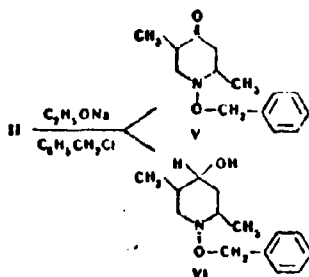
I), PhNH₂, and HOAc in PhCH₃ for 10 hr at 110°C. 1-Propionyloxy-2,5-dimethyl-4-piperidone (IV) (27% yield, mp 43°C) was obtained by adding EtCOCl to II in pyridine and HPh for 20 min at 20°C and stirring for



6 hr at 20°C and 20 min at 80°C. 1-Benzyloxy-2,5-dimethyl-4-piperidone (V) (24.5% yield, bp₃ 139–141°C, n_D²⁰ 1.5278) and 1-benzyloxy-2,5-dimethyl-4-piperidol (VI) (0.2 g from 20 g II, mp 121.5–122.5°C) were prepared by adding II in EtOH to EtONa in EtOH, stirring for 15 min at

Card 2/5

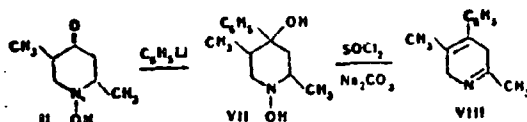
ACC NR: AP9006695



20°C, adding PhCH₂Cl, and stirring for 6 hr at 20°C. 1-Hydroxy-2,5-dimethyl-4-phenyl-4-piperidol (VII) α isomer (0.57 g from 14.3 g II, mp 196—198°C), β isomer (0.35 g, mp 160.2—162.5°C), and γ isomer (0.54 g, mp 142—144°C) were prepared by adding II in ether to PhLi in ether at 0°C for 1.5 hr, stirring for 1 hr, allowing the mixture to stand at 20°C for 40 hr, and stirring for 2 hr at 35°C. 2,5-Dimethyl-4-phenyl-tetrahydropiperidine (VIII) (36% yield, bp₁ 99—100°C, n_D²⁰ 1.5700) was prepared by adding SOCl₂ to the isomers of VII (mp 41—80°C) in ether at 0°C for 40 min, stirring for 1 hr at 0°C, 1 hr at 20°C, 1.5 hr at 35°C, allowing the mixture to stand at 20°C for 10 hr, removing

Card 3/5

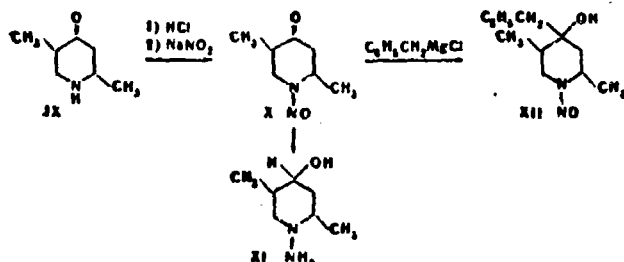
ACC NR: AP9006695



the ether and SOCl₂, adding H₂O, and saturating with Na₂CO₃. 1-Nitroso-2,5-dimethyl-4-piperidone (X) (61% yield, mp 57—58°C, bp_{0.5} 109—110°C) was obtained by adding aqueous NaNO₂ to 2,5-dimethyl-4-piperidone (IX) in H₂O and HCl for 20 min at 0°C, stirring for 15 min at 20°C, adding NaCl, and stirring for 10 min. 1-Amino-2,5-dimethyl-4-piperidol (XI) (15.4% yield, mp 130—132°C) was prepared by adding a crystal of NaI to X and SnCl₂ in EtOH, adding concentrated HCl for 15 min, stirring for 1 hr, adding HCl, and stirring for 2 hr at 55—60°C and 1 hr at 75—80°C. 1-Nitroso-2,5-dimethyl-4-benzyl-4-piperidol (XII) (36% yield, mp 163—165°C) was obtained by adding X in ether to

Card 4/5

ACC NR: AP9006695



PhCH₂MgCl in ether at -10°C, stirring for 4 hr at -10°C, 10 hr at 20°C, and 30 min at 35°C. Orig. art. has: 1 figure. [WA-50; CBE No. 40][PT]

SUB CODE: 07/ SUBM DATE: 15Sep66

Card 5/5

ACC NR: AP9004416

SOURCE CODE: UR/0079/68/038/012/2812/2812

AUTHOR: Pudovik, A. N.; Gazizov, T. Kh.; Pashinkin, A. P.

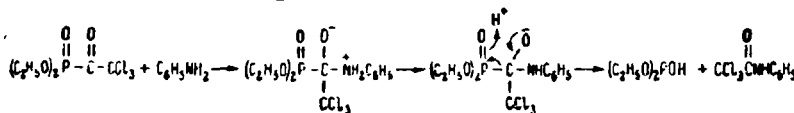
ORG: Institute of Organic and Physical Chemistry im. A. Ye. Arbutov, Academy of Sciences SSSR (Institut organicheskoy i fizicheskoy khimii Akademii nauk SSSR)

TITLE: Cleavage of the phosphorus-carbon bond in chloride-substituted esters of acetylphosphinic acids

SOURCE: Zhurnal obshchey khimii, v. 38, no. 12, 1968, 2812

TOPIC TAGS: alkyl phosphite, aniline, chlorinated phosphonate ester

ABSTRACT: Diethyl hydrogen phosphite (43.3% yield, bp₁₁ 68—69°C, n_D²⁰ 1.4088, d₄²⁰ 1.0758) and trichloroacetic acid anilide (80% yield, mp 95—96°C) were prepared by allowing diethyl trichloroacetylphosphonate to react with PhNH₂. Diethyl hydrogen phosphite and ethyl



Card 1/2

UDC: 547.241

- 107 -

ACC NR: AP9004416

trichloroacetate (58% yield, bp₁₂ 58—60°C) were similarly obtained.
[UA-50; CBE No. 40][FT]

SUB CODE: 07/ SUBM DATE: 30Apr68/ ORIG REF: 002/ OTH REF: 001

Card 2/2

ACC NR: AP9006949

SOURCE CODE: UR/0020/68/182/006/1338/1341

AUTHOR: Pudovik, A. N. (Corresponding member AN SSSR); Shakirova, A. M.; Nikitina, V. I.

ORG: Kazan' State University im. V. I. Ul'yanov-Lenin (Kazanskiy gosudarstvennyy universitet)

TITLE: Condensation and PO-olefination of phosphonoacetophenones

SOURCE: AN SSSR. Doklady, v. 182, no. 6, 1968, 1338-1341

TOPIC TAGS: acetophenone, phosphonoketone, aromatic phosphorus compound

ABSTRACT: p-Nitrobenzylidenediethoxyphosphonoacetophenone (Ia) (70—74% yield, mp 91—92°C) was prepared by allowing $(EtO)_2P(O)CH_2COPh$ to react with p-nitrobenzaldehyde in HPh in the presence of 3 mol % piperidine acetate or hydrochloride for 28 hr at 80°C. Compound Ia (60% yield) was also similarly obtained in 8 hr in the presence of piperidine and $HCON(CH_3)_2$, and Ia (60% yield) was obtained in 16 hr in the presence of 5 mol % piperidine and HPh at 80°C. Compound Ia was also similarly obtained in 80.7% yield in 30 hr. β -(4-Nitrophenyl)benzoylethylene (IIa) (70.3% yield, mp 159—161°C) was

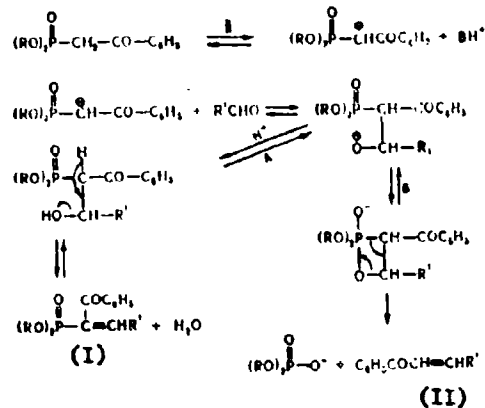
Card 1/3

UDC: 547.341

- 108 -

ACC NR: AP9006949

similarly prepared in the presence of 100 mol % piperidine in 16 hr.



Benzylidenediethoxyphosphonoacetophenone (Ib) (74% yield) was prepared by allowing (EtO)₂P(O)CH₂COPh to react with PhCHO in PhCH₃ with 10 mol % piperidine for 10 hr at 110°C. Compound Ib (44% yield) was also

Card 2/3

ACC NR: AP9006949

similarly prepared from (PhO)(EtO)P(O)CH₂COPh. β,β,β-Trichloroethylideneacetophenone (IIb) (40% yield) was obtained by allowing (PhO)₂P(O)CH₂COPh to react with Cl₃CCHO in PhCH₃ and 10 mol % piperidine at 110°C. [WA-50; CBE No. 40][FT]

SUB CODE: 07/ SUBM DATE: 04Apr68/ ORIG REF: 003/ OTH REF: 002

Card 3/3

ACC NR: AP9006536

SOURCE CODE: UR/0079/69/039/001/0213/0213

AUTHOR: Pudovik, A. N.; Yastrebova, G. Ye.; Nikitina, V. I.

ORG: Kazan' State University (Kazanskiy gosudarstvennyy universitet)

TITLE: Condensation of diethyl acetomethylphosphonate

SOURCE: Zhurnal obshchey khimii, v. 39, no. 1, 1969, 213

TOPIC TAGS: phosphonic acid, aliphatic ester, phosphonate ester

ABSTRACT: Diethyl α -acetovinylphosphonate (11% yield, bp_{0.5} 87—89°C, n_D²⁰ 1.4530, d₄²⁰ 1.1190), diethyl α -aceto- β -methylvinylphosphonate (27.5% yield, bp_{1.5} 92—93°C, n_D²⁰ 1.4510, d₄²⁰ 1.1158), and diethyl α -aceto- β -ethylvinylphosphonate (40% yield, bp_{0.5} 93—94°C, n_D²⁰ 1.4500, d₄²⁰ 1.0900) were prepared by allowing (EtO)₂P(O)CH₂COCH₃ to react with aliphatic

aldehydes in the presence of piperidine in CH₃OH (with paraform) or in HPh (with CH₃CHO and EtCHO). [WA-50; CBE No. 40] [FT]

SUB CODE: 07/ SUBM DATE: 24May68/ ORIG REF: 002

Card 1/1

UDC: 547.313.2:547.341

ACC NR: AP9005818

SOURCE CODE: UR/0426/68/021/009/0793/0807

AUTHOR: Rashidyan, L. G.; Asratyan, S. N.; Karagezryan, K. S.; Mkrtchyan, A. R.; Sedrakyan, R. O.; Tatevosyan, G. T.

ORG: Institute of Fine Organic Chemistry, AN ArmSSR (Institut tonkoy organicheskoy khimii AN ArmSSR)

TITLE: Isoindoline derivatives. I. Synthesis of some diamines of the isoindoline series

SOURCE: Armyansk'iy khimichesk'iy zhurnal, v. 21, no. 9, 1968, 793-807

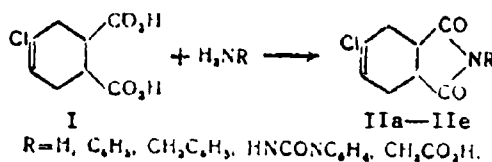
TOPIC TAGS: indole derivative, blood pressure, ganglionic blocking agent, organic azole compound, imide, substituted amide

ABSTRACT: Some diamines of the isoindoline series display ganglio-blocking and antihypertensive properties. 4-Chloro- Δ^4 -cyclohexene-cis-1,2-dicarboxylic acid imide (IIa) (77.7% yield, mp 109—111°C) was prepared by heating I and urea at 160°C for 30 min. 4-Chloro- Δ^4 -cyclohexene-cis-1,2-dicarboxylic acid N-phenylimide (IIb) (83.3% yield,

Card 1/12

UDC: 542.91+547.759.4

ACC NR: AP9005818

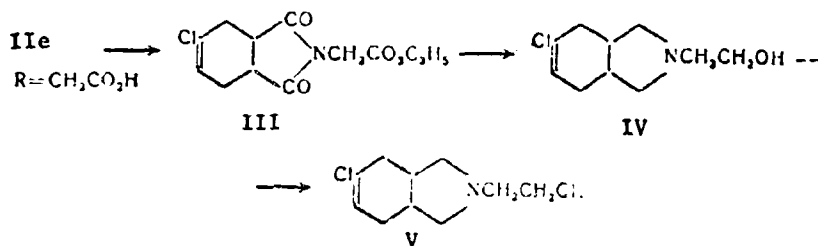


mp 106—108°C) was obtained by refluxing the anhydride of I and PhNH₂ for 4 hr at 175—200°C. 4-Chloro-Δ⁴-cyclohexene-cis-1,2-dicarboxylic acid N-benzylimide (IIc) (82% yield, mp 93—94°C) was prepared by heating I and benzylamine for 4 hr at 175—200°C. N,N-Phthalyl-N'-isonicotinoylhydrazine (IIId) (72.6% yield, mp 214—216°C) was prepared by refluxing the anhydride of I, isonicotinic acid hydrazide, and EtOH for 8 hr. 4-Chloro-Δ⁴-cyclohexene-cis-1,2-dicarboxylic acid N-carboxymethylimide (IIe) (65% yield, bp₂ 232—234°C, mp 103—104°C) was obtained by heating aminoacetic acid and the anhydride of I at 180—185°C for 30 min. 4-Chloro-Δ⁴-cyclohexene-cis-1,2-dicarboxylic acid N-carbethoxymethylimide (III) (86% yield, mp 63°C) was prepared by refluxing IIe and H₂SO₄ in EtOH for 6 hr. 2-(β-Hydroxyethyl)-5-chloro-3a,4,7,7a-tetrahydroisoindoline (IV) (74.4% yield, bp₆ 168—172°C, d₄²⁰ 1.1692, n_D²⁰ 1.5308) was prepared by adding III to LiAlH₄ in ether

Card 2/12

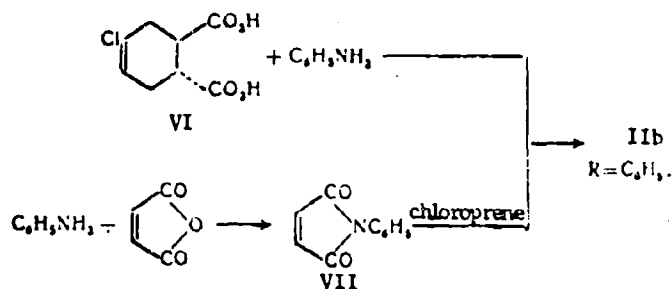
ACC NR: AP9005818

and refluxing for 12 hr. 2-(β-Chloroethyl)-5-chloro-3a,4,7,7a-tetrahydroisoindoline (V) hydrochloride (89% yield, mp 137—138°C) was obtained by adding SOCl₂ to CHCl₃ and the hydrochloride of IV for 1 hr and refluxing for 4 hr. Compound IIb (80% yield, mp 108—110°C) was



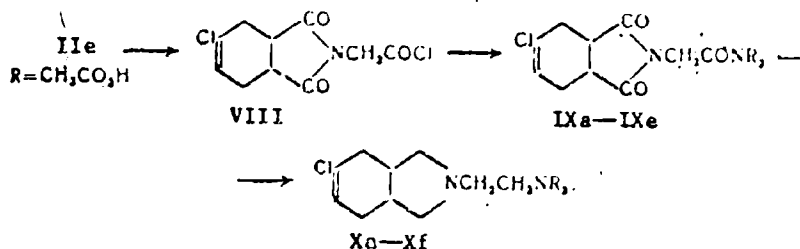
additionally obtained by fusing VI and PhNH₂ and also (86.5% yield) by heating VII and chloroprene and allowing the mixture to stand at 20°C for 15 hr. 4-Chloro-1,2,3,6-tetrahydrophthalimidoacetyl chloride (VIII) (93% yield, mp 111—113°C) was prepared by adding SOCl₂ in HPh

Card 3/12



to IIe in HPh and refluxing for 12 hr. 4-Chloro-1,2,3,6-tetrahydrophthalimidoacetic acid dimethylamide (IXa) (81.5% yield, mp 175—176°C) was obtained by adding $(CH_3)_2NH$ in HPh to VIII in HPh and refluxing for 4—5 hr. The following compounds were similarly prepared: 4-chloro-1,2,3,6-tetrahydrophthalimidoacetic acid diethylamide (IXb) (80.9% yield, mp 121—123°C), 4-chloro-1,2,3,6-tetrahydrophthalimidoacetic acid tetramethyleneamide (IXc) (70.3% yield, mp 160—162°C), 4-chloro-1,2,3,6-tetrahydrophthalimidoacetic acid pentamethyleneamide (IXd) (80.0% yield, mp 115—116°C), and 4-chloro-1,2,3,6-tetrahydrophthalimidoacetic acid 3-oxapentamethyleneamide (IXe) (72.0% yield,

Card 4/12



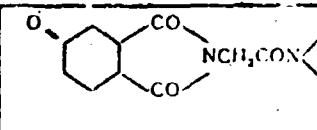
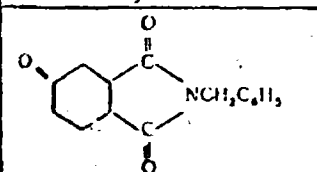
mp 190—192°C). 2-(β-Dimethylaminoethyl)-5-chloro-3a,4,7,7a-tetrahydroisoindoline (Xa) (81.0% yield, bp₆ 150—153°C, d_4^{20} 1.0353, n_D^{20} 1.5088) was prepared by adding IXa to LiAlH₄ in ether and refluxing for 18 hr. The following compounds were similarly prepared: 2-(β-diethylaminoethyl)-5-chloro-3a,4,7,7a-tetrahydroisoindoline (Xb) (83% yield, bp₆ 157—159°C, d_4^{20} 1.0151, n_D^{20} 1.5041), 2-(β-tetramethyleneaminoethyl)-5-chloro-3a,4,7,7a-tetrahydroisoindoline (Xc) (74% yield, bp₆ 181—185°C, d_4^{20} 1.0572, n_D^{20} 1.5235), 2-(β-pentamethyleneaminoethyl)-5-chloro-3a,4,7,7a-tetrahydroisoindoline (Xd) (83.5% yield, bp₆ 171—173°C, d_4^{20} 1.0589, n_D^{20} 1.5228), 2-(β-[3-oxapentamethylene]-aminoethyl)-5-chloro-3a,4,7,7a-tetrahydroisoindoline (Xe) (82% yield,

Card 5/12

ACC NR: AP9005818

bp₈ 178—180°C, d₄²⁰ 1.1027, n_D²⁰ 1.5223), and 2-(8-benzyl)-5-chloro-3a,4,7,7a-tetrahydroisoindoline (Xf) (85.8% yield, bp₂ 175—178°C, d₄²⁰ 1.1110, n_D²⁰ 1.5606). Cyclohexanone-cis-3,4-dicarboxylic acid benzylimide (XId) was prepared by treating Iic with H₂SO₄ and stirring for 24 hr. Similarly prepared compounds (XIa—XIe) are shown in

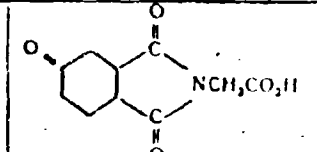
Table 1. Imides (XIa—XIe)

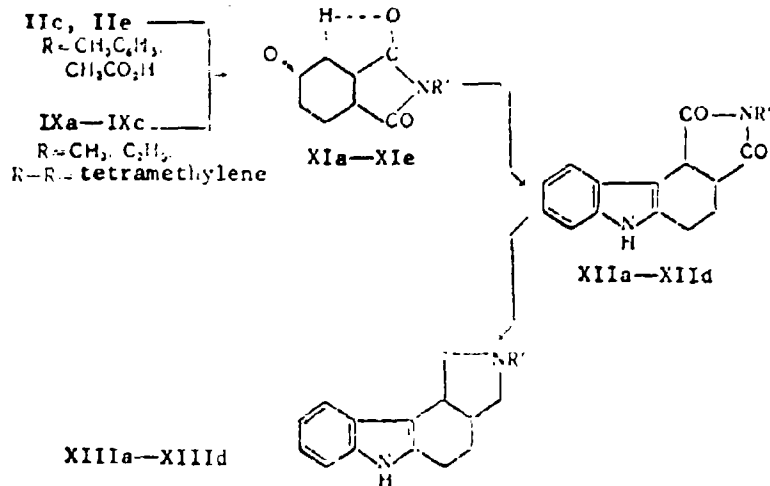
No.		R Yield	Mp, °C
XIa	Dimethyl	86.1	182—183
XIb	Diethyl	81.8	104—105
XIc	Tetramethylene	74.7	109—110
XId		80.2	111—113

Card 6/12

ACC NR: AP9005818

Table 1. (Cont.)

XIe		90.9	125—126 Decomp
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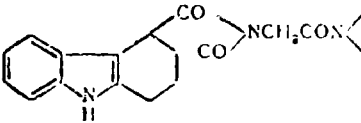
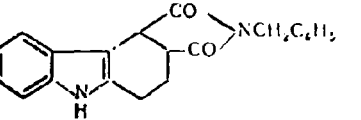


Card 7/12

ACC NR: AP9005818

Table 1. 1,2,3,4-Tetrahydrocarbazole-3,4-dicarboxylic acid benzylimide (XIId) was prepared by refluxing XIc, PhNHNH₂·HCl, H₂SO₄, and EtOH for 5-6 hr. Similarly prepared compounds (XIId) are shown in Table 2.

Table 2. Imides (XIId—XIId)

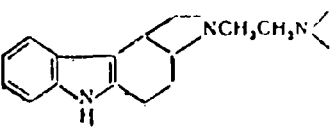
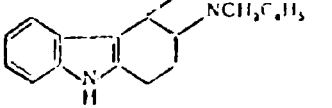
No.		% Yield	Mp, °C
XIId	Dimethyl	72,8	178-180
XIId	Diethyl	83,3	156-157
XIId	Tetramethylene	76,8	225-226
XIId		67,9	199-201

Card 8/12

ACC NR: AP9005818

2-Benzyl-3a,4,5,10c-tetrahydroisindolino[5,4-b]indole (XIIIId) was prepared by adding XIIIc in tetrahydrofuran to LiAlH₄ in ether and boiling for 18 hr. Similarly prepared compounds (XIIIId) are

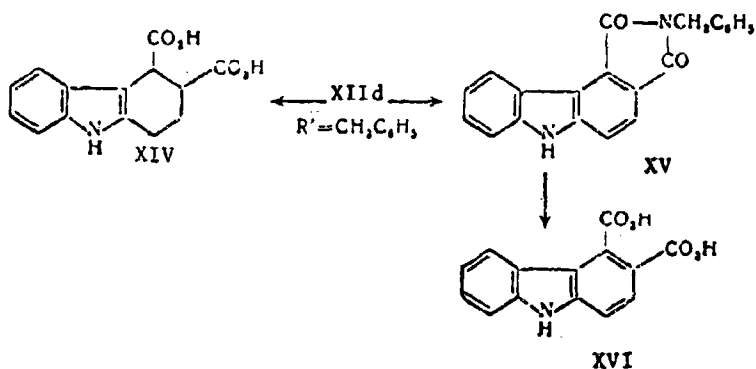
Table 3. Indoles (XIIIId—XIIIId)

No.		% Yield	Mp, °C
XIIIId	Dimethyl	92,8	112-115
XIIIId	Diethyl	82,2	119-121
XIIIId	Tetramethylene	82,0	138-139
XIIIId		90,0	108-110

Card 9/12

ACC NR: AP9005818

shown in Table 3. 1,2,3,4-Tetrahydrocarbazole-3,4-dicarboxylic acid (XIV) (87% yield, mp 141–143°C) was obtained by refluxing XIId, EtOH,

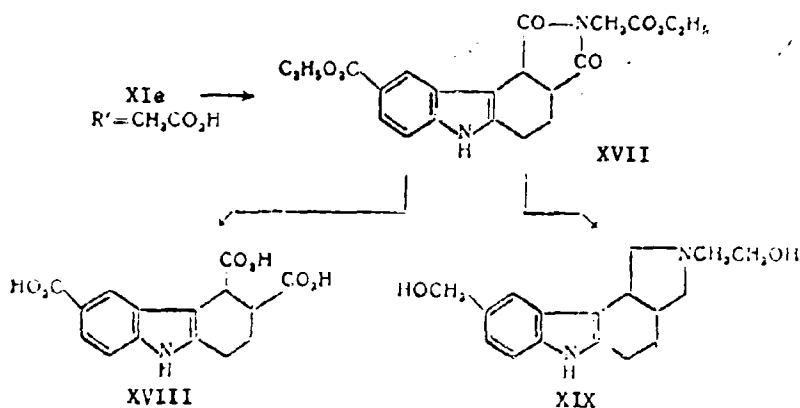


and NaOH for 6 hr. Carbazole-3,4-dicarboxylic acid N-benzylimide (XV) (89% yield, mp 282–284°C) was prepared by heating XIId and Pd black

Card 10/12

ACC NR: AP9005818

at 280°C in N for 10 min. Carbazole-3,4-dicarboxylic acid (XVI) (71.6% yield, mp 162–164°C) was prepared like XIV. 6-Carboxy-1,2,3,4-tetrahydrocarbazole-3,4-dicarboxylic acid N-carbethoxymethylimide (XVII) (73% yield, mp 189–191°C) was obtained by refluxing XIe, p-carboxyphenylhydrazine hydrochloride, H₂SO₄, and EtOH for 8 hr.



Card 11/12

ACC NR: AP9005818

1,2,3,4-Tetrahydrocarbazole-3,4,6-tricarboxylic acid (XVIII) (83.3% yield, mp 222—224°C) was prepared by refluxing XVII and KOH in CH₃OH for 6 hr. 2-(8-Hydroxyethyl)-9-hydroxymethyl-3a,4,5,10c-tetrahydroisoindolino-[5,4-b]indole (XIX) (61.2% yield, mp 136—138°C) was prepared like XIIIId. Compound XIX may be used as an intermediate in synthesizing diamines of pharmacological interest. A preliminary study of the dimethiodides of Xa—Xf and XIIIa—XIIIId indicated that the compounds lower blood pressure without exerting any significant effect on respiration. The most active is Xc, which displays a prolonged depressant effect. In experiments on narcotized cats, Xc (1 mg/kg) lowered the blood pressure by about 30—40 mm Hg. The normal blood pressure was completely restored in 90—120 min. Comparative experiments showed that Xc is as hypotensively active as Ekolid and Hexonium and less toxic than Ekolid (the tolerable dose (ip in white mice) is 300 mg/kg). The methiodides of XIIIa—XIIIc also display a prolonged hypotensive action, but they are also highly toxic. Orig. art. has: 1 figure and 5 tables. [WA-50; CBE No. 40][FT]

SUB CODE: 06, 07/ SUBM DATE: 18Jan68/ ORIG REF: 001/ OTH REF: 008

Card 12/12

ACC NR: AP9006529

SOURCE CODE: UR/0079/69/039/001/0176/0181

AUTHOR: Razumova, N. A.; Yevtikhov, Zh. L.; Voznesenskaya, A. Kh.; Petrov, A. A.

ORG: Leningrad Technology Institute im. Lensovet (Leningradskiy tekhnologicheskii institut)

TITLE: Phosphorus heterocycles. XXI. Condensation of pyrocatechol-phosphorous fluorides and bromide with diene hydrocarbons

SOURCE: Zhurnal obshchey khimii, v. 39, no. 1, 1969, 176-181

TOPIC TAGS: pyrocatechol, phosphorus compound, heterocyclic phosphorus compound, fluorine compound, bromine compound

ABSTRACT: 3-Methylpyrocatecholphosphorous fluoride (88% yield, bp₂ 50°C, d_4^{20} 1.3045, n_D^{20} 1.5170) and 4-methylpyrocatecholphosphorous fluoride (89% yield, bp₇ 84°C, d_4^{20} 1.3150, n_D^{20} 1.5220) were prepared by known procedures. 1,1-Pyrocatechol-1-bromo-3-phospholene (I) was prepared by allowing divinyl to react with pyrocatecholphosphorous bromide in a sealed tube for 24 hr at 20°C. Compounds II—V were similarly prepared. 1,1-Pyrocatechol-1-fluoro-3-phospholene (VI) was

Card 1/4

UDC: 547.341

- 116 -

ACC NR: AP9006529

obtained by allowing divinyl to react with pyrocatecholphosphorous fluoride for 25 days at 20°C. Compounds VII--XII were similarly

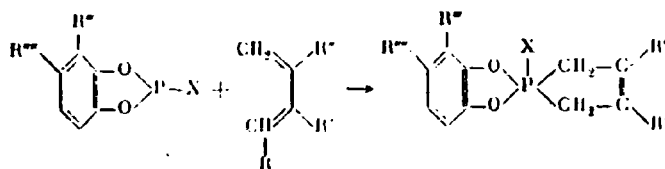
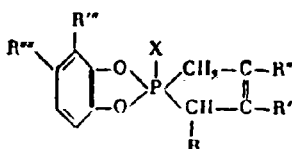


Table 1



No.	R	R'	R''	R'''	R''''	X	% Yield	Mp, °C
I	H	H	H	H	H	Br	80	67-68°
II	H	H	CH ₃	H	H	Br	78	60-62
III	H	CH ₃	CH ₃	H	H	Br	70	63-65

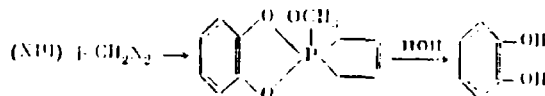
Card 2/4

ACC NR: AP9006529

Table 1. (Cont.)

IV	CH ₃	H	H	H	H	Br	65	62-65	
V	H	H	Cl	H	H	Br	65	103-105	
VI	H	H	H	H	H	F	94	82-83	
VII	H	H	CH ₃	H	H	F	89	86-87	
VIII	H	CH ₃	CH ₃	H	H	F	87	75-76	
IX	CH ₃	H	H	H	H	F	86	88-89	
X	H	H	Cl	H	H	F	83	79-80	
XI	H	CH ₃	CH ₃	CH ₃	H	F	77	66-67	
XII	H	CH ₃	CH ₃	H	CH ₃	F	86	64-65	
XIV	H	H	H	H	H	OCH ₃	80	112-114	
XV								Bp	
									110° (0.5 ml)

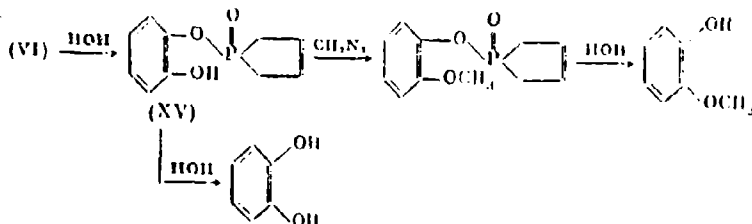
prepared. 1,1-Pyrocatechol-1-hydroxy-3-phospholene (XIII) was prepared by a known procedure. 1,1-Pyrocatechol-1-methoxy-3-phospholene (XIV) was obtained by treating XIII with CH₂N₂. Acidic hydrolysis of XIV



Card 3/4

ACC NR: AP9006529

yielded pyrocatechol. *o*-Hydroxyphenyl but-2-ene-1,4-diylphosphinate (XV) was obtained by allowing VI to react with H₂O at 70°C for 1 hr. Guaiacol was obtained by treating XV with CH₂N₂ in ether, heating,



adding excess dilute HCl, and allowing the mixture to stand for 4 days at 20°C. Orig. art. has: 2 tables and 2 figures.

[WA-50; CBE No. 40][FT]

SUB CODE: 07/ SUBM DATE: 21Dec67/ ORIG REF: 004

Card 4/4

ACC NR: AP9006685

SOURCE CODE: UR/0409/68/000/006/0997/1000

AUTHOR: Safonova, T. S.; Levkovskaya, L. G.

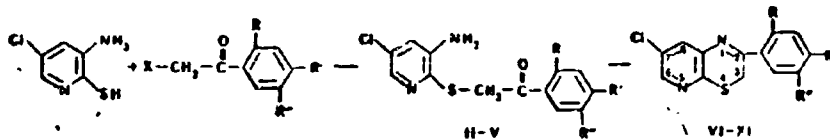
ORG: All-Union Scientific-Research Chemical and Pharmaceutical Institute im. S. Ordzhonikidze, Moscow (Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut)

TITLE: Nitrogen- and sulfur-containing heterocycles. VI. 3H-pyrido[2,3-b][1,4]triazines

SOURCE: Khimiya geterotsiklicheskih soyedineniy, no. 6, 1968, 997-1000

TOPIC TAGS: organic azine compound, pyridine derivative, heterocyclic nitrogen compound

ABSTRACT: In a search for new biologically active compounds, a series of 3H-pyrido[2,3-b][1,4]triazines was synthesized by the reaction of 2-mercapto-3-amino-5-chloropyridine (I) with the appropriate phenacyl halides:



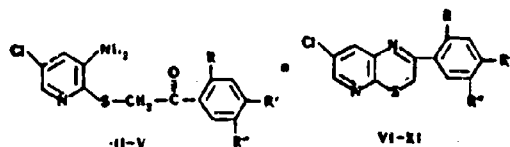
Card 1/3

UDC: 547.836:542.959

- 118 -

ACC NR: AP9006685

The first stage of the reaction, the formation of compounds II—V, takes place in an alkali-alcohol medium at -10°C . When the reaction is conducted at 20°C , only compounds VI—IX are formed. The reaction of I with p- and m-nitrophenacyl chlorides at 20°C and at -10°C gave the compounds X and XI. Compounds II—V are unstable and on standing in



Compd	R	R'	R''	Mp, $^{\circ}\text{C}$	% yield
II	H	H	H	85—87	52.5
III	H	OCH_3	H	143—145	58
IV	Cl	H	Cl	108—110	56
V	OH	OC_2H_5	H	117—120	55
VI	H	H	H	208—210	67.3

Card 2/3

ACC NR: AP9006685

VII	H	OCH_3	H	232—234	83
VIII	Cl	H	Cl	100—102	84
IX	OH	OC_2H_5	H	183—184	33
X	H	NO_2	H	243—245	86
XI	H	H	NO_2	>300	73

air in an inert or a polar solvent undergo cyclization into compounds VI—XI. The cyclization proceeds faster at elevated temperatures. The structure of the compounds synthesized was established by IR spectra. The new compounds are characterized in the table.

[WA-50; CBE No. 40][PS]

SUB CODE: 07/ SUBM DATE: 29Jul66/ ORIG REF: 003/ OTH REF: 008

Card 3/3

ACC NR: AP9006539

SOURCE CODE: UR/0079/69/039/001/0214/0215

AUTHOR: Shokol, V. A.; Doroshenko, V. V.; Derkach, G. I.

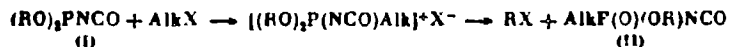
ORG: Institute of Organic Chemistry, Academy of Sciences UkrSSR
(Institut organicheskoy khimii Akademii nauk UkrSSR)

TITLE: Phosphorus isocyanates

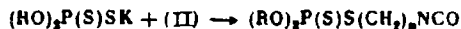
SOURCE: Zhurnal obshchey khimii, v. 39, no. 1, 1969, 214-215

TOPIC TAGS: organic isocyanate compound, phosphonic acid, aliphatic ester, phosphate ester, dithiophosphate ester, phosphonium compound

ABSTRACT: Diethyl isocyanatomethylphosphonate (I) (50% yield, bp_{0.02} 69—70°C, d₄²⁰ 1.1695, n_D²⁰ 1.4361) was prepared by allowing (EtO)₃P to react with ClCH₂NCO (II). O,O-Diethyl S-isocyanatomethyl dithiophosphate



(III) (47% yield, bp_{0.06} 77—78°C, d₄²⁰ 1.2276, n_D²⁰ 1.5170) was prepared by allowing (EtO)₂P(S)SK to react with II. Diethoxy(isocyanatomethyl)iso-

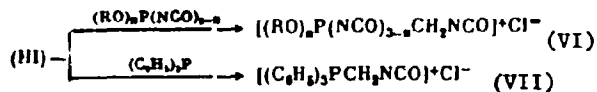


Card 1/2

UDC: 547.26'118

ACC NR: AP9006539

cyanatophosphonium chloride (IV) (85% yield, mp 114—115°C, decomp), ethoxy(isocyanatomethyl)diisocyanatophosphonium chloride (V) (80% yield, mp 122—124°C, decomp), isocyanatomethyl(trisocyanato)phosphonium chloride (VI) (50% yield, mp 154—156°C, decomp), and triphenyl(isocyanatomethyl)phosphonium chloride (VII) (74% yield, mp 156—158°C, decomp) were prepared by the reaction shown. Compounds I and III react



easily with alcohols, phenols, amines, and other compounds to form the corresponding urethans and ureas. [WA-50; CBE No. 40] [FT]

SUB CODE: 07/ SUBM DATE: 27May68

Card 2/2

ACC NR: AP9004415

SOURCE CODE: UR/0079/68/038/012/2791/2794

AUTHOR: Shokol, V. A.; Feshchenko, N. G.; Kovaleva, T. V.; Molyavko, L. I.; Kirsanov, A. V.

ORG: Institute of Organic Chemistry, Academy of Sciences UkrSSR
(Institut organicheskoy khimii Akademii nauk UkrSSR)

TITLE: Alkylation of diaryldiiodobiphosphines

SOURCE: Zhurnal obshchey khimii, v. 38, no. 12, 1968, 2791-2794

TOPIC TAGS: alkylphosphine oxide, halogenated organic compound,
aromatic phosphorus compound

ABSTRACT: A series of aryldialkylphosphine oxides was synthesized by the alkylation of diaryldiiodobiphosphines with alkyl iodides (method a):



Card 1/3

UDC: 547.241

ACC NR: AP9004415

Diaryldiiodobiphosphines are formed in the reaction of aryldichlorophosphine with LiI in ether in nitrogen atmosphere and without separation; the reaction product is treated with alkyl iodides, the solvent is removed by distillation and the mixture is heated for 4.5–8 hr at 195–200°C. After cooling, the reaction mixture is dissolved in benzene and treated with Na₂SO₃ and subsequently with 20% aqueous solution of alkali. The aryldialkylphosphine oxides are characterized

p-XC₆H₄P(O)Alk₂

x	Alk	Method of preparation, (%) yield	Mp, °C	Bp, °C
H	C ₆ H ₁₃	a 60 b 52	60–61°	169–170° (2)
H	Cyclo-C ₆ H ₁₁	a 62	158–159	—
H	C ₇ H ₁₅	a 59 b 59	40–41	201–203 (3)
H	C ₈ H ₁₇	a 68 b 70	43–44	184–185 (0.02)
H	C ₉ H ₁₉	a 58 b 71	54–56	224–228 (2)

Card 2/3

- 121 -

ACC NR: AP9004415

(Cont.)

H	3,5,5-(CH ₃) ₂ C ₇ H ₁₁	a 61		202-204 (0.08)
H	C ₁₂ H ₂₂	a 60	84-85	-
H	C ₉ H ₇ Cl ₂ CH ₂	a 54	90-91	-
CH ₃	C ₇ H ₁₁	a 61	62-63	158-160 (0.03)
CH ₃	3,5,5-(CH ₃) ₂ C ₇ H ₁₁	a 59		150-160 (0.03)
CH ₃	C ₁₀ H ₁₈	a 58	82-83	185-190 (0.08)
Cl	C ₈ H ₁₄	b 59	51-53	195-200 (0.06)
Cl	C ₇ H ₁₁	a 68		197-198 (0.05)
Cl	C ₇ H ₁₁	b 63	58-59	208-209 (2)
Cl	C ₈ H ₁₇	a 54		
Cl	C ₈ H ₁₇	b 73	69-70	224-226 (2)
Cl	C ₈ H ₁₇	a 80		
Cl	C ₈ H ₁₇	b 79	66-67	190-195 (0.63)
Cl	C ₁₀ H ₁₁	a 62		
Cl	C ₁₀ H ₁₁	b 71	78-80	-
Cl	3,5,5-(CH ₃) ₂ C ₇ H ₁₁	a 60		150-155 (0.02)



in the table. The aryldialkylphosphine oxides were also synthesized by the reaction (method b). [WA-50; CBE No. 40][PS]

SUB CODE: 07/ SUBM DATE: 11Dec67/ ORIG REF: 005/ OTH REF: 003

Card 3/3

ACC NR: AP9005787

SOURCE CODE: UR/0289/68/000/005/0104/0109

AUTHOR: Shostakovskiy, M. F.; Nakhmanovich, A. S.; Knutov, V. I.; Klochkova, L. G.

ORG: Irkutsk Institute of Organic Chemistry, Siberian Department, AN SSSR (Irkutskiy institut organicheskoy khimii Sibirskogo otdeleniya AN SSSR)

TITLE: Synthesis of substituted acetylenic alcohols and ketones of the thiophene series

SOURCE: AN SSSR. Sib otd. Izv. Ser khim n., no. 5, 1968, 104-109

TOPIC TAGS: propyne, alcohol, ketone, heterocyclic sulfur compound, thiophene derivative, biologically active compound

ABSTRACT: Substituted acetylenic alcohols and ketones of the thiophene series are of interest as polyreactive compounds which are probably biologically active. 1-(2-Thienyl)-2-propyn-1-ol (I) (66.5% yield, bp₁₂ 100°C, n_D²⁰ 1.5690) was prepared by stirring NaC≡CH and 2-thiophenylaldehyde in NH₃ and ether for 2 hr at 20°C. 1-(5-Ethyl-2-thienyl)-2-propyn-1-ol (II) (50% yield, bp₁₂ 100°C, n_D²⁰ 1.5690) and 1-(5-bromo-2-thienyl)-2-propyn-1-ol (III) (48% yield, bp, 102-104°C, d₄²⁰ 1.6845, n_D²⁰ 1.6307) were similarly prepared.

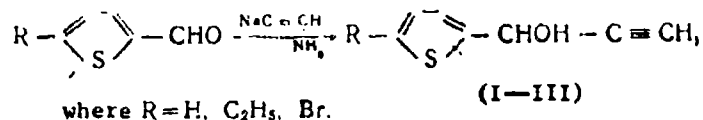
Card

1/4

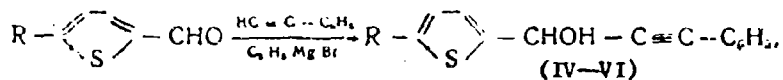
UDC: 542.9:[547.569.1'73+547.572'73]

- 122 -

ACC NR: AP9005787



1-(2-Thienyl)-3-phenyl-2-propyn-1-ol (IV) (55% yield) was obtained by adding PhC≡CH in tetrahydrofuran to EtMgBr in tetrahydrofuran at 5°C, heating on a water bath for 5-6 hr, adding 2-thiophenylaldehyde in tetrahydrofuran at 1°C, and stirring for 1 hr. 1-(5-Ethyl-2-thienyl)-3-phenyl-2-propyn-1-ol (V) and 1-(5-bromo-2-thienyl)-3-phenyl-2-propyn-1-ol (VI) were similarly prepared.

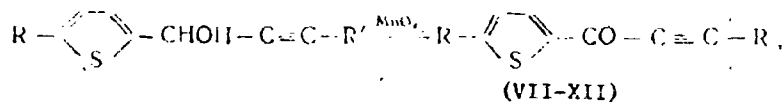


1-(2-Thienyl)-2-propyn-1-one (VII) (87% yield, mp 34°C) was prepared by adding MnO₂ to I in ether and stirring for 1 hr at 20°C in N₂.

Card 2/4

ACC NR: AP9005787

1-(5-Ethyl-2-thienyl)-2-propyn-1-one (VIII) (90% yield, mp 36°C) and 1-(5-bromo-2-thienyl)-2-propyn-1-one (IX) (85% yield, mp 42°C) were similarly prepared. The dimer (97% yield, mp 210°C) of VII was obtained by adding MnO₂ to I in HPh and stirring for 1.5-2 hr at 80°C. 1-(2-Thienyl)-3-phenyl-2-propyn-1-one (X) (75% yield, mp 54°C) was prepared by adding MnO₂ to IV in HPh and stirring for 2 hr at 80°C in N₂. 1-(5-Ethyl-2-thienyl)-3-phenyl-2-propyn-1-ol (XI) (81% yield, mp 43°C) and 1-(5-bromo-2-thienyl)-3-phenyl-2-propyn-1-ol (XII) (80% yield, mp 91°C) were similarly prepared.

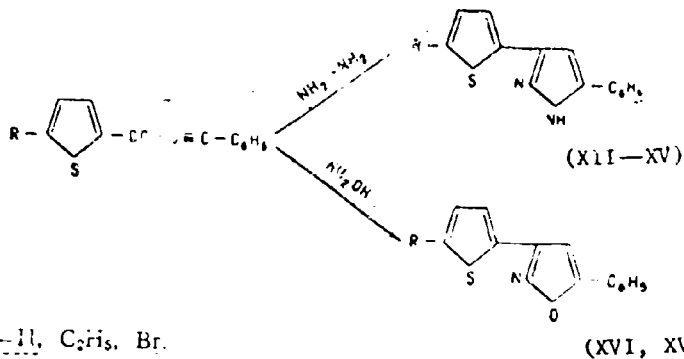


where R = H, C₂H₅, Br, R' = H, C₆H₅.

3-Phenyl-5-(2-thienyl)pyrazole (XIII) (85% yield, mp 173°C) was obtained by heating X and hydrazine sulfate in EtOH to 78°C, adding H₂O and Na₂CO₃, and heating on a water bath for 3 hr. 3-Phenyl-5-(5-ethyl-2-thienyl)pyrazole (XIV) (92% yield, mp 182°C) and 3-phenyl-5-(5-bromo-2-thienyl)pyrazole (XV) (91% yield, mp 197°C) were similarly prepared. 3-Phenyl-5-(2-thienyl)isoxazole (XVI) (80% yield, mp 97°C) was obtained by heating X and H₂NON·HCl in EtOH to 78°C, adding H₂O and Na₂CO₃, and

Card 3/4

ACC NR: AP9005787



heating on a water bath for 8 hr. 3-Phenyl-5-(5-bromo-2-thienyl)isoxazole (XVII) (82% yield, mp 122°C) was similarly prepared. Orig. art. has: 2 tables. [WA-50; CBE No. 40] [FT]

SUB CODE: 07/ SUBM DATE: 22Aug67/ ORIG REF: 003/ OTH REF: 003

Card 4/4

ACC NR: AP9006703

SOURCE CODE: UR/0409/68/000/006/1102/1104

AUTHOR: Simonov, A. M.; Anisimova, V. A.

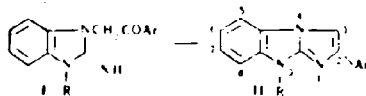
ORG: Rostov-on-the-Don State University (Rostov-na-Dony gosudarstvennyy universitet)

TITLE: Synthesis and conversions of imidazo[1,2-a]benzimidazoles. I.

SOURCE: Khimiya geterotsiklicheskikh soyedineniy, no. 6, 1968, 1102-1104

TOPIC TAGS: benzimidazole derivative, halogenated organic compound, organic imine compound

ABSTRACT: A series of new 1-alkyl-3-phenacyl-2-iminobenzimidazoles (I):



Card 1/3

UDC: 547.785+542.953

- 124 -

ACC NR: AP9006703

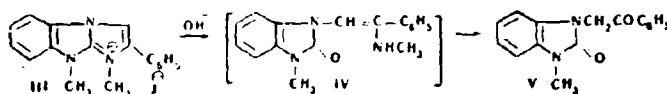
was synthesized by the reaction of 2-amino-1-methyl(or benzyl)benzimidazoles with phenacyl bromide and its bromosubstituted derivatives (shown in the table). Compounds I when boiled with POCl or concentrated HCl undergo cyclization to form compounds II which are characterized along with compounds I in the table. Treatment of compound IIa (R = CH₃,

Compound	R	Ar	mp, °C	% Yield
Ia	CH ₃	C ₆ H ₅	146°	99.0
Ib	CH ₃	p-BrC ₆ H ₄	161°	98.0
Ib HBr	CH ₃	Same	264--265°	73.0
Ic	CH ₂ C ₆ H ₅	C ₆ H ₅	170--171°	98.0
Ic HBr	CH ₂ C ₆ H ₅	Same	267--268°	73.0
IIa	CH ₃	C ₆ H ₅	120°	91.5
IIb	CH ₃	p-BrC ₆ H ₄	153°	66.0
IIc	CH ₂ C ₆ H ₅	C ₆ H ₅	147°	93.3

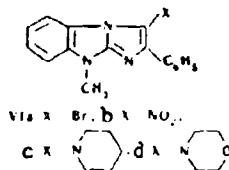
Card 2/3

ACC NR: AP9006703

Ar = C₆H₅) with methyl iodine in alcohol at boiling temperature gave (72%) compound III (melts at 234°C with decomposition), which was hydrolyzed by boiling with 50% KOH solution to form (70%) the compound V (mp 167--168°C). Bromination of IIa in chloroform yielded (98%)



compound VIA (mp 245°C). Treatment of VIA with NaNO₂, piperidine or



morpholine yielded compounds VIb (mp 205°C), VIc (mp 134--135°C), and Vid (mp 212--213°C). [WA-50; CBE No. 40][PS]

SUB CODE: 07/ SUBM DATE: 14Sep66/ ORIG REF: 003/ OTH REF: 004

Card 3/3

ACC NR: AP9004499

SOURCE CODE: UR/0063/68/013/006/0608/0623

AUTHOR: Stepanov, A. A.

ORC: none

TITLE: CW agents

SOURCE: Vsesoyuznoye khimicheskoye obshchestvo. Zhurnal, v. 13, no. 6, 1968, 608-623

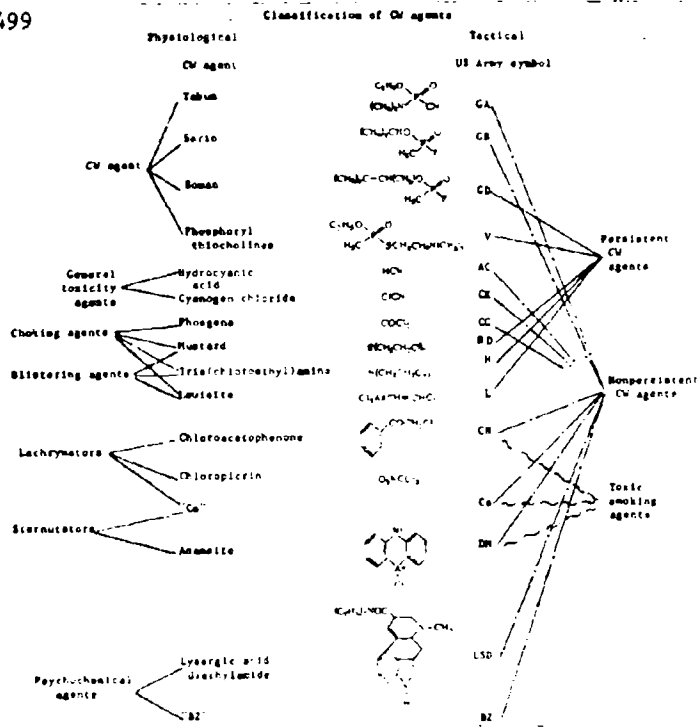
TOPIC TAGS: CW agent, V agent, cholinesterase inhibitor, mustard gas, Lewisite, hydrogen cyanide, phosgene, LSD, mescaline, atropine, glycolate, corynebacterium diphtheria, clostridium tetani, clostridium botulinum

ABSTRACT: Representative types of CW agents are discussed in a review-like article. The CW agents are placed in physiological and tactical classifications, as shown in the diagram. The following toxicity

Card 1/5

UDC: 623.445.4/.6

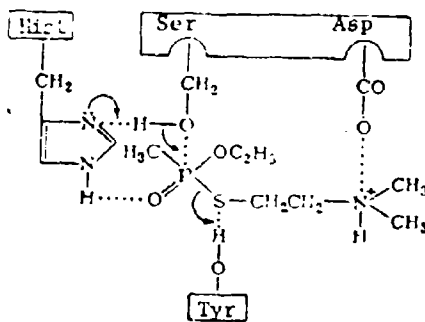
ACC NR: AP9004499



Card 2/5

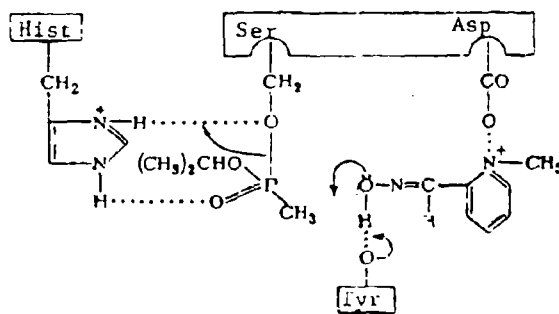
ACC NR: AP9004499

values of V agents are cited: skin toxicity, 0.1 mg/kg; inhalational toxicity (average lethal), 5-15 mg-min/m³; incapacitating toxicity, 0.5-5 mg-min/m³; and skin toxicity (lethal), 2-10 mg/man. O-Ethyl S-dimethylaminoethyl methylthiophosphonate has the following physical constants: d_4^{20} 1.07, n_D^{20} 1.478, $bp_{0.06}$ 80°C, and sparingly soluble in water. Phosphoryl thiocolines react not only with the esterase segment of the active center of acetylcholinesterase, but are also capable of preliminary "sorption" due to electrostatic forces and steric factors on the anionic segment. This significantly increases the probability of enzyme inhibition. The mechanism of cholinesterase reactivation by PAM



Card 3/5

ACC NR: AP9004499



proceeds as shown. Mustard is found in the weaponry of a number of countries because of the wide range of its toxicity, absence of therapeutic and prophylactic counteragents, cheapness, and simplicity of its technological preparation. The following agents are also discussed: nitrogen mustards, Lewisite, HCN, phosgene, chloroacetophenone, Adamsite, CS, LSD, psilocybin, mescaline, 3,4,5-trimethoxy- α -methylphenylethylamine, atropine, N-ethyl-3-piperidyl phenylcyclopentylglycolate, N-methyl-4-piperidyl benzylate, 1,4-dipyrrolidine-2-butyne, bis(2-cyanoethyl)amine, BZ, tetrodotoxin (LD_{min} 0.008 mg/kg), tarichatoxin (LD_{min} 0.008 mg/kg), *Campylobacterium diphtheriae*

Card 4/5

ACC NR: AP9004499

(LD_{min} 0.0003 mg/kg), cobra neurotoxin (LD_{min} 0.0003 mg/kg), *Clostridium tetani* (LD_{min} 0.0000001 mg/kg) and *Clostridium botulinum* (LD_{min} 0.00000003 mg/kg). Interest in the study of naturally occurring toxic substances is also motivated by the possibility of synthesizing simpler, highly toxic structural analogs. Orig. art. has: 9 tables. [WA-50; CBE No. 40][FT]

SUB CODE: 06, 07, 15/ SUBM DATE: none/ ORIG REF: 011/ OTH REF: 040

Card 5/5

ACC NR: AP9006351

SOURCE CODE: CZ/9014/68/022/011/0844/0850

AUTHOR: Stresinka, J. -- Strzheshinka, Y.; Macho, V. -- Makho, V.; Mistrík, E. J. -- Mistrík, E. Yu.

ORG: Research Institute of Petrochemistry, Novaky (Vyskumny ustav pre petrochemiu)

TITLE: Hydroformylation of 2,4-dichlorophenyl allyl ether. Preparation of γ -(2,4-dichlorophenoxy)butyric and γ -phenoxybutyric acids

SOURCE: Chemické zvesti, v. 22, no. 11, 1968, 844-850

TOPIC TAGS: weed killer, herbicide, carboxylic acid, phenol derivative, chlorine compound

ABSTRACT: γ -(2,4-Dichlorophenoxy)butyric acid (I) is used as a selective herbicide. 2,4-Dichlorophenyl allyl ether (II) (80.8% yield, bp₈ 121.6°C, d₄²⁰ 1.2602, n_D²⁰ 1.5536) was prepared by heating 2,4-dichlorophenol and allyl chloride in acetone and 50% NaOH at 55°C for 15 hr. Hydroformylation of II in the presence of 0.2 wt % Co (in the form of dicobalt octacarbonyl) at 140°C for 30 min yielded 69.7% C₁₀ aldehydes in the oxoproduct. Toluene may be used as a solvent in the hydroformylation. Compound I (92.5% yield) was

Card 1/2

- 128 -

ACC NR: AP9006351

obtained by oxidizing the oxoproduct of II with Ag_2O at 60°C for 180 min. γ -Phenoxybutyric acid (III) (90% yield) was similarly prepared. Compound I was also obtained by chlorinating III in $\text{Cl}_2\text{HCCHCl}_2$ in the presence of 0.6 wt % iodine at $40-65^\circ\text{C}$. The biological activity of I was studied on tomato plots. The I which was obtained by hydroformylation was just as herbicidally active as that which was obtained by the known reaction of K phenoxide and K dichlorophenoxide with γ -butyrolactone. Orig. art. has: 1 table. [WA-50; CBE No. 40][FT]

SUB CODE: 02, 07/ SUBM DATE: 15Jun67/ ORIG REF: 009/ OTH REF: 007

Card 2/2

ACC NR: AP9006700

SOURCE CODE: UR/0409/68/000/006/1093/1096

AUTHOR: Tsukerman, S. V.; Lavrushin, V. F.; Nikitchenko, V. M.; Maslennikova, V. P.; Bondarenko, V. Ye.

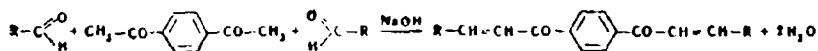
ORG: Khar'kov State University im. A. M. Gor'kiy (Khar'kovskiy gosudarstvennyy universitet)

TITLE: Synthesis of unsaturated diketones and derivatives of Δ^2 -pyrazoline from 1,4-diacetylbenzene

SOURCE: Khimiya geterotsiklicheskih soyedineniy, no. 6, 1968, 1093-1096

TOPIC TAGS: ketone, benzene derivative, organic azole compound, pyrazole derivative

ABSTRACT: p-Dichalcones are of interest as potential physiologically active substances and as intermediates in organic synthesis. p-Bis(benzylideneacetyl)benzene (1) was prepared by adding 20% NaOH to p-diacetylbenzene and PhCHO in CH_3OH and allowing the mixture to stand

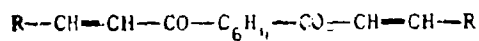


UDC: 547.722.1'778.2.07:
542.953.2:543.422.4.6

Card 1/4

ACC NR: AP9006700

Table 1



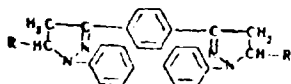
No.	R	Mp, °C	% Yield
I	Phenyl	214	95
II	4-Tolyl	241	96
III	4-Methoxyphenyl	212	98
IV	4-Dimethylaminophenyl	216.5	66
V	4-Fluorophenyl	250.5	98
VI	4-Chlorophenyl	275	87
VII	4-Bromophenyl	277	96
VIII	4-Nitrophenyl	315	80
IX	4-Diphenyl	266	94
X	2-Furyl	241	96
XI	2-Thienyl	205.5	95
XII	2-Selenienyl	213	93
XIII	2-Quinolyl	246.5	96

Card 2/4

ACC NR: AP9006700

for 1 day. Compounds II—XIII were similarly prepared. 1,4-Bis(1,5-diphenyl- Δ^2 -pyrazolin-3-yl)benzene (XIV) was prepared by refluxing I in

Table 2



No.	R	Mp, °C	% Yield
XIV	Phenyl	265	77
XV	4-Tolyl	274	75
XVI	4-Methoxyphenyl	264	92
XVII	4-Fluorophenyl	253	91
XVIII	4-Chlorophenyl	273	83
XIX	4-Bromophenyl	267	56
XX	4-Diphenyl	285	87
XXI	2-Furyl	244	78
XXII	2-Thienyl	235	96
XXIII	2-Selenienyl	245	81

Card 3/4

ACC NR. AP9006700

HOAc with $\text{PhNHNH}_2 \cdot \text{HCl}$ in EtOH for 3 hr. Compounds XV—XXIII were similarly prepared. Orig. art. has: 2 tables and 1 figure.
[WA-50; CBE No. 40][FT]

SUB CODE: 07/ SUBM DATE: 04Jul66/ ORIG REF: 008/ OTH REF: 007

Card 4/4

ACC NR: AP9006684

SOURCE CODE: UR/0409/68/000/006/0991/0996

AUTHOR: Unkovskiy, B. V.; Ignatova, L. A.; Donskaya, M. M.; Andreyev, L. V.; Khoroshilova, L. L.

ORG: Moscow Institute of Fine Chemical Technology im. M. V. Lomonosov (Moskovskiy institut tonkoy khimicheskoy tekhnologii)

TITLE: Structure and cyclic-acyclic tautomerism of oxoalkyl dithiocarbamates and 4-hydroxytetrahydro-1,3-thiazine-2-thiones

SOURCE: Khimiya geterotsiklicheskih soedineniy, no. 6, 1968, 991-996

TOPIC TAGS: tautomerism, alkyl carbamate, dithiocarbamate, organic azine compound, heterocyclic sulfur compound, thiazine derivative

ABSTRACT: Substituted oxoalkylthioureas, 4-hydroxyhexahydro-2-pyrimidinethiones, and tetrahydro-2-pyrimidinethiones are effective accelerators of rubber vulcanization. Sulfur-containing structural analogs of these compounds were studied to explain the relation between the activity of vulcanization accelerators and their chemical structure. 2-Methyl-3-oxo-1-butyl dithiocarbamate (IIa) (56.9% yield, mp 102—103.5°C) was prepared by adding 40% $\text{H}_4\text{NSC(S)NH}_2$ to

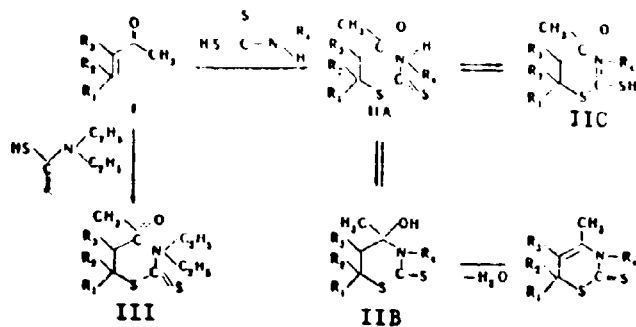
Card 1/3

UDC: 547.869.1:549.422.4+541.023

- 131 -

ACC NR: AP9006684

$\text{H}_2\text{C}:\text{C}(\text{CH}_3)\text{C}(\text{O})\text{CH}_3$ (Ia) and HCl for 50 min at 15°C , stirring at $55\text{--}60^\circ\text{C}$ for 1 hr, cooling, separating the dark oil, and allowing the mixture to stand for 24 hr at 0°C . 4,5-Dimethyldihydro-1,3-thiazine-2-thione (84% yield, mp $111\text{--}112^\circ\text{C}$) was obtained by heating IIA and Ac_2O with 1 drop of H_2SO_4 at 60°C for 2 hr and adding ice water. 2-Methyl-3-oxo-1-butyl N-methyldithiocarbamate (IIb) (56% yield, mp $34\text{--}35^\circ\text{C}$) was prepared by adding $\text{NaSC}(\text{S})\text{NHCH}_3$, EtOH, and HCl to Ia at 0°C for 20 min,



III
 Ia: $\text{R}_1 = \text{R}_2 = \text{H}$; $\text{R}_3 = \text{CH}_3$; Ib: $\text{R}_1 = \text{R}_2 = \text{CH}_3$; $\text{R}_3 = \text{H}$.
 IIA: $\text{R}_1 = \text{R}_2 = \text{R}_3 = \text{H}$; $\text{R}_4 = \text{CH}_3$; IIB: $\text{R}_1 = \text{R}_2 = \text{H}$; $\text{R}_3 = \text{R}_4 = \text{CH}_3$; IIC: $\text{R}_1 = \text{R}_2 = \text{H}$; $\text{R}_3 = \text{CH}_3$; $\text{R}_4 = \text{C}_2\text{H}_5$; IID: $\text{R}_1 = \text{R}_2 = \text{H}$; $\text{R}_3 = \text{CH}_3$; $\text{R}_4 = \text{H}-\text{C}_2\text{H}_5$; IIE: $\text{R}_1 = \text{R}_2 = \text{H}$; $\text{R}_3 = \text{CH}_3$; $\text{R}_4 = \text{H}-\text{C}_3\text{H}_7$; IIF: $\text{R}_1 = \text{R}_2 = \text{R}_3 = \text{CH}_3$; $\text{R}_4 = \text{H}$; IIG: $\text{R}_1 = \text{R}_2 = \text{CH}_3$; $\text{R}_3 = \text{R}_4 = \text{H}$.
 III: $\text{R}_1 = \text{R}_2 = \text{H}$; $\text{R}_3 = \text{CH}_3$.

Card 2/3

ACC NR: AP9006684

and stirring for 3 hr at 20°C . 2-Methyl-3-oxo-1-butyl N-ethylthiocarbamate (IIC) (47% yield, mp $50\text{--}51.5^\circ\text{C}$) was obtained by stirring $\text{NaSC}(\text{S})\text{NHET}$, Ia, and HCl for 3 hr at 80°C . 2-Methyl-3-oxo-1-butyl N-propylthiocarbamate (IID) (46.5% yield, mp $29\text{--}30.5^\circ\text{C}$) and 2-methyl-3-oxo-1-butyl N-isobutylthiocarbamate (IIE) (50% yield, $n_D^{20} 1.5498$, $d_4^{20} 1.084$) were similarly prepared. Compounds IIF and IIG were prepared by a known procedure. 2-Methyl-3-oxo-1-butyl N-diethylthiocarbamate (III) (32.2% yield, $n_D^{20} 1.5440$, $d_4^{20} 1.105$) was prepared by adding 40% $\text{NaSC}(\text{S})\text{NEt}_2$ to Ia and HCl at 15°C and stirring for 2 hr at 50°C . In the crystalline state, IIA—IIG have either acyclic (IIA, IIC) or cyclic (IIB) structures. 4-Hydroxytetrahydro-1,3-thiazine-2-thiones (III) display prototropic cyclic-acyclic tautomerism in solutions. Orig. art. has: 2 figures. [WA-50; CBE No. 40][FT]

SUB CODE: 07/ SUBM DATE: 07May66/ ORIG REF: 005/ OTH REF: 005

Card 3/3

ACC NR: AP9004501

SOURCE CODE: UR/0063/68/013/006/0655/0666

AUTHOR: Vladimirov, O. V.

ORG: none

TITLE: Detection of CW agents

SOURCE: Vsesoyuznoye khimicheskoye obshchestvo. Zhurnal, v. 13, no. 6, 1968, 655-666

TOPIC TAGS: CW detection, detection system, colorimetric analysis, chemiluminescence, isotope exchange, spectrometry, cholinesterase, mustard gas, arsenic gas, hydrogen cyanide

ABSTRACT: This article appears in General Section

Card 1/1

UDC: 543-4+623.459.44

ACC NR: AP9006511

SOURCE CODE: UR/0062/69/000/001/0172/0172

AUTHOR: Yarmukhametova, D. Kh.; Kudryavtsev, B. V.

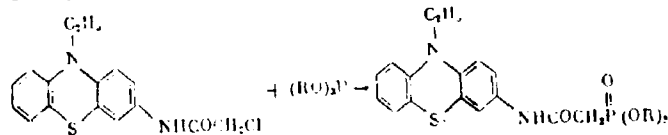
ORG: Institute of Organic and Physical Chemistry im. A. Ye. Arbutov, Academy of Sciences SSSR (Institut organicheskoy i fizicheskoy khimii Akademii nauk SSSR)

TITLE: 3-Dialkylphosphonacetylamido-10-ethylphenothiazines

SOURCE: AN SSSR. Izv. Ser khim, no. 1, 1969, 172

TOPIC TAGS: heterocyclic sulfur compound, organic azine compound, phosphorus compound, physiologically active compound

ABSTRACT: The title compounds were synthesized to find new physiologically active organophosphorus derivatives of phenothiazine. 3-Chloroacetylamido-10-ethylphenothiazine (I) (72 % yield, mp 153-154°C) was prepared by a known procedure. 3-Dipropylphosphonacetylamido-10-ethylphenothiazine (IV) was obtained by heating I and $(\text{PrO})_3\text{P}$ at 150°C for



Card 1/2

UDC: 542.91+661.718.1

ACC NR: AP9006511

Table 1. Phenothiazines

No.	R	Mp, °C	% Yield
II	H	126-128	12
III	C ₂ H ₅	123-124	90
IV	C ₃ H ₇	131-135	84
V	t-C ₄ H ₉	131-131	78
VI	CC ₂ H ₅	143-144	89
VII	i-C ₄ H ₉	95-96	83

5 hr. Compounds II, III, and V--VII were similarly prepared. Orig. art. has: 1 table. [WA-50; CBE No. 40] [FI]

SUB CCE: 07/ SUBM DATE: 15Jul68/ ORIG REF: 001

Card 2/2

ACC NR: AP9006510

SOURCE CODE: UR/0062/69/000/001/0170/0171

AUTHOR: Yarmukhametova, D. Kh.; Kudryavtsev, B. V.; Yermakova, V. D.

ORG: Institute of Organic and Physical Chemistry im. A. Ye. Arbusov, Academy of Sciences SSSR (Institut organicheskoy i fizicheskoy khimii Akademii nauk SSSR)

TITLE: 10-[N-(Dialkylphosphono and thiophosphono)glycyl]phenothiazines

SOURCE: AN SSSR. Izv. Ser khim, no. 1, 1969, 170-171

TOPIC TAGS: organic azine compound, heterocyclic sulfur compound, aliphatic phosphorus compound

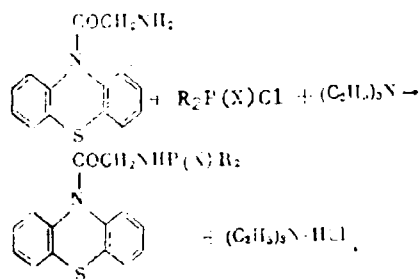
ABSTRACT: Phenothiazine derivatives are widely used in medicine. 10-Diethylphosphonoacetylphenothiazine displays high anthelmintic activity. The title compounds were synthesized to study their larvicidal activity. 10-[N-(Diethylphosphono)glycyl]phenothiazine (I) (54% yield, mp 129-130°C) was prepared by adding (EtO)₂P(O)Cl to 10-glycylphenothiazine and Et₃N in HPh and stirring for 2 hr at 80°C.

Card 1/3

UDC: 542.91+661.718.1

- 134 -

ACC NR: AP9006510

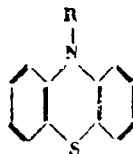


X = O, S,
R = CH₃O, C₂H₅O, C₃H₇O, t-C₄H₉O, C₆H₅O, t-C₆H₁₃O, N(CH₃)₂.

Card 2/3

ACC NR: AP9006510

Table 1



No.	R	Mp, °C	% Yield
I		120-130	54
II	COCH ₂ NHP(O)(OC ₂ H ₅) ₂	130-138	14
III	COCH ₂ NHP(O)(OC ₃ H ₇) ₂	100-101	25.7
IV	COCH ₂ NHP(O)(OC ₃ H ₇ -O) ₂	113-113.5	71.5
V	COCH ₂ NHP(O)(OC ₂ H ₅) ₂	83-83.5	48
VI	COCH ₂ NHP(O)(OC ₂ H ₅) ₂	110-111	68
VII	COCH ₂ NHP(S)(OC ₂ H ₅) ₂	96	32
VIII	COCH ₂ NHP(O)(N(CH ₃) ₂) ₂	173	30

Compounds II—VIII were similarly prepared. The larvicidal activity of I—VIII is equal to that of phenothiazine, but is half that of 10-diethylphosphonoacetylphenothiazine. Orig. art. has: 1 table.

[WA-50; CBE No. 40][FT]

SUB CODE: 06,07/ SUBM DATE: 15Jul68/ ORIG REF: 005

Card 3/3

ACC NR: AP9004406

SOURCE CODE: UR/0079/68/038/012/2700/2706

AUTHOR: Zhil'tsov, S. F.; Petukhov, G. G.; Kudryavtsev, L. F.;
Druzhkov, O. N.; Shubenko, M. A.

ORG: Gor'kiy State University (Gor'kovskiy gosudarstvennyy universitet)

TITLE: Reactions of alkyl organomercury compounds with carbon tetra-
chloride and chloroform

SOURCE: Zhurnal obshchey khimii, v. 38, no. 12, 1968, 2700-2706

TOPIC TAGS: organomercury compound, chlorination

ABSTRACT: A study was made of the photoreactions and thermal reactions of Pr_2Hg and $(\text{iso-Pr})_2\text{Hg}$ with CCl_4 and CHCl_3 in the presence and absence of O_2 and $(\text{tert-Bu})_2\text{O}_2$. In the reactions which were conducted in the absence of O_2 , Pr_2Hg underwent complete dealkylation with the liberation of Hg. In the presence of O_2 , Pr_2Hg was dealkylated to PrHgCl and HgCl . $(\text{Iso-Pr})\text{Hg}$ was dealkylated to iso-PrHgCl and HgCl in all the reactions. The title reactions proceed by a free-radical mechanism. Orig. art. has: 4 tables. [WA-50; CBE No. 40][FT]

SUB CODE: 07/ SUBM DATE: 25Sep67/ ORIG REF: 006/ OTH REF: 001

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UDC: 547.254.9+547.222

ACCESSION NUMBERS FOR CHEMICAL FACTORS

AP9006442
AP9006443
AP9006444
AP9006445
AP9006446
AP9007034
AP9007035
AP9007036
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AP9007038
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AP9009265
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AP9009270
AP9009271

II. BIOLOGICAL FACTORS

ACC NR: AP9006729

SOURCE CODE: UR/0392/68/000/006/0084/0085

AUTHOR: Abdrakhmanov, M. I. (Kazan'); Bogoyavlenskiy, V. F.
(Kazan')

ORG: none

TITLE: New equipment for functional analysis of external and
internal respiration

SOURCE: Kazanskiy meditsinskiy zhurnal, no. 6, 1968, 84-85

TOPIC TAGS: respiratory physiology, medical equipment, medical
laboratory instrument

ABSTRACT: Brief descriptions are given of eight new devices for
analyzing gas metabolism which were introduced recently by the
Kazan Special Construction Technological Office. (1) The A2IV-
1 device was designed to measure 8 parameters reflecting the acid-
base equilibrium in the body. (2) A medical pH meter was designed
for express analysis of the blood pH and pCO₂ using 0.05 ml of
blood. (3) The GUKh-2 chemical CO₂ analyzer is a revised model
of the GUKh-1 and may be used for large-scale examination of ath-
letes, and in ambulatory and hospital practice. (4) The GUM-3

Card 1/2

ACC NR: AP9006729

low-inertia CO₂ analyzer works on the principle of measuring the
absorption of radiant energy by gases in the infrared area of
the spectrum. (5) The MMG-7 portable magnetic mechanical O₂
analyzer operates on the principle of measuring the magnetic
properties of O₂. (6) The PGI-2 apparatus was designed for an-
alyzing CO₂ according to heat conduction, and O₂ according to
thermomagnetic effect. (7) The ERG-1 ergometer is capable of
measuring from 30 to 2100 kilogram meters of work/min. (8) The
RChP-1 portable frequency respirator shown at the International
Exhibition in Montreal, is a first-aid device for administering
artificial respiration with passive expiration. [WA-50; CBE No. 40] [XF]

SUB CODE: 06/ SUBM DATE: none

Card 2/2

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ACC NR: AP9002988

SOURCE CODE: UR 0402/68/000/006/0732/0733

AUTHOR: Abenova, U. A.; Molibog, Ye. V.; Corbunova, A. S.

ORG: Institute of Virology Im. D. I. Ivanovskiy AMN SSSR, Moscow
(Institut virusologii AMN SSSR)

TITLE: The elution and neuraminidase activity of inhibitor-resistant strains of influenza A2 virus

SOURCE: Voprosy virusologii, no. 6, 1968, 732-733

TOPIC TAGS: influenza virus, enzymatic activity

ABSTRACT: Comparisons of the neuraminidase and elution activities of both the initial strains of influenza A2 viruses and APR8 and strains passaged on chick embryos in a mixture with horse serum showed that there was no correlation between the two indices. No stability of elution or neuraminidase activity was noted in 5 out of 7 inhibitor-resistant strains of influenza virus A2 (Moskva 58/65, Moskva 16/65, Krasnodar 101/59 and Smolensk 72/66). Both types of activity remained at low levels in two strains, A2 (Vladivostok) 25/67 and A2 (Moskva) 21/65. Although elution of the virus is caused by the presence of

Card 1/2

UDC: 576.858.75.098

ACC NR: AP9002988

neuraminidase in the virus, no direct connection between neuraminidase activity and the rate of elution of virus could be established.

Orig. art. has: 1 figure.

[WA-50; CBE No. 40][JS]

SUB CODE: 06/ SUBM DATE: 20Nov67

Card 2/2

ACC NR: AP803409

SOURCE CODE: UR/0325/68/000/009/0094/0098

AUTHOR: Agarkov, V. A.; Baydala, N. I.

ORG: none

TITLE: The relationship between pale-green wheat dwarf virus and its carrier

SOURCE: Nauchnyye doklady vysshey shkoly. Biologicheskiye nauki, no. 9, 1968, 94-98

TOPIC TAGS: plant virus, animal vector research

ABSTRACT: Transovarian transmission of wheat dwarf virus (pale-green wheat dwarf virus) in the cicada carrier *Psarmotettix alienus* was not observed. Infection of II-III instar larvae with a virus isolate produced the maximum number of infected specimens (80%). Infection of imagoes 1-2 days after unfolding of wings gave only 61.8% infected specimens. For infection, 1-2 days of feeding of the cicada on a sick plant were sufficient. The minimum latent period of pale-green wheat dwarf virus in the carrier was 13 days and the maximum latent period—21 days. A single line of female cicadas was used for these tests. The article was recommended by the Chernigov Department of

Card 1/2

UDC: 632.38:633.11

ACC NR: AP8034059

Agricultural Microbiology, Virology, and Immunology, Ukrainian Scientific Research Institute of Agriculture (Chernigovskiy otdel sel'skokhozyaystvennoy mikrobiologii, virusologii i immunologii Ukrainskogo nauchno-issledovatel'skogo instituta zemledeliya). Orig. art. has: 1 table. [WA-50; CBE No. 40] [JS]

SUB CODE: 06/ SUBM DATE: 10Oct67/ ORIG REF: 004/ OTH REF: 001

Card 2/2

ACC NR: AP9004529

SOURCE CODE: UR/0358/68/037/006/0657/0660

AUTHOR: Akinshina, G. T. (Member of natural focus section)

ORG: Laboratory of Toxoplasmosis, Department of Diseases of Natural Foci, Institute of Epidemiology and Microbiology im. N. F. Gamaley AMN SSSR, Moscow (Laboratoriya toksoplazmoza ot dela prirodnoochagovykh bolezney Instituta epidemiologii i mikrobiologii AMN SSSR)

TITLE: Data on a study of the mutagenicity of *Toxoplasma*. I. Study of the structure of the population of an old laboratory strain and some spontaneous mutants isolated from it

SOURCE: Meditsinskaya parazitologiya i parazitarnyye bolezni, v. 37, no. 6, 1968, 657-660 and insert facing p. 672

TOPIC TAGS: Protozoa, microorganism mutation, *Toxoplasma*

ABSTRACT: The structure of the population of the highly virulent RH strain of *Toxoplasma* was studied in white mice and in tissue culture. The number and viability of the *Toxoplasma* were determined by direct computation in the phase contrast microscope and by titration in tissue culture according to cytopathogenic action. The stability of the apathogenicity index for mice and homogeneity of the population

Cord 1/2

UDC: 576.893.19.095.5

ACC NR: AP9004529

of the clones were determined by passage in chick embryo fibroblast cultures and subsequent infection of mice with culture fluid from each passage, by intraperitoneal passage in mice, and by titration using the plaque method for determining the homogeneity of the clones according to plaque dimensions and the nature of their edges. A study of the cytopathic effect of *Toxoplasma* and their isolation was made on Romanov—Giemsa stained preparations. There was homogeneity in the size of plaques and patterns of the edges in 487 isolated clones. However, 7 of the 487 clones differed from the other clones of the population by demonstrating low virulence for white mice by the intraperitoneal route and by a reduction in the degree of invasiveness, rhythm of reproduction and character of the cytopathogenic effect in chick embryo fibroblast cultures. Orig. art. has: 1 table.

[WA-50; CBE No. 40][XF]

SUB CODE: 06/ SUBM DATE: 23Oct67/ ORIG REF: 002/ OTH REF: 003

Cord 2/2

- 141 -

AUTHOR: Alekhin, V. A.

ORG: Saratov Agricultural Institute (Saratovskiy sel'skokhozyaystvennyy institut)

TITLE: Development of injurious entofauna of sugar beet during irrigation in the southeastern European part of the USSR

SOURCE: Entomologicheskoye obozreniye, v. 47, no. 4, 1965, 731-740

TOPIC TAGS: plant parasite, insect, vegetable crop

ABSTRACT: Young beet crops were examined for the presence of pests in four sovkhoses and kholkozoes in Engels rayon of Saratov oblast between 1962 and 1967. The climate in this area is continental, with severe winters and hot summers; the hot climate frequently causes dryness of the soil with a shortage of water supply. During these periods, the insects subsist on plant foliage; in especially unfavorable conditions, many migrate to cultured plants. In these conditions, beet crops are the most attractive for many pests. The species

Card 1/6

UDC: 591.553:595.7:633.63(471.44)

ACC NR: AP9002853

Table 1. Species structure of sugar beet pests

Name of pest	Number of pests	Duration of damage	Extent of damage
Coleoptera			
1. <i>Chaetocnema breviscula</i> Fald.	+++	+++	+++
2. <i>Ch. concinna</i> Marsh.	++	++	++
3. <i>Ch. tibialis</i> Ill.	+	+	+
4. <i>Phyllotreta atra</i> F.	+++	++	+
5. <i>Ph. undulata</i> Kutsch.	++	+	+
6. <i>Ph. nigripes</i> F.	++	+	+
7. <i>Ph. vittata</i> F.	+	+	+
8. <i>Ph. nemorum</i> L.	++	++	+
9. <i>Ph. vittula</i> Redt.	+++	++	+
10. <i>Cassida nebulosa</i> L.	++	+	+
11. <i>C. nobilis</i> L.	++	++	+
12. <i>Atomaria linearis</i> Stepi.	+++	++	++
13. <i>Lixus subtilis</i> Sturm.	+++	+	+++
14. <i>L. incanescens</i> Boh.	++	+	++
15. <i>L. flavescens</i> Boh.	++	+	++
16. <i>Bothynoderes punctiventris</i> Germ.	++	+	++
17. <i>B. foveicollis</i> Gebh.	++	++	+++
18. <i>Tanymericus palliatus</i> F.	+++	++	+++
19. <i>Psaltidium maxillosum</i> F.	+++	++	+++
20. <i>Chromoderus fasciatus</i> Mull.	++	++	+++
21. <i>Ch. declivis</i> Ol.	+	+	++
22. <i>Cleonus tigrinus</i> Panz.	+	++	++

Card 2/6

Table 1. (Cont.)

23	<i>C. p. Scop.</i>	+	++	+++
24	<i>B. scabripes</i> Germ.	+	++	+++
25	<i>P. laticornis</i> Boh.	+	++	+++
26	<i>Quadrachnus coarctatus</i> Germ.	+	++	+++
27	<i>D. agilis</i> L.	+	++	+++
28	<i>Nitidulidius l.</i>	+	++	+++
29	<i>S. crenatus</i> Hbst.	++	++	+++
30	<i>S. lineatus</i> Boiss.	++	++	+++
31	<i>Opatrum subvini</i> L.	+++	++	+++
32	<i>P. laticornis</i> L.	++	++	+++
33	<i>Gonocoryptus pusillum</i> F.	+++	++	+++
34	<i>B. scabripes</i> Fitch.	+	++	+++
35	<i>B. scabripes</i> Marsh.	+	++	+++
36	<i>Selatosaurus latus</i> F.	+	+++	+++
37	<i>Agrotis gurgistanus</i> Fall.	+	+++	+++
38	<i>A. spurius</i> L.	+	+++	+++
39	<i>Amphimallon subvini</i> L.	+	+++	+++
40	<i>Rhizotrogus nequ Coastalis</i> Hbst.	+	+++	+++
41	<i>Rh. verna</i> Germ.	+	+++	+++
Diptera				
42	<i>Pegomya agrostalis</i> Panz.	+++	+++	+++
43	<i>Chorophila ciliatula</i> Rd.	+++	+++	+++
44	<i>Tipula p. oleracea</i> L.	+++	+++	+
Hemiptera				
45	<i>Porosteptus cognatus</i> Fieb.	+++	+	+++
46	<i>P. vateratus</i> Panz.	+++	+	+++
47	<i>Lygus pratensis</i> L.	++	+++	+++
48	<i>Oriocoris flavescens</i> J. Schlb.	+	+	+++

Card 3/6

Table 1. (Cont.)

49	<i>Asterocoris ornatus</i> Fieb.	+	++	+++
50	<i>Piesma quadrata</i> Fieb.	+	+++	+++
51	<i>A. laticornis</i> Goeze.	+	++	+++
52	<i>Eurygaster ornata</i> L.	++	+	++
53	<i>E. oleracea</i> L.	++	+	+
Hemiptera				
54	<i>Mastotermes termitis</i> Rib.	++	+	++
55	<i>Diuraphis caudata</i> L.	++	+	++
56	<i>Euphorbia asopunctata</i> Goeze.	++	+	++
57	<i>Euphorbia flavescens</i> F.	++	+	++
58	<i>Limothrips striata</i> Fall.	++	+	++
59	<i>Olethreus leporinus</i> L.	++	+	++
60	<i>Aphis fabae</i> Scop.	++	+	++
61	<i>A. gossypii</i> Ghes.	++	+	++
62	<i>Pempigus jas. cornis</i> Koch.	+++	+	+++
Lepidoptera				
63	<i>Agrotis ag. rana</i> Schiff.	++	+	+++
64	<i>A. exclamationis</i> L.	++	+	+++
65	<i>A. populi</i> Rott.	++	+	+++
66	<i>A. testacealis</i> Rott.	++	+	+++
67	<i>Isophanes erigula</i> Hb.	++	+	+++
68	<i>Heliothis virescens</i> Mn.	++	+	+++
69	<i>Autographa gamma</i> L.	++	+	+++
70	<i>Mamestra brassicae</i> L.	+++	+	+++
71	<i>Scotogramma trifoli</i> Rott.	++	+	+++
72	<i>Pala. dissimilis</i> Koch.	++	+	+++

Card 4/6

Table 1. (Cont.)

73. <i>P. oleracea</i> L.	++	+	++
74. <i>Graphiphora c-nigrum</i> L.	++	+	++
75. <i>Loxostege sticticalis</i> L.	+++	+++	+++
*76. <i>Pyrausta cardui</i> L.	++	+	++
77. <i>Euxoa tritici</i> L.	++	+	++
Orthoptera			
78. <i>Calliptamus italicus</i> Z.	++	+	++
79. <i>Grylotalpa grylotalpa</i> L.	+	+++	++

Table 1 — Symbol Explanation

Number of pests: +++ — high; ++ — low; + — only single specimens

Duration of damage: +++ — insect harmful from sprouting to harvesting; ++ — insect harmful from sprouting to phases 3—5 of leaves; + — insect harmful from phases 3—5 of leaves until harvesting.

Extent of damage: +++ — damage economically significant; ++ — damage not economically significant; + — damage not ascertained.

* — indicates pest first noted by the author in beet crops in the southeast.

Card 5/6

ACC NR: AP9002853

structure and population density of the sugar beet pests are shown in the table. Orig. art. has: 7 tables and 2 figures.

[WA-50; CBE No. 40] [XF]

SUB CODE: 06/ SUBM DATE: none/ ORIG REF: 022

Card 6/6

ACC NR: AP8034807

SOURCE CODE: UR/0219/68/066/010/0046/0048

AUTHOR: Anina, I. A.

ORG: Kiev Scientific Research Institute of Industrial Hygiene and Occupational Diseases (Kiyevskiy nauchno-issledovatel'skiy institut gigiyeny truda i profsabolevaniy)

TITLE: The effect of carbamate insecticides on nucleic acid metabolism in the liver and spleen of rats

SOURCE: Byulleten' eksperimental'noy biologii i meditsiny, v. 66, no. 10, 1967, 46-48

TOPIC TAGS: carbamate, insecticide damage, nucleic acid metabolism

ABSTRACT: A single introduction of a maximum permissible dose of the carbamate insecticides sevin and karbin (4-chlorobut-2-ynyl N-m-chloro-phenylcarbamate), the thiocarbamate diptal and TMTD [bis(dimethyl-thiocarbamoyl disulfide)] into white rats increased the activity of ribonuclease and deoxyribonuclease in the liver and spleen. The amount of RNA and DNA in the liver either increased or remained unchanged. The content of nucleic acids in the spleen in most cases

UDC: 615.285.7:632.95:547.495.1]
.014.42:[612.35+612.411].015.348

Card 1/2

ACC NR: AP8034807

tended to decrease. Sevin and TMTD caused the greatest increase in DNA in the liver. It is possible that the carbamates disrupt nucleic acid metabolism, which is compensated by increase in nucleic acid synthesis in the spleen and liver. The paper was presented by Active Member AMN SSSR L. M. Shabad. Orig. art. has: 2 tables.

[WA-50; CBE No. 40][JS]

SUB CODE: 06/ SUBM DATE: 19Jun67/ ORIG REF: 003/ OTH REF: 003

Card 2/2

ACC NR: AP8034102

SOURCE CODE: UR/0358/68/037/005/0595/0604

AUTHOR: Anufriyeva, V. N.

ORG: Department of Insect Biology and Ecology, Institute of Medical Parasitology and Tropical Medicine im. Ye. I. Martynovskiy, Ministry of Public Health SSSR, Moscow (Otdeleniye biologii i ekologii nasekomykh Instituta meditsinskoy parazitologii i tropicheskoy meditsiny Ministerstva zdravookhraneniya SSSR)

TITLE: The possible role of blood-sucking mosquitoes in the spread of arbovirus infections in the Lake Zaysan region

SOURCE: Meditsinskaya parazitologiya i parazitarnyye bolezni, v. 37, no. 5, 1968, 595-604

TOPIC TAGS: arbovirus, mosquito, animal vector research

ABSTRACT: Study of the biology of mosquitoes around Lake Zaysan in Kazakh SSR showed that in the spring, wintering-over females of *A. hyrcanus* and *C. modestus* are of epidemiological value. These mosquitoes have completed two egg-laying cycles. In spring and fall, besides the two species mentioned above, *Ae. caspius*, *Ae. vexans*, *Ae. flavescens*, and *M. richiardii* help transmit arboviruses. In the

Card 1/3

UDC: 616.988.25-022.39:595.771(574.4)

ACC NR: AP8034102

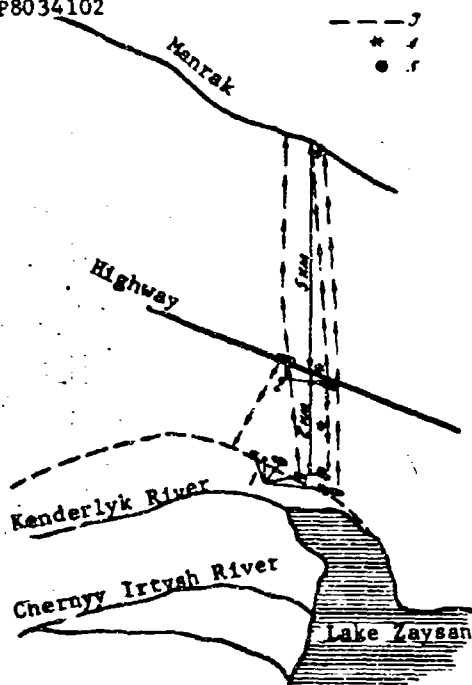


Fig. 1. Diagram of the location of reservoirs - breeding places of blood-sucking mosquitoes and sites where observations of the flight of mosquitoes were conducted.

Breeding places of *Ae. caspius* in the Chernyy Irtysh delta (1) and in roadside ditches 2 km from the delta (2); 3 - boundary of reeds; 4 - site where counts were made; 5 - settlement of Kamyshzavod; arrows show the possible flight paths of mosquitoes from breeding places and paths of egg-laying

Card 2/3

ACC NR: AP8034102

period of maximum mosquito population in nature, the following species fly most often into settlements: *A. hyrcanus*, *Ae. caspius*, and *Ae. vexans*. *Ae. caspius* has the biggest distribution radius and must be of primary value in spreading the virus. *Culex* and *Mansonia* mosquitoes fly only short distances from their breeding places, and are involved in the distribution of arboviruses among birds living in reeds in the Chernyy Irtys' delta. The most epidemiologically hazardous season is the period from June to August. In this period, the population of mass species of mosquitoes, the most probable carriers of arboviruses, is highest, and the ambient temperature promotes the rapid development of the virus in mosquitoes, which become infectious after the first blood-sucking. The percentage of females is also highest during this period. The location and probable flight path of some mosquitoes are shown in Figure 1. Orig. art. has: 4 tables and 1 figure.

[WA-50; CBE No. 40] [JS]

SUB CODE: 06/ SUBM DATE: 11Jul67/ ORIG REF: 026/ OTH REF: 010

Card 3/3

ACC NR: AP9006761

SOURCE CODE: UR/0346/69/000/001/0086/0088

AUTHOR: Arkhangel'skiy, I. I. (Professor); Milyanovskiy, A. G. (Candidate of veterinary sciences); Chkhaidze, G. K. (Candidate of agricultural sciences); Salazhov, Ye. L. (Candidate of veterinary sciences)

ORG: [Arkhangel'skiy, Milyanovskiy, Chkhaidze] All-Union Scientific Research Institute of Veterinary Sanitation (Vsesoyuznyy nauchno-issledovatel'skiy institut veterinarnoy sanitarii); [Salazhov] All-Union Institute of Experimental Veterinary Science (Vsesoyuznyy institut eksperimental'noy veterinarii)

TITLE: Decontamination of milk infected with foot and mouth disease virus in milk plants

SOURCE: Veterinariya, no. 1, 1969, 86-88

TOPIC TAGS: hoof and mouth disease virus, food contamination, animal parasite, food industry

ABSTRACT: The efficacy of pasteurization of milk using different regimens for inactivation of types O, A, C, and A₂₂ variant of foot and mouth disease virus was studied in mice. The virus was completely inactivated at 72--76° and maintained for 20 sec. Aphthous virus (A₂₂

Card 1/2

UBC: 619:616.988.43-084:637.133.3

ACC NR: AP9006761

variant) obtained from a fragment of oral mucosa from cattle infected with foot and mouth disease virus was not inactivated at 85° maintained for 20 sec. Curds and cheese produced from nonpasteurized milk from cattle with foot and mouth disease were still contaminated after fermentation with lactic acid. In factory conditions, curds are prepared from non-pasteurized milk according to All-Union State Standards, in which acidity of the curds is maintained at 77—80° for 6—8 hr. These products may contain the virus in active form. [WA-50; CBE No. 40] [XF]

SUB CODE: 06/ SUBM DATE: none

Card 2/2

ACC NR: AP8035722

SOURCE CODE: UR/0477/68/000/004/0038/0040

AUTHOR: Artishevskiy, A. A.; El'kina, Yu. A.

ORG: Department of Histology /Head--Professor S. M. Milenkov/, Minsk Medical Institute /Reactor--Docent A. A. Klyucharev/(Kafedra gistologii Minskogo meditsinskogo instituta); Department of Infectious Diseases /Head--Professor D. V. Poleshko/, Minsk Medical Institute (Kafedra infektsionnykh bolezney Minskogo meditsinskogo instituta)

TITLE: The morphological and functional state of the adrenal cortex during experimental diphtheria intoxication

SOURCE: Zdravookhraneniye Belorussii, no. 4, 1968, 38-40

TOPIC TAGS: diphtheria, adrenal gland, exotoxin

ABSTRACT: Changes in the cortical parenchyma of the adrenal glands of guinea pigs in response to the introduction of diphtheria toxin depended on the toxin dose. Small doses (0.75 Dlm) intensified functional activity but did not produce necrotic changes. Large doses (1 Dlm and larger) activated the cortical parenchyma, after which depletion and focal dystrophic injuries to the parenchyma occurred. Orig. art. has: 1 table. [WA-50; CBE No. 40] [JS]

SUB CODE: 06/ SUBM DATE: none/ ORIG REF: 004

Card 1/1

UDC: 616.453:616.931-001.5

ACC NR: AP9001310

SOURCE CODE: UR/0016/68/000/011/0145/0146

AUTHOR: Aslanyan, R. G.; Kurdina, D. S.; Mnatsakanyan, A. G.;
Akopyan, A. A.; Pogosyan, M. K.

ORG: Institute of Epidemiology and Microbiology im. Gamaleya AMN SSSR
(Institut epidemiologii i mikrobiologii AMN SSSR); Armenian Republic
Sanitation and Epidemiological Station (Armyanskaya respublikanskaya
sanitarno-epidemiologicheskaya stantsiya)

TITLE: Characteristics of *Brucella* strains isolated in Armenia

SOURCE: Zhurnal mikrobiologii, epidemiologii i immunobiologii, no. 11,
1968, 145-146

TOPIC TAGS: brucella, brucellosis

ABSTRACT: Study of *Brucella* strains circulating in Armenia in 1966
showed that all types of *Br. melitensis* (1, 2, and 3) are present,
although types 1 and 2 were only isolated from people. Seven of the
nine cultures of *Br. suis* isolated belonged to type 2, and two cultures
to type 1. *Br. suis* was isolated from human patients (5 cultures),
and sheep and pigs (2 cultures). Brucellosis patients infected with
Br. suis (biotype 2) were severely ill with prolonged high temperature,

Card 1/2

UDC: 576.851.42.01(479.25)

ACC NR: AP9001310

headache, weakness, etc. *Br. suis* was isolated from sheeps' milk in
this area. The possibility of a connection between sheep brucellosis
and an epizootic among hares is under study. [WA-50; CBE No. 40][JS]

SUB CODE: 06/ SUBM DATE: 22May68

Card 2/2

ACC NR: AP9003388

SOURCE CODE: RU/9016/68/019/006/0455/0470

AUTHOR: Athanasiu, P.; Petrescu, Al.

ORG: Institute of Virology "St. S. Nicolau" of the Academy of the Socialist Republic of Rumania

TITLE: Inapparent infection with submicroscopic particles. Report 1. Latent viruses

SOURCE: Studii si cercetari de inframicrobiologie, v. 19, no. 6, 1968, 455-470

TOPIC TAGS: lymphocytic choriomeningitis, encephalitis, dengue fever, hog cholera, Japanese B encephalitis, Murray valley encephalitis, rabies, hemorrhagic nephrosonephritis

ABSTRACT: This article is a review, primarily based on Western sources, of infections which have been detected in the absence of definite exterior clinical symptoms in plants, animals or humans. All these infections were later demonstrated to be viral infections. Among the diseases discussed are lymphocytic choriomeningitis, which has some hereditary bases and is thought to be transmitted *in utero*. Also involved are some types of encephalitis, which are transmitted by the

Card 1/2

UDC: 616.9:576.858.7

ACC NR: AP9003388

aerosol route, via the lymph nodes or in the plasma; dengue fever, transmitted by the mosquito *Aedes aegypti*; swine encephalitis (hog cholera, swine plague), Van Econome encephalitis, Japanese B encephalitis, commonly encountered as a subclinical infection in Malasia which is thought to constitute an important reservoir of this disease; St. Louis encephalitis discovered in Florida as a subclinical infection in about 4 per thousand persons, Murray Valley encephalitis, Papatacci fever; miscellaneous hemorrhagic fevers, so-called spontaneous encephalitis; Turbarea (latent rabies); Galba fever, poliomyelitis; Cocksackie virus infections; enterovirus infections; Herpes virus infections; Aujeszky's disease; Herpesvirus simiae; Keratoconjunctivitis; some Reovirus infections; virus hepatitis; mumps; influenza and parainfluenza, measles; smallpox, and infectious lymphocytosis.

[WA-50; CBE No. 40][LP]

SUB CODE: 06/ SUBM DATE: 14Dec67/ ORIG REF: 055/ OTH REF: 081

- 150 -

Card 2/2

ACC NR: AT9000733

SOURCE CODE: UR/3439/67/000/008/0264/0268

AUTHOR: Avezdzhanova, G. P.

ORG: none

TITLE: The degree of damage of tomatoes artificially infected with black leaf spot

SOURCE: Leningrad. Vsesoyuznyy institut rastenyevodstva. Sbornik trudov aspirantov i molodykh nauchnykh sotrudnikov, no. 8, 1967, 264-268

TOPIC TAGS: plant disease, disease resistant plant

ABSTRACT: Infection of 20 tomato varieties from different geographical areas with the agent of tomato black leaf spot (*Xanthomonas vesicatoria*) showed that there were no completely resistant varieties. Strains of *Xanthomonas vesicatoria* differing in virulence, which can be used for development of resistant tomato varieties, were identified. Strain 25 from Armenia was the most virulent and strain P/2 from the Ukraine, the least virulent. Different tomato varieties were damaged to various degrees by different strains of bacteria. Tomato varieties k-2688

Card 1/2

ACC NR: AT9000733

(Naryn Experimental Station), and k-6243 (Northwest Institute) were the only Soviet strains lightly or moderately damaged. The work was conducted under the guidance of Professor M. V. Gorlenko. Orig. art. has: 2 tables. [WA-50; CBE No. 40][JS]

SUB CODE: 06/ SUM DATE: none

Card 2/2

- 151 -

ACC NR: AP8035413

SOURCE CODE: UR/0240/68/000/G1G/0062/0063

AUTHOR: Bagdasar'yan, G. A. (Candidate of medical sciences)

ORG: Institute of General and Municipal Hygiene im. A. N. Syain, AMN SSSR, Moscow (Institut obshchey i kommunal'noy gigiyeny AMN SSSR)

TITLE: A method of isolating enteroviruses from water

SOURCE: Gigiyena i sanitariya, no. 10, 1968, 62-63

TOPIC TAGS: water purification, virology

ABSTRACT: A modification of Moore's tampon method for concentrating enteroviruses from water samples, adapted to collection of samples from open reservoirs, has been developed. A large sample of water (3-5 l) was taken from the reservoir and stored for a maximum of 24 hr. The tampon consisted of 48 layers of gauze 10 x 10 cm and was moistened with 1 ml of bovine serum and attached to a glass spatula. The spatula rotated at a rate of 25-30 rpm (activated by an electric motor) for 30-40 min (sufficient for adsorption of all enteroviruses). The tampon was removed from the water, squeezed, and treated with NaOH for desorption of enteroviruses. The device is shown in Figure 1.

Card 1/3

UDC: 614.777:543.39:576.858.23

ACC NR: AP8035413



Fig. 1. Device for treatment of water samples

Card 2/3

ACC NR: AP8035413

Enteroviruses were isolated from 68% of water samples using the tampon concentration method outlined above, as compared with a 12% isolation rate from unconcentrated samples. Orig. art. has: 1 table and 1 figure. [WA-50; CBE No. 40][JS]

SUB CODE: 06/ SUBM DATE: 31May67/ OTH REF: 001

Card 3/3

ACC NR SP9002862

SOURCE CODE: UR/0016/68/000/012/0019/0021

AUTHOR: Balanin, N. V.; Linevich, Yu. G.; Kudlay, D. G.; Solov'yev, V.N.

ORG: Institute of Pharmacology and Chemotherapy AMN SSSR (Institut farmakologii i khimioterapii AMN SSSR); Institute of Epidemiology and Microbiology im. Gamaleya AMN SSSR (Institut epidemiologii i mikrobiologii AMN SSSR)

TITLE: The effect of 1-aminoadamantane on the transfer of R-factors in *E. coli*

SOURCE: Zh mikrobiol, epidemiol i immunobiol, no. 12, 1968, 19-21

TOPIC TAGS: escherichia coli, bacterial genetics, drug resistance

ABSTRACT: Tests showed that 1-aminoadamantane hydrochloride (AAH) blocked the transfer of resistance factors in *E. coli*. The donor strain was *E. coli* K 12 CSH-2/R/222, resistant to tetracycline, chloramphenicol, streptomycin and sulfanilimide. The recipient strain was *E. coli* K 12/P 678. Concentrations of AAH of 100 µg/ml decreased the frequency of transfer of the R-factor by 33%, as compared with controls. Increasing the AAH concentration to

Card 1/2

UDC: 576.851.48.095.5.095.18

- 153 -

ACC NR: SP9002862

500 µg/ml further decreased the frequency of antibiotic-resistance transfer. Further increases in the concentration of AAH had an antibacterial effect. Orig. art. has: 3 tables.

[WA-50; CBE No. 40][JS]

SUB CODE: 06/ SUBM DATE: 16Feb68/ ORIG REF: 002/ OTH REF: 005

Card 2/2

ACC NR: AP9001075

SOURCE CODE: UR/0450/68/002/011/0041/0043

AUTHOR: Ban'kovskaya, A. N.; Ban'kovskiy, A. I.

ORG: All-Union Scientific Research Institute of Medicinal Plants, Moscow (Vsesoyuznyy nauchno-issledovatel'skiy institut lekarshtvennykh rasteniy)

TITLE: On the accumulation of alkaloids and fatty oil in the sclerotia of ergot of the ergometrine type

SOURCE: Khimiko-farmatsevticheskiy zhurnal, v. 2, no. 11, 1968, 41-43

TOPIC TAGS: ergot, alkaloid, drug industry

ABSTRACT: Results are reported on a study of the accumulation of alkaloids and fatty oil in the sclerotia of ergot of the ergometrine strain, and on determination of the optimum period of yield of the sclerotia for use in the production of ergometrine. Experiments were carried out on industrial crops of the experimental base of the All-Union Scientific Research Institute of Medicinal and Aromatic Plants during 1966 and 1967. It was determined that the beginning of alkaloid formation occurred from 12 to 27 days after injection of the rye with ergot, during the period of emergence of the sclerotia and appearance

Card 1/2

UDC: 615.322:632.5417.074
- 154 -

ACC NR: AP9001075

of the first signs of pigmentation. The absolute content of alkaloids and dry mass increased with the degree of maturation of the sclerotia; therefore, the optimum period for harvesting the crop of ergot of the ergometrine strain is the period of complete maturation of the sclerotia. The alkaloid composition of ergot sclerotia remained constant at all times; they were composed of 85% ergometrine and 15-20% ergometrinine. Orig. art. has: 1 table. [WA-50; CBE No. 40] [XF]

SUB CODE: 06/ SUBM DATE: none/ ORIG REF: 005

Card 2/2

ACC NR: AP9003399

SOURCE CODE: UR/0251/68/052/002/0493/0498

AUTHOR: Bedenashvili, G. G.; Megreladze, O. A.

ORG: Georgian Zoological and Veterinary Teaching and Research Institute (Gruzinskiy zooveterinarnyy uchebno-issledovatel'skiy institut)

TITLE: Laboratory diagnosis of swine plague by the reaction of sensitization of Congo red sol

SOURCE: AN GruzSSR. Soobshcheniya, v. 52, no. 2, 1968, 493-498

TOPIC TAGS: hog cholera, hog cholera virus

ABSTRACT: The sensitization reaction of Congo red sol (Rcs) can be used for diagnosis of swine plague: this is the first laboratory method for diagnosis of swine plague. Congo red apparently combines with the gamma-globulin of antiplague serum, stabilizing the sol. After addition of virus-containing urine of infected pigs, the urine combines with the gamma-globulin and frees particles of Congo red, resulting in a visible reaction. The method is completely accurate and is recommended for all veterinary laboratories. Presented by Corresponding Member of the Academy M. D. Rcheulishvili. Orig. art. has: 1 figure and 1 table. [WA-50; CBE No. 40] [JS]

SUB CODE: 06/ SUBM DATE: 21May68/ ORIG REF: 002/ OTH REF: 002

Card

1/1

UDC: 619.4:616.981.542-07

ACC NR: AP9002985

SOURCE CODE: UR/0402/68/G00/006/0709/0711

AUTHOR: Bektemirov, T. A.; Gumennik, A. Ye.; Bektemirova, M. S.

ORG: Central Institute of Post-Graduate Medicine (Tsentral'nyy institut usovershenstvovaniya vrachey); Moscow Institute of Viral Preparations (Moskovskiy institut virusnykh preparatov)

TITLE: Interferon production in animals of different ages during experimental viral infections

SOURCE: Voprosy virusologii, no. 6, 1968, 709-711

TOPIC TAGS: interferon, influenza virus, rabies virus, equine encephalomyelitis

ABSTRACT: The intensity of interferon production in the animal body depends not only on age, but also on the properties of the virus and apparently the pathogenesis of the infection. In the lungs and brain of newborn mice infected with influenza virus and western equine encephalomyelitis (WEE) virus, interferon was formed in considerably smaller amounts than in adult mice. Rabies fixed virus induced an identical amount of interferon in the brains of both newborn and adult mice. Leukocytes of newborn mice *in vitro* produced 4 to 16 times less interferon than leukocytes of adult mice. Animals were infected with

Card 1/2 UDC: 616.988092.9-07:616-018-008.939.6:576 758.095.383

ACC NR: AP9002985

influenza virus intranasally and with WEE and rabies intracerebrally. Differences in the effect of the two neurotropic viruses (WEE and rabies) may be due to differences in types of central nervous system cells selectively damaged by these viruses. It is also possible that the degree of maturity of these cells determines the intensity of their interferon production. Orig. art. has: 2 tables.

[WA-50; CBE No. 40] [JS]

SUB CODE: 06/ SUBM DATE: 10Jun68/ ORIG REF: 002/ OTH REF: 005

Card 2/2

ACC NR: AP9002905

SOURCE CODE: UR/0296/68/000/005/0082/0085

AUTHOR: Berdyev, A. S.

ORG: Institute of Zoology AN Turkmen SSR (Institut zoologii AN Turkemenskoy SSR)

TITLP: Toxoplasmosis among wild vert brates in Turkmenia

SOURCE: AN TurkmSSR. Izvestiya. Seriya biologicheskikh nauk, no. 5, 1968, 82-85

TOPIC TAGS: toxoplasmosis, epizootiology

ABSTRACT: Study of the serum of 486 wild vertebrates from the desert zone of Central Kara Kum and Central Kopet Dagh in the complement fixation reaction with toxoplasma antigen showed that the following species carry toxoplasma: the long-clawed ground squirrel (*Spermophilopsis leptodactylus*), the small five-toed jerboa (*Allactaga elater*), the great gerbil (*Rhombomys opimus*), the red-tailed Libyan jird (*Meriones erythrorus*), the Afghan pika (*Ochotona rufescens*), the long-eared hedgehog (*Hemichinus auritus*), the common shaltopusik (*Ophisaurus apus*), and *Vormela pereguena*. Wild animals in this area can serve as a natural reservoir of toxoplasma and thus this part of the Turkmen

Card 1/2

UDC: 576.893.16:506(575.4)

ACC NR: AP9002905

SSR is a natural focus of toxoplasmosis. Orig. art. has: 2 tables.
[WA-50; CBE No. 40][JS]

SUB CODE: 06/ SUBM DATE: 31Jan68/ ORIG REF: 011/ OTH REF: 005

Card 2/2

ACC NR: AP9001312

SOURCE CODE: UR/0016/68/000/011/0147/0148

AUTHOR: Besednova, N. N.

ORG: Vladivostok Institute of Epidemiology and Microbiology
(Vladivostokskiy institut epidemiologii i mikrobiologii)

TITLE: Use of the fluorescent antibody method for diagnosing
typhoid and the typhoid carrier state

SOURCE: Zhurnal mikrobiologii, epidemiologii i immunobiologii, no. 11,
1968, 147-148

TOPIC TAGS: fluorescent antibody method, typhoid fever

ABSTRACT: The fluorescent antibody method can be used for tentative diagnosis of typhoid, and for selection of suspected carriers during mass screenings, if highly specific, well-purified and adsorbed fluorescing sera are used. Sera were labeled with fluorescein isothiocyanate purified by filtration through Sephadex gel. Group D *Salmonella* types cannot be differentiated because of common antigens, but the carrier state for non-typhoid *Salmonella* is fairly rare. Typhoid bacteria were detected by the fluorescent antibody method in 28 out of 50 patients (bacteriologically confirmed). Centrifugation

Card 1/2

UDC: 616.927-078.34+616.727-008.97-078.34

ACC NR: AP9001312

of blood gave two additional positive reactions, not previously detected by either method. The fluorescent antibody test takes only 12-13 hours, as compared with 48 hours for standard bacteriological tests. Experimental infection of feces enabled identification of *S. typhi* if the initial concentration of bacteria was 50-100 cells per ml. The fluorescent antibody method gave 33.8% positive reactions in urine tests, as compared with 23.2% positive results for the standard method. A total of 19 out of 26 known typhoid carriers were detected by the fluorescent antibody method. [WA-50; CBE No. 40][JS]

SUB CODE: 06/ SUBM DATE: 04Jan68

Card 2/2

- 158 -

ACC NR: AP9002877

SOURCE CODE: UR/0016/68/G00/012/0097/0103

AUTHOR: Bessalov, V. S.

ORG: Kherson Oblast Sanitation and Epidemiological Station (Khersonskaya oblastnaya sanitarno-epidemiologicheskaya stantsiya)

TITLE: A tularemia focus on Biryuch Island, Kherson Oblast

SOURCE: Zh mikrobiol, epidemiol i immunobiol, no. 12, 1968, 97-103

TOPIC TAGS: tularemia, epidemiologic focus

ABSTRACT: The tularemia focus on Biryuch Island involves both men and animals and has been confirmed by the high population of hares and Ixodid ticks. The hare population has been increasing since 1961 without noticeable mortality of animals. At the same time, there were no tularemia cases among people not inoculated before 1961. Thus the natural focus of tularemia on Biryuch Island is probably recent. Hares are the principal source of *P. tularensis* in this focus, and the Ixodid ticks *D. marginatus*, *H. pl. plumbeum* and *R. rossicus* are reservoirs and carriers. Common voles and house mice also help maintain the tularemia epizootic in this focus, especially in periods of their greatest activity. Birds inhabiting the island on a temporary or permanent basis may serve

Card 1/2

UDC: 616.981.455-036.21(477.72)

ACC NR: AP9002877

as carriers of infected ticks within the focus and outside it. Tularemia infections of people have been prevented for the past six months by shooting rabbits, rodent control programs including poisoned bait, and control of the movement of people and animals. In addition, 500 hectares were sprayed with 10% DDT dust, reducing the tick population by 90% in 1964. Tularemia cultures continue to be isolated from ticks, hares, and small mammals. Orig. art. has: 3 tables.

[WA-50; CBE No. 40][JS]

SUB CODE: 06/ SUBM DATE: 18Jul67/ ORIG REF: 007/ OTH REF: 001

Card 2/2

ACC NR: AT9001477

SOURCE CODE: UR/0000/66/000/000/0034/0035

AUTHOR: Botvink, S. A.; Kardovich, G. A.

ORG: Department of Microbiology /Head--Docent Ye. S. Leplya/ (Kafedra mikrobiologii)

TITLE: Study of the antagonism between *E. coli* and antibiotic resistant enteropathogenic bacteria and pathogenic staphylococci

SOURCE: Vitebskiy meditsinskiy institut. Materialy XXIV Nauchnoy sessii Vitebskogo gosudarstvennogo meditsinskogo instituta. Tezisy dokladov, Minsk, "Polymya", 1966, 34-35

TOPIC TAGS: antibiotic drug effect, escherichia coli, staphylococcus

ABSTRACT: The antagonistic effect of two cultures of *E. coli*, selected from 60 strains isolated from the feces of healthy people, and the strong antagonistic standard strain of *E. coli* (M17) with respect to 452 cultures of pathogenic bacteria, including 122 strains of *Shigella sonnei*, 60 strains of *S. flexneri*, 30 cultures of typhoid bacteria, and 240 strains of pathogenic *Staphylococcus* was studied. A total of 263 of these cultures were resistant to chloramphenicol. Pathogenic

Card 1/2

ACC NR: AT9001477

bacteria resistant to chloramphenicol showed increased resistance to the antagonistic effect of *E. coli*. *Sh. sonnei* dysentery bacteria were more resistant to the antagonistic effect of *E. coli* than *Sh. flexneri* and *Staphylococcus*. The increased resistance of antibiotic-resistant pathogens to the antagonistic effect of *E. coli* should be considered in clinical therapy. [WA-50; CBE No. 40][JS]

SUB CODE: 06/ SUBM DATE: none

Card 2/2

ACC NR: AP9002987

SOURCE CODE: UR/0402/68/000/006/0721/0724

AUTHOR: Chumakov, M. P.; Gubin, S. G.; El'bert, L. B.; Pervikov, Yu.V.

ORG: Institute of Poliomyelitis and Viral Encephalitis AMN SSSR,
Moscow (Institut poliomyelita i virusnykh entsefalitov AMN SSSR)

TITLE: Use of polyethylene glycol for concentration of viruses

SOURCE: Voprosy virusologii, no. 6, 1968, 721-724

TOPIC TAGS: arbovirus, poliomyelitis virus, psittacosis virus

ABSTRACT: Polyethylene glycol (PEG) was used to obtain concentrated, highly active, specific, precipitating and hemagglutinating antigens of group B arboviruses (tickborne encephalitis virus-Sophian strain, Omsk hemorrhagic fever virus - strain Ya-47, and west Nile fever virus - strain B-956). Poliomyelitis viruses of all 3 serotypes could not be concentrated under experimental conditions. PEG produced incomplete precipitation of trachoma virus (strain Zubkova), together with a considerable amount of ballast protein. No difference between PEG with molecular weight of 1540 or 6000 was noted. PEG was added directly to the virus-containing material after centrifugation. Orig. art. has: 1 table. [WA-50; CBE No. 40][JS]

SUB CODE: 06/ SUBM DATE: 07Jun68/ OTH REF: 004

Card 1/1

UDC: 576.858.093.1

ACC NR: AP9002903

SOURCE CODE: UR/0473/68/004/012/0040/0046

AUTHOR: Donracheva, A. G.

ORG: All-Union Scientific Research Institute of Antibiotics, Moscow
(Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov)

TITLE: Comparative study of the genetic activity of various N-nitroso compounds and ethylenimine on a biochemical mutant of *Actinomyces rimosus*

SOURCE: Genetika, v. 4, no. 12, 1968, 40-46

TOPIC TAGS: mutagen, plant genetics

ABSTRACT: The effect of nine nitroso compounds (1 - N-nitrosomethylurea, 2 - N-nitrosoethylurea, 3 - N-nitrosopropylurea, 4 - N-nitroso-isobutylurea, 5 - N-nitrosomethylthiourea, 6 - N-methyl-N-nitroso-N'-nitroguanidine, 7 - N-dinitrosopiperazine, 8 - N-nitrosoethylurethylane, and 9 - N-nitrosophenylurethylane) and ethylenimine on a biochemical mutant of *Actinomyces rimosus* was measured by the frequency of reverse mutations ($met^- \rightarrow met^+$) and the frequency of morphological mutations. Experiments showed that most of the tested N-nitroso compounds were mutagenic. The strongest mutagens were compounds 6 and 1, both of which increased the frequency of reversions

Card 1/2

UDC: 575.24

ACC NR: AP9002903

of the methionine locus 1300 and 5-2-4 times, respectively. The most effective mutagens with respect to morphological variability were 8, 1, and 6. Weak doses of compounds 4 and 5 stimulated viability of *Act. rimosus* spores. Mutagens were used in concentrations from 0.025 to 2%, with exposure from 2 to 96 hr. Most often mutagens were used in fairly low concentrations and long exposures. Ethylenimine is considerably more toxic than the N-nitroso compounds: an ethylenimine concentration of 0.2% and exposure of 1.5 hr was used. The most active mutagens, compounds 1 and 6, were 22 and 530 times more mutagenic than ethylenimine, respectively. Compound 1 was 8 times more active than compound 2. Orig. art. has: 2 tables and 2 figures. [WA-50; CBE No. 40] [JS]

SUB CODE: 06/ SUBM DATE: 13Mar68/ ORIG REF: 016/ OTH REF: 010

Cord 2/2

ACC NR: AP9002068

SOURCE CODE: UR/9099/68/000/012/0723/0726

AUTHOR: Donskaya, T. N.; Zykin, L. F.; Yashchuk, A. P.

ORG: All-Union Scientific Research Antiplague Institute "Mikrob", Saratov (Vsesoyuznyy nauchno-issledovatel'skiy protivochumnyy institut)

TITLE: Use of the method of observing colonies in an obliquely falling light for the diagnosis of cholera

SOURCE: Laboratornoye delo, no. 12, 1968, 723-726

TOPIC TAGS: cholera, microorganism identification

ABSTRACT: The method of oblique illumination is described for identifying colonies of *Vibrio cholerae* using the MBS-2 stereomicroscope and its condenser, to which a device is attached for obtaining a narrow beam of light, while a mirror from the microscope is mounted on a mobile stand for illuminating the dish from below at a 45° angle. Meat-peptone and Hottinger's agar media were used for studying *V. cholerae* in oblique illumination; generally the dishes were examined 12-14 hr after seeding. The duration of cultivation did not influence the color effect. Color was retained by the colonies for 4 days. All *V. cholerae*

Cord 1/2

UDC: 616.932-078+576.851.315.077:576.8.094.1

ACC NR: AP9002068

colonies grown on Hottinger's media could be divided into 3 groups according to the color of their colonies: bluish-gray light; green, or blue-green light with yellow light in the center of the colony; and a fairly well-defined green light in the whole colony with red-brown or cinnamon in the upper margin. The method of oblique illumination was used to identify *V. cholerae* in 150 specimens, of which 85 were a mixture of *Escherichia coli*, *Proteus*, *Bacillus faecalis alcaligenes*, and different counts of *V. cholerae*, while 65 specimens were human fecal material to which was added an emulsion containing 10, 100, 1000, and 10,000 *V. cholerae* in 1 ml. The mixtures were cultivated on Hottinger's agar (pH 8.0) at 37° for 12-14 hr. It was possible to identify *V. cholerae* in all cultures which contained 10,000 *V. cholerae* in 1 ml of infected fecal material, in 50% of all cultures which contained 1000 *V. cholerae* in 1 ml, in 40.5% of cultures which contained 100 *V. cholerae* in 1 ml, and in 26% of cultures which contained 10 *V. cholerae* in 1 ml. Orig. art. has: 2 tables. WA-50; CBE No. 40] [XF]

SUB CODE: 06/ SUBM DATE: 12Jul67/ ORIG REF: 008/ OTH REF: 002

Card 2/2

ACC NR: AP9004504

SOURCE CODE: UR/0063/68/013/006/0690/0699

AUTHOR: Dorokhov, Yu. V.; Baranov, N. A.

ORG: none

TITLE: Principles of the therapy of injuries caused by poisonous substances

SOURCE: Vsesoyuznoye khimicheskoye obshchestvo. Zhurnal, v. 13, no. 6, 1968, 690-699

TOPIC TAGS: poison effect, antidote, chelation, chelate compound, medical chelate compound, organophosphorus toxicology, BW antidote, cholinesterase reactivator, artificial respiration, lachrymator/ (U)TMB4 organophosphorus antidote

ABSTRACT: The poison antidotes discussed in this article belong to four classes: 1) antidotes producing detoxication of the poison including many alkaline reagents and chlorine-containing oxidizers; 2) antidotes isolating the poison from the organism, such as EDTA, a complex-forming agent; 3) antidotes having physiological action. To this group belong cholinolytics, barbiturates, and similar substances

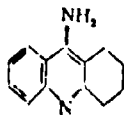
Card 1/7

UDC: 423.459

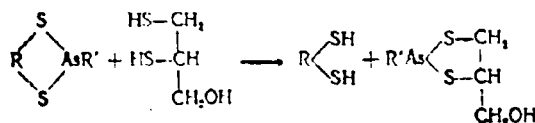
- 103 -

ACC NR: AP9004504

including the psychochemical agents. For example 9-amino-1,2,3,4-tetrahydroacridine.



4) Antidotes of specific action, that is, which inhibit the poison effects at a specific locus in the cell or organ. Enzymes and thiol compounds are included in this group. The therapeutic effect of BAL and related compounds lies in its reaction with

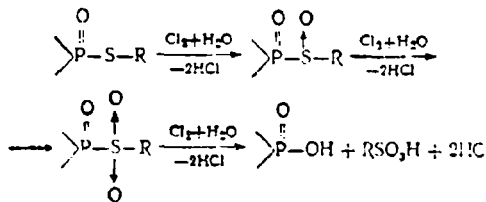


where r is the component inhibiting the enzyme system $\text{R}'-\text{CH}=\text{CHCl}$.

Card 2/7

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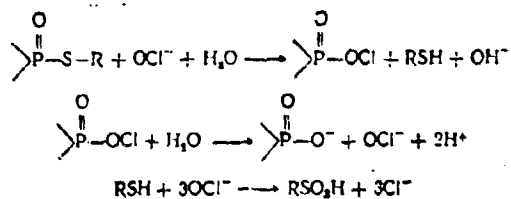
Antidotes for symptomatic treatment are also discussed. Treatment for organophosphorus poisoning includes: removal or inactivation of the poisonous substance, the administration of antidote, restoration of normal breathing which may include administering drugs to remove bronchial spasms, cleaning up of the secretions, and artificial respiration. In an area contaminated with organophosphorus poisons, rapid removal of the poison from surfaces touched by humans and their animals is essential. Such protection could include protective clothing or covering, degassing, and physical removal of the substance. A standard individual antichemical package or 2% solution of caustic soda, 5-10% solutions of ammonium hydroxide, is recommended for degassing. Such alkaline reagents react well and degas acyl fluorides of phosphoric acids (sarin and others); at the same time the thiol esters (V-gases) are hydrolyzed very slowly. For inactivation of the latter, chlorine-containing oxidants are recommended. The reaction proceeds in two steps: 1) oxidation of thiol ester to the sulfoxide and sulfone with the formation of nontoxic products;



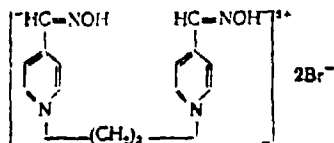
Card 3/7

ACC NR. AP9004504

2) the reaction of the thiol ester with hypochlorite ions:



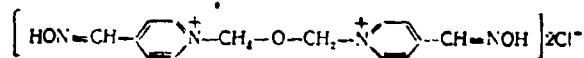
again with the formation of a nontoxic product. A recommended reagent is a 5% solution of chloramine and a 3% solution of sodium hypochlorite. If these substances get into the eye, the eye must be washed quickly with water or a 2% sodium carbonate solution. If a person remains in a contaminated zone too long, exposure to a lethal dose of the poisonous substance is likely, since such substances easily penetrate the membranes of the eyes. During washing, holding the breath is recommended. Besides atropine, one of the most powerful organophosphorus antidotes is TMB-4 (trimethylene-bis(4-formoxypyridinium hydrochloride)). This



Card 4/7

ACC NR. AP9004504

compound is a cholinesterase reactivator. Another reactivator which penetrates the CNS and is less toxic, are compounds such as 2-PAM-chloride.

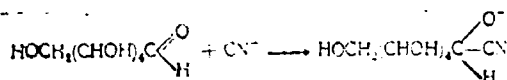
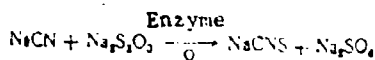


This compound is considered less toxic than 2-PAM. Protection of cholinesterase and receptors by means of various esters of carboxy acids such as proserine—eserine and others has been achieved. Compounds which block receptor surfaces at the synapses in the CNS include: 1) atropine; 2) cholinolytics containing diethylamino groups; 3) miscellaneous compounds producing physiological activity of cholinolytics; 4) compounds which prolong the action of atropine; 5) ganglioblocking agents; and 6) curareform substances whose principal effects are curareform or nicotinoform. Centrally acting compounds include the cholinolytics such as benactizine, antihistamines, anti-epileptic preparations and anepleptics, which stimulate respiratory centers. Other antidotes include preparations such as flavonoids which depress acetylcholine synthesis, and substances which inhibit the breakdown of acetylcholine at the synapses. The principles behind

Card 5/7

ACC NR: AP9004504

antidote therapy in poisoning with silicic acid are discussed. Sulfur-containing poisons and cyanide poisons can be treated as follows:



In case of poisoning with contact penetrating poisons such as mustard, washing the eyes with a 0.25--0.5% aqueous solution of monochloramine or 2% solution of sodium diacetate or KMnO_4 (0.5:1000) is recommended. Rapid first aid is absolutely necessary since drops landing on the skin penetrate rapidly. Further treatment of this type of poisoning include preventing secondary infection. In Lewisite poisoning, CAL is an effective antidote. In the case of desicant poisoning, immediate first aid is necessary and includes prevention of blood loss and maintenance of cardiac and respiratory activity. A solution of 2--30% glucose, 10% calcium chloride administered by the drop method is recommended. Antilachrymator kits should be kept on hand continually and the eyes,

Card 6/7

ACC NR: AP9004504

surface of the nose, throat and mouth should be rinsed thoroughly with water or a 2% solution of sodium diacetate. First aid and therapy for poisoning by psychotomimetic substances include the administration of tranquilizers such as aminazin which is an effective antidote for LSD intoxication. Nicotinic acid, sodium ametal and others are also used. [WA-50; CBE No. 40][LP]

SUB CODE: 06/ SUBM DATE: none/ ORIG REF: 014/ OTH REF: 060

Card 7/7

ACC NR: AP9003385

SOURCE CODE: RU/9016/68/019/006/0419/0424

AUTHOR: Duda, M.; Alexandrescu, M.; Handrache, L.; Ionescu, L.;
Carasievici, E.

ORG: Institute of Medicine and Pharmacy, Laboratory of Virology

TITLE: Synthesis of type 5- and 7-adenoviruses in HeLa cell cultures

SOURCE: Studii si cercetari de inframicrobiologie, v. 19, no. 6, 419-
424

TOPIC TAGS: culture method, batch culture, virus reproduction

ABSTRACT: The synthesis of adenovirus type 5 and 7 was followed by immunofluorescent techniques in HeLa cell cultures. A quantitative relationship was found between synthesis of the infectious virus and its hemagglutinating activity following the inoculation of 1000 PCIB₅₀ of adenovirus type 7. Orig. art. has: 3 figures.

[WA-50; CBE No. 40][LP]

SUB CODE: 06/ SUBM DATE: 23May68/ ORIG REF: 003/ OTH REF: 024/
SOV REF: 001

Cord 1/1

UDC: 612.398.145.1:576.8.093.35

ACC NR: AT9001896

SOURCE CODE: UK/3287/67/000/022/0095/0104

AUTHOR: El'-Sukkari, A.

ORG: none

TITLE: Methods of determining hyaluronidase activity. Survey

SOURCE: Leningrad. Khimiko-farmatsevticheskiy institut. Trudy, no. 22, 1967. Nekotoryye voprosy biokhimi mikroorganizmov (Some problems dealing with the biochemistry of microorganisms) part 2, 95-104

TOPIC TAGS: hyaluronidase, enzyme action, enzyme kinetics

ABSTRACT: Methods for determining hyaluronidase activity include: 1) physical and chemical methods— mucin coagulation, determination of the turbidity of hyaluronic acid, determination of the viscosity of hyaluronic acid, and miscellaneous chemical methods; and 2) biological methods— analysis of the bacterial or animal behavior. A review of the above methods is presented. The biological method includes the observation of decapsulation of capsular *Streptococci* A and B, observation of the increased mobility of certain substances as cellular components dissolved under the effect of hyaluronidase, and observation of the effects of introduced hyaluronidase on cellular permeability. Also

Cord 1/2

ACC NR: AT9001896

discussed are factors such as pH and salt concentration which occur after
the action of hyaluronidase. [WA-50; CBE No. 40] [LP]

SUB CCDE: 06/ SUBM DATE: none/ ORIG REF: 002/ OTH RFF: 047

Cord 2/2

ACC NR: AT9002547

SOURCE CODE: UR/0000/68/000/000/0003/0028

AUTHOR: Eydel'shteyn, S. I. (Doctor of medical sciences)

ORG: none

TITLE: Aerosols and health

SOURCE: Aerezoli i zdorov'ye (Aerosols and health). Moscow, Izd-vo
"Znaniye", 1968, 3-28

TOPIC TAGS: biologic aerosol, aerosol chemistry, aerosol container,
aerosol immunization

ABSTRACT: This elementary pamphlet, concerned primarily with the medical
used of aerosols, was compiled by Doctor of Medical Sciences S. I.
Eydel'shteyn, Chairman of the Commission on the Medical Use of
Aerosols since 1963. Dr. Eydel'shteyn's chief interest is antibiotic
aerosols. Since 1967 he has been Assistant Chairman of the Scientific
Council on Aerosols of the State Committee on Science and Technology.
Aerosols are classified by degree of dispersion. Highly dispersed
aerosols have a particle diameter of 0.5—5 μ with 5—25 μ for medium
dispersed aerosols and 25—100 μ for finely dispersed aerosols. A
particle diameter of 100—250 μ places an aerosol in the small droplet
class, and 250—400 μ in the large-droplet class. Particles with a

Cord 1/3

UDC: 615.8

- 168 -

ACC NR: AT9002547

diameter greater than 50 μ are trapped in the nose and pharynx. Particles under 5 μ reach the lungs (alveoli). Aerosols are subjected to a number of factors, including temperature, characteristics of the medium, electrical discharges, air currents, etc. and are in a constant process of coagulation (or merging of particles) due to Brownian movement (only for particles under 2 μ) turbulence, or other causes. The aerosol devices described in this pamphlet are adapted for individual and hospital use and include the IA-1 aerosol device for individuals, supplied with an Elektrozol'-1 atomizer; the portable aerosol device UI, which serves two patients; and the aerosol inhaler PAI-1, or its portable version PAI-2. Aerosol immunization is the method closest to the natural process of infection and provides lasting immunity. N. I. Aleksandrov and N. Ye. Gefen conducted large-scale human and animal tests of aerosol immunization with dry vaccines against brucellosis, tularemia, typhoid, and anthrax. The ease of conducting mass vaccinations by this method was emphasized. [Abstracter's note: no details were given]. Disinfecting and insecticidal aerosols are both very effective. Simple aerosol cylinders with freon propellants are mentioned. Inhalation of charged aerosol particles of a physiological calcium chloride solution promotes deposition, neutralization, and elimination of harmful inhaled chemicals. Chapter headings of the pamphlet include: What is an Aerosol?, Natural and Artificial Aerosols,

Card 2/3

ACC NR: AT9002547

The Use of Aerosols in Medicine, The Effectiveness of the Inhalation Method of Treatment, The Use of Aerosol Cylinders, How Aerosols Act on the Respiratory Organs, What Diseases Aerosols Treat, and Obtaining Aerosols in the Home. The section on Harmful Aerosols and Combating Them deals with air pollution. Orig. art. has: 6 figures.

[WA-50; CBE No. 40] [JS]

SUB CODE: 06/ SUBM DATE: none

Card 3/3

ACC NR: AT9001902

SOURCE CODE: CR/3287/67/000/022/0144/0150

AUTHOR: Frankovskiy, Ch. S. (Research head, Senior research associate); Melamed, N. V.; Katsnel'son, Ye. Z.; Yamshchikov, V. P.; Mordvinova, Ye. I.

ORG: none

TITLE: Antimicrobial activity of p-hydroxydiphenyl derivatives containing azo, sulfide, sulfoxide, sulfone or sulfoamide groups in the chemical bond

SOURCE: Leningrad. Khimiko-farmatsevticheskiy institut. Trudy, no. 22, 1967. Nekotoryye voprosy biokhimi mikroorganizmov (Some problems dealing with the biochemistry of microorganisms) part 2, 144-150

TOPIC TAGS: diphenyl compound, fungicide, bacteriostasis, bactericide

ABSTRACT: The effect of the chemical structure on antimicrobial activity was studied in a group of p-hydroxyazo dyes, derivatives of hydroxydiphenylsulfide, sulfoxide, sulfone, and sulfoamide, with different acceptor and donor substituents in 4th and 5th position. Biological activity was studied *in vitro* against dermatophytes, yeast-like fungi, and bacteria. Azo compounds and sulfides inhibited the growth of dermatophytes and yeast-like fungi after 48 hr of incubation

Card 1/2

ACC NR: AT9001902

at 24°, and bacteria (*Staphylococcus aureus*, *Bacillus subtilis*, *Shigella dysenteriae flexneri*) after 24 hr at 37°. Bactericidal effect was small in all the compounds studied. A study of the acid-base properties linkage, and the nature of the substituents on antifungal activity of p-hydroxy derivatives of the benzene group indicated that one of the factors determining their biological activity was the character of the chemical bond. As a rule, when acceptor substituents were in position 4, that is, in the presence of coupling, biological activity was increased. Donor substituents in position 4 led to the loss of antifungal activity. Compounds containing both donor and acceptor substituents, that is, in the absence of coupling, were biologically inert. Antibacterial activity of the synthesized compounds was insignificant. All compounds were only slightly active against *Candida albicans*; the most active compounds among azo derivatives and sulfides against *Cryptococcus neoformans* were those containing a chloride atom in 4th position; compounds in the other groups were inactive. Azo derivatives and sulfides containing a chloride atom in the 4th and 5th position were highly active against *Staphylococcus aureus* and *Bacillus subtilis*. The compounds showed little or no activity against the remaining microorganisms tested. Orig. art. has: 4 tables. [WA-50; CBE No. 40] [XF]

SUB CODE: 06/ SUBM DATE: none/ ORIG REF: 007/ OTH REF: 004

Card 2/2

- 170 -

ACC NR: AP9001079

SOURCE CODE: UR/0391/68/000/012/0044/0047

AUTHOR: Gadzhibalayev, A. A. (Chimkent, Kuybyshev); Goryayev, M. I. (Chimkent, Kuybyshev); Dakhno, O. V. (Chimkent, Kuybyshev); Kanaulova, L. P. (Chimkent, Kuybyshev); Potapov, S. V. (Chimkent, Kuybyshev); Slepusev, V. S. (Chimkent, Kuybyshev); Churakov, V. I. (Chimkent, Kuybyshev); Dozorova, A. D. (Chimkent, Kuybyshev); Zharkova, I. I. (Chimkent, Kuybyshev); Fedrushkova, I. N. (Chimkent, Kuybyshev)

ORG: Chemical-Technological Institute (Khimiko-tekhnologicheskii institut); Medical Institute (Meditsinskiy institut)

TITLE: Research on the comparative toxicity of some arylalkylphenols and their quaternary ammonium salts

SOURCE: Gigiyena truda i professional'nyye zabolevaniya, no. 12, 1968, 44-47

TOPIC TAGS: aryl radical, polymer chemical, ammonium salt, phenol

ABSTRACT: The physiological activity (LD₅₀) of arylalkylphenols and their quaternary ammonium salts in frogs is shown in Table 1. The toxicity of para- and ortho-isomers of 1-(hydroxyphenyl)-1-phenylethane having an arylalkyl group in ortho- and para-position is decreased

Card 1/3

UDC: 615.462:678.744/.099

ACC NR: AP9001079

Table 1. LD₅₀ for the compounds studied

Lab no. of substances	Substance	LD ₅₀ (in mg/kg)
1	2-(p-hydroxyphenyl)-2-phenylpropane	334,9
2	1-(p-hydroxyphenyl)-1-phenylethane	329,9
3	2-(o-hydroxyphenyl)-2-phenylpropane	584,7
4	1-(o-hydroxyphenyl)-1-phenylethane	126,4
5	N-(2-[2-(p-[1-phenyleth-1-yl]phenoxy)ethoxyethyl]pyridinium chloride	42,5
6	Mixture of para- and ortho-isomers of 1-(hydroxyphenyl)-1-phenylethane (salts)	42,5

following introduction into the molecule of a 2nd methyl group. Synthesis on the base of arylalkylphenols of water-soluble quaternary ammonium salts increases their toxicity, which is probably due to improved absorptive capacity. Following the daily application of 20, 12, and 5% solutions of substances with laboratory numbers 3 and 4 to the rabbit skin, there was local necrosis. Systemic symptoms were also noted, due to absorption of the preparations through the intact skin. Instillation of the different substances into the conjunctival sac of rabbits caused

Card 2/3

- 171 -

ACC NR: AP9001079

conjunctivitis and corneal necrosis. During the early period of poisoning with ortho-substituted compounds in mice and frogs, there was motor excitation and convulsions of a clonic nature, followed by depression. Para-substituted compounds caused CNS depression without an excitation period and convulsions. Orig. art. has: 2 tables.
[WA-50; CBE No. 40] [XF]

SUB CODE: 06/ SUBM DATE: 03Sep66/ ORIG REF: 004

Card 3/3

ACC NR: AP9004450

SOURCE CODE: UR/0250/68/012/012/1141/1144

AUTHOR: Genbitskiy, A. S.; Chebotarev, R. S. (Academician AN BSSR)

ORG: Department of Zoology and Parasitology, AN BSSR (Otdel zoologii i parazitologii AN BSSR)

TITLE: Inhabitants of bird nests and their role in the transmission of the pathogens of natural focal diseases

SOURCE: AN BSSR. Doklady, v. 12, no. 12, 1968, 1141-1144

TOPIC TAGS: animal parasite, insect vector, disease vector, disease transmission zone

ABSTRACT: Invasion by insects and parasites of the nests of 10 species of synanthropic and 2 species of domestic birds was studied in cities and population points of the BSSR between 1962 and 1965. A total of 238 nests were examined, and 1,406,613 specimens were collected, the structure and distribution of which is shown in the table. Contact with the nests of the rock dove (*Columba livia* Gm.), starling, house martins (*Delichon urbica*), and the swallow (*Hirundo rustica*) were considered

Card 1/3

UDC: 576.895.4+576.895.7

- 172 -

ACC NR: AP9004450

Species and numerical distribution of insects and parasites in nests in different systematic groups

Class, Order	No. of species	Percentage relationship of species	No. of specimens	Percent of total number
Nematelminthes				
Roundworms	1	0.83	347	
Arthropoda				
Arachnidae. Spiders	1	0.83	28	
Scorpions	1	0.83	76	
Phalangida	1	0.83	1	
Mites	48	36.94	1311460	99.3
Myriopoda. Diplopoda class	1	0.83	8	
Chilopoda	1	0.83	4	
Insects. Collembola	1	0.83	43	
Praying mantids (Mantidae)	1	0.83	3	
Book lice and allies (Psocoptera order)	1	0.83	215	
Proboscidea (sub) order	1	0.83	8	
Hemiptera	4	3.32	10637	0.78
Coleoptera	17	14.1	887	6.6
Aphaniptera	6	4.58	49482	3.6
Hymenoptera	3	2.5	373	
Diptera	31	25.73	37381	1.93
Lepidoptera	2	1.66	13147	0.98
Total	121	100.0	1408613	100.0

Card 2/3

ACC NR: AP9004450

the most hazardous for man and domestic animals, since 10 species of parasitic arthropoda were found in their nests. Orig. art. has: 1 table. [WA-50; CBE No. 40] [XF]

SUB CODE: 06/ SUBM DATE: 17Nov67/ ORIG REF: 012/ OTH REF: 002

Card 3/3

AUTHOR: Gladkina, T. S.

ORG: All-Union Institute of Plant Protection, Leningrad (Vsesoyuznyy institut zashchity rasteniy)

TITLE: Effect of irrigation of the steppe and enlargement of the area of cultivation on the distribution and numbers of harmful rodents in Azerbaydzhan

SOURCE: Zoologicheskii zhurnal, v. 47, no. 12, 1968, 1840-1850

TOPIC TAGS: rodent, agronomy, pest control

ABSTRACT: Rodents in Azerbaydzhan which cause the greatest crop damage are the common vole (*Microtus arvalis* Pall.), the social vole (*M. socialis* Pall.), the red-tailed Libyan jird (*Meriones erythrorurus* Gray), *Meriones tristrami* Thomae, the house mouse (*Mus musculus* L.), and the migratory hamster (*Cricetulus migratorius* Pall.). The most widely distributed is the social vole, which inhabits almost all steppe and piedmont areas. Their distribution for 1963 and 1964 is shown in Figure 1. The house mouse comprised 3-7% of the total number of

Card 1/3

UDC: 599.32(479.24)

ACC NR: AP9003753

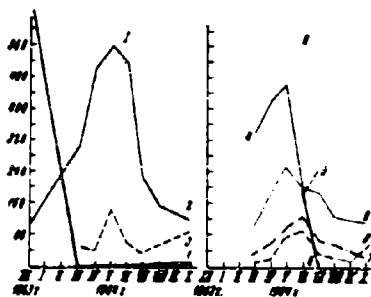


Fig. 1. Dynamics of the number of social voles in virgin soils (I) and grain fields (II) in piedmont and steppe zones

I - Virgin soils: 1 - piedmont regions of Nagorno-Karabakh autonomous region; 2 - steppe regions (winter pastures), grassy-halophytic vegetation and Capparidaceae plant growth; 3 - steppe regions, wormwood-grassy areas; II - Grain crops (steppe regions): 4 - fields of kolkhoz im. Sverdlov situated in winter pasture zones; 5 - boundaries and virgin soil near these fields after plowing the stubble fields; 6 - plowed stubble fields; 7 - fields 3-5 km from winter pastures; 8 - fields 15-20 km from winter pastures on the piedmont side; 9 - fields near winter pastures

Card 2/3

- 174 -

ACC NR: AP9003753

rodents in Azerbaydzhan. The red-tailed Libyan jird was found in the steppe and semiarid areas. It was found only rarely in piedmont areas above 300—800 m. There was a marked increase in the 1963 count, followed by a decrease in the 1964 count. Sixty-five percent of the population was infested with helminths. *Meriones tristrami* Thomas was found only in the southern regions of the republic, especially in the piedmont region; it was found rarely in the steppe zone. The common vole was found mainly in the high mountain zones, especially in the Alpine meadows. There was a marked increase in the 1963 and 1964 counts, but a marked decrease in the 1965 count. The areas of cultivation in Azerbaydzhan have increased from 173,000 to 890,000 hectares within the past 10 years; the greatest hazard to the crops is considered the social vole; thus, rodent control is one of the prime factors in the agrotechnical programs for this area. Orig. art. has: 3 tables and 2 figures. [WA-50; CBE No. 40][XP]

SUB CODE: 06/ SURM DATE: none/ ORIG REF: 025/ OTH REF: 003

Card 3/3

ACC NR: AP9006763

SOURCE CODE: UR/0346/69/000/001/0105/0106

AUTHOR: Golikov, A. V. (Candidate of veterinary sciences)

ORG: Tselinograd Scientific-Research Veterinary Station (Tselinogradskaya nauchno-issledovatel'skaya veterinarnaya stantsiya)

TITLE: Vacuum thermostat for cultivation of vibriones and other microorganisms

SOURCE: Veterinariya, no. 1, 1969, 105-106

TOPIC TAGS: thermostat, bacteria growth, microorganism growth chamber, vacuum chamber

ABSTRACT: A block diagram of a vacuum thermostat for cultivating microorganisms in anaerobic conditions is shown below. The thermostat

Card 1/3

UDC: 619:616.981.31-093.1

- 175 -

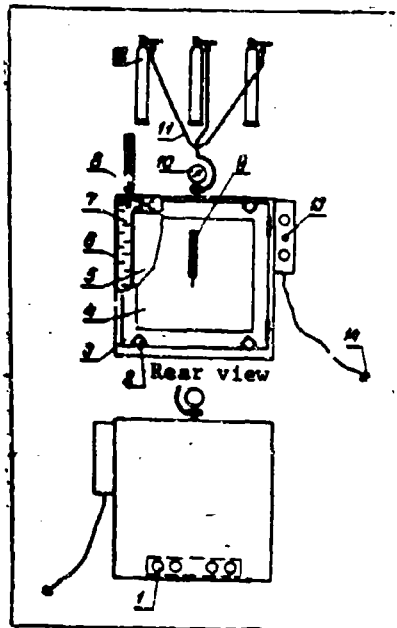


Diagram of vacuum thermostat

Card 2/3

consists of a 50 x 27 x 37 cm vacuum chamber (5) with a hermetic cover (3) held in place by 4 bolts (2). An observation glass (4) is mounted in the cover. A thermometer (9) is located in the chamber. Pressure in the chamber is measured with a vacuummeter (10). Water for heating flows into a conduit (6) situated between the vacuum chamber and the outer walls of the thermostat (7). There are two 800 watt heating elements (1). Temperature control is secured with a limit current regulator—100 relay (13) and a mercury contact thermometer (8). Power is supplied by alternating current of 220 volts (14). Three balloons (12) filled with CO₂, N₂ and O₂ are connected by a rubber hose (11) to the vacuum chamber. An electrical pump or Kamovskiy pump is used to remove the air from the chamber.

[WA-50; CBE No. 40][XF]

SUB CODE: 06/ SUBM DATE: none

Card 3/3

ACC NR: AP8033975

SOURCE CODE: UR/9062/68/003/005/0709/0712

AUTHOR: Gordeychuk, A. I.

ORG: Moscow Agricultural Academy im. K. A. Timiryazev (Moskovskaya sel'skokhozyaystvennaya akademiya)

TITLE: The method of immunodiffusion in gel with respect to potato viruses X and Y

SOURCE: Sel'skokhozyaystvennaya biologiya, v. 3, no. 5, 1968, 709-712

TOPIC TAGS: plant virus, potato virus X, potato virus Y

ABSTRACT: The immunodiffusion in agar reaction was conducted with potato virus X and Y antigens (the latter in the form of sap from infected *Nicotiana tabacum* plants). X virus antigen was obtained from the sap of infected *Datura stramonium* plants. Test of the infectivity of each antigen forming a precipitation band in indicator plants showed that one X virus antigen produced necrosis. Y virus formed three precipitation bands, the second consisting of normal plant proteins and the third formed by genus-specific proteins. The presence in antiviral antisera of antibodies to the normal proteins of the plant host is explained by the great difficulty associated with

Card 1/2

UDC: 632.3:58.08

ACC NR: AP8033975

complete purification of viruses from some normal protein fractions. The precipitation bands for virus Y were not infectious. Orig. art. has: 1 table and 2 figures. [WA-50; CBE No. 40][JS]

SUB CODE: 06/ SUBM DATE: 19Jun67/ ORIG REF: 001/ OTH REF: 006

Card 2/2

ACC NR. AP9004531

SOURCE CODE: UR/0358/68/037/006/0710/0715

AUTHOR: Grokhovskaya, I. M.; Nguyen, Suan Khoe

ORG: Institute of Epidemiology and Microbiology im. N. F. Gamaley, AMN SSSR (Institut epidemiologii i mikrobiologii AMN SSSR); Ministry of Public Health, Democratic Republic of Vietnam (Ministerstvo zdravookhraneniya Demokraticheskoy Respubliki Viyetnam)

TITLE: A study of Ixodidae in Vietnam

SOURCE: Meditsinskaya parazitologiya i parazitarnyye bolezni, v. 37, no. 6, 1968, 710-715

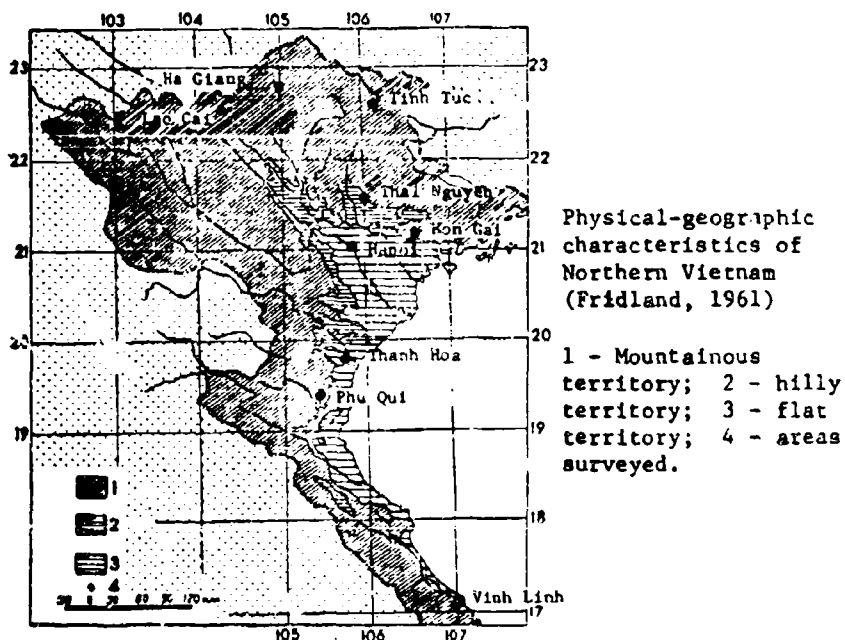
TOPIC TAGS: tick, disease vector, insect vector, animal parasite, mite

ABSTRACT: Nine provinces in the Democratic Republic of Vietnam as indicated on the map were surveyed in 1956 for Ixodidae. A total of 3559 ticks representing 9 families were collected from domestic and wild animals, and from vegetated areas. The results are shown in Table 1. Ixodidae species were most numerous in mountain and hilly territories

Card 1/5

UDC: 595.421-.9(597.7)(047)

ACC NR. AP9004531



Card 2/5

ACC NR: AP9004531

Species	Number			Area located	Host
	Larvae	Nymphs	Females		
<i>Ixodes granulatus</i> Sup	13	29	4	Hongquang, Cao Bang	Rats: <i>Rattus rattus siadani</i> , <i>R. sabanus heptneri</i> , <i>R. flavipes</i> , <i>Tupaia glis modesta</i> , <i>R. fulvescens</i> Birds: <i>Turdus</i> Humans, Vegetation
<i>Haemaphysalis bipunctata</i> Neum.			63	Cao Bang, Ha Giang, Lao Kay, Quang Tri, Ngean	Domestic animals: buffalo, cattle, dogs, rats: <i>Rattus rattus siadani</i> Humans, vegetation
<i>H. cornigera</i> Neum.			790	Cao Bang, Ha Giang, Lao Kay, Ngean	Domestic animals: buffalo, cattle Humans, vegetation
<i>H. cuspidata</i> Warb.			3	Quang Tri	Dogs, vegetation
<i>H. novaequinea</i> Krijgs.			5	Lao Kay, Quang Tri	Buffalo, vegetation
<i>H. papuana</i> Thor.			23	Cao Bang, Quang Tri, Ha Giang	Buffalo, dogs, vegetation
<i>H. spinigera</i> Neum.			2	Lao Kay	Vegetation

Card 3/5

ACC NR: AP9004531

<i>H. warburtoni</i> Nutt.			4	Lao Kay, Ha Giang	Buffalo, dogs
<i>H. wellingtoni</i> Nutt.			2	Ngean	Birds
<i>Rhipicephalus zam- guineus</i> Latr.	80	50	345	Hongquang, Ha Dong, Lao Kay, Ha Giang, Quang Tri, Thanh Hoa	Domestic animals: buffalo, dogs, cats, cattle Rats: <i>R. r. siadani</i> , <i>P. fla- vipes</i> , <i>R. concolor</i> Humans, living quarters
<i>Boophilus annula- tus australis</i> (Full.)	30	80	1680	All points investigated	Domestic animals: buffalo, dogs, cats, cattle Rats: <i>R. flavipes</i> Flying mice: <i>Pipistrellus</i> Lizards: (<i>Gekkonidae</i>) Humans, Horseflies (<i>Tabanus</i>)
<i>Amblyomma testu- dinarium</i> Koch.			140	Ha Giang, Lao Kay, Cao Bang, Quang Tri	Buffalo, cattle swine, dogs Vegetation
<i>Aponomma crassi- pes</i> Neum.		20	60	Ha Dong	Monitor (lizard)
<i>Aponomma gervaisi</i> Luc.			1	Ha Giang	Cobra (<i>Naja</i>)
<i>Dermacentor auro- tus</i> Sup.			2	Quang Tri	Vegetation

Card

4/5

ACC NR: AP9004531

D. sp. 1			3	Ha Giang	Vegetation
D. sp. 2			1	Lao Kay	Swine
<i>Macrophysalis</i> sp.	46	57		Ha Giang, Quang Tri, Cao Bang, Bong Quang	Rats: <i>R. flavipectus</i> , <i>R. r. oladani</i> , <i>R. sabanus heptemeri</i> , <i>R. niviventer lotipes</i> , <i>Tupaia glis modesta</i> Birds: Turdus
<i>Amblyomma</i> sp.	1	15		Ha Giang, Quang Tri, Lao Kay	Vegetation Vegetation. Buffalo

where the woods are preserved. Only three species were found on animals on the plains. Orig. art. has: 2 tables and 1 map.

[WA-50; CBE No. 40] [XF]

SUB CODE: 06/ SUBM DATE: 15Mar68/ ORIG REF: 001/ OTH REF: 007

Cord 5/5

ACC NR: AP9002873

SOURCE CODE: UR/0016/68/000/012/0077/0380

AUTHOR: Ignatovich, V. F.; Morozova, M. Yu.

ORG: Institute of Epidemiology and Microbiology im. Gamaleya AMN SSSR
(Institut epidemiologii i mikrobiologii AMN SSSR)

TITLE: Rickettsial antigens and rickettsiosis vaccines. Report III.
Experimental study of the immunogenic properties of live combined scrub typhus vaccine E

SOU E: Zh mikrobiol, epidemiol i immunobiol, no. 12, 1968, 77-80

TOPIC TAGS: scrub typhus, rickettsia

ABSTRACT: Live combined scrub typhus vaccine E consists of 2 *R. prowazeki* components: a live culture of vaccinal strain E and a soluble antigen obtained from the virulent Breinl strain. Injection of guinea pigs with live combined scrub typhus vaccine E produced different degrees of immunity to infection in 78.3--95% of animals. The strength of immunity in animals and the percentage of immunized animals depended to a great extent on the amount of viable *R. prowazeki* vaccinal strain E in the preparation. The

UDC: 615.371/.372-014.
191:576.851.71]-036.8

Cord 1/2

ACC NR: AP9002873

higher the minimum infective dose of the vaccine for chick embryos, the greater its immunizing properties for guinea pigs. Variations in the serological activity of soluble *R. prowazeki* antigen in the complement fixation reaction from 4 to 16 units per ml of vaccine did not affect the immunizing properties of the vaccine. Immunity to infection was tested with 10,000 infective doses of virulent rickettsia. Antibody production in guinea pigs immunized with vaccine in a titer of 10^{-7} was more intense (titers in the complement fixation reaction of 1:106—1:153) than antibody formation in animals immunized with vaccine in a titer of 10^{-6} . Orig. art. has: 2 tables. [WA-50; CBE No. 40][JS]

SUB CODE: 06/ SUBM DATE: 29Jan68/ ORIG REF: 064/ OTH REF: 001

Card 2/2

ACC NR: AP9002955

SOURCE CODE: UR/0240/68/000/012/0039/0043

AUTHOR: Il'in, V. V.; Kastorskiy, V. S.

ORG: Chair of Microbiology and Chair of Food Hygiene, Leningrad Sanitary Hygienic Medical Institute (Kafedra mikrobiologii kafedra gigiyeny pitaniya Leningradskogo sanitarno-gigiyenicheskogo meditsinskogo instituta)

TITLE: Species composition and properties of Enterococci isolated from humans and animals

SOURCE: Gigiyena i sanitariya, no. 12, 1968, 39-43

TOPIC TAGS: bacteriology, taxonomy, enterococcus

ABSTRACT: Enterococci strains were found in human and nearly all animal feces studied. These microorganisms were found relatively infrequently in feces of foxes, dogs, mice and pigeons. The presence of Enterococci in fish depends on the presence of sewage in the fishes' habitat waters. A detailed study of the physiological and biochemical properties, as well as species composition, of Enterococci strains isolated from the feces of 60 humans and 435 animals showed that it is impossible to differentiate strains as to human or animal origin. Also, the composition changes somewhat with standing. *Str. bovis* and *Str. equinis* in the

Card 1/3

UDC: 576.851.214(Enterococcus)

- 101 -

ACC NR. AP9002955

Table 1. Number and species composition of Enterococci isolated in experiments with humans and animals

Type of intestine from which sample was isolated	Number of samples studied	Number of samples yielding Enterococci	Number of strains isolated					
			Total	Including				
				Str. faecalis	Str. faecium	Str. durans	Str. bovis	Str. equinus
Human	60	54	132	36	63	32	0	1
Cattle ¹	44	43	132	12	86	34	0	0
Horses ¹	27	27	82	6	51	19	0	3
Foxes ¹	13	1	4	0	2	0	2	0
Sheep and other livestock ¹	41	27	83	7	55	8	10	3
Hogs	25	25	76	6	55	14	0	1
Dogs	22	14	51	5	42	2	0	2
Cats	8	8	24	1	13	10	0	0
Mice	25	13	34	7	16	11	0	0
Pigeons	22	1	3	0	2	0	0	0
Gulls	15	13	29	13	10	6	0	0
Chickens	15	12	24	7	10	7	0	0
Diving birds	16	16	57	11	21	21	2	2
Ocean fish	135	4	16	12	4	0	0	0
Fresh water fish	8	4	8	0	1	7	0	0

¹Studied material which had been stored for 1½ months

Card 2/3

ACC NR. AP9002955

Table 2. Change in species composition of Enterococci during storage experiments

Object	Number of Enterococci strains isolated			
	Total	Of these		
		Str. faecalis	Str. faecium + Str. durans	Str. bovis + Str. equinus
Fresh droppings	30	1	6	23
Droppings stored for 1½ months	32	4	26	2

environment indicates recent fecal contamination of the immediate area by herbivores. Orig. art. has: 3 tables. [WA-50; CBE No. 40] [LP]

SUB CODE: 06/ SUBM DATE: 24Nov67

Card 3/3

ACC NR: AP9005959

SOURCE CODE: BU/0011/68/021/011/1233/1235

AUTHOR: Ivanov, I.; Bourkova, T.

ORG: Institute of Labor Protection and Occupational Diseases

TITLE: Experimental comparative morphological and enzymohistochemical studies with Ceazine and Herbazine

SOURCE: Bulgarska akademiya na naukite. Doklady, v. 21, no. 11, 1968, 1.33-1235

TOPIC TAGS: organic azine compound, triazine derivative, herbicide, gastrointestinal tract, liver disease, genitourinary system disease, white rat, enzymology

ABSTRACT: This article appears in Chemical Factors

Card 1/1

ACC NR: AT9004724

SOURCE CODE: UR/3452/68/000/005/0161/0168

AUTHOR: Ivanov, F. V.; Priklonskiy, S. G.

ORG: Central Council of the All-Union Military Hunting Society (Tsentral'nyy sovet Vsesoyuznogo voenno-okhotnich'ego obshchestva); Okskiy National Game Preserve (Okskiy gosudarstvennyy zapovednik)

TITLE: The ecology of the Alpine hare (based on selective capture and banding)

SOURCE: AN SSSR. Zoologicheskii institut. Migratsii zhivotnykh, no. 5, 1968, 161-168

TOPIC TAGS: animal colony, zoology, animal migration

ABSTRACT: A count of Alpine hares (*Lepus timidus* L.), inhabiting the eastern part of the Oka game preserve during the period of spring flooding for the years 1958, 1959, 1963, and 1964 is given in Table 1. The greatest number of hares was counted on the largest island in the preserve, Staryye Borobyec, which comprises 400 hectares, and which is located 2-3 km from the other ten islands in the preserve. The ratio of male and female animals was approximately 1:1. It was determined that not more than 10% of the animals migrated from other

Card 1/2

UDC: 599.325.1:591.5(471.311)

ACC NR: AT9004724

Table 1. Comparative data on the number of hares
in the eastern part of the Oka game preserve

Year	Number of captured hares	Density per 1000 hectares of forest	Date of count	Number of tracks in an area from which hares were collected on Staryye Borovyie
			2 Dec. 1957 22-23 Jan 1959 8-9 Jan 1963 19-24 Mar. 1964	
1958	9	22	2 XII 1957	14
1959	12	30	22-23 I 1959	18
1963	8	20	8-9 I 1963	10
1964	10	25	19-24 III 1964	14

areas; however, banding data indicated that four animals crossed the Pra river and one crossed the Oka, presumably during the winter months.
Orig. art. has: 2 tables and 2 figures. [WA-50; CBE No. 40] [XF]

SUB CODE: 06/ SUBM DATE: none/ ORIG REF: 004/ OTH REF: 001

Card 2/2

ACC NR: AP9002848

SOURCE CODE: UR/0346/68/000/012/0072/0074

AUTHOR: Ivanov, M. M. (Professor); Glonti, T. M. (Aspirant)

ORG: State Scientific Testing Institute of Veterinary Preparations
(Gosudarstvennyy nauchno-kontrol'nyy institut veterinarnykh preparatov)

TITLE: The immunogenic properties of emulsion vaccines against paratyphoid and brucellosis of sheep

SOURCE: Veterinariya, no. 12, 1968. 72-74

TOPIC TAGS: brucellosis, brucellosis vaccine, paratyphoid fever

ABSTRACT: Both monovalent and combined vaccines against paratyphoid and brucellosis created a stable immunity in laboratory animals and lambs upon single inoculation. The formol-alum vaccine in present use produces immunity only after a double vaccination. No antagonism between the *Brucella* and *Salmonella* antigens in the combined vaccine was noted. The monovalent vaccine protected 100% of guinea pigs from death by *Salmonella abortus ovis*, as compared with 81% protection for the combined vaccine. This difference in protection is apparently due to the smaller dose of paratyphoid antigen received by animals in the combined vaccine. The monovalent and combined vaccines protected

UDC: 619:[616.981.42+616.
981.49]-085.37:636.32/38

Card 1/2

ACC NR: AP9002848

80 and 60%, respectively, of lambs (as compared with 100% death of controls upon inoculation of *Salm. abortus ovis* strain E-2). The monovalent vaccine created immunity to brucellosis in 60-100% of guinea pigs, depending on the infective dose, (about the same level of immunity provided by vaccination with strain 19). On the fiftieth day after vaccination with combined vaccine, 100% of guinea pigs were not susceptible to brucellosis. Orig. art. has: 4 tables.

[WA-50; CBE No. 40][JS]

SUB CODE: 06/ SUBM DATE: none

Card 2/2

ACC NR: AT9006106

SOURCE CODE: UR/3457/66/000/044/0054/0063

AUTHOR: Kaminskiy, S. L. (Senior research associate)

ORG: Leningrad Institute of Industrial Hygiene (Leningradskiy institut okhrany truda)

TITLE: Establishing permissible levels of respiratory interference of antidust masks

SOURCE: Nauchnyye raboty institutov okhrany trudy VTsSPS, no. 44, 1966, 54-63

TOPIC TAGS: biologic filter, biologic protective mask, air pollution

ABSTRACT: The effects of respiratory inhibition during the use of antidust masks lengthen the respiratory cycle, decrease the intake of air, and increase the flow during exhalation. Deep breathing increases but

Card 1/3

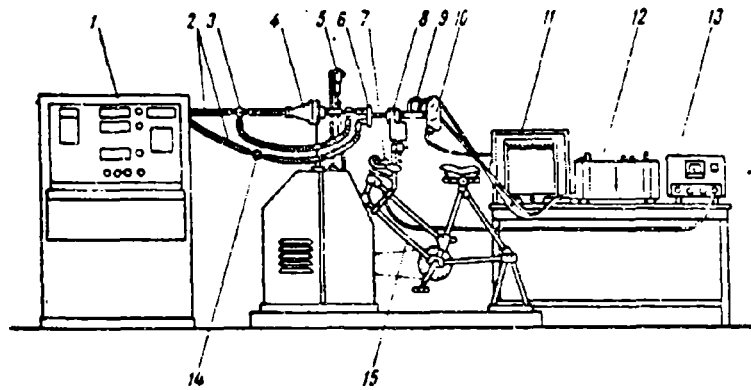


Fig. 1. Diagram of the device used in conducting the experiments

1 - Belau apparatus; 2 - corrugated hose; 3 - three valve stopcock; 4 - graduated container; 5 - tachometer; 6 - valved wheel; 7 - pulse tachometer; 8 - automatic airflow regulator; 9 - pneumotachograph counter; 10 - respirator semimask; 11 - electronic potentiometer; 12 - universal pneumotachograph VNIMIO; 13 - PT-2 pulsotachometer; 14 - graduated airflow regulator; 15 - bicycle body

Card 2/3

breathing frequency is decreased. Work output by the muscles is therefore increased. Orig. art. has: 6 figures and 3 tables.

[WA-50; CBE No. 40][LP]

SUB CODE: 06/ SUBM DATE: none/ ORIG REF: 017/ OTH REF: 006

Card 3/3

ACC NR. AP9001306

SOURCE CODE: UR/0016/68/000/011/0127/0131

AUTHOR: Kanatov, Yu. V.; Lobachev, V. S.; Dmitriyev, P. P.; Lapin, I. S.; Kim, V. S.; Kanatova, Ye. A.; Roldugina, V. I.

ORG: Aral Sea Antiplague Station (Aralomorskaya protivochumnaya stantsiya); Moscow University (Moskovskiy universitet)

TITLE: Use of serologic tests for express epizootiological study in a natural plague focus

SOURCE: Zhurnal mikrobiologii, epidemiologii i immunobiologii, no. 11, 1968, 127-131

TOPIC TAGS: serologic test, epidemiologic focus, plague, animal vector research

ABSTRACT: Comparison of serological and bacteriological methods of studying animals in plague foci showed that specific serum antibodies are encountered dozens, or hundreds, of times more often than bacteria are recovered from animals. In addition, serologic tests can be performed in 10 to 20 hr, as compared with 2-6 days for bioassay and bacteriological tests. Use of a mobile serological laboratory for rodent study enabled quick pin-pointing of areas with plague epizootics among great gerbils. The passive hemagglutination, antigen neutralization, and the passive

Card 1/2

UDC: 616.981.452-036.21-078.73:614.449

ACC NR: AP9001306

hemagglutination inhibition reactions were used for serological study. The KAVZ-663A mobile laboratory contained a physician, laboratory technician, and two assistants, and could process 200 to 300 rodents a day. Work was conducted in 1967 in the Aral Kara Kum Sands (Turgay Valley) and on the northwest shore of the Aral Sea. Animals could be divided into 3 groups: group 1, consisting of more than 600 gerbils from 4 settlements, had neither antibodies nor bacteria; group 2, consisting of 1000 gerbils from 4 other settlements, had a few animals with antibodies; and group 3, consisting of 25,000 gerbils from 10 other settlements, which had 10-50% with antibodies. Plague epizootics are recorded annually in the third group. This work would have taken many years of effort by three epidemiological teams working 4 to 6 months a year, while, with the mobile serological laboratory, all the information was collected in 2 months. The percentage of gerbils with antibodies and the concentration of antibodies can be used as tentative guidelines of the character and date of the epizootic. [WA-50; CBE No. 40] [JS]

SUB CODE: 06/ SUBM DATE: 26Mar68/ ORIG REF: 010

Card 2/2

ACC NR: AP9002959

SOURCE CODE: UR/0240/68/000/012/0060/0064

AUTHOR: Karpukhin, G. I.; Slobodenyuk, A. V.; Slobodenyuk, V. K.

ORG: Institute of Viral Infections, Ministry of Public Health RSFSR, Sverdlovsk (Institut virusnykh infektsiy Ministerstva zdravookhraneniya RSFSR)

TITLE: Method of quantitative determination of virus in the air and on surfaces during aerosol contamination

SOURCE: Gigiyena i sanitariya, no. 12, 1968, 60-64

TOPIC TAGS: biologic agent sampler, biologic agent detection, biologic aerosol

ABSTRACT: The minimum dose of atomized virus-containing fluid from which virus can be isolated with Rechmenskii's apparatus contained Coxsackie B1 virus, adenovirus type 3 or polio virus type 3 in a titer of $10^{6.5}$ — $10^{7.0}$ TCD₅₀/ml and an air concentration of 0.1 ml/m³.

With this dose virus in a titer of $10^{3.0}$ TCD₅₀/ml could be isolated from 50 liters of air passed through the apparatus. The optimum amount of adsorbent (medium no. 199) is 2.5—3 ml per Rechmenskii

Card 1/2

UDC: 576.858.07

ACC NR: AP9002959

apparatus. Quantitative determination of virus in the air of sealed rooms under the above conditions is possible within 30—180 min. The minimum amount of atomized virus-containing fluid with which virus can be isolated from 5 x 5 cm surfaces in a titer of $10^{3.0}$ TCD₅₀/ml in 1.5 ml of medium no. 199 was 3 ml/m³ of chamber air, with an initial titer of virus-containing fluid of $10^{7.0}$ TCD₅₀/ml. Tests were conducted in an 11 m³ sealed chamber with regulated temperature and relative humidity, and an air flow of 0.3 m/sec. The viral aerosol contained 80% particles between 3 and 5 μ. The titer of virus isolated depended directly on the volume of air passed through the apparatus: increasing the volume of air from 10—100 liters increased several times the amount of virus trapped on 5—2.5 ml of adsorbent. Aerosols with 80% of the particles between 1 and 20 μ or 75—80% from 20—30 μ were used for surface contamination tests. Orig. art. has: 3 tables. [WA-50; CBE No. 40][JS]

SUB CODE: 06/ SUBM DATE: 20Feb68/ ORIG REF: 006/ OTH REF: 001

Card 2/2

ACC NR: AP9006762

SOURCE CODE: UR/0346/69/000/001/0102/0105

AUTHOR: Karysheva, A. F. (Candidate of veterinary sciences); Tarasova, T. V. (Research associate); Syusyukin, V. A. (Research associate); Kovalev, L. A. (Candidate of economical sciences)

ORG: [Karysheva, Tarasova, Syusyukin] Belorussian Department, All-Union Scientific Research Institute of the Meat Industry (Belorusskoy otdelenia Vsesoyuznogo nauchno-issledovatel'skogo instituta myasnoy promyshlennosti); [Kovalev] Institute of Economics AN BSSR (Institut ekonomiki)

TITLE: New nutrient base for cultivation of bacteria

SOURCE: Veterinariya, no. 1, 1969, 102-105

TOPIC TAGS: culture method, protein synthesis, bacteria growth

ABSTRACT: A dried protein concentrate obtained from the waste products of meat-processing plants is described. The concentrate may be used instead of meat and fish for the preparation of nutrient media. It consists of 95% protein and contains all amino acids necessary for cultivating microorganisms. The chemical structure and amino acid composition of the concentrate are shown in Tables 1 and 2. The dried concentrate was used to prepare nutrient media in the form of bouillon

Card 1/3

UDC: 619:616.981-093.3

ACC NR: AP9006762

Table 1. Chemical structure of dried protein concentrate (in percentages to dry weight)

No. of test	Dry weight	Protein	Fat-like substances	Phosphorus	Calcium
92	92.8	60.7	9.7	0.85	0.37
93.8	60	20.6	0.02	0.23	
91.2	83.5	2.4	0.02	0.37	
91.2	85.2	1.7	0.02	0.37	
88.3	84.8	1	0.049	0.26	
89.5	90.5		0.031	0.25	

Table 2. Amino acid composition of proteins in dried protein concentrate (in % to protein)

Amino acids	Test		
	1-6	7	8
Cystine + cysteine	10.68-13.68	13.48	14
Lysine	6.24-9.86	6.44	7.11
Arginine	8.16-10.66	9.96	10.96
Glycine + serine + aspartic acid . .	20-25.98	25.41	26.6

Card 2/3

ACC NR: AP9006762

Table 2. (Cont.)

Hydroxyproline . .	1.15—2.11	2.13	1.15
Threonine + glutamic acid . . .	11.68—14.35	14.34	12.48
Alanine	4.42—6.48	5.28	6.26
Proline	2.28—4.16	2.58	3.68
Tyrosine	2.06—5.16	1.04	2.1
Valine + methionine	2.18—4.15	4.81	4.64
Phenylalanine . .	3.15—5.11	3.38	4.28
Leucine	2.19—6.15	3.74	4.35

water and hydrolysates. There were no differences in the morphological, cultural and serological properties of microorganisms cultivated on media prepared from dried protein concentrate and control microorganisms grown on official media. Test organisms were selected from the *Salmonella* and *Escherichia* genera, from freshly pathogenic anaerobic bacteria and from the coccal group. Orig. art. has: 7 tables.

[WA-50; CBE No. 40][XF]

SUB CODE: 06/ SUBM DATE: none

Card 3/3

ACC NR: AP9003393

SOURCE CODE: UR/9062/68/003/006/0925/0928

AUTHOR: Katar'yan, B. T.

ORG: All-Union Scientific Research Institute of Winemaking and Vini-culture "Magarach", Yalta (Vsesoyuznyy nauchno-issledovatel'skiy institut vinodeliya i vinogradarstva "Magarach")

TITLE: Effect of fungal toxins on plants and microorganisms

SOURCE: Sel'skokhozyaystvennaya biologiya, v. 3, no. 6, 1968, 925-928

TOPIC TAGS: fungus, toxin, plant disease, bacteria, yeast

ABSTRACT: The capacity of toxins of *Penicillium (P.) martensii*, *P. claviforme*, *P. miczynskii*, *Aspergillus niger*, *Alternaria* and *Stemphylium piriforme* to inhibit the development of microorganisms and their antimicrobial activity was determined by a series of successive dilutions of native liquids by the method of diffusion of toxic substances in an agar-agar plate of nutrient medium. Test microbes were 25 cultures of Gram-positive and Gram-negative bacteria, actinomyces, fungi and yeasts. Actinomyces which were the most sensitive to fungal toxins are shown in Table 1. Spore-forming and asporogenic forms of bacteria which were next in sensitivity after actinomyces to the fungal toxins are shown in Table 2. A group of microscopic fungi and yeasts (with

Card 1/4

UDC: 632.4

ACC NR: AP9003393

Table 1. Inhibiting effect of native liquid of phytotoxic fungi on the growth of actinomyces

Test microbes	Degree of inhibition (diameter of zones of absence of growth in mm)			
	<i>Penicillium nit. synkhi</i>	<i>Penicillium clact. forme</i>	<i>Penicillium mar. tronsii</i>	<i>Aspergillus niger</i>
<i>Mycobacterium album</i>	0	0	0	0
<i>Micromonospora sp. wt. 1043</i>	0	44	34	0
<i>Actinomyces ulridis</i>	0	28	36	0
<i>Actinomyces griseus</i>	0	30	33	0
<i>Actinomyces globisporus</i>	0	35	45	0
<i>Actinomyces streptomycini</i>	0	25	28	14
<i>Actinomyces venezuelae</i>	23	33	35	18

Cord 2/4

ACC NR: AP9003393

Table 2. Inhibiting action of native liquid of phytotoxic fungi on the growth of bacteria

Test microbes	Degree of inhibition (diameter of zones of absence of growth in mm)			
	<i>Penicillium nit. synkhi</i>	<i>Penicillium clact. forme</i>	<i>Penicillium mar. tronsii</i>	<i>Aspergillus niger</i>
<i>Sarcina flava</i>	14	32	25	13
<i>Bacterium coli</i>	0	30	35	0
<i>Bacterium prodigiosum</i>	0	25	30	0
<i>Acetobacter chrooococcum</i>	0	0	0	0
<i>Pseudobacterium rubricum</i>	18	18	25	14
<i>Bacillus coreus</i>	0	30	30	0
<i>Bacillus mycoides</i>	0	24	22	0
<i>Bacillus subtilis</i>	0	22	33	0
<i>Bacillus mesentericus</i>	0	25	24	0
<i>Bacillus megatherium</i>	0	35	32	0
<i>Bacillus agglomeratus</i>	0	27	34	0
<i>Bacillus sp. wt. C</i>	21	25	24	13

Cord 3/4

ACC NR: AP9003393

the exception of Debaryomyces) were nonsensitive to fungal toxins. Undiluted suspensions of *P. claviforme* produced a 1.9 cm² area of necrosis on the leaf blade of geranium, while *P. martensii* produced 1.4 cm² necrotic areas. Analogous results were noted with grape leaves. The phytotoxic effect of fungi on the germination of seed and the development of 2-day growths of various plants (wheat, pea, cabbage) was also demonstrated. *Alternaria* and *Stemphylium piriforme* showed only limited toxic effect on some plants. They did not inhibit the development of microorganisms. Orig. art. has: 3 tables and 3 figures. [WA-50; CBE No. 40] [XF]

SUB CODE: 06/ SUBM DATE: 01Aug67/ ORIG REF: 009/ OTH REF: 003

Card 4/4

ACC NR: AP9002860

SOURCE CODE: UR/0016/68/000/012/0008/0011

AUTHOR: Kenig, E. E.; Sageyeva, O. F.; Shakhlanov, V. A.

ORG: Institute of Human Morphology AMN SSSR (Institut morfologii cheloveka AMN SSSR); All-Union Antiplague Institute "Mikrob" (Vsesoyuznyy protivochumnyy institut)

TITLE: Changes in the ultrastructure of *P. pestis* in the guinea pig body

SOURCE: Zh mikrobiol, epidemiol i immunobiol, no. 12, 1968, 8-11 and appropriate inserts between p. 32-33

TOPIC TAGS: pasteurella pestis, phagocytosis, leukocyte

ABSTRACT: *P. pestis* strain no. 703 underwent a considerable morphological change in guinea pigs. Along with typical forms of plague bacteria, involuted forms (with layered membranes) were noted in exudate and capillary lumina. Plague bacteria phagocytised by neutrophilic leukocytes were subjected to intracellular bacteriolysis. The longest-lasting bacterial structures were the cell membranes, which were observed in the cytoplasm of neutrophilic leukocytes and macrophages 5 to 6 days after infection. A greater variety of

Card 1/2

UDC: 616.981.452-092.9-

07:576.851.45.095.5-078

- 192 -

ACC NR: AP9002860

morphological forms of *P. pestis* was observed in the lungs and the buboes. Bacteriolysis of plague bacteria inside leukocytes proceeded from loss of granular and fibrillar structures in the central part of the cell to loss of the capsule and disappearance of the cell body with only the membranes remaining. Evolved forms of the bacteria have a layered membrane. [WA-50; CBE No. 40][JS]

SUB CODE: 06/ SUBM DATE: 05Feb68/ ORIG REF: 011/ JTH REF: 003

Card 2/2

ACC NR: AP9002885

SOURCE CODE: UR/0016/68/000/012/0129/0130

AUTHOR: Kereyev, N. I.

ORG: none

TITLE: Third Scientific Conference on Problems of Medical Geography of Kazakhstan

SOURCE: Zh mikrobiol, epidemiol i immunobiol, no. 12, 1968, 129-130

TOPIC TAGS: medical geography, epidemiology, tularemia, brucellosis, anthrax

ABSTRACT: Among the 50 papers presented at the Third Scientific Conference on Problems of Medical Geography in Kazakhstan, held on 28-31 May 1968 in Alma Ata was a study by N. I. Kereyev which divided Kazakhstan into medical and geographical zones and suggested principles of organization for the possible development of active foci of arbovirus infections. M. A. Aykimbayev established the participation of susliks, *D. daghestanicus* ticks, *Ctenophthalmus arvalis* fleas, and *Nepa cinerea* water scorpions in natural foci of tularemia, which exist in 15 out of 16 oblasts in Kazakhstan. G. V. Kolonin, using an anthrax model, showed the possibility of delineating world-wide regions of various diseases, independent of natural biocenoses. N. I. Kereyev also

Card 1/2

UDC: 616-036.2:91(574)(063)"1968"

ACC NR: AP9002885

reported on serological and epidemiological studies of ornithosis in Kazakhstan. Hazardous zones of tickborne encephalitis in Siberia were mapped by B. N. Malikov, S. M. Pavlukhin, and P. I. Chudin. Mathematical modeling in epidemiology was discussed by the teams of I. D. Il'chenko and G. V. Kolonin, and P. P. Reshetnikov and K. N. Bol'shakov. V. N. Kusov described the geographical distribution and ecological characteristics of bird ticks, carriers of tickborne relapsing typhus. T. D. Il'chenko and L. I. Saravayskaya showed the role of the natural and geographic environment on the structure of zones of acute intestinal diseases and dysentery. Brucellosis still exists in Kazakhstan and was the subject of a paper by V. I. Sofiyev and colleagues and R. Zh. Ishchanova and colleagues. [WA-50; CBE No. 40] [JS]

SUB CODE: 06/ SUBM DATE: none

Card 2/2

ACC NR: AP9005097

SOURCE CODE: UR/0390/68/031/005/0538/0541

AUTHOR: Khanov, M.; Kurmukov, A. G.; Sultanov, M. B.; Akhmedkhodzhayeva, Kh. S.

ORG: Institute of Chemistry of Plant Substances, AN UzSSR, Tashkent (Institut khimii rastitel'nykh veshchestv AN UzSSR)

TITLE: Effect of Vincarine on the central nervous system

SOURCE: Farmakologiya i toksikologiya, v. 31, no. 5, 1968, 538-541

TOPIC TAGS: central nervous system depressant, muscle relaxant, conditioned reflex, bioelectric phenomenon

ABSTRACT: This article appears in Chemical Factors

Card 1/1

UDC: 612.82.014.46:615.322:582.937

- 104 -

ACC NR: AP9004402

SOURCE CODE: UR/0079/68/038/012/2652/2658

AUTHOR: Khaskin, B. A.; Taturina, N. N.; Mel'nikov, N. N.

ORG: All-Union Scientific Research Institute of Chemicals for Plant Protection (Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh sredstv zashchity rasteniy)

TITLE: Organic insectofungicides. Thione-thiol isomerization of quaternary phosphonium O,O-dialkyl dithiophosphates

SOURCE: Zhurnal obshchey khimii, v. 38, no. 12, 1968, 2652-2658

TOPIC TAGS: pesticide, fungicide, bactericide, organic phosphate, dithiophosphate ester

ABSTRACT: This article appears in Chemical Factors

Card 1/1

UDC: 615.777/779

ACC NR: AP8035419

SOURCE CODE: UR/0433/68/000/010/0016/0017

AUTHOR: Khel'man, L. V. (Aspirant)

ORG: VNIS

TITLE: Agricultural technology for combating sugarbeet yellows virus

SOURCE: Zashchita rasteniy, no. 10, 1969, 10 ?

TOPIC TAGS: plant virus, agriculture science

ABSTRACT: Study of primary foci of sugarbeet yellows virus showed that the disease is most frequently encountered in seed-growing farms. The virus winters in the roots of mature sugarbeet plants and seed plants from these root crops then become primary infectious foci. From infected plants the virus is transmitted by aphids (usually *Aphis fabae* or *Myzus persicae*) to healthy seed plants. Observations of the development of sugarbeet yellows virus conducted in 1965 and 1966 in Ternopol' Oblast and Kiev Oblast showed that the distance of seedlings from seed-plant fields determined the degree of damage by the virus. Plantings located near the seed plants were most severely damaged by sugarbeet yellows virus. Wintering-over self-sown plants serve as additional foci of infection in the spring. For this reason,

Card 1/2

UDC: 632.38A/z/.931

ACC NR: AP8035419

self-sown plants on seed-plant fields should be destroyed after harvest. Serological study of seven families of weeds showed that dandelions, corn sowthistles, and other weeds can carry the virus and become foci of infection. More infected sugarbeets were found in late plantings than in early plantings because of the aphid life cycle. Sugarbeets planted further apart were also more susceptible to sugarbeet yellows virus. Preventive measures include isolation of seed plants and destruction of weeds, optimal planting density, and correct use of organic and mineral fertilizers. [WA-50; CBE No. 40][JS]

SUB CODE: 06/ SUBM DATE: none

Cord 2/2

ACC NR: AP9006760

SOURCE CODE: UR/0346/69/000/001/0063/0064

AUTHOR: Khmelevskiy, V. N. (Aspirant)

ORG: All-Union Scientific Research Institute of Veterinary Sanitation (Vsesoyuznyy nauchno-issledovatel'skiy institut veterinarnoy sanitarii)

TITLE: Experimental data on therapy of sevin poisoning in poultry

SOURCE: Veterinariya, no. 1, 1969, 63-64

TOPIC TAGS: animal parasite, carbamate, cholinesterase inhibitor, atropine, pesticide

ABSTRACT: Nine chickens were poisoned with carbaryl (sevin) in doses of 4000 mg/kg (LD₁₀₀ 2000 mg/kg). Atropine sulfate 10 mg/kg was administered intramuscularly to 6 chickens within 30-40 min after carbaryl. Death occurred within one hr after receiving carbaryl in the 3 controls. The therapeutic effect of atropine appeared within 10-20 min after administration. A second 10 mg/kg dose of atropine was administered 1 hr after the first, followed by a third 10 mg/kg dose 2 hr after carbaryl poisoning. There was a 20-30% decrease in blood cholinesterase on the sixth day after poisoning, and a 7-15% decrease on the eighth day; initial cholinesterase levels were reached on the fifteenth day after poisoning. The mechanism of cholinesterase inhibition by carbaryl was

Cord 1/2

UDC: 619:615.778.4-085.784:636.52/.58

ACC NR: AP9006760

discussed. The widespread use of carbaryl for control of ectoparasites in poultry was noted. Orig. art. has: 1 table. [WA-50; CBE No. 40] [XF]

SUB CODE: 06/ SUBM DATE: none

Card 2/2

ACC NR: AP9002878

SOURCE CODE: UR/0016/68/000/012/0106/0109

AUTHOR: Khomyakov, A. I.; Fatsova, N. A.; Gridzhin, G. A.

ORG: Sanitation and Epidemiological Station, Sasov Rayon, Ryazan' Oblast (Sanitarno-epidemiologicheskaya stantsiya Sasovskogo rayona Ryazanskoy oblasti); Laboratory of Aviation Medicine, Sasov Flying School of Civil Aviation im. Hero-of-the-Soviet-Union G. A. Taran (Laboratoriya aviatsionnoy meditsiny Sasovskogo letnogo uchilishcha grazhdenskoj aviatsii)

TITLE: Results of simultaneous (separate) immunization of people against tularemia and smallpox

SOURCE: Zh mikrobiol, epidemiol i immunobiol, no. 12, 1968, 106-109

TOPIC TAGS: tularemia, smallpox, tularemia vaccine, smallpox vaccine

ABSTRACT: High indices of immunity to tularemia were obtained from 1 to 28 months after simultaneous, separate immunization of people with tularemia and smallpox vaccines. People aged 16 to 26 were immunized with dry, live, tularemia vaccine cutaneous and with dry smallpox vaccine. [Vaccinal doses were not given]. Simultaneous, separate inoculation of people with tularemia and smallpox vaccine did not

UDC: 616.912+616.981.455/-084.47+
615.371:/576.858.13+576.851.45/.03
- 197 -

Card 1/2

ACC NR: AP9002878

cause complications and produced only slight general reactions in 3.4% of inoculated individuals. The smallpox vaccine applied separately, but at the same time as tularemia vaccine, did not inhibit formation of antitularemia immunity. Simultaneous inoculations against tularemia and smallpox can be conducted in areas enzootic and endemic for tularemia. Orig. art. has: 1 table. [WA-50; Ser. No. 40][Js]

SUB CODE: 06/ SUBM DATE: 14Dec67/ ORIG REF: 003

Card 2/2

ACC NR: AP9002847

SOURCE CODE: UR/0346/68/000/012/0070/0072

AUTHOR: Kir'yanov, Ye. A.

ORG: Primorskiy Regional Veterinary Laboratory (Primorskaya krayevaya veterinarnaya laboratoriya)

TITLE: Leptospirosis of farm animals in Primor'ye

SOURCE: Veterinariya, no. 12, 1968, 70-72

TOPIC TAGS: leptospirosis, epidemiologic focus

ABSTRACT: A total of 14 serotypes of *Leptospira* were found in the blood of farm animals in Primorskiy Kray: *L. pomona*, *tarassovi*, *omnicola*, *grippotyphosa*, *icterohaemorrhagiae*, *akijami* A and B, *sarkoebing*, *sejroe*, *ussuri*, *bataviae*, *butembo*, *sorex*, and *wolffi*. Ten of these serotypes were observed in the southeast zone, 6 in the Sikhote-Alin zone, and 14 in the Suyfun-Khanka zone. Studies show the probable existence of natural foci of leptospirosis in farms of the southern Primorskiy, Ussuri, Suyfun-Khanka, and Terney-Ol'ga areas. Both wild and farm animals (including fowl) participate in the formation of natural foci of infection. In addition, the large Japanese field mouse, harvest mouse, reed vole, large-toothed

Card 1/2

UDC: 619:616.986.7-036.2(571.63)

ACC NR: AP9002847

redbacked vole, northern redbacked vole, stripped hamster, greater longtailed hamster, Manchurian zokon, muskrat and Norway rat help maintain the infection in the focus. [WA-50; CBE No. 40][JS]

SUB CODE: 06/ SUBM DATE: none

Cord 2/2

ACC NR: AP9002849

SOURCE CODE: UR/0346/68/000/012/0074/0075

AUTHOR: Kiyanenka, V. F. (Veterinarian)

ORG: none

TITLE: Simultaneous prophylactic inoculation of pigs against swine plague and pasteurellosis

SOURCE: Veterinariya, no. 12, 1968, 74-75

TOPIC TAGS: pasteurellosis, swine fever vaccine

ABSTRACT: Simultaneous inoculation of pigs against swine plague and pasteurellosis created a sufficient level of immunity to these diseases and reduced the period of development of immunity. Pigs were inoculated with a glycerinized crystal-violet vaccine against swine plague and a vaccine against hemorrhagic septicemia suitable for cattle, sheep and pigs. Vaccines were given in 2 doses at a 12-to-14-day interval. No postvaccinal complications were noted. In spite of location of vaccinated pigs on farms unsafe with respect to both swine plague and pasteurellosis, no pigs became infected with either disease. Pigs inoculated only against swine plague became infected with pasteurellosis. [WA-50; CBE No. 40][JS]

SUB CODE: 06/ SUBM DATE: none

Cord 1/1

UDC: 619:[616.981.49+616.988.75]-085.37:636.4

ACC NR: AP9003771

SOURCE CODE: UR/9057/68/002/006/0543/0547

AUTHOR: Kondrashkina, K. I.; Kurayev, I. I.; Zakharova, G. A.

ORG: All-Union Scientific Research Antiplague Institute "Mikrob",
Saratov (Vsesoyuznyy nauchno-issledovatel'skiy protivochumnyy institut
"Mikrob")

TITLE: Some problems of interadaptation of the flea and plague agent

SOURCE: Parazitologiya, v. 2, no. 6, 1968, 543-547

TOPIC TAGS: Pasteurella pestis, flea, disease vector, insect vector

ABSTRACT: In infected fleas a large number of *Pasteurella pestis*
cells exerted a toxic effect on the flea cells and tissues. Infected
fleas respired 1.3-2 times less oxygen than did controls and lost
one-fourth of their body weight within 5 days. After inoculation,

Card 1/3

UDC: 576.895.42

ACC NR: AP9003771

Table 1. Intensity of oxygen loss (in $\mu\text{l}/\text{mg}$ body weight/hr at 20°C)
and change in weight indicators of infected and uninfected fleas

Flea species	Sex	Numerical indicators						Oxygen loss of infected fleas
		Test group (infected fleas)			Control group (uninfected fleas)			
		No. of fleas	Avg. body wt.	O ₂ loss	No. of fleas	Avg. body wt.	O ₂ loss	
<i>N. galosa</i>	Female	141	0.342	0.607	237	0.463	0.859	1.4
	Male	112	0.235	0.953	139	0.343	1.247	1.3
<i>X. cheopis</i>	Female	72	0.308	0.436	81	0.431	0.709	1.6
	Male	53	0.280	0.529	41	0.280	0.743	1.4
<i>C. leuciceps</i>	Female	103	0.259	0.802	250	0.369	1.189	1.4
	Male	42	0.207	0.819	130	0.247	1.698	2.0
<i>C. tesquorum</i>	Female	51	0.438	1.506	150	0.457	1.907	1.3
	Male	56	0.337	1.279	46	0.347	2.147	1.7

Card 2/3

ACC NR: AP9003771

Table 2. Infectivity and lysogeny of suspensions from some flea species

No. of test	Flea species	Method of infection	Conditions prevailing after infection by feeding	Time after inspection via mouth (in days)	No. of specimens studied	Of these	
						Support-ability of the plaque	Fv-lyso-geny
1	<i>N. ustosa</i>	Feeding on the Great Gerbil	Unfattened	2	25	4	9
2	<i>X. cheopis</i>	Same	Same	8	25	2	11
3	<i>N. ustosa</i>		Fattened 5 days	15	25	5*	2*
4	<i>X. cheopis</i>	Via membrane	Fattened 8 days	16	25	13	0

a lysogenous substance is found in fleas which aids in the elimination of *P. pestis* from most fleas. Orig. art. has: 2 tables.

[WA-50; CBE No. 40] [LP]

SUB CODE: 06/ SUBM DATE: none/ ORIG REF: 004/ OTH REF: 001

Card 3/3

ACC NR: AP9005104

SOURCE CODE: UR/0390/68/031/005/0618/0620

AUTHOR: Kosmacheskaya, E. A.; Tikhodeyeva, I. I.

ORG: Laboratory of Pathological Embryology /Head--Prof. A. P. Dyban/, Department of Embryology, Institute of Experimental Medicine (Director--Active Member of the AMN SSSR Prof. D. A. Biryukov/, AMN SSSR, Leningrad (Laboratoriya patologicheskoy embriologii otdela embriologii Instituta eksperimental'noy meditsiny AMN SSSR)

TITLE: Embryotoxic action of some pyrimidine derivatives

SOURCE: Farmakologiya i toksikologiya, v. 31, no. 5, 1968, 618-620

TOPIC TAGS: uracil, embryology, nucleic acid metabolism, rat embryo, pyrimidine derivative

ABSTRACT: This article appears in Chemical Factors

Card 1/1

UDC: 618.33-02:615.277.3+612.277.3.065:618.33

ACC NR: AP9001300

SOURCE CODE: UR/0016/68/000/011/0093/0098

AUTHOR: Kravchenko, A. T.; Rodionova, V. G.

ORG: Testing Institute im. Tarasevich (Kontrol'nyy institut)

TITLE: Infectious allergy. Report VIII. Histochemical changes in some redox enzymes in cardiac muscle during sensitization with diphtheria exotoxin

SOURCE: Zhurnal mikrobiologii, epidemiologii i immunobiologii, no. 11, 1968, 93-98

TOPIC TAGS: exotoxin, diphtheria, enzymatic activity

ABSTRACT: Injection of guinea pigs with diphtheria exotoxin with identical doses using different intervals caused prolonged disruption of the enzyme system in cells of the cardiac muscle in all cases, but to different degrees. The degree of effect of diphtheria exotoxin on enzymes of myocardial cells depended directly on the number of injections of exotoxin. Disruption of enzymatic activity in myocardial cells always preceded clinical signs of intoxication. Animals received approximately one quarter D₅₀ in a single injection, in 15 injections, or in 28 injections. The enzymes studied included glucose-6-phosphate

UDC: 616.127-008.931:577.158]

-02:[616-056.3:616.931-097.29

Card 1/2

ACC NR AP9001300

dehydrogenase, glutamate dehydrogenase, cytochrome oxidase, succinate dehydrogenase and other dehydrogenases, and diaphorases. Orig. art. has: 1 table. [WA-50; CBE No. 40][JS]

SUB CODE: 06/ SUBM DATE: 21Sep67/ ORIG REF: 013

Card 2/2

ACC NR: AP9001032

SOURCE CODE: UR/9039/68/073/006/0029/0034

AUTHOR: Krivolutskiy, D. A.

ORG: none

TITLE: Zonal distribution of testaceous mites (Oribatei) in the soils of the USSR

SOURCE: Moskovskoye obshchestvo ispytateley prirody. Otdel biologicheskoy. Byulleten', v. 73, no. 6, 1968, 29-34

TOPIC TAGS: mite, soil, arctic medicine, climatic influence

ABSTRACT: The distribution of testaceous mites was studied in typical soils from the tundra, northern and southern taiga, forest-steppe, semi-arid, arid, and subtropical areas of the USSR. Soil samples were usually taken at the beginning of the biological summer from April to July. Approximately 80,000 mature testaceous mites representing 372 species were found in more than 1400 soil samples. In the Arctic zone, Oribatei were found regularly in the soil, but in small numbers. Most frequently counted were sclerous and pigmented mites, especially *Fuscoretetes sellnicki* and representatives of the Nothridae and Camisiidae families. In the subarctic or tundra regions were found large numbers of many different

Card 1/2

UDC: Oribatei (47)

ACC NR: AP9001032

species. In the taiga and coniferous broad-leaved forests, 60,000 to 70,000 Oribatei were counted in 1 m² of soil; they represented the highest count in the soil population in this area. There were approximately 40,000 Oribatei in 1 m² of soils of oak forests. There was great variation in their species structure. The Oribatei count in arid areas was significantly lower than in humid regions, while in the subtropical regions of the Transcaucasus and southern Turkmen, the count was similar to that of the semiarid regions although the species structure and morphoecological types were different. It was found that the count of testaceous mites in the soils of different natural regions depended on the moisture, and on the fall-off and rate of mineralization. Soils in taiga forests and mixed coniferous broad-leaved forests were well moistened and rich in fall-off, which decomposed slowly, and formed a thick layer of litter, providing a favorable habitat for oribatids. The number of oribatids diminished north and south of the taiga. Orig. art. has: 1 table. [WA-50; CBE No. 40] [XF]

SUB CODE: 06/ SUBM DATE: none/ ORIG REF: 026

Card 2/2

ACC NR: AP9001309

SOURCE CODE: UR/0016/68/000/011/0141/0141

AUTHOR: Kudelina, R. I.; Fedorova, N. I.; Stepanchenok, G. I.

ORG: Institute of Epidemiology and Microbiology im. Gamaleya AMN SSSR, Moscow (Institut epidemiologii i mikrobiologii AMN SSSR)

TITLE: Obtaining soluble *Rickettsia burneti* antigen with ultrasonic waves

SOURCE: Zhurnal mikrobiologii, epidemiologii i immunobiologii, no. 11, 1968, 141

TOPIC TAGS: rickettsia, rickettsia burneti, ultrasonic effect

ABSTRACT: *Rickettsia burneti* was exposed to ultrasonic waves from a UL-1 apparatus (1200 kHz ultrasound field and exposure of 10—120 min). Phase I antigen (killed cells) prepared from the spleens of white mice infected with Termez strain and a purified live culture of the Grita strain in phase II were subjected to ultrasonic waves. Test of the ultrasonically treated antigens in the complement fixation test 21 days after immunization showed positive reactions in titers of 1:80—1:320 for animals infected with both ultrasonically treated and untreated rickettsia, with negative results for animals infected with

Card 1/2

UDC: 615.372:576.851.71]-012

ACC NR: AP9001309

the supernatant fluid from a rickettsial suspension. Thus, 2-hr exposure to a 1200-kHz ultrasound field did not lead to the destruction of live and killed *Rickettsia burneti*. [WA-50; CBE No. 40][JS]

SUB CODE: 06/ SUBM DATE: 11Dec67

Card 2/2

ACC NR: AT9001880

SOURCE CODE: UR/0000/68/000/000/0067/0072

AUTHOR: Kudiyavtsev, V. A.

ORG: Institute of Microbiology and Virology AN UkrSSR (Institut mikrobiologii i virusologii AN UkrSSR)

TITLE: Cross resistance of pyogenic staphylococci resistant to novoimanin and other antibiotics

SOURCE: AN UkrSSR. Institut mikrobiologii i virusologii. Novoimanin i yego lechebnyye svoystva (Novoimanin and its therapeutic properties). Kiev, "Naukova dumka," 1968, 67-72

TOPIC TAGS: drug resistance, drug sensitivity, antibiotic drug effect, staphylococcus

ABSTRACT: Results are reported on a study of the cross resistance of antibiotic-resistant staphylococci to novoimanin, and of novoimanin-resistant staphylococcal strains to other antibiotics. Staphylococci resistant to penicillin, streptomycin, levomycetin, and biomyacin showed almost the same degree of sensitivity to novoimanin as antibiotic-sensitive staphylococcal strains. Resistance to the above antibiotics was determined by the method of diffusion in agar with standard

Card 1/2

UDC: 615.9

ACC NR: AT9001880

indicator discs, and by serial dilution in meat peptone bouillon. Staphylococci which were resistant to erythromycin and novobiocin were sensitive to novoimanin. Variants of 11 strains of *Staphylococcus aureus* resistant to novoimanin were found to be highly sensitive to novobiocin, erythromycin and tetracycline, while sensitivity to penicillin, streptomycin, levomycetin and mycerin (neomycin) was less pronounced, and resistant strains were present. During the process of adaptation to novoimanin, some novoimanin-resistant strains underwent certain changes, and increased sensitivity to penicillin, streptomycin and mycerin (neomycin) resulted. The sensitivity of pyogenic staphylococci to levomycetin, tetracycline, erythromycin, and novobiocin after acquiring sensitivity to novoimanin remained unchanged. Pyogenic staphylococci with acquired high resistance to imanin were also highly resistant to novoimanin; novoimanin-resistant variants were also highly resistant to imanin. Orig. art. has: 5 tables.

[WA-50; CBE No. 40][XF]

SUB CODE: 06/ SUBM DATE: none

Card 2/2

UDC: 615.9

ACC NR: AP9002952

SOURCE CODE: UR/0240/68/000/012/0013/0018

AUTHOR: Kutakov, K. V.

ORG: Department of Public Hygiene, First Moscow Medical Institute im. I. M. Sechenov (Kafedra kommunal'noy gigieny I Moskovskogo meditsinskogo instituta)

TITLE: Comparative sanitary-toxicological characteristics of thiophosphoric acid esters suitable for sanitary protection of reservoirs

SOURCE: Gigiyena i sanitariya, no. 12, 1968, 13-18

TOPIC TAGS: water pollution control, organic phosphorus insecticide, cholinesterase inhibitor

ABSTRACT: Hygienic and sanitary--toxicological characteristics of three esters of thiophosphoric acid were studied; hygienic standards were then devised which could be recommended to sanitary institutions. A study of possible effects of the esters on organoleptic properties of H₂O indicated that the threshold concentration of O,O-diethyl O-3-chloro-4-methyl-7-coumarinyl thiophosphate (koral) (azuntol, rezitoks, muskatoks, Bayer 21/199, kumofos) was 1 mg/l. Threshold concentrations of the monoester (monoethyl dichlorothiophosphate) and the diester (O,O-diethyl chlorothiophosphate) were 0.02 mg/l. Following a study of the cumulative

Card 1/2

UDC: 615.31:547.279].099:614.445

ACC NR: AP9002952

properties of the esters in mice, rats, rabbits and guinea pigs, that there was a decrease in cholinesterase activity beginning on the first day after administration of 1/10 and 1/20 LD₅₀ of koral, and after 1/5 LD₅₀ of the mono- and diesters for one month. There was considerably less capacity for functional cumulation following administration of the mono- and diesters than with koral; therefore, chronic toxicity studies were carried out only with koral in white rats. The drug was administered perorally in vegetable oil in doses of 0.08, 0.2 and 1 mg/kg 6 times/week. Decreased blood cholinesterase activity after one month in animals administered 1 mg/kg; was noted; the smaller doses did not significantly affect the blood cholinesterase levels. Conditioned reflex activity was not significantly affected by the different doses; in view of its rapid detoxication in the body, it is probable that the drug lacks the capacity to penetrate the blood-brain barrier. Results of the chronic toxicity studies indicate that the noneffective concentration of koral is 1.6 mg/l (0.08 mg/kg). The maximum permissible concentration is suggested as 1 mg/l; the maximum permissible concentrations of mono- and diesters are suggested as 0.02 mg/l. Orig. art. has: 3 tables. [WA-50; CBE No. 40] [XF]

SUB CODE: 06/ SUBM DATE: 29May68/ ORIG REF: 010/ OTH REF: 002

Card 2/2

ACC NR: AP9005103

SOURCE CODE: UR/0390/68/031/005/0609/0612

AUTHOR: Kuz'minskaya, U. A.

ORG: All-Union Scientific Research Institute of Hygiene and Toxicology of Pesticides, Polymers and Plastics /Director--Corr. Mbr AIN SSSR L. I. Medved'/ (Vsesoyuznyy nauchno-issledovatel'skiy institut gigieny i toksikologii pestitsidov, polimernykh i plasticheskikh mass)

TITLE: Effect of DDT and sevin on the content and metabolism of phospholipids in the tissues of warm-blooded animals

SOURCE: Farmakologiya i toksikologiya, v. 31, no. 5, 1968, 609-612

TOPIC TAGS: DDT insecticide, insecticide damage, phosphoric acid, phospholipids, brain, liver, myocardium

ABSTRACT: Results are reported of the effects of short-term and protracted administration of DDT and sevin on phospholipids in white rats. Animals were administered 70 mg/kg of DDT and 144 mg/kg of sevin (1/5 LD₅₀) for 4 days, and DDT 3.5 mg/kg and sevin 7.2 mg/kg (1/100 LD₅₀) for 5 months. Radiophosphorus in the form of NaHP³²O₄ was administered 2 hr before beginning the experiment. There was a 28% decrease in liver phospholipids and a 45% decrease in brain

Card 1/2

UDC: 615.285.7.015:612.015.31/.32

ACC NR: AP9005103

phospholipids in animals administered DDT and sevin for 4 days. Myocardial phospholipids decreased 15% in rats administered sevin. There was a 45% decrease in brain phospholipids in rats receiving DDT, and a 24% decrease in brain phospholipids in animals receiving sevin for 5 months. Relative activity also decreased 48% and 30%, respectively. Changes in liver and myocardial phospholipid content were insignificant, although the intensity of metabolism was significantly decreased. With short-term administration, the effects of DDT and sevin were approximately equal, while with protracted administration, the effect of DDT was greater. Considering the role of phospholipids in the formation of cellular, mitochondrial, nuclear and other membranes, it may be presumed that a decrease in phospholipid synthesis due to DDT and sevin may result in disorders in membrane processes. Orig. art. has: 2 tables. [WA-50; CBE No. 40][XF]

SUB CODE: 06/ SUBM DATE: 21Aug67/ ORIG REF: 006/ OTH REF: 010

Card 2/2

ACC NR: AP9001295

SOURCE CODE: UR/0016/68/000/011/0057/0059

AUTHOR: Larina, I. A.

ORG: Institute of Epidemiology and Microbiology im. Gamaleya, AMN SSSR, Moscow (Institut epidemiologii i mikrobiologii AMN SSSR)

TITLE: The duration of immunity in monkeys inoculated with octatoxoid against anaerobic infections

SOURCE: Zhurnal mikrobiologii, epidemiologii i immunobiologii, no. 11, 1968, 57-59

TOPIC TAGS: clostridium, toxoid

ABSTRACT: Monkeys vaccinated twice and then revaccinated with octatoxoid retained protective antibody levels for 5 yr against all antigens in the octatoxoid except *perfringens*. The other antigens used included *Cl. oedematiens* toxoid, tetanus toxoid, and botulinus toxoid types A, B, C, D, and E. The doses used were 40 SU for *perfringens*, 35 SU for *oedematiens*, 20 SU for tetanus, 100 SU for type A botulinus toxoid, 50 SU for type B, and 25 SU for types C, D, and E. Orig. art. has: 1 table. [WA-50; CBE No. 40][JS]

SUB CODE: 06/ SUBM DATE: 27Feb68/ ORIG REF: 003

Card 1/1

UDC: 616.981.57-085.372-039.71-092.9

ACC NR: AP9006751

SOURCE CODE: UR/0346/69/000/001/0030/0032

AUTHOR: Lavrent'yev, N. I.

ORG: Sverdlovsk Oblast Scientific Research Veterinary Station (Sverdlovskaya oblastnaya nauchno-issledovatel'skaya veterinarnaya stantsiya)

TITLE: Etiology of leptospirosis in animals

SOURCE: Veterinariya, no. 1, 1969, 30-32

TOPIC TAGS: leptospirosis, animal vector research, bioecology, rodent, animal disease

ABSTRACT: Results of a serological survey from 1963-1967 of 8137 domestic animals from favorable and unfavorable leptospirosis foci and 2340 small wild mammals in the Sverdlovsk area are shown in the table.

Card 1/3

UDC: 619:616.986.7-02

- 208 -

ACC NR: AP9006751

Results of a study of blood serum of animals by micro-agglutination and lysis reaction (RMAL)

Animal types	No. of animals studied	Positive RMAL	Leptospira								
			Pomoni	icterohaemorrhagiae	terrasovi	canicola	grippolyphosa	bataviae	hebdomadis	saskobing	lyyrica
Cattle . . .	6719	3030	1088	105	216	16	80	31	1188	16, 17	8
Swine . . .	1361	355	290	60	106	8	6	66	2	2	5
Horses . . .	33	14	8	3	4	1	4	3	2	-	1
Furred animals	16	1	1	1	1	1	1	1	1	1	1
Dogs	8	1	1	1	1	1	1	1	1	1	1
Small wild mammals	2340	179	85	16	11	8	20	4	15	31	6

Card 2/3

ACC NR: AP9006751

An analysis of statistical data compiled from 1949—1967, and individual research indicated that leptospirosis in domestic animals was most frequent in the southern part of Sverdlovsk Oblast. The incidence of leptospirosis was highest from May to September and during the years with the highest annual rainfall. An important source of infection for domestic animals was the rodent population of the area. A large number of positive RMAL reactions were obtained with blood from animals inhabiting wet areas — water-shrew (13.9%) and root voles *Microtus oeconomus* Pallas (10.2%). The antibody titer in the majority of animals was 1:10—1:20. Brown rats were considered an especially significant source of infection. Orig. art. has: 1 table. [WA-50; CBE No. 40][XF]

SUB CODE: 06/ SUBM DATE: none

Card 3/3

ACC NR: AT9004720

SOURCE CODE: UR/3452/68/000/005/0013/0023

AUTHOR: Lebedeva, M. I. (Member of breeding center)

ORG: Banding Center, Zoological Institute AN SSSR [Tsentr Kol'tsevaniya, Zoologicheskii institut]

TITLE: Migration of the white-fronted goose based on banding data

SOURCE: AN SSSR. Zoologicheskii institut. Migratsii zhivotnykh, no. 5, 1968, 13-23

TOPIC TAGS: zoology, bird migration, animal colony

ABSTRACT: Data on the retrieval of the white-fronted goose *Anser Albifrons* banded during January—March in the Netherlands was reported by Latvia, Lithuania, Belorussia, the Ukraine, Kazakhstan and various oblasts of the RSFSR. A total of 22 geese were retrieved in all the areas noted above, except the RSFSR, where 278 birds were counted. A large part of the data from the RSFSR was reported from the Arkhangel oblast. Spring migration into the western areas of the USSR took place over a wide area: from Lithuania and Pskov in the north to the Ukraine and Kursk in the south. Migration routes were along the most favorable ecological pathways--the basins of large rivers. These routes clearly

Card 1/3

UDC: 591.543.43:598.413(492-82)

ACC NR: AT9004720

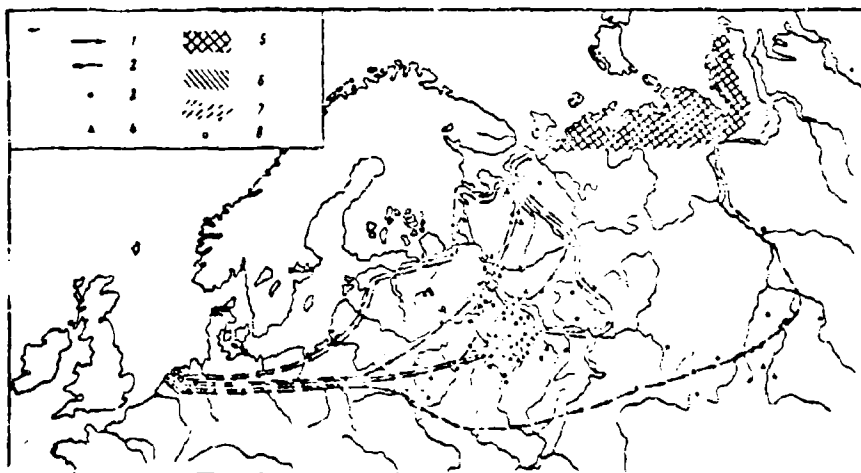


Fig. 1. Flight pattern of the white-fronted goose

1 - Direction of spring flight; 2 - direction of summer flight; 3 - sites of spring-summer meetings; 4 - sites of summer meetings; 5 - nesting area; 6 - wintering area; 7 - sites of largest gathering during flight period; 8 - banding sites in the Netherlands

Card 2/3

ACC NR: AT9004720

followed the central and northern regions of the European territories of the USSR. Intensive spring flight was noted in the basins of the Oka river and its tributaries during the latter part of April. Shorter flight routes were followed when the birds migrated to nesting areas in the northern Arkhangelsk oblast. Still another route was detected during spring flight. The birds flew a southern route through the Ukraine, to Omsk, then presumably they flew north to the Ob river to Yamal. This route was used by birds nesting in the northern part of western Siberia, and not by birds nesting in the northern European areas. Only 59 banded birds were retrieved during summer migration, which began during the middle or late August, and ended in September and October. Thus, the summer migration period was considerably longer than spring flight. Although the spring flight route was followed by some birds in the Arkhangel oblast, a number of birds migrated through Karelia, the Leningrad oblast, Latvia and Kaliningrad: this was considered a shorter route. Orig. art. has: 1 table. [WA-50; CBE No. 40] [XF]

SUB CODE: 06/ SUBM DATE: none/ ORIG REF: 008/ OTH REF: 003

Card 3/3

ACC NR: AT9001478

SOURCE CODE: UR/0000/66/000/000/0060/0062

AUTHOR: Leplya, Ye. S. (Docent, Head)

ORG: Department of Microbiology /Head--Docent Ye. S. Leplya/ (Kafedra mikrobiologii)

TITLE: The formation of antibiotic-resistant intestinal bacteria in chick embryo models

SOURCE: Viteoskiy meditsinskiy institut. Materialy XXIV Nauchnoy sessii Vitebskogo gosudarstvennogo meditsinskogo instituta. Tezisy dokladov. Minsk, "Polymya", 1966, 60-62

TOPIC TAGS: shigella, salmonella, escherichia coli, chloramphenicol antibiotic, antibiotic drug effect

ABSTRACT: In a number of characteristics formation of antibiotic resistance by intestinal bacteria in chick embryos resembles development of resistance *in vitro*. Enteropathogenic bacteria (*Shigella flexneri* and *sonnei*, typhoid and paratyphoid bacteria and *E. coli*) were used to infect the chorioallantoic membrane of 8-10 day-old chick embryos, with simultaneous addition of increasing doses of

Card 1/2

ACC NR: A19001478

chloramphenicol, tetracycline, or streptomycin. Bacteria were passaged 10—13 times in chick embryos. The most pronounced antibiotic resistance developed with respect to streptomycin (8000—4000 units). The bacteriostatic concentration of chloramphenicol increased from 3.9—1.9 to 62.5 μ , 125 μ /ml. Sensitivity to tetracycline decreased to a lesser degree. These data are approximately the same as resistance figures for these bacteria *in vitro* (for the same number of passages). The cross-resistance which developed *in vitro* was also observed in chick embryos (between chloramphenicol and tetracycline but not between streptomycin and the other two antibiotics). Streptomycin resistance was most stable after 6—8 months of storage, and multiple transfers to media without antibiotics. However, addition of constant antibiotic concentrations to each new passage produced a decrease in streptomycin resistance, especially among *E. coli*.

[WA-50; CBE No. 40][JS]

SUB CODE: 06/ SUBM DATE: none

Card 2/2

ACC NR: APJ002870

SOURCE CODE: UR/0016/68/000/012/0068/0072

AUTHOR: Levina, M. N.

ORG: Rostov-on-Don Institute of Epidemiology, Microbiology and Hygiene (Rostovskiy-na-Donu institut epidemiologii, mikrobiologii i gigiyeny)

TITLE: Experimental study of mixed staphylococcal infection. Report 1

SOURCE: Zh mikrobiol, epidemiol i immunobiol, no. 12, 1968, 68-72

TOPIC TAGS: staphylococcus infection, staphylococcus

ABSTRACT: Intraorbital infection of mice (by Badenskiy's method) and intravenous infection of rabbits with a mixture of highly virulent and weakly virulent cultures of *Staphylococcus* produced pyemia, with the highly virulent strain predominating in the body. Subcutaneous introduction of *Staphylococcus* cultures of different virulence on silk threads produced local purulent staphylococcal infection, which was translated into a generalized infection in 22% of the mice and 11% of the rabbits. Cultivation of the contents of subcutaneous purulent foci and internal organs (during generalized infection after a local staphylococcal infection) of mice and rabbits showed the

Card 1/2

UDC: 616.981.25-022.14-092.9

- 212 -

ACC NR: AP9002870

predominance of the highly virulent strain. These tests showed the relationship between staphylococci of different virulence in the animal body: active multiplication of the highly virulent strain and rapid death of the weakly virulent strain. The infective dose of the weakly virulent strains was larger than that of the virulent strains. Orig. art. has: 2 tables. [WA-50; GB No. 40][*S]

SUB CODE: 06/ SUBM DATE: 03Jan68/ ORIG REF: 003/ CTH REF: 003

Card 2/2

ACC NR: AP9002984

SOURCE CODE: UR/0402/68/000/006/0694/0699

AUTHOR: Maksimovich, M. B.; Parfenova, M. S.

ORG: Odessa Scientific Research Institute of Virology and Epidemiology im. I. I. Mechnikov (Odesskiy nauchno-issledovatel'skiy institut virusologii i epidemiologii)

TITLE: The use of quantitative counts of cytomorphological changes to characterize the infectious process of adenoviruses and their neutralizing antibodies Report 2. Objective method of determining the infectious titer caused by adenoviruses in tissue culture

SOURCE: Voprosy virusologii, no. 6, 1968, 694-699

TOPIC TAGS: adenovirus, neutralizing antibody, virology

ABSTRACT: Titration of adenoviruses and their neutralizing antibodies by counting the number of specifically damaged cells is a more objective, sensitive, and simpler method of estimating the cytopathic effect of virus on tissue culture cells than the prevalent methods of estimating cytopathic effect on a four point scale, or counting plaques. Preparations were stained with acridine orange and examined under a fluorescent microscope. A strict correlation was established between the

Card 1/2

UDC: 576.858.5.095.383.093.35

ACC NR: AP9002984

number of damaged cells and the infective dose. Type 4, 6, and 12 adenoviruses were used. In some cases, virus-neutralizing antibodies cannot be determined by the standard method of determining cytopathic activity because of the pronounced cytotoxic properties of the serum. Under the fluorescent microscope, however, cells with toxic disintegration are easily distinguished from those damaged by infectious virus by the absence in nuclei of DNA-containing adenovirus inclusions. The described method is superior to the fluorescent antibody method because the presence of viral antigen is not always connected with infectious properties. Virus titers obtained by counting cytological changes were higher than standard methods. The numerical results of this method of determining cytopathic effect can be subjected to statistical analysis. Orig. art. has: 4 tables. [WA-50; CBE No. 40] [JS]

SUB CODE: 06/ SUBM DATE: 08Aug67/ ORIG REF: 004/ GTH REF: 011

Card 2/2

ACC NR: AP9005357

SOURCE CODE: UR/0249/68/024/010/0035/0039

AUTHOR: Mamedov, Sh.; Guseynov, Yu. Ya.; Avanesyan, M. A.

ORG: INKhp

TITLE: Ethers and their derivatives. Synthesis of alkoxymethyl ethers of 3-dimethylamino-1-propanol

SOURCE: AN AzerbSSR. Doklady, v. 24, no. 10, 1968, 35-39

TOPIC TAGS: aliphatic ether, amine derivative, physiologically active compound

ABSTRACT: This article appears in Chemical Factors

Card 1/1

ACC NR: AP9002871

SOURCE CODE: UR/0016/68/000/012/0072/0074

AUTHOR: Mashkov, A. V.; Kronshtadtskaya-Kareva, B. K.; Afonina, L. G.

ORG: Institute of Pediatrics AMN SSSR, Moscow (Institut pediatrii AMN SSSR)

TITLE: The bacteriostatic activity of enterococci with respect to staphylococci

SOURCE: Zh mikrobiol, epidemiol i immunobiol, no. 12, 1968, 72-74

TOPIC TAGS: bacteriostasis, staphylococcus

ABSTRACT: A total of 33 strains of enterococcus isolated from the feces of young children had antibiotic activity with respect to *Staphylococcus* strains isolated from the same source. Of these 33 strains, 22 inhibited growth of most strains of *Staphylococcus* tested (6 strains were highly active, 17 showed an average degree of activity, and 10 were slightly active). The degree of antibiotic activity of enterococci was judged by the width of the zone of growth inhibition on nutrient media. Highly active strains inhibited growth in a 6-10 mm band. A total of 29 of the 49

Card 1/2

UDC: 576.851.252.095.38:576.851.49

ACC NR: AP9002871

Staphylococcus strains studied were pathogenic: only 4 of these were highly sensitive to the effect of enterococcus, as compared with 6 out of 28 highly sensitive nonpathogenic strains. Orig. art. has: 1 table. [WA-50; CBE No. 40][JS]

SUB CODE: 06/ SUBM DATE: 05Jun68/ ORIG REF: 003/ OTH REF: 003

Card 2/2

ACC NR: AT9000530

SOURCE CODE: UR/3436/67/049/000/0381/0385

AUTHOR: Mayzelis, M. Ya. (Head, Candidate of medical sciences)

ORG: Radiology Laboratory /Head—Candidate of Medical Sciences
M. Ya. Mayzelis/ (Laboratoriya radiologii)

TITLE: Comparative characteristics of the effect of stelazine and haloperidol on the permeability of cell-blood barriers for P^{32}

SOURCE: Moscow. Nauchno-issledovatel'skiy institut psikiatrii. Trudy, v. 49, 1967. Voprosy psikhofarmakologii (Problems in psychopharmacology), 381-385

TOPIC TAGS: hematoencephalitic barrier, histohematic barrier, psychopharmacology

ABSTRACT: Study of the effect of stelazine and haloperidol on the permeability of the cell-blood barriers (blood-brain, blood-eye, and parenchymatous) showed that haloperidol increases capillary permeability for P^{32} in the blood-tissue direction to a greater degree than stelazine. Penetration of P^{32} into the cerebrospinal fluid was unchanged by stelazine but increased under the influence of haloperidol. Both neuroleptic substances increased the permeability of

Card 1/3

ACC NR: AT9000530

the blood-brain barrier for P^{32} , although essential differences in penetration and accumulation of P^{32} in the blood under the influence of the two preparations were noted. More significant penetration of P^{32} into the brain was noted after a course of stelazine injections than after a single injection. Accumulation of the isotope in the brain with a single injection of haloperidol was more pronounced, whereas, after a course of injections, inclusion of P^{32} increased only in the brain stem and olfactory areas. This difference is apparently connected with the different cumulative capacity of these preparations and the length of their action. P^{32} content in the cerebral cortex with single injections of either substance was unchanged; increased P^{32} content in the cerebral cortex occurred only after a course of injections. Doses of 1 mg/kg of both stelazine and haloperidol were used. A single injection of stelazine into rats or rabbits decreased the penetration of P^{32} into the anterior chamber of the eye, while a single injection of haloperidol increased it. The observed differences in penetration of the P^{32} indicator into parts of the brain under the influence of stelazine and haloperidol was apparently due to differences in permeability of the various barriers and to dissimilar changes in metabolic processes in various brain structures. The neuroleptic effect of stelazine was observed within 30 to 40 min of subcutaneous inoculation (motor activity

- 216 -

Card 2/3

ACC NR: AT9000530

sharply decreased and animals reacted weakly to stimuli). The effect of haloperidol was noted within 1 hr and became pronounced in 2 hr. Orig. art. has: 4 figures. [WA-50; CBE No. 40][JS]

SUB CODE: 06/ SUBM DATE: none

Card 3/3

ACC NR: AP8033971

SOURCE CODE: UR/0016/68/000/010/0138/0141

AUTHOR: Mironova, T. A.

ORG: Testing Institute of Medical and Biological Preparations im. Tarasevich, Moscow (Kontrol'nyy institut meditsinskikh biologicheskikh preparatov)

TITLE: Disinfecting agents for objects infected with anaerobic bacteria

SOURCE: Zhurnal mikrobiologii, epidemiologii i immunobiologii, no. 10, 1968, 138-141

TOPIC TAGS: clostridium, biologic decontamination

ABSTRACT: Comparison of the disinfecting properties of 5% solutions of phenol, chloramine, and NaOH, a 5% phenol solution with oxalic acid and 1% HCl, and 6% hydrogen peroxide with respect to *Cl. histolyticum* (a model anaerobic spore-former) showed that 6% hydrogen peroxide solution is a better sterilizing agent than 5% solutions of phenol, alkali, or chloramine. A 6% hydrogen peroxide solution retained disinfecting properties upon standing in an open dish for 10-14 days. Replacement

Card 1/2

UDC: 615.777/.779-03:616.981.57-084.48

ACC NR: AP8033971

of phenol, which supports growth of anaerobic spore-formers, with hydrogen peroxide is recommended. [WA-50; CBE No. 40][JS]

SUB CODE: 06/ SUBM DATE: 17Jan68/ OTH REF: 001

Cord 2/2

ACC NR: AP8033943

SOURCE CODE: UR/0402/68/000/005/0623/0627

AUTHOR: Molibog, Ye. V.; Pysina, T. V.; Gorbunova, A. S.

ORG: Institute of Virology im. D. I. Ivanovskiy, AMN SSSR, Moscow (Institut virusologii AMN SSSR); Vladivostok Scientific Research Institute of Epidemiology and Microbiology, Ministry of Public Health RSFSR (Vladivostokskiy nauchno-issledovatel'skiy institut epidemiologii i mikrobiologii Ministerstva zdravookhraneniya RSFSR)

TITLE: The relationship between the elution and neuraminidase activity of human, mammalian and avian type A influenza viruses

SOURCE: Voprosy virusologii, no. 5, 1968, 623-627 and inserts facing p. 624 and p. 625

TOPIC TAGS: virus influenza, virus antigen, enzymatic activity

ABSTRACT: Comparison of 12 strains of influenza virus type A isolated from man (4 strains), mammals (3 strains) and birds (5 strains) showed that the degree of neuraminidase activity was not related to the source of the virus. For 11 of the 12 viral strains, no correlation between neuraminidase activity and elution capacity was observed. Only strain A/Tsypfenok (chick) 59 from Scotland showed a high degree of

Cord 1/2

UDC: 576.858.75.098

- 218 -

ACC NR: AP8033943

both types of activity: 100% elution occurred in 30 min with a neuraminidase activity of 110 µg/ml. Antigenically related strains had a similar neuraminidase activity. Both human A2 strains (1957 and 1965 varieties) had low neuraminidase activity (23 and 18 µg/ml, respectively). Orig. art. has: 3 figures and 2 tables.

[WA-50; CBE No. 40][JS]

SUB CODE: 06/ SUBM DATE: 20Dec67/ ORIG REF: 006/ OTH REF: 004

Card 2/2

ACC NR: AP9003590

SOURCE CODE: UR/9079/68/000/005/0023/0026

AUTHOR: Nasyrova, T.; Mirkasimova, Kh.; Pazilova, S.

ORG: Institute of Experimental Plant Biology, AN UzSSR (Institut eksperimental'noy biologii rasteniy AN UzSSR)

TITLE: Effects of some herbicides on the intensity of respiration and nitrogen metabolism of cotton and weeds

SOURCE: Uzbekskiy biologicheskiy zhurnal, no. 5, 1968, 23-26

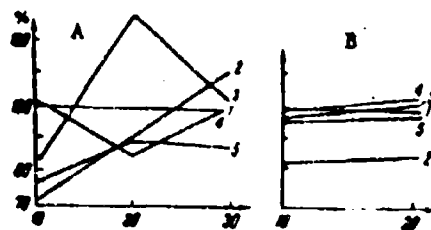
TOPIC TAGS: herbicide application, weed killer, plant metabolism, metabolic inhibitor, oxygen metabolism, nitrogen metabolism / (U)
2 4 D weed killer

ABSTRACT: Herbicides affect respiration, nitrogen metabolism, and catalase activity of both weeds and crop plants. Cotton plants in an

Card 1/4

UDC: 632.954:581.12:581.133:653.51

- 219 -

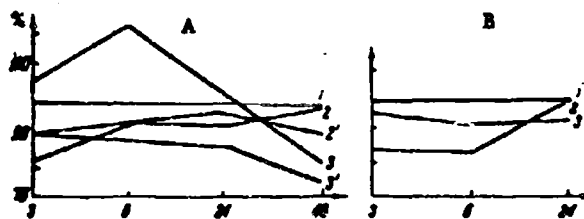


Interval between analysis, days

Fig. 1. Change in respiration intensity (A) and catalase activity (B) in cotton treated with herbicides

1 - Control; 2 - ipazin; 3 - monuron; 4 - prometrin; 5 - parachloroformanylid

Card 2/4



Interval between analysis, days

Fig. 2. Change in intensity of respiration intensity (A) and catalase activity (B) in cotton and amaranth under the influence of herbicides

1 - Control; 2 - 2'-diuron (cotton and amaranth); 3 - 3'-parachloroformanylid (cotton and amaranth)

Card 3/4

ACC NR: AP9003590

early growth phase often recover from concentrations of herbicides
that usually kill weeds. Orig. art. has: 2 figures and 2 tables.
[WA-50; CBE No. 40][LP]

SUB CODE: 06/ SUBM DATE: 18Sep67/ ORIG REF: 005

Card 4/4

ACC NR: AP9001705

SOURCE CODE: UR/0346/68/000/011/0035/0037

AUTHOR: Nesterov, I. A. (Aspirant)

ORG: All-Union Institute of Experimental Veterinary Science (Vsesoyuznyy
institut eksperimental'noy veterinarii)

TITLE: The effectiveness of immunization depending on the method of
administration of antigen

SOURCE: Veterinariya, no. 11, 1968, 35-37

TOPIC TAGS: immunogenesis, immunization, antigen

ABSTRACT: Differences in the immunological response of animals
depending on the method of introduction of antigen were studied in
rabbits and guinea pigs immunized with a formal vaccine against
emphysematous carbuncle. Serum of rabbits vaccinated intravenously
showed the most pronounced activity. The serum of intracutaneously
and intramuscularly immunized animals was somewhat less active.
Serum of rabbits immunized subcutaneously in the doses used
(0.3—1 ml) was not active. Guinea pigs vaccinated subcutaneously
were the most resistant to infection with a culture of the agent
of emphysematous carbuncle. Guinea pigs immunized intracutaneously

Card 1/2

UDC: 619:616.981.555-097.2

- 221 -

ACC NR: AP9001705

and intramuscularly were less resistant. The average agglutinin titer in rabbits immunized intravenously was 4 times higher than the average titer in animals vaccinated subcutaneously, 2.5 times higher than animals vaccinated intracutaneously, and 1.25 times higher than animals vaccinated intramuscularly. The blood of rabbits vaccinated intravenously had pronounced neutralizing and prophylactic properties; more so than the serum of rabbits vaccinated intracutaneously or intramuscularly. [WA-50; CBE No. 40][JS]

Card 2/2

ACC NR: AP8034103

SOURCE CODE: UR/0358/68/037/005/0609/0613

AUTHOR: Odinets, A. A.; Oktyabr'skaya, T. A.

ORG: Central Scientific Research Disinfection Institute, Ministry of Public Health SSSR (Tsentral'nyy nauchno-issledovatel'skiy dezinfektsionnyy institut Ministerstva zdravookhraneniya SSSR); Moscow Municipal Sanitation and Epidemiological Station (Moskovskaya gorodskaya sanepidstantsiya)

TITLE: Trials of malathion on *Aedes* and *Culex* larvae

SOURCE: Meditsinskaya parazitologiya i parazitarnyye bolezni, v. 37, no. 5, 1968, 609-613

TOPIC TAGS: insecticide application, organic phosphorus insecticide, mosquito

ABSTRACT: Laboratory and field tests showed that malathion can be recommended for exterminating larvae of *Culex pipiens* and *Aedes* mosquitoes in agriculturally expendable reservoirs. *Culex pipiens* larvae are more sensitive to malathion than *Aedes*. Malathion has a rapid toxic effect, producing larval death within 3-5 hr. In reservoirs, its effect lasts for 3-7 days. Doses of the insecticide

Card 1/2

UDC: 614.449.57:615.777.25

- 222 -

ACC NR: AP8034103

must be selected in accordance with larval development, the degree of overgrowth of the reservoir, mosquito genus, and the depth and temperature of the water in the reservoir. Under field conditions, (Tyumen and Perm Oblasts), 3-9 kg/ha of 30% malathion concentrate can be used for slightly overgrown or clear bodies of water and shallow reservoirs less than 40 cm. For overgrown and deep-water reservoirs, the dose should be increased to 6-12 kg/ha. The above doses are good for I-IV instar mosquitoes. Increasing the dose of malathion above the recommended levels does not improve the residual effect of the insecticide. Repeated treatments should be conducted when second instar larvae appear. The lethal concentration (LC₅₀) under laboratory conditions varied from 0.0118-0.038 for I-IV instar larvae with 48-hr exposure. Orig. art. has: 4 tables.

[WA-50; CBE No. 40][JS]

SUB CODE: 06/ SUBM DATE: 30Mar67/ ORIG REF: 014/ OTH REF: 003.

Card 2/2

ACC NR: AP9003663

SOURCE CODE: UR/0433/68/000/011/0027/0028

AUTHOR: Ovchinnikova, A. M. (Senior research associate)

ORG: Far Eastern Station, VIZR (Dal'nevostochnaya stantsiya VIZR)

TITLE: Cercospora infection in soya in the Primor'ye Region

SOURCE: Zashchita rasteniy, no. 11, 1968, 27-28

TOPIC TAGS: plant disease, plant disease control, agriculture crop seed

ABSTRACT: Cercosporosis infects every variety of soya in the Primor'ye Region except the Kapital variety, which is recommended for planting. Germination of cercosporosis-infected seed is decreased 19-36%, while 52-91% of the sprouts from these seed are affected. Infected seed plants contain 2-7% less fat and 4-5% less protein than healthy plants. Infected fallen leaves which do not disintegrate during the winter are an important factor in transmission of the disease. Since cercosporosis is so widely disseminated in the northern taiga zone of the Primor'ye Region, the soy industry is unsuitable for that area. Treatment of infected seed with granozan, merkuran, TMTD at 2 kg/ton was not effective in eradicating the disease. When the seeds were heated for one hour to

Card 1/2

UDC: 632.4:635.655

ACC NR: AP9002984

number of damaged cells and the infective dose. Type 4, 6, and 12 adenoviruses were used. In some cases, virus-neutralizing antibodies cannot be determined by the standard method of determining cytopathic activity because of the pronounced cytotoxic properties of the serum. Under the fluorescent microscope, however, cells with toxic disintegration are easily distinguished from those damaged by infectious virus by the absence in nuclei of DNA-containing adenovirus inclusions. The described method is superior to the fluorescent antibody method because the presence of viral antigen is not always connected with infectious properties. Virus titers obtained by counting cytological changes were higher than standard methods. The numerical results of this method of determining cytopathic effect can be subjected to statistical analysis. Orig. art. has: 4 tables. [WA-50; CBE No. 40] [JS]

SUB CODE: 06/ SUBM DATE: 08Aug67/ ORIG REF: 004/ OTH REF: 011

Card 2/2

ACC NR: AP9005357

SOURCE CODE: UR/0249/68/024/010/0035/0039

AUTHOR: Mamedov, Sh.; Guseynov, Yu. Ya.; Avanesyan, M. A.

ORG: INKhP

TITLE: Ethers and their derivatives. Synthesis of alkoxymethyl ethers of 3-dimethylamino-1-propanol

SOURCE: AN AzerbSSR. Doklady, v. 24, no. 10, 1968, 35-39

TOPIC TAGS: aliphatic ether, amine derivative, physiologically active compound

ABSTRACT: This article appears in Chemical Factors

Card 1/1

ACC NR: AP9002871

SOURCE CODE: UR/0016/68/000/012/0072/0074

AUTHOR: Mashkov, A. V.; Kronshtadtskaya-Kareva, B. K.; Afonina, L. G.

ORG: Institute of Pediatrics AMN SSSR, Moscow (Institut pediatrii AMN SSSR)

TITLE: The bacteriostatic activity of enterococci with respect to staphylococci

SOURCE: Zh mikrobiol, epidemiol i immunobiol, no. 12, 1968, 72-74

TOPIC TAGS: bacteriostasis, staphylococcus

ABSTRACT: A total of 33 strains of enterococcus isolated from the feces of young children had antibiotic activity with respect to *Staphylococcus* strains isolated from the same source. Of these 33 strains, 22 inhibited growth of most strains of *Staphylococcus* tested (6 strains were highly active, 17 showed an average degree of activity, and 10 were slightly active). The degree of antibiotic activity of enterococci was judged by the width of the zone of growth inhibition on nutrient media. Highly active strains inhibited growth in a 6—10 mm band. A total of 29 of the 49

Card 1/2

UDC: 576.851.252.095.38:576.851.49

ACC NR: AP9002871

Staphylococcus strains studied were pathogenic: only 4 of these were highly sensitive to the effect of enterococcus, as compared with 6 out of 28 highly sensitive nonpathogenic strains. Orig. art. has: 1 table. [WA-50; CBE No. 40][JS]

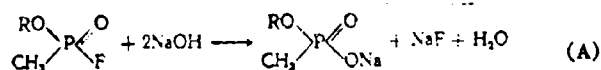
SUB CODE: 06/ SUBM DATE: 05Jun.68/ ORIG REF: 003/ OTH REF: 003

Card 2/2

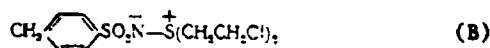
- 215 -

ACC NR: AP9004505

by which the contaminating substance can then be removed mechanically or filtered which would not be possible in the pre-coagulated state. A purification of 99.9% can be achieved in coagulation and mechanical filtration procedures. Chemical degassing methods result in the formation of new nontoxic compounds and some of the agents employed are both toxic and nontoxic. For example dichlorodiethylsulfide and its analogs, arsenic and organophosphorus compounds, mustard and Lewisite are not resistant to the action of oxidants such as chlorine and chlorinated agents; therefore, they can be removed easily by them. Organophosphorus compounds can easily be inactivated by alkaline agents.



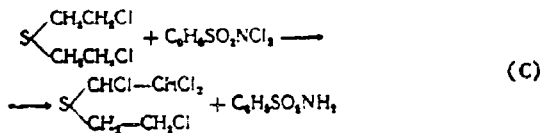
Polychloramides react with mustard and form compounds such as shown in



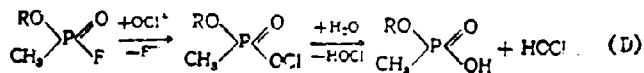
Card 2/3

ACC NR: AP9004505

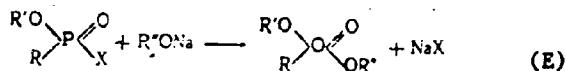
B which are nontoxic. The reaction of dichloramine with mustard is



shown in C. A catalyzed reaction is shown in D. There are no direct



indications in the literature of the reactions of V_x type poisonous substances with hypochlorites. Organophosphorus compounds can also be



inactivated by alcoholysis as shown in E.

[WA-50; CBE No. 40][LP]

SUB CODE: 06/ SUBM DATE: none/ ORIG REF: 005/ GTH REF: 020

Card 3/3

ACC NR: AP9002861

SOURCE CODE: UR/0016/68/000/012/0014/0018

AUTHOR: Petrovskaya, V. G.; Kiselev, R. N.; Blinova, N. I.

ORG: Institute of Epidemiology and Microbiology im. Gamaleya AMN SSSR
(Institut epidemiologii i mikrobiologii AMN SSSR)

TITLE: Interspecies recombination as one of the possible mechanisms of
formation of atypical forms of *Shigella*

SOURCE: Zh mikrobiol, epidemiol i immunobiol, no. 12, 1968, 14-18

TOPIC TAGS: shigella, bacterial genetics

ABSTRACT: Recombination between *E. coli* and *Shigella* *in vivo* in the
peritoneal cavity of mice and in the intestines of chicks, was observed.
Genetic exchange *in vivo* occurred more intensively than *in vitro*: a
larger section of donor chromosome was transferred and a larger number of
recombinants was formed. The donor was *E. coli* Hfrc, dependent on
methionine and sensitive to streptomycin, and the recipient strain was
Sh. flexneri 2n 516, resistant to streptomycin. Hybrids *E. coli* x
Shigella, obtained as a result of crossover, eliminated both haploids
of the initial type of dysentery bacteria and stable forms, with
eventual recombination of markers of donor and recipient producing

Card 1/2 UDC: 576.851.49(Shigella).097.8:576.8.095.57

ACC NR: AP9002861

something like the atypical *Shigella* cultures normally isolated from
patients and carriers. It was found that recombinants selected with
respect to the most distal marker rapidly lost the proximal markers.
On further cultivation, diploid recombinants split off haploid cells,
identical in characteristics to the initial recipient strain, and also
split off a considerable number of stable recombinants, including
lac-positive *Shigella* strains. Experimental data indicate that inter-
species recombination is a possible mechanism of formation of the so-
called atypical forms of intestinal bacteria encountered under natural
conditions. Orig. art. has: 2 tables and 1 figure.

[WA-50; CBE No. 40][JS]

SUB CODE: 06/ SUBM DATE: 10Jan68/ ORIG REF: 004/ OTH REF: 007

Card 2/2

ACC NR: AP8035743

SOURCE CODE: UR/0290/68/000/002/0108/0113

AUTHOR: Polyakova, P. Ye.

ORG: Biological Institute, Siberian Branch AN SSSR, Novosibirsk
(Biologicheskii institut Sibirskogo otdeleniya AN SSSR)

TITLE: Blood-sucking mosquitoes (*Diptera, Culicoidae*) of the northern taiga subzone of the Ob and Yenisey

SOURCE: AN SSSR. Sibirskoye otdeleniye. Investiya. Seriya biologo-meditsinskikh nauk, no. 2, 1968, 108-113

TOPIC TAGS: mosquito, biologic ecology

ABSTRACT: The species composition of mosquitoes in the Ob and Yenisey taiga zones is shown in Table 1. Mosquito species attacking man are

Card 1/5

UDC: 595.771

ACC NR: AP8035743

Table 1. The species composition of mosquitoes around Oktyabr'skoye village (1963-1964) and Verkhne-Imbatskoye (1964)

№	Species	Oktyabr'skoye	Verkhne-Imbat'skoye
		Total	Total
1	<i>Anopheles maculipennis</i>	5	
2	<i>Culiseta alaskaensis</i>	1739	306
3	<i>C. bergrothi</i>	143	36
4	<i>C. morsitans</i>	2	
5	<i>Aedes punctator</i>	2164	1421
6	<i>A. hexodontus</i>	343	744
7	<i>A. communis</i>	518	2653
8	<i>A. intrudens</i>	32	1216
9	<i>A. cataphylla</i>	2	2
10	<i>A. pullatus</i>	9	98
11	<i>A. diantaeus</i>	5	173
12	<i>A. pionips</i>		7
13	<i>A. cinereus</i>	220	174

Card 2/5

Table 1. (Cont.)

14	<i>A. excrucians</i>	344	361
15	<i>A. cantans</i>	85	377
16	<i>A. flavescens</i>	5	6
17	<i>A. riparius</i>	22	128
18	<i>A. beklemishevi</i>		4
19	<i>Mansonia richiardii</i>	1	
Total		569	706

shown in Table 2. The village of Oktyabr'skoye is located on the right bank of the Ob, and Verkhne-Imbatskoye on the Yenisey, with both being in a zone of spruce and cedar forests. The winter in this area is severe and summers comparatively warm. Reservoirs in which breeding of mosquitoes occurred were divided into the following types: small, temporary reservoirs (up to 12 m²); large, deep, permanent reservoirs; and slow flowing brooks. Water temperature in these

Cord 3/5

Table 2. The ratio of species of blood-sucking mosquitoes (female) attacking man around Oktyabr'skoye and Verkhne-Imbatskoye in 1964 (counts made with insect net)

No.	Species	Oktyabr'skoye					Verkhne-Imbatskoye				
		Total	%	%			Total	%	%		
				June	July	Aug.			June	July	Aug.
1	<i>Culiseta albipennis</i>	31	2.3	2.9	1.7		100	2.5	10.2	1.1	
2	<i>C. bergrothi</i>	1			0.1		6	0.2	1.2		
3	<i>Anedes punctatus</i>	623	60.8	58.3	62.9	23.9	1180	28.6	4.1	20.0	31.9
4	<i>A. bromelidius</i>	37	2.7	2.0	3.2	6.9	500	12.0	60.4	2.5	6.2
5	<i>A. communis</i>	212	15.7	20.5	11.3	5.2	1530	33.6	3.2	62.2	18.4
6	<i>A. (A.) rudans</i>	20	1.9	2.3	1.6		264	7.0		6.3	6.4
7	<i>A. reticulatus</i>	1			0.1		1				
8	<i>A. pallipes</i>						73	1.6	2.8	1.5	0.6
9	<i>A. distans</i>						9	0.2		0.2	0.4
10	<i>A. praeax</i>						3			0.1	
11	<i>A. chironus</i>	7	0.5	0.5	0.3	2.4	91	1.9		2.2	2.9
12	<i>A. cantans</i>	19	1.4	1.2	1.6	1.7	282	6.1		4.7	7.4
13	<i>A. excrucians</i>	100	13.0	8.1	14.9	26.9	206	5.7		7.5	7.3
14	<i>A. flavescens</i>	1			1.1		4			0.1	
15	<i>A. riparius</i>	9	0.6		0.1		70	1.7	0.9	1.6	3.5
Total		1366					4644				

Cord 4/5

ACC NR: AP8035743

reservoirs ranged from 7—17°C. Mass flight of the species of blood-sucking mosquitoes in the two river valleys occurred in the forest tundra on 21—24 June for *A. punctor* and *A. herodontus*, and on 3—8 July for *A. communis*. Around the Khantay hydroelectric power station mass flight of *A. punctor* and *A. herodontus* also occurred on 3—8 July. In the northern taiga mass flight occurred on 17—23 June for the three species around Oktyabr'skoye and on 19—22 June around Verkhne-Imbatshoye. During the period of mass flight in both villages, round-the-clock activity of mosquitoes was observed, with peaks of activity from 5—8 a.m. and from 8—2 p.m. Mosquitoes attacked most actively at a temperature range of 8—19.9°C. Orig. art. has: 2 figures and 5 tables. [WA-50; CBE No. 40][JS]

SUB CODE: 06/ SUBM DATE: 17Oct67/ ORIG REF: 002

Card 5/5

ACC NR: AP9001715

SOURCE CODE: UR/0346/68/000/011/0103/0104

AUTHOR: Ponomarev, B. P.; Yevstigneyeva, O. A.

ORG: Irkutsk Regional Veterinary Laboratory (Irkutskaya oblastnaya vetlaboratoriya)

TITLE: Rat extermination with bactocoumarin in a meat-processing and refrigeration plant

SOURCE: Veterinariya, no. 11, 1968, 103-104

TOPIC TAGS: rodenticide, food industry, refrigeration, anticoagulant drug

ABSTRACT: The article reports the effective use of bactocoumarin, a sterilized cereal culture medium containing the pathogen of rodent typhus (strain 5170) and a water-soluble sodium salt of zoocoumarin as the anticoagulant, for rat extermination in refrigeration and meat-processing plants in Irkutsk. A culture of the initial strain 5170 of rodent typhus was isolated from all rodents dying as a result of ingestion of the rodenticide. Pathogenic properties of bacteria from rodents dying following ingestion of the mixture were studied in white mice administered 0.5 ml of washings from 24-hr cultures;

Card 1/2

UDC: 619:614.449.932

- 230 -

ACC NR: AP9001715

all mice died within 8 hr. The safety of baccocoumarin for humans
and domestic animals was noted. [WA-50; CBE No. 40][XF]

SUB CODE: 06/ SUBM DATE: none

Card 2/2

ACC NR: AP9003391

SOURCE CODE: UR/9062/68/003/006/0900/0904

AUTHOR: Popkova, K. V.; Bychenkova, A. A.

ORG: Scientific Research Institute of Potato Farming, Moscow Oblast
(Nauchno-issledovatel'skiy institut kartofel'nogo khozyaystva)

TITLE: Determination of the field resistance of potatoes to
Phytophthora

SOURCE: Sel'skokhozyaystvennaya biologiya, v. 3, no. 6, 1968, 900-904

TOPIC TAGS: potato, fungus, plant disease

ABSTRACT: Laboratory infection of potato leaves permitted determination of the field resistance of potatoes to potato blight, caused by the fungus *Phytophthora*, by comparison of the spread of mycelium and the intensity of spore formation. The optimum concentration of conidia for artificial infection was 20-25 per microscope field. This method permits the selection worker to isolate forms with field resistance even in years with no potato blight (although the final check must be made under natural conditions). Races of fungus 1, 2, 3, and 4 were used, since they damage plants with different resistance genes. The

Card 1/2

UDC: 632.3

- 231 -

ACC NR. AP9003391

medium-early variety Veselovskiy was highly resistant to infection.
The Olev variety was also very resistant. Orig. art. has: 4 tables.
[WA-50; CBE No. 40] [JS]

SUB CODE: 06/ SUBM DATE: none

Card 2/2

ACC NR. AP9002983

SOURCE CODE: UR/0402/68/000/006/0681/0686

AUTHOR: Popov, V. F. (Moscow)

ORG: none

TITLE: The immunological structure of the population in a tickborne encephalitis focus

SOURCE: Voprosy virusologii, no. 6, 1968, 681-686

TOPIC TAGS: epidemiologic focus, encephalitis, epidemiology

ABSTRACT: Serological study of the native population in an active natural focus of tickborne encephalitis in Malmyzh and Kil'mez Rayons (Kirov Oblast) before and after the epidemic season, taking into account other epidemiological indices, permitted evaluation of the intensity of this focus and determination of the true level of infection during the studied season. Tickborne encephalitis occurred in this focus most often in the latent form. The number of people with the latent form of TE varied with the settlement and the year of study: for example, in 1960 the ratio of clinical to latent forms of tickborne encephalitis was 1:33, in 1961, 1:77 and in 1962, 1:86. The ratio of

Card 1/2

UDC: 616.988.25-022.395.42-
036.21-07:616.15-097.5-073

ACC NR: AP9002983

clinical to latent forms in different years does not reflect the natural characteristics of the focus, but the epizootological situation of the previous year. The risk of infection with TE virus varied in different years and chiefly depended on such specific indices as the tick population, length of the period of tick activity, degree of infestation of ticks with virus, and to a lesser degree, the number of visits to the forest. The percentage of people with antibodies to TE virus increased with age. Studies were conducted in three epidemic seasons from 1960 to 1962, during which time the percentage of immune people varied from 34% to 73%. Each year from 10% to 35% of the population acquired immunity. With increase in the pestilence potential of the focus, the number of both clinical and latent forms of encephalitis sharply increased. Orig. art. has: 4 tables. [WA-50; CBE No. 40][JS]

SUB CODE: 06/ SUBM DATE: 05Feb68/ ORIG REF: 009/ OTH REF: 001

Card 2/2

ACC NR: AP9002981

SOURCE CODE: UR/0402/68/000/006/0659/0663

AUTHOR: Posevaya, T. A.; Starovoytova, L. P.; Kosyakov, P. N.; Selivanov, Ya. M.

ORG: Institute of Virology im. D. I. Ivanovskiy AMN SSSR, Moscow (Institut virusologii AMN SSSR)

TITLE: Host antigens in influenza virus

SOURCE: Voprosy virusologii, no. 6, 1968, 659-663

TOPIC TAGS: influenza virus, antigen, Forssman antigen

ABSTRACT: Antigenic components of the chick embryo host (species specific, group A and heterogeneous Forssman antigen) were found in influenza viruses A and A2 (Singapore 1/57) in spite of sufficient purification. Host antigens were observed both in native influenza virus and in antigenic fractions V and S (only a small amount of host antigen in the S fraction). The V fraction contains hemagglutinating structures of the virus and the S fraction internal or somatic antigens. After destruction with ethyl alcohol, the activity of the group antigen and Forssman antigen increased. Immunization of animals with highly

Card 1/2

UDC: 576.858.75.095.38.097.2

ACC NR: AP9002981

purified influenza virus preparations produced antibodies not only to the virus, but also to antigenic components of the host in which the virus was cultivated. Orig. art. has: 4 tables.

[WA-50; CBE No. 40][JS]

SUB CODE: 06/ SUBM DATE: 06Dec68/ ORIG REF: 006/ OTH REF: 003

Card 2/2

ACC NR: AT9003203

SOURCE CODE: UR/3445/68/000/004/0144/0146

AUTHOR: Proklina-Kaminskaya, T. L.

ORG: Kiev Scientific Research Institute of Industrial Hygiene and Occupational Diseases (Kiyevskiy nauchno-issledovatel'skiy institut gigiyeny truda i profzabolevaniy)

TITLE: Change in the activity of mitochondrial oxidative enzymes under the influence of sevin and TMTD

SOURCE: Kiyev. Nauchno-issledovatel'skiy institut farmakologii i toksikologii. Farmakologiya i toksikologiya, no. 4, 1968, 144-146

TOPIC TAGS: insecticide damage, organic insecticide, enzymatic activity

ABSTRACT: Injection of white rats with maximum permissible doses of sevin (400 mg/kg) increased oxygen consumption in mitochondria isolated from rat livers 49%, while a maximum permissible dose of TMTD (dimethyl-thiocarbonyl disulfide), also 400 mg/kg, increased oxygen consumption 17%. The activity of mitochondrial cytochrome oxidase increased 46% during sevin poisoning, and 20% for TMTD poisoning. The activity of succinate dehydrogenase increased 37% after sevin poisoning and 24% after TMTD poisoning. Sevin poisoning increased the activity of pyruvate dehydrogenase 57% and TMTD poisoning, 42%, while the activity of alpha-ketoglutarate oxidase increased 38% after sevin poisoning, and 26% after TMTD poisoning. Sevin had a more pronounced effect than TMTD on enzymatic activity.

[WA-50; CBE No. 40] [JS]

SUB CODE: 06/ SUBM DATE: none

Card 1/1

UDC: 615-092.259:615.7:7.779

ACC NR: AP8035414

SOURCE CODE: UR/0240/68/000/010/0090/0093

AUTHOR: Pugachevskiy, V. P. (Candidate of biological sciences)

ORG: Kiev Scientific Research Institute of Industrial Hygiene and Occupational Diseases (Kiyevskiy nauchno-issledovatel'skiy institut gigiyeny truda i profzabolevaniy)

TITLE: Some questions of method during inhalation inoculation of animals with liquid-phase aerosols

SOURCE: Gigiyena i sanitariya, no. 10, 1968, 90-93

TOPIC IACS: radioactive aerosol, respiratory physiology

ABSTRACT: Study of entrapment of liquid-phase aerosols in the bodies of white rats was conducted in a specially constructed inhalation chamber. An aqueous solution of disodium phosphate labeled with P^{32} was atomized with a vortex sprayer forming a finely dispersed aerosol (73 out of 100 droplets less than 5μ). The air flow rate into the inhalation chamber was 500 l/hr, with an average fluid consumption of 200 ml/hr. Radiometric study of spleen, liver, kidney, and other tissues showed that the actual concentration of isotope in the organs was only 1-2% of control indices (control rats were given 25% of the

Card 1/2

UDC: 579.63:615.417.3

ACC NR: AP8035414

P^{32} dose intratracheally and 75% orally). It had been predicted that 75% of the isotopes entering the respiratory passages would penetrate the animal body. These facts agree with the literature data. [WA-50; CBE No. 40][JS]

SUB CODE: 06/ SUBM DATE: 14Dec66/ ORIG REF: 015/ OTH REF: 004

ACC NR: AT9005110

SOURCE CODE: UR/0000/67/000/000/0213/0215

AUTHOR: Pushkar', N. V.; Orzuyev, M. I.; Mitel'man, G. M.

ORG: Department of Microbiology /Head--Docent U. V. Sidikov/ and Infectious Diseases /Head--Docent D. M. Khashimov/, Tadzhik Medical Institute (Kafedry mikrobiologii i infektsionnykh bolezney Tadzhikskogo medinstituta)

TITLE: The problem of determining the concentration of antitetanus antitoxin in the blood of newborn infants with tetanus

SOURCE: Tadzhikskiy gosudarstvennyy meditsinskiy institut. Materialy nauchnoy konferentsii Tadzhikskogo meditsinskogo instituta, 1967. Dushanbe, 1967, 213-215

TOPIC TAGS: tetanus, toxin antitoxin, infant disease

ABSTRACT: The level of antitoxin in the blood of newborn infants with tetanus was determined for the purpose of confirming the optimum dose of antitetanus serum necessary for treatment. Levels were assayed before beginning treatment, and 1, 2, and 3 weeks after treatment. Two infants received 15,000--20,000 antigen units; the remaining infants received 12,000 antigen units. Tetanus antitoxin was not detected in

Card 1/2

ACC NR: AT9005110

the blood of the infants before beginning treatment. They were delivered from mothers not immunized against tetanus. It was concluded that 12,000 antigen units administered to newborn infants on the day of hospitalization produced sufficient antibodies to neutralize the toxins produced by the pathogen. A higher dose was considered excessive. [WA-50; CBE No. 40][XF]

SUB CODE: 06/ SUBM DATE: none

Card 2/2

AUTHOR: Pustovalov, Yu. I.; Zheludov, V. I.

ORG: Central Scientific-Research Roentgen Radiological Institute, MZ SSSR, Leningrad (Tsentral'nyy nauchno-issledovatel'skiy rentgeno-radiologicheskiy institut MZ SSSR)

TITLE: Effect of some radioprotective substances on the sensitivity of irradiated animals to bacterial endotoxins

SOURCE: Radiobiologiya, v. 8, no. 6, 1968, 876-879

TOPIC TAGS: radioprotective agent, Salmonella, endotoxin, animal experiment

ABSTRACT: Five hundred white mice were administered a radiation dosage of 600 r at 36 r/min with an RUM-11 apparatus. Voltage was 185 kv, current intensity was 17 milliamperes, filter 0.5 mm Cu + 1.0 mm Al and focus scatter 40 cm. Sensitivity to endotoxins of *Salmonella paratyphi* B-42 was determined in nonirradiated mice, in irradiated nonprotected mice, and in mice protected with aminoethylisothiuronium (AET) 150 mg/kg, cystaphos 350 mg/kg, 5-methoxytryptamine 60 mg/kg, and a combination of cystaphos and 5-methoxytryptamine. All drugs were administered

Card 1/3

UDC: 547.436:577.391/616-098:612.017.4]

ACC NR: AP9004921

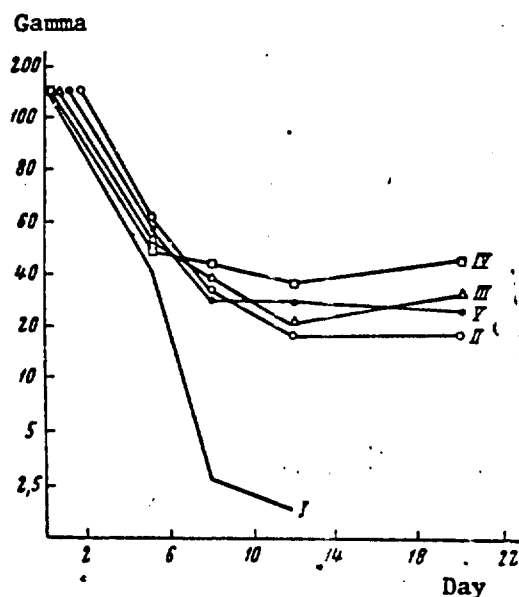


Fig. 1. Sensitivity of mice, protected with radioprotectors, administered a radiation dosage of 600 r to endotoxins of *S. paratyphi* B

Axis of abscissas - day after irradiation; axis of ordinates - dose of toxin; I - Irradiated unprotected control; II - Protection with cystaphos; III - Protection with AET; IV - Protection with 5-methoxytryptamine; V - Protection with cystaphos and 5-methoxytryptamine combination

Card 2/3

ACC NR: AP9004921

intraperitoneally in 0.25 ml of sterile physiological solution 10--15 min before irradiation. The dynamics of change in the reticuloendothelial and lymphatic systems were determined by changes in the weight and cellular mass of the spleen. The radioprotective agents showed a positive effect on protection from the effect of ionizing radiations. Survival of control unprotected animals 30 days after irradiation was 7%, while the survival rate was 60% in animals protected with 5-methoxytryptamine, 80% with aminocethylisothiuronium, 93% with cystaphos, and 100% with a combination of cystaphos and 5-methoxy tryptamine. The sensitivity to endotoxin of *S. paratyphi* B of the different groups of animals is shown in Figure 1. It was determined that 6--8 hr after irradiation was the period of greatest disintegration of spleen cells. Regeneration occurred earliest in animals protected with a combination of cystaphos and 5-methoxytryptamine. It was suggested that radioprotective agents, causing a rapid restoration of the weight and cellular mass of the spleen, lead to normalization of the sensitivity of irradiated animals to bacterial endotoxins. However, in reality, this does not occur, probably because the functional capacity of the reticuloendothelial and lymphatic systems is not restored. Orig. art. has: 2 figures. [WA-0; CBE No. 40] [XF]

SUB CODE: 06/ SUBM DATE: 18Mar68/ ORIG REF: 008/ OTH REF: 011

Card 3/3

ACC NR: AT9004488

SOURCE CODE: UR/3451/68/000/069/0091/0094

AUTHOR: Rabinovich, I. M.; Gubanov, I. A.; Kibal'chich, P. N.

ORG: All-Union Scientific Research Institute of Medicinal Plants (VILR) (Vsesoyuznyy nauchno-issledovatel'skiy institut lekarstvennykh rasteniy)

TITLE: Introduction of rauwolfia into the Soviet subtropics

SOURCE: Moscow. Glavnyy botanicheskiy sad. Byulleten', no. 69, 1968, 91-94

TOPIC TAGS: pharmacognosy, medicinal plant, botany

ABSTRACT: *Rauwolfia serpentina*, *R. canescens*, *R. vomitoria* and related varieties have been introduced into the Soviet Union during the post-war years in greenhouse culture in the Moscow area and in experimental fields in the Transcaucasus (zonal experiment stations, Kobuleta, Adzharskaya ASSR). Experimental plots are located near Batum, Kobuleta, Sukhumi, Garga and Pitsunda, areas where killing ground temperatures are common. However protective coverings enable some of the plants to overcome winter successfully. Seeds are planted in enriched soil at temperatures of 20--25°C and the plants reach their full height and root development in 6--7 mo. Culturing these species is fully possible but special precautions are needed against excessive cold, nematodes, and common plant

Card 1/2

UDC: 58(06)47

ACC NR: AT9C04488

diseases. At best, growth is inferior to that in the tropics. Orig. art.
has: 3 figures. [WA-50; CBE No. 40] [LP]

SUB CODE: 06/ SUBM DATE: none/ ORIG REF: 002/ OTH REF: 001

Card 2/2

ACC NR: 9006082

SOURCE CODE: UR/3111/67/076/000/0094/0102

AUTHOR: Rasulova, T. A.

ORG: none

TITLE: Comparative characteristics of methods of isolating hemolysins
of *Escherichia coli* and a study of some of their properties

SOURCE: Dushanbe. Gosudarstvennyy meditsinskiy institut. Trudy,
v. 76, 1967. Nekotoryye voprosy normal'noy i patologicheskoy bio-
khimii (Some problems of normal and pathological biochemistry), 94-102

TOPIC TAGS: *Escherichia coli*, hemolysin, bacterial antigen, bacterial
toxin

ABSTRACT: Hemolysin was precipitated from a 4-hr culture of *Escherichia coli* with methanol, ammonium sulfate and Zn sulfate. The greatest hemolytic activity was demonstrated in collysin obtained by precipitation with methanol. A dermatonecrotic reaction was clearly demonstrated in rabbits following intracutaneous injection of 0.5 ml of hemolysin obtained by precipitation with the three agents noted above. The largest area of necrosis developed after injection of collysin obtained by precipitation with ammonium sulfate. Toxicity studies with various

Card 1/2

ACC NR: AT9006082

doses of colilysin obtained by precipitation with methanol, ammonium sulfate, and Zn sulfate administered intraperitoneally to white mice indicated that colilysin ammonium sulfate-precipitate was the most toxic. Death occurred within 3—5 min from paralysis after injection of 0.5 ml. Hemolysins from *E. coli* were then tested for their antigenic properties in rabbits. Animals were immunized with methanol-precipitated hemolysin from a 4-hr culture fluid. Anticolihemolysin titer and the titer of agglutinins were determined in the anticolihemolytic sera after 10 days. The highest anticolihemolysin titer was 1:3200, compared to 1:800 in control sera. Methanol-precipitated colihemolysin is completely antigenic and is suitable for producing specific coli sera and for titration of these sera. Titration of anticolihemolytic sera is possible both with hemolytic and with heterologous colihemolysins. Orig. art. has: 5 tables. [WA-50; CBE No. 40][XF]

SUB CODE: 06/ SUBM DATE: none/ ORIG REF: 002/ OTH REF: 002

Card 2/2

ACC NR: AP9003651

SOURCE CODE: UR/0433/68/000/011/0013/0014

AUTHOR: Rebenko, V. P. (Head)

ORG: Donetsk Agricultural Experimental Station (Donetskaya sel'skokhozy-systvannaya opyt'naya stantsiya)

TITLE: Agricultural technology against barley smut

SOURCE: Zashchita rasteniy, no. 11, 1968, 13-14

TOPIC TAGS: agriculture science, barley, fungus

ABSTRACT: Covered smut of spring rye yearly claims 3—6% of the harvest in the Ukraine (figures are for 1965—1967). However, in 1967 in Valki, Novovodolazhsk, Pervomaysk and Chuguyev Rayons of Kharkhov Oblast, 13—26% of the spring rye harvest was damaged, 18.3% in Lugansk Oblast, and 26% and 44.3% in Ul'yanovsk and Aleksandrovsk Rayons of Kirovograd Oblast, respectively. Recommended measures for decreasing infestation of spring barley with covered smut include early sowing, disinfection of seeds with ethylmercurichloride, proper preparation of soil before sowing, correct use of fertilizers and proper crop rotation. The effectiveness of these methods is confirmed by the high yield of healthy seeds from a test seed farm even in dry and epiphytotic years. [WA-50; CBE No. 40] [JS]

Card 1/1 SUB CODE: 06/ SUBM DATE: none UDC: 632.931:582.285.1:633.16

ACC NR: AP9002876

SOURCE CODE: UR/0016/68/000/012/0090/0093

AUTHOR: Runova, V. F.; Rudneva, O. A.

ORG: Control Institute of Medical and Biological Preparations im. Tarasevich (Kontrol'nyy institut meditsinskikh biologicheskikh preparatov)

TITLE: The effect of chemical action on the biological activity of anthrax and tularemia allergens

SOURCE: Zh mikrobiol, epidemiol i immunobiol, no. 12, 1968, 90-93

TOPIC TAGS: bacillus anthracis, pasteurilla tularensis

ABSTRACT: Iodation, desamination, or formylation of anthrax and tularemia allergens sharply reduced biological activity, while acetylation did not affect biological activity. Allergens were prepared from dried bacterial masses of vaccinal strains by extraction, acidic precipitation, dialysis and lyophilization. Biological activity was determined by injection of allergen into guinea pigs immunized against the respective diseases. Some guinea pigs were immunized by aerosol in a 0.7 m³ chamber using a PAV-65 M atomizer delivering 6 g of vaccine in 30 min (guinea pigs inhaled 87-102 million

Card 1/2

UDC: 576.851.511+576.851.45/-097.2.095.18

ACC NR: AP9002876

spores). The biological activity of anthrax and tularemia allergen is related to the presence in their molecules of amine groups and also amino acids capable of iodation (histidine and tyrosine). Orig. art. has: 2 tables. [WA-50; CBE No. 40] [JS]

SUB CODE: 06/ SUBM DATE: 26Jun67/ ORIG REF: 005

ACC NR: AP9001713

SOURCE CODE: UR/0346/68/000/011/0099/0101

AUTHOR: Safarov, Yu. B. (Professor); Aleskerov, Sh. A. (Assistant)

ORG: Azerbaydzhan Agricultural Institute (Azerbaydzhanskiy sel'skokhozyaystodennyi institut)

TITLE: Disinfection of objects during swine paratyphoid

SOURCE: Veterinariya, no. 11, 1968, 99-101

TOPIC TAGS: biologic decontamination, paratyphoid fever

ABSTRACT: The agent of swine paratyphoid (*B. suispestifer*) remains viable on nonsterile surfaces for 80--180 days at a temperature of 16--30°C and relative humidity of 38--56%. Trial disinfection of packed manure, clay, brick, stone, and boards all infected with 20 million cells of *B. suispestifer* per cm², showed that 3 hr exposure to a 7--15% solution of iodine monochloride, 3--10% solution of sodium hydroxide, 7--19% solution of Creolin, 2--4% formaldehyde, 3--8% sulfur-phenolic mixture, purified solution of chlorinated lime (containing 1.5--3.5% active chlorine), 3--6% chloramine and 5--12% solution of efrin 99 killed bacteria. The most effective disinfectants were formaldehyde, chlorinated lime, chloramine, sodium hydroxide and the phenolic mixture. Heated and boiling solutions were most effective at environmental temperatures of

Card 1/2

UDC: 619:616.981.49-084.484:636.4

ACC NR: AP9001713

12--15% C. At low temperatures (+2--5°C), higher concentrations were required. [WA-50; CBE No. 40] [JS]

SUB CODE: 06/ SUBM DATE: none

Card 2/2

ACC NR: AP9001078

SOURCE CODE: UR/0391/68/000/012/0043/0044

AUTHOR: Safonov, N. M. (L'vov)

ORG: Medical Institute (Meditsinskiy institut)

TITLE: Toxicological characteristics of fozalone, a new organic phosphorus insecticide (Preliminary report)

SOURCE: Gigiyena truda i professional'nyye zabolovaniya, no. 12, 1968, 43-44

TOPIC TAGS: organic phosphorus insecticide, toxicity, poison effect

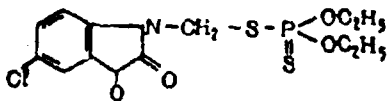
ABSTRACT: LD₁₀₀, LD₅₀, and LD_{min} of fozalone (P-974) were established as 300 mg/kg, 135 mg/kg, and 80 mg/kg, respectively, in toxicity studies on white rats. The maximum tolerated dose was 50 mg/kg. The corresponding doses in mice were 350, 180, 50, and 30 mg/kg. Results of macroscopic examination of the internal organs of animals receiving LD₁₀₀ were discussed. Following application of 10% solution of fozalone 3 times/day at 30-min intervals to a segment of skin without fur in rabbits and guinea pigs, there was an increase in the pulse and respiratory rates; following a second and third application, there was

Cord 1/2

UDC: 615.777.25-099

ACC NR: AP9001078

hyperemia of the skin, followed by thickening and desquamation. Systemic symptoms lasting one month were also noted as manifestations of the skin absorptive effects of the drug. There was conjunctivitis with purulent discharge, blepharospasm, and corneal blurring following instillation of four drops of a 5% solution into the conjunctival sac of rabbits. The conjunctival changes returned to normal within 28 days. Similar results were noted in studies with white rats and guinea pigs. Results of the study indicate the necessity for protecting the skin and eyes from immediate contact with fozalone. The structural formula of the compound is as follows:



Orig. art. has: 1 formula.

[WA-50; CBE No. 40][XF]

SUB CODE: 06/ SUBM DATE: 15Oct66

Cord 2/2

- 243 -

ACC NR: AP9002874

SOURCE CODE: UR/0016/68/000/012/0080/0084

AUTHOR: Sakvarelidze, L. A.; Badashvili, V. A.; Kuz'minskaya, G. Ya.; Sulakvelidze, T. S.; Chaganova, G. G.; Natsvlivshvili, N. T.; Popova, K. I.

ORG: Kutaisi Sanitation and Epidemiological Station, Central Institute of Epidemiology, Ministry of Public Health GruzSSR (Kutaysskaya sanitarno-epidemiologicheskaya stantsiya Tsentral'nyy institut epidemiologii, Ministerstvo zdravookhraneniya GruzSSR)

TITLE: Improving organization of the work of medical technicians during work in epidemic foci

SOURCE: Zh mikrobiol, epidemiol i immunobiol, no. 12, 1968, 80-84

TOPIC TAGS: epidemiologic focus, medical personnel, medical institute, disease carrier state

ABSTRACT: Improvement of the system for organizing measures to localize epidemic foci in cities in the GruzSSR took the form of redefining responsibilities of workers in the sanitation and epidemiological stations and polyclinics on the basis of specialization and professional division of labor. This reorganization simplified the system and provided a more qualified supervision of the foci. The Sanitation and

Cord 1/2

UDC: 614.44:614.25

ACC NR: AP9002874

and Epidemiological Station took over from the polyclinic the responsibility for conducting measures to eliminate the routes of spread of infection, including disinfection and quarantine. As an example of the effectiveness of the new system, prior to reorganization in Kutaisi, 3 to 3.5 people were identified as being in contact with one typhoid or paratyphoid patient, as compared with 12 to 17 people uncovered after reorganization. A total of 1.2-1.3 people associated with dysentery patients were uncovered before reorganization and 4.5-5.5 people per patient afterwards. The frequency of location of sources in foci of intestinal diseases also increased more than twofold after reorganization of antiepidemic procedures. The polyclinic retained responsibility for restoring the health of the disease carrier, for diagnosis, hospitalization, and treatment and isolation of the patient at home. Polyclinics also must record infectious diseases with the Sanitation and Epidemiological Station. Orig. art. has: 2 figures.

[WA-50; CBE No. 40] [JS]

SUB CODE: 06/ SUBM DATE: 15Feb68

Cord 2/2

ACC NR: AP9002852

SOURCE CODE: UR/0476/68/047/004/0726/0730

AUTHOR: Sekun, N. P.

ORG: Department of Agricultural Entomology, Leningrad Agricultural Institute, Pushkin (Kafedra sel'skokhozyayivvennoy entomologii Leningradskogo sel'skokhozyaystvennogo instituta)

TITLE: Some physiological changes in Lepidoptera during intestinal poisoning with insecticides

SOURCE: Entomologicheskoye obozreniye, v. 47, no. 4, 1968, 726-730

TOPIC TAGS: organic phosphorus insecticide, selective drug effect, drug resistance

ABSTRACT: Chlorophos in sublethal doses of 0.01 mg/1 g body weight were administered with food to *Malacosoma neustria* and to *Euproctis chrysorrhoea*, while similar doses of chlorophos alone and combined with polychlorpinene were administered to *Pieris brassicae* and to *Mamestra brassicae*. Changes in physiological indices following sublethal poisoning were determined by study of the respiratory intensity and coefficient, total body lipids, total nitrogen, reducing substances, and total water. There was a decrease in all basic energy substrates, including lipids, proteins, reducing sugars, and water following poisoning with chlorophos

Card 1/2

UDC: 595.78:615.9

ACC NR: AP9002852

alone and with polychlorpinene. There was an increase in the O₂ requirement and a decrease in respiratory coefficient measured by the Barcroft-Krog microspirometer. The degree of the disorders was dependent on the insect species and the preparation used. Potentiation of the toxic effect of chlorophos was demonstrated when it was administered with polychlorpinene. Orig. art. has: 6 tables.

[WA-50; CBE No. 40] [XF]

SUB CODE: 06/ SUBM DATE: none/ ORIG REF: 007/

Card 2/2

- 245 -

ACC NR: AT9003699

SOURCE CODE: UR/3448/67/009/001/0121/0126

AUTHOR: Selivanova, T. A.; Razumova, M. A.

ORG: Department of Physiology im. I. P. Pavlov, IEM, AMN SSSR
(Fiziologicheskiy otdel IEM AMN SSSR)

TITLE: Disruption of higher nervous activity produced by the N-cholinolytic agent, amifin

SOURCE: AMN SSSR. Institut eksperimental'noy meditsiny. Trudy, v. 9, no. 1, 1967. Problemy klinicheskoy i eksperimental'noy fiziologii golovnoy mozga (Contributions to the clinical and experimental physiology of the brain), 121-126

TOPIC TAGS: cholinolytic agent, CNS disease, cholinesterase inhibitor

ABSTRACT: Amifin in doses of 1, 2, 5, 8, 10, 13, 16, and 25 mg/kg was administered to dogs to determine its effect on specific conditioned reflexes. Inhibition of motor response was noted at doses between 8-16 mg/kg, and only at very large doses (35-40 mg/kg) was definite toxic action detected. However, 8-20 mg/kg doses produced strengthened conditioned reflex activity but weaker response to light flashes and to a metronome at 120 beats/min. Some toxic damage to the sympathetic

Card 1/2

UDC: 612.825+612.825-0,8(058)

ACC NR: AT9003699

nervous system occurs when amifin is administered with nicotine (0.2-0.4 mg/kg). Orig. art. has: 2 figures. [WA-50; CBE No. 40][LP]

SUB CODE: 06/ SUBM DATE: none

Card 2/2

ACC NR: AP9001291

SOURCE CODE: UR/0016/68/000/011/0026/0032

AUTHOR: Sergeyev, V. V.; Mikhaylov, I. F.; Gleyberman, S. Ye.;
Yuditskaya, N. M.; Kavtaradze, K. N.

ORG: Moscow Institute of Vaccines and Sera im. Mechnikov (Moskovskiy
institut vaktsin i syvorotok); Sukhumi Institute of Experimental
Pathology and Therapy (Sukhumskiy institut eksperimental'noy patologii
i terapii)

TITLE: The immunogenic properties of live lyophilized dysentery
vaccine in monkey experiments

SOURCE: Zhurnal mikrobiologii, epidemiologii i immunobiologii, no. 11,
1968, 26-32

TOPIC TAGS: dysentery, dysentery vaccine

ABSTRACT: Immunization of monkeys with a streptomycin-dependent mutant
of *Shigella flexneri* 2a protected the animals from development of
dysentery upon subsequent infection with a virulent culture of a
homologous strain. Five-fold administration of the mutant in a total
dose of 80 billion cells did not cause pathological changes in monkeys,
according to clinical and histological studies. A live lyophilized

Card 1/2

UDC: 615.371:576.851.49(Shigella).036.8

ACC NR: AP9001291

culture of the mutant was fed to monkeys at 3-day intervals. No
inflammatory changes in the intestine or pathological changes in
internal organs were noted in immunized monkeys. Proliferation of
cells of the plasmatic series in gastric mucosa with intense accumula-
tion of RNA in the cytoplasm indicates that local antibody formation
can play an essential role in the development of resistance to dysen-
tery. Orig. srt. has: 2 figures and 3 tables. [WA-50; CBE No. 40][JS]

SUB CODE: 06/ SUBM DATE: 24Apr68/ ORIG REF: 009/ OTH REF: 007

Card 2/2

ACC NR: AT9004722

SOURCE CODE: UR/3452/68/000/005/0029/0067

AUTHOR: Shevareva, T. P. (Member of breeding center)

ORG: Banding Center, Zoological Institute AN SSSR (Tsentr kol'tsevaniya, Zoologicheskii institut)

TITLE: Geographical populations of pintals in the USSR

SOURCE: AN SSSR. Zoologicheskii institut. Migratsii zhivotnykh, no. 5, 1968, 29-67

TOPIC TAGS: animal colony, zoology, bird migration

ABSTRACT: The seasonal distribution and flight patterns of four geographical populations of the pintail *Anas acuta* L. (European, European-Siberian, western Siberian, Chukotsk) are reported from banding data compiled over the past 20 years. It was found that these birds frequently change their molting and wintering areas, but always rest in the same area. The nesting areas of the European, European-Siberian, and western Siberian pintails are separate from one another; there is great variation in their wintering areas. The birds migrate along 2 or 3 different routes from these different areas. Thus, from the Ob river valleys, they fly toward the North Sea, directly south to

Card 1/3

UDC: 598.412.2:591.526(47)

ACC NR: AT9004722

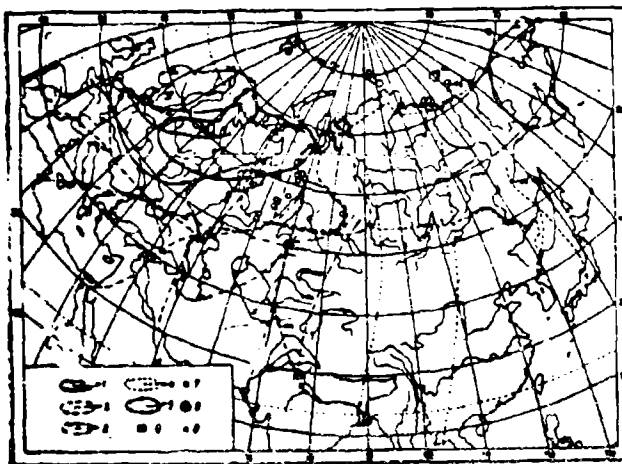


Fig 1. Nesting regions of geographic populations of pintails
1 - European population; 2 - European-Siberian population;
3 - western Siberian population; 4 - eastern Siberian and Far
Eastern populations; 5 - Chukotsk population Flight direction to
wintering areas; 6 - banding site for molting in the Volga Delta;
7 - Pintails sighted, which were banded in Egypt; 8 - banding site
on Lake Kurgal'dzhin; 9 - Pintails banded on Lake Kurgal'dzhin
sighted in wintering areas

Card 2/3

ACC NR: AT9004727

the Okhotsk Sea and into Central Asia. There are 100-150,000 birds in the winter, 10-20% pairs are found during the winter. In the spring they are isolated. In the spring, the migration routes of the three geographical populations in the southern Urals, but there are no spring bands they fly to separate flocks. From 60-80% of the birds of the European Siberian population, 73% of the western Siberian population, and 12% of the European population fly into the southern Urals. The Chukotsk population inhabits the Chukotsk and Koryaksk Okruga. The drakes molt in Alberta and Saskatchewan in Canada and possibly in Alaska. Their wintering area is in California, where they usually migrate by the Pacific route. Only 17% of the retrieved Chukotsk population was retrieved during the summer compared with 35-45% of the European population retrieved during this period. It was noted in the Chukotsk population group that there was migration from the flock of one or two of every thousand birds during the regular seasonal migrations. Nesting areas of the 6 geographical populations of *Anas acuta* are shown in the figure. Orig. art. has: 13 tables and 6 figures. [WA-50; CBE No. 40] [XF]

SUB CODE: 06/ SUBM DATE: none/ ORIG REF: 007/ OTH REF: 004

Card 3/3

ACC NR: AT9004723

SOURCE CODE: UR/3452/68/000/005/0068/0093

AUTHOR: Shevareva, T. P. (Member of breeding center)

ORG: Banding Center, Zoological Institute AN SSSR (Tsentr kol'tsevaniya, Zoologicheskii institut, AN SSSR)

TITLE: Characteristics of the seasonal distribution of geographical populations of the tufted duck and the pochard in the USSR

SOURCE: AN SSSR. Zoologicheskii institut. Migratsii zhivotnykh, no. 5, 1968, 68-93

TOPIC TAGS: animal colony, bird migration, zoology

ABSTRACT: Tufted ducks inhabiting sections of the northwestern section of Siberia between the northern Urals and the Ob River valleys comprise a single European population group, which divides into two sections during migration. Birds comprising the northern group fly mainly from the Arkhangel Oblast into England and from Latvia to the North Sea; the southern group migrates from the Komi ASSR through the center of the RSFSR to southern France. Birds inhabiting Lithuania belong to this group. The wintering area for all the birds of the European population is the same. Birds which have migrated from French wintering stations

Card 1/4

UDC: 598.412.1:591.526(47)

ACC NR: AT9004723

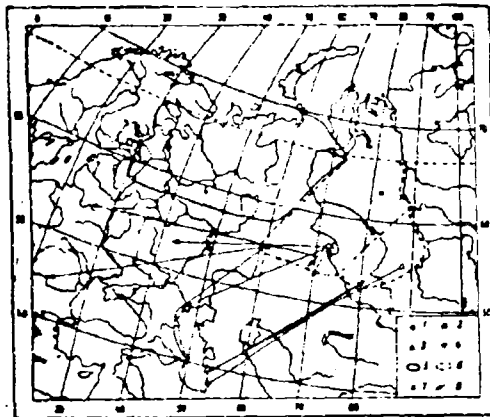


Fig. 1. Nesting sites and flight patterns of the western Siberian population of tufted ducks

1—4. Banding sites for nesting in Omsk (1), Chelyabinsk (2), Kemerov (3) and at wintering stations in the game reservation of Gasan-Kuli in Turkmenia (4); 5—6. boundaries of nesting area of the European (5) and western Siberian population; 7 - points where specimens were sighted, who had migrated northeast from birthplaces; 8 - direction of migration and areas where specimens were sighted in the year of banding.

Card 2/4

ACC NR: AT9004723

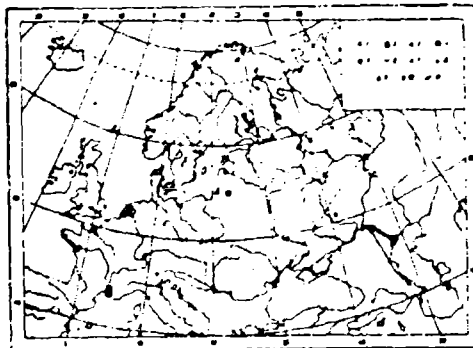


Fig. 2. Wintering stations of pochard banded in the USSR

1—6. Banding sites: Latvian SSR (1), Lithuanian SSR (2), Leningrad oblast (3), Vologodskaya, Ryazanskaya and Voronezhskaya oblasts (4), Lower Volga (5), Tatar ASSR (6); 7—10. retrieval sites of birds banded in the Latvian SSR (7), Lithuanian SSR (8), Leningrad (9) and Ryazanskaya (10) oblasts; 11 - migration direction in August.

Card 3/4

ACC NR: AT9004723

predominate in the central regions of the RSFSR, while birds which have migrated from Denmark predominate in the northeastern regions. The western Siberian population of tufted ducks comprise two more or less independent geographical populations, one of which uses the region from the southern Urals to the Ob' River valleys as nesting areas. The wintering area of these birds is in the eastern Mediterranean area and the western part of the Caspian Sea. The second group inhabits the territories of Novosibirsk, Kemerov Oblast and Altay. Their wintering area is mainly on the shores of the eastern Caspian Sea. Nesting areas and the flight patterns of the western Siberian population are shown in Figure 1. Pochard in the USSR also comprise a European and western Siberian population. Wintering stations of pochard nesting in the western part of the USSR are shown in Figure 2. One of the characteristic features of the seasonal distribution of pochard is a combination of a high degree of nesting conservatism, evident in both young and old birds, with a complete loss of their former territorial attachments by one and two-year-old birds, who occupy and nest in an area which has not yet been accepted by this species. This leads to a gradual extension to the north of the nesting area by this species. Orig. art. has: 9 tables and 5 figures. [WA-50; CBE No. 50] [XF]

SUB CODE: 06/ SUBM DATE: none/ ORIG REF: 006/ OTH REF: 002

Card 4/4

ACC NR: AP9006547

SOURCE CODE: UR/0477/69/000/001/0055/0058

AUTHOR: Shikulov, V. A.; Korzenko, V. N.

ORG: Belorussian Scientific Research Institute of Epidemiology and Microbiology (Belorusskiy nauchno-issledovatel'skiy institut epidemiologii i mikrobiologii)

TITLE: Problems of organizing public health measures in the Belorussian SSR

SOURCE: Zdravookhraneniye Belorussii, no. 1, 1969, 55-58

TOPIC TAGS: public health, hygiene, cholera, plague, smallpox, yellow fever

ABSTRACT: In 1967, the Soviet Union established regulations, in cooperation with WHO, governing the control and containment of quarantined and other serious infectious diseases in the Soviet Union. Epidemics of typhus are also included with the diseases shown in Table 1. Temporary sanitary and quarantine procedures also apply to malaria, brucellosis, anthrax, glanders, meliodosis, rabies, and psittacosis. Smallpox is

Card 1/4

UDC: 614.4(476)

- 251 -

Table 1. World figures on the incidence of serious infectious diseases

Year	Continent	Infection			
		Plague	Cholera	Small-pox	Yellow fever
1965	Europe	—	—	1/1	—
	America	845/5	2/1	2740/5	87/6
	Asia	418/3	84725/14	44555/9	—
	Africa	49/3	—	16675/29	243/1
	Total	1312/11	84727/15	63971/44	330/7
1966	Europe	—	—	71/1	—
	America	889/5	—	2714/5	160/6
	Asia	2814/3	30946/12	44634/11	—
	Africa	17/2	—	13913/25	—
	Total	3720/10	30946/12	63322/42	160/5
	Europe	—	—	5/3	—
	America	117/4	—	2922/3	14/4

Card 2/4

Table 1. (Cont.)

1967	Asia	6188/3	18019/11	19089/11	—
	Africa	21/3	—	14120/26	2/1
	Total	6326/10	18019/11	36136/43	16/5

Legend: numerator — number of cases; denominator — number of countries in which the disease was recorded

the most dangerous of these because of its droplet mode of infection, its long incubation period and the presence of a latent form of the disease. Cholera is also dangerous because of unaffected carriers and the existence of unusual or asymptomatic forms of the disease. In Belorussia, the main links with foreign countries are the highways and railroads. Minsk airport does not serve international traffic, but this does not exclude it as a possible route of infection since a person infected with a slowly incubating disease could pass through it. In accordance with the "Rules for Sanitary Protection of the Territory of the USSR," quarantine stations have been set up at railway stations, along highways and in the cities of Brest and Grodno.

Card 3/4

ACC NR: AP9006547

Epidemics usually break out in places far from centers of government and transportation, so that elimination of the disease on the local level is important. Orig. art. has: 1 table. [WA-50; CBE No. 40][LP]

SUB CODE: 06/ SUBM DATE: none/ ORIG REF: 014

Card 4/4

ACC NR: AP9001513

SOURCE CODE: UR/0411/68/004/006/0714/0716

AUTHOR: Shipalov, M. S.; Vasil'yeva, N. A.; Belkina, G. G.; Breytman, B. N.

ORG: Institute of Biochemistry im. A. N. Bakh AN SSSR (Institut biokhimi AN SSSR)

TITLE: Device for mincing plant material and removing cell nuclei

SOURCE: Prikladnaya biokhimiya i mikrobiologiya, v. 4, no. 6, 1968, 714-716

TOPIC TAGS: grinding machine, homogenization, edible plant

ABSTRACT: The device shown in Figures 1 and 2 can be used to isolate nuclei from wheat germ cells, wheat seedlings and similar plant material. The plant material is ground by two knives moving vertically over a moving belt on which the material is placed. The ground mass is continuously wetted with a homogenization medium and pressed between two rollers to isolate the cellular material of which nuclei are the prime component. The resulting suspensions can be centrifuged for about 5-10 minutes at 70 g several times and then, after washing in 40-60% glycerine-buffer solution, recentrifuged at 350 g to obtain

Card 1/3

UDC: 543.055+581.19
- 253 -

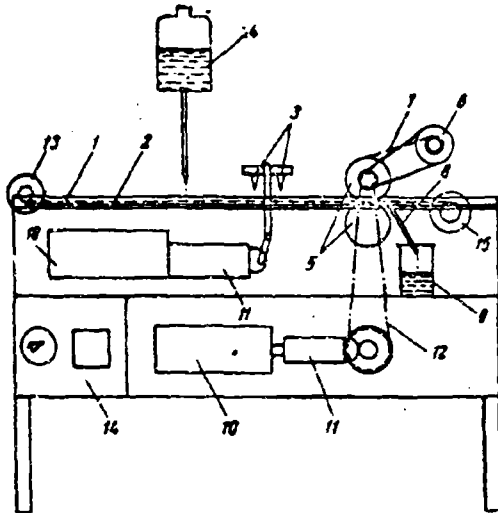


Fig. 1. Diagram of the principal parts of a device for mincing plant material and extracting cell nuclei

1 - Nylon belt; 2 - control plate; 3 - blades; 4 - vessel containing glycerine-buffer solution; 5 - winger roller; 6 - belt roller; 7 - nylon belt; 8 - waste pipe; 9 - solution collector; 10 - reducing gear; 11 - electric motor; 12 - chain; 13 - transporter reel; 14 - control panel; 15 - takeup reel for minced material.

Cord 2/3

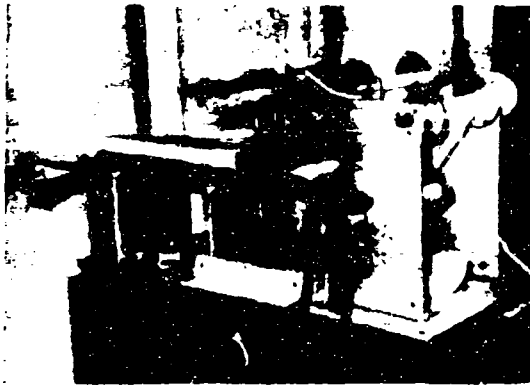


Fig. 2. General view of the device for extracting cell nuclei

nuclei. Further purity can be obtained by gradient centrifugation in 80% glycerine. Orig. art. has: 2 figures. [WA-50; CBE No. 40] [LP]

SJB CODE: 06/ SUBM DATE: 27Nov67/ ORIG REF: 002/ OTH REF: 006

Cord 3/3

ACC NR: AP9003392

SOURCE CODE: UR/9062/68/003/006/0915/0917

AUTHOR: Shirko, V. N.; Glushchenko, Ye. Ya.

ORG: All-Union Scientific Research Institute of Plant Growing im. N. I. Vavilov, Leningrad (Vsesoyuznyy nauchno-issledovatel'skiy institut rasteniyevodstva)

TITLE: The use of heterosis to increase the resistance of tomatoes to *Phytophthora*

SOURCE: Sel'skokhozyaystvennaya biologiya, v. 3, no. 6, 1968, 915-917

TOPIC TAGS: fungus, tomato, disease resistant plant

ABSTRACT: Study of F₁ hybrids from interstrain and inter-variety crosses of tomatoes showed that certain inter-variety hybrids demonstrated the heterosis (hybrid vigor) effect with respect to resistance. F₁ hybrids of Urozhaynyy x Humboldtii 99, Mayak x Humboldtii 99, Moneymaker x *Lyc. pimpinellifolium*, *Ostravska niska* x wild tomato and other hybrids were less damaged by late blight (caused by the fungus *Phytophthora*) than even their relatively resistant parents. No valuable crosses were obtained by interstrain hybridization.

[WA-50; CBE No. 40][JS]

SUB CODE: 06/ SUBM DATE: 05Jun67/ ORIG REF: 012/ OTH REF: 005

Card 1/1

UDC: 582.951.4:575.126

ACC NR: AP9003654

SOURCE CODE: UR/0433/68/000/011/0017/0018

AUTHOR: Shirokov, A. I. (Head)

ORG: Chelyabinsk Agricultural Experimental Station (Chelyabinskaya sel'skokhozyaystvennaya opyt'naya stantsiya)

TITLE: Resistance of wheat to brown rust and smut (*Ustilago*)

SOURCE: Zashchita rasteniy, no. 11, 1968, 17-18

TOPIC TAGS: wheat, plant disease, plant disease control

ABSTRACT: Wheat plants which were most resistant to brown rust and smut were those obtained from the world collection at the All-Union Scientific Research Institute of Plant Growing. This was determined from a study of 72 varieties of soft wheat highly resistant to disease in various regions of the country, and 94 varieties with the most desirable agricultural--biological qualities. These were divided into 10 categories according to the resistance to brown rust and smut of the parent forms. Crossing of the first 5 groups produced the most disease-resistant wheat. Group I was resistant to both diseases; group II was resistant to brown rust, but moderately susceptible to smut; group III was resistant to brown rust, but strongly susceptible

Card 1/2

UDC: 632.931:631.52:582.285.1/2:633.11

ACC NR AP9003654

to smut; group IV was moderately susceptible to rust, and resistant to smut, while group V was strongly susceptible to rust and resistant to smut. Varieties of wheat included in the first 5 groups are listed.
[WA-50; CBE No. 40][XF]

SUB CODE: 06/ SUBM DATE: none

Card 2/2

ACC NR AP9005777

SOURCE CODE: UR/0390/68/031/006/0721/0725

AUTHOR: Shumova, I. A.

ORG: Laboratory of Pharmacology of Biologically Active Substances/Head—Prof. M. Ya. Mikhel'son), Institute of Evolutionary Physiology and Biochemistry in. I. M. Sechenov AMN SSSR, Leningrad (Laboratoriya farmakologii biologicheskii aktivnykh veshchest Institutu evolyutsionnoy fiziologii i biokhimi AMN SSSR)

TITLE: Prevention of irreversible cholinesterase inactivation in muscle with the aid of some muscle relaxants

SOURCE: Farmakologiya i toksikologiya, v. 31, no. 6, 1968, 721-725

TOPIC TAGS: muscle relaxant, cholinesterase inhibitor, selective drug effect, rat

ABSTRACT: The possibility of protecting muscle cholinesterase and neuromuscular synapses from irreversible inhibition with armine was studied in rats by administration of blocking or smaller doses of muscle relaxants (decamethonium, disulphen, ditiline [succinoyl choline] and tetranethvlammonium [TMA] 30 or 5 min before armine. Muscle cholinesterases were protected from the effect of armine by all the muscle relaxants; however, it was demonstrated biochemically that

Card 1/4

UDC: 615.216.5.015.43:612.744.015.14

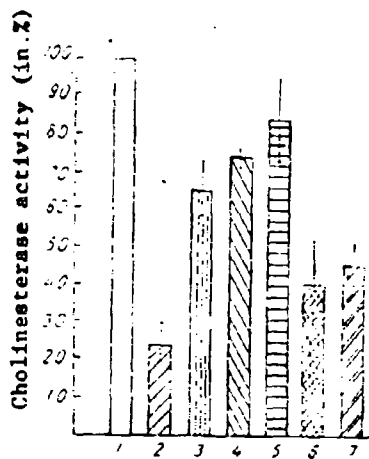


Fig. 1. Protection of rat muscle cholinesterase from armine with muscle relaxants in blocking and smaller (disulphen) doses

1 - Normal; 2 - armine 0.4 mg/kg; 3 - proserine 1.68 mg/kg + armine 0.4 mg/kg; 4 - disulphen 2.7 mg/kg + armine 0.4 mg/kg; 5 - decamethonium 2.5 mg/kg + armine 0.4 mg/kg; 6 - ditiline (succinoyl choline) 3 mg/kg + armine 0.4 mg/kg; 7 - TMA 10 mg/kg + armine 0.4 mg/kg

Card 2/4

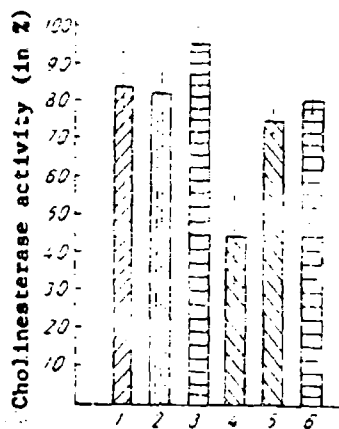


Fig. 2. Relation of protective effect of decamethonium to dose and interval between muscle relaxant and armine

1-4 - Decamethonium in doses of 7.5, 0.5, 0.05 and 0.005 mg/kg; 5-6 - decamethonium in doses of 0.005 and 0.05 mg/kg + armine 0.4 mg/kg with 5 min interval between administrations

Card 3/4

ACC NR: AP9005777

decamethonium protected muscle cholinesterase with much smaller than blocking doses. Histochemical investigation indicated that armine-induced cholinesterase inhibition could be prevented with decamethonium with doses beginning with 0.05 mg/kg. The protective effect of the various muscle relaxants is shown in the figures. Orig. art. has: 2 figures. [WA-50; CBE No. 40] [XF]

SUB CODE: 06/ SUBM DATE: 02Jul67/ ORIG REF: 004/ OTH REF: 016

Card 4/4

ACC NR: AP9004527

SOURCE CODE: UR/0358/68/037/006/0648/0651

AUTHOR: Shuykina, E. Ye.; Sergiyev, V. P.; friers, I. I.; Shcherbakov, V. A.; Diveyev, S. Kh.

ORG: none

TITLE: Experience of antileishmaniasis inoculations with cultures of *Leishmania tropica* cultured on media of different types

SOURCE: Meditsinskaya parazitologiya i parazitarnyye bolezni, v. 37, no. 6, 1968, 648-651

TOPIC TAGS: leishmaniasis, culture method, immunology

ABSTRACT: Inoculation of 2245 people (mostly young men) in a focus of cutaneous leishmaniasis in southern Turkmenia in 1966 was conducted with cultures of *L. tropica* major, strain P₃, grown either in test tubes on medium MNN or in Erlenmeyer flasks on a two-phase medium. Two months after inoculation, examination of 887 people showed the development of specific leishmanial lesions in 96-100% of inoculated people. In most cases (93.2%), these lesions, which developed into ulcers, were no greater than 2 cm in size. The advantage of cultivation on MNN medium is the long retention of viability of the culture

Card 1/2

UDC: 616.993.162-084.47:[615.371:578.893.161.13]

ACC NR: AP9004527

(more than a month); however, leishmania take 2—3 weeks of growth to produce enough parasites to infect 10 people. The two-phase medium promotes rapid growth of leishmania (5—7 days). Orig. art. has: 1 figure and 1 table. [WA-50; CBE No. 40] [JS]

SUB CODE: 06/ SUBM DATE: 10Jul67/ ORIG REF: 002/ OTH REF: 002

Card 2/2

ACC NR: AP9002986

SOURCE CODE: UR/0402/68/000/006/0716/0720

AUTHOR: Shvachkina, V. I.; Sokolov, M. I.; Parasyuk, N. A.

ORG: Institute of Virology im. D. I. Ivanovskiy AMN SSSR, Moscow
(Institut virusologii AMN SSSR)

TITLE: Study of genetic markers and their relationships in influenza virus. Report 1. The relationship between virulence and reproduction at lowered and elevated temperatures

SOURCE: Voprosy virusologii, no. 6, 1968, 716-720

TOPIC TAGS: influenza virus, virulence

ABSTRACT: Virulent, avirulent and vaccinal strains of influenza virus A and A2 cannot reproduce at 25°C and 42°C. A fairly clear relationship between virulence for mice and ability to reproduce at 28°C (the rct 28-marker) was established: however, highly virulent strains usually showed lower infectious titers at this temperature than avirulent or vaccinal strains. For 2 out of 3 of the strains highly virulent for mice [A/WSN, A2 (England), 12-64 M₄₀] the infectious titer at 28°C was 6 lg lower than at 37°C. No relationship between virulence for mice and the rct 40 marker was observed

Card

1/2

UDC: 576.858.75.097.21.095.15.+576.858.75.095.6.695.15

- 259 -

ACC NR: AP9002986

(28 and 40 are cultivation temperatures). Orig. art. has: 3 tables.
[WA-50; CBE No. 40] [JS]

SUB CODE: 06/ SUBM DATE: 22Apr68/ ORIG REF: 013/ OTH REF: 007

Card 2/2

ACC NR: AP9004500

SOURCE CODE: UR/0063/68/013/006/0637/0648

AUTHOR: Sitsnikov, M. N.

ORG: none

TITLE: Injurious effect of bacteriological weapons and some medical problems of protection

SOURCE: Vsesoyuznoye khimicheskoye obshchestvo. Zhurnal, v. 13, no. 6, 1968, 637-648

TOPIC TAGS: BW agent, BW antidote, BW training, CBR warfare, biologic warfare, bacteriologic warfare, biologic warfare agent, disease vector

ABSTRACT: The article discusses some problems of selecting potential biological agents, bacteriological warfare agents, basic means of employing bacterial weapons, settling properties of various sized aerosol particles in lungs, delivery techniques, basic military properties, bacteriological weapons, medical problems of protecting the population from bacteriological weapons, antiepidemic and prophylactic measures, preventive immunization, general and specific first aid, characteristics of certain antibiotics, quarantine and observation, and the effectiveness of combined methods against certain serious infectious diseases.

Card 1/12

UDC: 355.479

- 260 -

ACC NR: AP9004500

The author classifies bacterial warfare agents as follows. Group 1. Infectious diseases of humans: a) bacterial agents (plague, tularemia, brucellosis, anthrax, glanders, melioidosis, cholera); b) viral agents (hoof and mouth disease, yellow fever, Dengue fever, psittacosis, encephalitis); c) rickettsial agents (typhus, five-day fever, Q-fever); d) fungi (coccidiomycosis, nocardiosis, histoplasmosis); e) bacterial toxins (botulinum, staphylococcal, tetanus). Group 2. Bacterial and viral diseases of animals such as anthrax, Rinderpest swine plague (hog cholera), glanders, Asiatic horse plague, fowl plague, hemorrhagic septicemia, rabies and other diseases. Group 3. Bacterial plant agents, harmful insects, herbicides, defoliants, and other chemical agents. Among the advantages of these highly infective agents is the low infectious dose (ID_{50}) which, upon aerogenic administration, is approximately equal to 10—50 cells. In an analysis of foreign literature, the general consensus appears to be that the respiratory LD_{100} for monkeys infected with plague is 340 cells and for humans approximately 3000 cells. One virus particle can produce smallpox in rabbits and analogous results are obtained with the rickettsia causing typhus. In experimental tests with oral administration of botulinum toxin, the lethal dose was 0.01 mg, while the aerogenic lethal dose was 0.02 mg. About 10 cells are required for percutaneous infection with anthrax, but to be infected via the respiratory tract about 20,000 spores with

Card 2/12

ACC NR: AP9004500

a diameter of 2 μ is required. In the opinion of foreign military specialists, bacterial agents with high physical resistance to environmental factors, ease of growth and maintenance should be selected. It is considered that the cholera vibrio, which loses its pathogenic properties upon artificial culture, will not be widely used. It is well known that the vegetative forms of microorganisms are not resistant to environmental factors. At the same time, spore-forming bacteria, fungi, certain viruses (vaccinia), and rickettsia (Q-fever) are highly resistant. The article quotes American specialists as believing vegetative forms of the agent are lost from their special containers at a rate of about 20% per month. Experiments on respiratory infection have been cited for plague, tularemia, smallpox, psittacosis, and other diseases. Work on introducing other diseases such as yellow fever, typhus, and botulism which normally infect via other routes are cited. Some agents will obviously be more suited for use in areas of high population density where carriers will spread the disease quickly. As is shown by the following tables and figures the diameter of the particles in a biological aerosol whether liquid or dry are extremely important. The possible diameters of biological aerosol particles are shown in Figure 1 and are not less than 1—10 μ . Recently, experiments on the use of very small particle sizes (0.03—0.3 μ) which are not caught well by filtering devices have been conducted. As is shown

Card 3/12

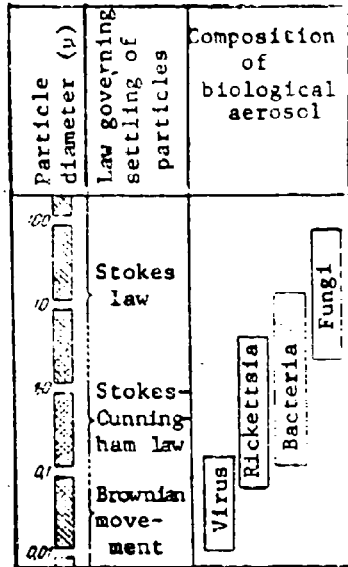


Fig. 1. Possible dimensions of biological aerosol particles

Table 1. Relationship of particle diameter to settling rate

Particle diameter, μ	Settling speed cm/min	Settling time per meter of height
100	153	3 sec
10	15	6 min
5	5	22 min
1	0.21	8 hr
0.1	0.02 mm/min	11 days

by Table 1, the settling time must be known before an agent is selected. Also, the effect of meteorological conditions (temperature, gradient, wind speed and atmospheric settling and the general characteristics of the location) must be considered. Other factors which must be considered are the biological properties of the aerosol itself; this is discussed in the case of *E. coli* and *S. marcescens* as test organisms sprayed into an aerosol chamber. These results are all discussed in the foreign literature. In addition to environmental and microbiological factors, the effects of pulmonary clearance must be considered

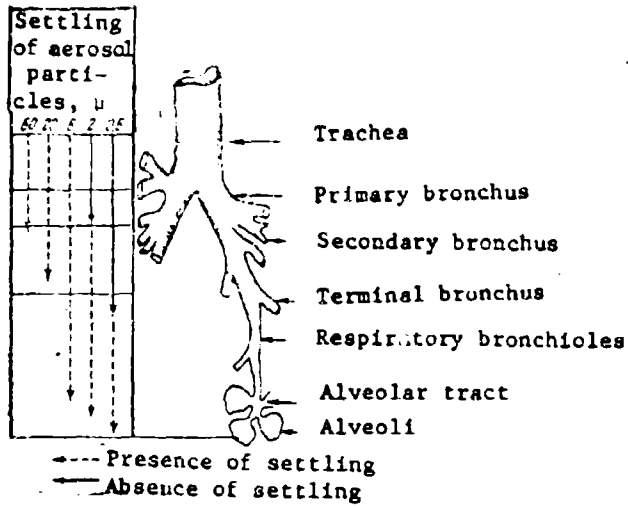


Fig. 2. Schematic structure of the respiratory tract and its relationship to particle settling

Card 6/12

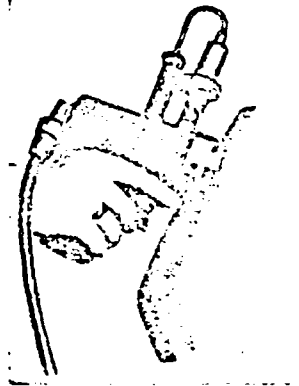


Fig. 3. Subcutaneous method of injecting vaccine with the aid of an automatic syringe

Card 7/12

(see Figure 2). Only particles 1-3 μ or smaller are able to penetrate into the alveoli. Particles 10 μ and larger are completely retained in the respiratory tract and particles 3.2 μ in diameter are retained to a somewhat lesser extent (61-80%) and 0.4 μ , 17-33%. Antiepidemic measures for the diseases discussed above are given and a discussion of advanced technology (main inhalation and rapid injection devices) is presented. First aid may be given under conditions in which full care cannot be obtained; a list of convenient antibiotics is given in Table 2.

Table 2. Characteristics of certain antibiotics

Antibiotic	Characteristics of the antibiotic	Producer or original source
Penicillin	Gram-positive organisms, treponema	<i>Penicillium notatum</i>
Streptomycin	Tuberculosis agent, Gram-negative bacteria	<i>Streptomyces griseus</i>
Tetracycline (achromycin)	Broad spectrum	Chlortetracycline
Oxytetracycline (tetracycline)	Broad spectrum	<i>S. rimosus</i>
Chlortetracycline (biomycin, aureomycin)	Broad spectrum	<i>S. aureofaciens</i>

Card 8/12

Table 2. (Cont.)

Chloramphenicol (levomycetin, chloromycetin)	Broad spectrum	<i>S. venezuelae</i>
Erythromycin (erythrocin)	Broad spectrum (does not act against coliform bacteria)	<i>S. erythreus</i>
Kanamycin (Kantrex)	Broad spectrum	<i>S. kanamyceticus</i>

Treatment with bacteria phages (bacterial viruses) which lice certain species of bacteria is in the testing stage. Tables 3 and 4 summarize

Table 3. Observation and quarantine periods for infectious diseases

Disease	Period (in days)	
	Observation	Quarantine
Plague	—	6
Cholera	—	6
Hoof and mouth disease .	—	17

Card 9/12

Table 3. (Cont.)

Anthrax	8	8 During massive outbreaks and
Glanders	14	14 widespread distribution or
Melioidosis	14	14 possible contacts
Psittacosis	15	15
Yellow fever	12	12 In large outbreaks and in the
Typhus	23	23 presence of carriers
Tularemia	6	
Brucellosis	21	
Botulism	2	
Q fever	26	
Five day fever	14	Not established
American equine enceph- alomyelitis	21	
Coccidioidomycosis	15	
Histoplasmosis	15	

Card 10/12

Table 4. Character of certain measures used in quarantine and observation

Measures	Observations	Quarantine
As circumstances dictate	The disease was noncontagious or only slightly contagious	Where the disease is sufficiently dangerous and there are many carriers available
Time	2—4 days	Through the maximum incubation period
Supplies	General	Isolation of the infected group
Distribution	General	Isolation of the infected group
Character of object	Close	Complete isolation
Medical measures	Emergency prophylaxis (antibiotics, serum, phage), specific prophylaxis, vaccine. Strict control over sanitary and hygienic activities. Institution of immediate anti-epidemic measures	

Card 11/12

ACC NR: AP9004500

observation and quarantine data for public health officials and first aid workers. Orig. art. has: 4 tables and 3 figures.

[WA-5G; CBE NO. 4014LF]

SUB CODE: 06/ SURM DATE: none/ ORIG REF: 0177 CTR REF: 000

Card 12/12

ACC NR: AP9003755

SOURCE CODE: UR/0439/68/047/012/1871/1872

AUTHOR: Skalon, O. I.

ORG: Scientific Research Antiplague Institute of the Caucasus and Transcaucasus, Stavropol' (Nauchno-issledovatel'skiy protivochumnyy institut Kavkaza i Zakavkaz'ya)

TITLE: New subspecies of *Ophthalmopsylla volgensis* fleas from Eastern Dzhungaria

SOURCE: Zoologicheskiy zhurnal, v. 47, no. 12, 1968, 1871-1872

TOPIC TAGS: flea, plague

ABSTRACT: A new subspecies of *Ophthalmopsylla volgensis*, *fascioides*, has been reported in Eastern Dzhungaria. An example of this new subspecies is shown in Figure 1. *O. volgensis fascioides* was collected

Card 1/3

UDC: 595.775 subsp. n.:592/599:001.4

- 306 -

ACC NR. AP9003755



Fig. 1. *Ophthalmopsylla volgensis fascicula*, male

Card 2/3

ACC NR: AP9003755

Meriones tamariscinus, and paratypes were collected from *Allactaga saltator* and *A. elater*. Orig. art. has: 1 figure.

[WA-50; CBE No. 40][JS]

SUB CODE: 06/ SUBM DATE: none/ ORIG REF: 003/ OTH REF: 001

Card 3/3

ACC NR: AP9006749

SOURCE CODE: UR/0346/69/000/001/0026/0029

AUTHOR: Sobko, A. I.; Chernyayev, Yu. A.

ORG: All-Union Scientific Research Foot and Mouth Disease Institute
(Vsesoyuznyy nauchno-issledovatel'skiy yashchorny institut)

TITLE: Reaction of seroprotection in infant mice for identification of foot and mouth disease virus strains

SOURCE: Veterinariya, no. 1, 1969, 26-29

TOPIC TAGS: hoof and mouth disease virus, virulence, neutralizing antibody, antigen antibody reaction

ABSTRACT: The optimum dose of foot and mouth disease virus (epizootic strains consisting of variant A₂₂, type O and C, and strains A₁ and A₃ adapted to infant mice) for titration of sera taken from young steers before, and 10-30 days after, infections in the neutralization reaction, was 1000 LD₅₀. Antigenic differences between the viral strains were most clearly expressed in the seroprotective reaction using a uniform dose of immune sera equal to ND₅₀. The most reliable results in determining the antigenic differences in the seroprotective reaction were obtained with bovine immune sera taken on the 20th day after experimental

Cord 1/3

UDC: 619.616.998.43-077.3

ACC NR: AP9006749

Table 1. Differences in protective indices (lg) of sera A₂₂(No. 663), A₁ and A₃, taken on days 10, 20, and 30 of convalescence

Sera	Days taken	Differences in protective indices in relation to viruses			Probability (P)
		A ₂₂ (663) and A ₁	A ₂₂ (663) and A ₃	A ₁ and A ₃	
A ₂₂ (663)	10	3.3	3.28	—	AVV 0.95 0.95 0.95
	20	3.97	3.44	—	
	30	3.34	3.78	—	
A ₁	10	2.07	—	2.31	AVV 0.99 0.95 0.95
	20	1.85	—	2.74	
	30	1.5	—	2.04	
A ₃	10	—	1.07	1.53	AVV 0.95 0.99 0.99
	20	—	2.05	3.07	
	30	—	0.83	0.92	

foot and mouth disease virus infection. Results of a study to determine the differences in the protective indices of sera of A₂₂, A₁ and A₃ strains, and preservation of virus-containing suspensions in the sera of convalescent animals, are shown in the tables. Immune sera used in

Cord 2/3

- 268 -

ACC NR: AP900-749

Table 2. Periods of preservation of the infectivity of virus-containing suspensions

Preservation at -20°	Time of Preservation (in days)	0	14	37	50	80	90	120	160	-	-
	Virus titer (lg)	4.9	7.7	7.1	7.3	7.2	7.2	7	6.8	-	-
Preservation at -60°	Time of Preservation (in days)	0	7	14	20	31	42	60	90	160	180
	Virus titer (lg)	7.6	8	7.3	7.6	7.2	7.2	7	6.5	6.2	5.9

seroprotective reactions can be preserved at -20° for 18 months without a noticeable decrease in the titer of virus neutralizing antibodies. Inactivation of immune sera at +56° in 30 min was not reflected in the results of the seroprotective reaction. Orig. art. has: 6 tables.

[WA-50; CBE No. 40] [XF]

SUB CODE: 06/ SUBM DATE: none

Cord 3/3

ACC NR: AP9002884

SOURCE CODE: UR/0016/68/000/012/0123/0129

AUTHOR: Solodovnikov, Yu. P.

ORG: none

TITLE: Symposium on the pressing problem of dysentery epidemiology held in Moscow 4 to 6 July 1968

SOURCE: Zh mikrobiol, epidemiol i immunobiol, no. 12, 1968, 123-129

TOPIC TAGS: biologic conference, medical conference, dysentery, epidemiology

ABSTRACT: The Symposium on Dysentery and Related Diseases covered the epidemiology of the disease and its occurrence in different locations. Dysentery is more commonly reported in cities, although some authors state that most of the worst outbreaks are in rural areas. In European parts of the Soviet Union morbidity to the disease is on the increase in the north while it is declining in the south. The incidence of typhoid and paratyphoid has been reduced with strict control of carriers. An increased emphasis on sanitation and epidemiological controls is expected to lower the incidence in Asia. [WA-50; CBE No. 40] [LP]

SUB CODE: 06/ SUBM DATE: none

Cord 1/1

UDC: 616.935-036.22(063)(47)"1968"

ACC NR: AP9001304

SOURCE CODE: UR/0016/68/000/011/0112/0115

AUTHOR: Semov, G. P.; Vinogradov, V. Ya.

ORG: Vladivostok Institute of Epidemiology and Microbiology
(Vladivostokskiy institut epidemiologii i mikrobiologii)

TITLE: Comparative evaluation of the indirect hemagglutination, indirect hemolysis, and complement fixation reactions for study of some aspects of the epidemiology of North Asian tickborne rickettsiosis

SOURCE: Zhurnal mikrobiologii, epidemiologii i immunobiologii, no. 11, 1968, 112-115

TOPIC TAGS: serologic test, complement fixation reaction, hemagglutination, rickettsial disease

ABSTRACT: The indirect hemagglutination reaction (IHR) can be used for epidemiological reconnaissance, to uncover natural foci of tickborne rickettsiosis. The IHR can be used to determine the percentage of people infected with *D. sibiricus* (the agent of North Asian tickborne rickettsiosis) in a given epidemic season, whether the illness was overt or without symptoms. Specific antibodies to *D. sibiricus* appeared on the 7th—8th days of the disease in titers of 1:1600—1:640

Card 1/2

UDC: 616.981.711-036.21-078.73

ACC NR: AP9001304

with either the IHR or indirect hemolysis reaction. Maximum titers were observed on the 13th—14th days of disease and reached 1:5120—1:10,240. In the complement fixation reaction used for comparison, antibodies were recorded only on the 10th—11th days in titers of 1:10—1:20, with maxima on the 21st—25th days (titers of 1:80—1:160). The IHR and the indirect hemolysis reaction should be used more widely to study tickborne rickettsiosis. Orig. art. has: 1 figure. [WA-50; CBE No. 40][JS]

SUB CODE: 06/ SUBM DATE: 17Jan68/ ORIG REF: 010/ OTH REF: 002

Card 2/2

ACC NR: AP8034760

SOURCE CODE: UR/0346/68/000/010/0029/0031

AUTHOR: Stepin, V. S. (Docent)

ORG: Semipalatinsk Zootechnical and Veterinary Institute (Semipalatin-
skiy zootekhnicheskoy-veterinarnyy institut)

TITLE: Complement-fixing antibodies in vaccinated animals and animals
with brucellosis

SOURCE: Veterinariya, no. 10, 1968, 29-31

TOPIC TAGS: brucellosis, serologic test, complement fixation reaction

ABSTRACT: The origin of complement-fixing antibodies in vaccinated or
revaccinated cattle is connected with regional lymph nodes. The more
pronounced accumulation of these antibodies in the blood of revaccinated
adult animals is caused by age and the immunological response of the
regional lymph nodes. Production of complement-fixing antibodies in
animals with brucellosis is accomplished in different groups of lymph
nodes, in cows most frequently in the lymph nodes under the udders.
This characteristic distinguishes animals with brucellosis from
vaccinated animals and can be used for differentiation before slaughter.
Species-specific characteristics of formation of complement-fixing anti-
bodies in vaccinated animals were very clearly manifested. In rabbits,

Card 1/2

UDC: 619:616.981.42-097.37

ACC NR: AP8034760

strain 19 vaccine promoted formation of antibodies in all lymph nodes,
although the titer in the complement-fixation test with extracts from
regional lymph nodes was several times higher than the reaction with
extracts from remote lymph nodes. The more generalized formation of
complement-fixing antibodies in rabbits is expressed in the higher
content of serum antibodies (1:100—1:160) in rabbits than in vacci-
nated cattle (1:10—1:40). Titers in the agglutination reaction are
identical. In calves and cows with brucellosis and a generalized anti-
body production, however, the titer in the complement-fixation reaction
was quite high (1:160—1:640). Orig. art. has: 4 tables.

[WA-50; CBE No. 40] [JS]

SUB CODE: 06/ SUBM DATE: none

Card 2/2

ACC NR: AT9001900

SOURCE CODE: UR/3287/67/000/022/0124/0137

AUTHOR: Stroyev, S. S.

ORG: none

TITLE: Surface-active agents as factors in the mutability of microorganisms (Review)

SOURCE: Leningrad. Khimiko-farmatsevticheskiy institut. Trudy, no. 22, 1967. Nekotoryye voprosy biokhimii mikroorganizmov (Some problems dealing with the biochemistry of microorganisms) part 2, 124-137

TOPIC TAGS: biodegradable detergent, water purification, microorganism mutation

ABSTRACT: A literature survey on the effects of detergents on changes in the cultural and morphological characteristics of microorganisms indicates that atypical forms have been reported in cultures of *Staphylococcus aureus*, R form, in *Serratia marcescens*, *Escherichia coli*, *Mycobacterium tuberculosis*, and salmonellae; ionic detergents have been reported to cause inhibition of swarming of *Proteus vulgaris*. A survey of the effects of surface-active agents on the physiological

Card 1/2

ACC NR: AT9001900

features and biological properties of microorganisms include reports on effects on individual bacteriological enzymes, on the effects on antigenic properties, on virulence of the microorganisms, and on resistance to bacteriophage. Development of microbial resistance to detergents and the problem of biodegradation of detergents has been reviewed from the viewpoint of their widespread industrial production and use, the negative effect of surface-active agents on biochemical purification of sewage, and biodegradation of detergents in natural waters and purification systems. Cation detergents present the greatest problem for biochemical purification of sewage. The most rapid and effective method of removing detergents from sewage is the use of strains of various bacteria adapted to detergents (especially Gram-negative microbes, due to their resistance to anionic surface-active agents). The mechanism of the origin of the change in various properties of microorganisms following the action of detergents has not been fully explained, but is probably related to changes in the cell genotype. [WA-50; CBE No. 40][XF]

SUB CODE: 06/ SUBM DATE: none/ ORIG REF: 002/ OTH REF: 064

Card 2/2

ACC NR: AP9002904

SOURCE CODE: UR/0473/68/004/012/0130/0134

AUTHOR: Stroyev, V. S.

ORG: Institute of General Genetics AN SSSR, Moscow (Institut obshchey genetiki AN SSSR)

TITLE: Cytogenetic activity of the herbicides—simazin and maleic acid hydrazide

SOURCE: Genetika, v. 4, no. 12, 1968, 130-134

TOPIC TAGS: herbicide, plant genetics, plant injury

ABSTRACT: The genetic effects of simazin on the cellular level and a comparison of its activity with the level of spontaneous mutation (control) and with the activity of equimolar doses of maleic acid hydrazide were studied in spring barley seed. Moscow 121 seeds were moistened in 50 ml of an aqueous solution of maleic acid hydrazide with concentrations (in M of 0.0075, 0.0050 and 0.0025 and of simazin 0.01, 0.0050 and 0.0025) and allowed to remain for 24 hr at 21°C. The seeds were germinated in Petri dishes at 21°C and the 7—12 mm roots were fixed after 70 hr in a 3:1 solution of absolute ethyl alcohol and acetic acid. The genetic effects are shown in Table 1.

Card 1/2

UDC: 575.24

ACC NR: AP9002904

Table 1. Mitotic activity and the number of chromosome aberrations induced in barley roots by different concentrations of maleic acid hydrazide and simazin

Experimental design	Concentration of substance, M	Number of roots	Number of anaphasis			Reliability of differences (experiment—control)	Mitotic activity
			Total	Anaphase with re-arrangements			
				No.	%		
Control	0	53	2588	53	1.07±0.27	—	6.59
Maleic acid hydrazide	0.0075	25	No mitosis				—
	0.0050	25	No mitosis				—
	0.0025	61	1030	200	2.24±0.43	46.30	3.55
Simazin	0.01	45	2102	105	3.80±0.37	4.20	6.67
	0.0050	41	2835	108	3.84±0.36	4.90	6.43
	0.0025	64	4060	120	3.18±0.27	3.15	7.57

Both herbicides induced the same types of rearrangements that were observed in the control. Orig. art. has: 2 tables.

[WA-50; CBE No. 40][XF]

SUB CODE: 06/ SUBM DATE: 22Apr68/ ORIG REF: 006/ OTH REF: 002

Card 2/2

ACC NR: AP900677

SOURCE CODE: UR/0346/69/000/G01/0020/0023

AUTHOR: Syusyukin, A. A.; Tsvetkova, N. Ye.; Kuchmasov, I. S.;
Syusyukina, M. S.; Semenova, F. F.

ORG: All-Union Scientific-Research Foot and Mouth Disease Institute
(Vsesoyuznyy nauchno-issledovatel'skiy yashchurnyy institut)

TITLE: Cultivation of the virus of foot and mouth disease in VNK-21
cells in rotary vessels

SOURCE: Veterinariya, no. 1, 1969, 20-23

TOPIC TAGS: hoof and mouth disease virus, virus antigen, microorganism
growth chamber

ABSTRACT: Foot and mouth disease virus A₂₂ (strain 663) adapted to a
single layer of young hamster kidney cells (VNK-21) with a titer of
 $10^{-7.5}$ — $10^{-7.8}$ tissue cytopathic dose₅₀/ml was cultivated in rotatable
vessels. The virus was cultured in 1, 2, 15 and 20 flasks on a mono-
layer of VNK-21 cells with 1,000,000 viruses/100 ml of cellular suspen-
sion, a combined method of cultivation consisted of addition of a
VNK-21 cellular supplement with a concentration of 0.5—1.5 million/ml
at various periods after injection of the monolayer culture. The

Card 1/2

UDC: 619:616.988.43-093.35

ACC NR: AP900677

virus was also cultivated in a suspension of VNK-21 cells with 5% calf
serum. Complement-fixing activity of the virus was determined with
the complement-fixation test. Viral titers of $10^{-7.6}$ — $10^{-8.2}$ tissue
cytopathic dose₅₀/ml were obtained during culture of the virus by these
methods. The greatest accumulation of complement-fixing antigen was
noted in cultivation by the suspension and combined methods (1:6—1:10)
and by concentration of the antigen by decreasing the nutrient medium
during cultivation in a monolayer of VNK-21 cells (1:12—1:20). VNK-21
cells grown in a suspension for 48—72 hr yielded the greatest harvest
of foot and mouth disease virus and complement-fixing antigen. A
1.5—2.5 million/ml concentration of VNK-21 cells had no marked influence
on the viral titer and complement-fixing antigen. Orig. art. has:
2 tables and 5 figures. [WA-50; CBE No. 40][XF]

SUB CODE: 06/ SUBM DATE: none

Card 2/2

ACC NR: AP9003389

SOURCE CODE: RU/9016/68/019/006/0471/0481

AUTHOR: Teodosiu, O.

ORG: Institute of Virology "St. S. Nicolau" of the Academy of the Socialist Republic of Rumania

TITLE: Data on pararickettsial diseases (Ornithoses)

SOURCE: Studii si cercetari de inframicrobiologie, v. 19, no. 6, 1968, 471-481

TOPIC TAGS: conjunctivitis, RNA virus, ornithosis virus, serologic test, encephalitis

ABSTRACT: This article is a general review primarily based on foreign sources, of current research on infections with pararickettsia (ornithosis virus in birds and mammals and also of the trachoma and conjunctivitis viruses). It contains studies of the biological characteristics of this group, its multiplication and attenuation in HeLa and other cells, its effects on such substrates, its antigenic structure, diagnostic methods (hemagglutination, serum neutralization, complement fixation, immunofluorescence), and its etiology.

[WA-50; CBE No. 40][LP]

SUB CODE: 06/ SUBM DATE: 20May68/ ORIG REF: 014/ OTH REF: 040

Card 1/1

UDC: 616.981.71

ACC NR: AP9003386

SOURCE CODE: RU/9016/68/019/006/0441/0446

AUTHOR: Toma, R.; Toma, V.; Gugianu, E.; Florescu, C.

ORG: LMF Bucharest, Chair of Epidemiology and Sanitary Inspector for the City of Bucharest

TITLE: Retrospective survey of Q fever case reports in Bucharest

SOURCE: Studii si cercetari de inframicrobiologie, v. 19, no. 6, 441-446

TOPIC TAGS: Q fever, human ailment, hygiene, epidemiology

ABSTRACT: A survey of all reported Q-fever cases in the city of Bucharest between 1948-1966 are discussed. During this time, 152 cases in 5 epidemic foci and 13 sporadic foci were reported. Of these 88% had an epidemic character and the remaining 11.2% had a sporadic character. Medical veterinary investigations showed that the alimentary route was a factor in spreading this disease. This disease has a marked seasonal character. In February 29 cases were reported, in March, 64, and in April, 23. Apparently, 133 cases were associated with domestic animals. Direct transmission was verified in 48 cases and indirect transmission in 99 cases. There was a high professional

Card 1/2

UDC: 616.981.71

ACC NR: AP9003386

correlation discovered during the investigation. Most patients were slaughter-house workers, farmers, veterinary students, and other agricultural personnel. [WA-50; CBE No. 40][LP]

SUB CODE: 06/ SUBM DATE: 1May68/ ORIG REF: 031

Card 2/2

ACC NR: AP9001714

SOURCE CODE: UR/0346/68/000/011/0101/0102

AUTHOR: Trakhanov, D. F. (Candidate of veterinary sciences)

ORG: All-Union Scientific Research Institute of Veterinary Sanitation (Vsesoyuznyy nauchno-issledovatel'skiy institut veterinarnoy sanitarii)

TITLE: The sodium salt of zoocumarine for rodent extermination

SOURCE: Veterinariya, no. 11, 1968, 101-102

TOPIC TAGS: rodent, rodenticide

ABSTRACT: A sodium salt of zoocumarine [d,l-3-(α -acetylbenzyl)-4-hydroxycumarine] was more toxic for rats in poisoned bait than plain zoocumarine. Sodium salt of zoocumarine is water-soluble (can be used in liquid or solid bait) and remained toxic after storage for 3 yrs. Norway rats are most sensitive to sodium salt of zoocumarine: the minimum lethal dose is 0.66 mg (or 1 gram of rodenticide dissolved in 10 vedros (1 vedro = 12.3 liters) of water. Bactocumarine, a combined preparation, is more effective than either of its components. Rats are very sensitive to the sodium salt of zoocumarine and more resistant to bacteria, while the reverse is true for mice. [WA-50; CBE No. 40] [JS]

SUB CODE: 06/ SUBM DATE: none

Card 1/1

UDC: 619:614.449.932

ACC NR: AP9003756

SOURCE CODE: UR/0439/68/047/012/1877/1880

AUTHOR: Tropin, N. N.

ORG: Astrakhan Antiplague Station (Astrakhanskaya protivochumnaya stantsiya)

TITLE: The red-tailed Libyan jird (*Meriones libycus*), a possible source of plague epizootic in the Volga-Ural interfluvial area in the past

SOURCE: Zoologicheskiy zhurnal, v. 47, no. 12, 1968, 1877-1880

TOPIC TAGS: plague, epizootiology, animal vector research

ABSTRACT: The evolution of the Volga-Ural interfluvial plague focus from an area inhabited in the Holocene epoch by great gerbils (*Rhombomys opimus*), red-tailed Libyan jirds (*M. libycus*), midday gerbils (*M. meridianus*) and crested gerbils to the present relatively autonomous focus (where the crested gerbil (*M. tamariscinus*) is the secondary and the midday gerbil the primary plague carrier) was demonstrated by excavation of fossils of red-tailed Libyan jirds. Spread of plague to the southern Palearctic zone was promoted by the continuous spread of *M. libycus* over the dry foothills and lowlands and the abundance and variety of fleas (good plague carriers). The red-tailed

Card 1/2

UDC: 599.323.4:616.981.452:591.5

ACC NR: AP9003756

Libyan jird is widespread at present in Central Asia and the Near East: its zone extends from northwest Africa to the western edge of the Gobi Desert, including Iran and Afghanistan, the southern part of Central Asia, Kazakhstan and Dzhungaria (all areas characterized by desert, lowlands and foothills). Orig. art. has: 2 figures.

[WA-50; CBE No. 40][JS]

SUB CODE: 06/ SUBM DATE: none/ ORIG REF: 006

Card 2/2

- 277 -

ACC NR: AT9001882

SOURCE CODE: UR/0000/68/000/000/0114/0117

AUTHOR: Tsipenyuk, Ye. Ye. (Member of the Kiev specialized clinical hospital)

ORG: Specialized Clinical Hospital, Kiev (Spetsializirovannaya klinicheskaya bol'nitsa)

TITLE: The use of novoimanin administered by electrophoresis and aerosol inhalation in purulent diseases in children

SOURCE: AN UkrSSR. Institut mikrobiologii i virusologii. Novoimanin i yego lechebnyye svoystva (Novoimanin and its therapeutic properties). Kiev, "Naukova dumka," 1968, 114-117

TOPIC TAGS: antibiotic drug effect, synergy, biologic aerosol, electrophoresis, pediatrics

ABSTRACT: A 10% ether solution of novoimanin dissolved in distilled H₂O (1:10) was administered by electrophoresis to more than 1000 children with various purulent processes of the soft tissues, to approximately 200 children with acute and chronic osteomyelitis, and to 200 subjects with acute chronic lung and pleural diseases. Initially, novoimanin was administered from both terminals; however,

Card 1/2

UDC: 615.9

ACC NR: AT9001882

after it was established that the drug migrated from the cathode to the anode, it was administered only from the negative terminal. It was determined that the addition of mycerin (neomycin) or an 0.25% solution of levomycetin had a synergistic effect with novoimanin. The treatment of osteomyelitis was decreased from an average of 45 days to 29.4 days with novoimanin. A positive effect with novoimanin was noted in the treatment of soft tissue diseases and infiltrations into the abdominal cavity. Novoimanin in a 5-10% glucose solution administered by aerosol inhalation with the AI-1 apparatus to 3000 patients resulted in a sharp decrease in the incidence of postoperative inflammatory processes in the lungs and upper respiratory tract. Results in the treatment of purulent lung and pleural diseases will be given in a future report. [WA-50; CBE No. 40][XF]

SUB CODE: 06/ SUBM DATE: none

Card 2/2

- 278 -

ACC NR: AP9005780

SOURCE CODE: UR/0390/68/031/006/0745/0748

AUTHOR: Uteshev, B. S.; Pinagin, B. V.; Lebedev, V. V.; Kalinkovich, A. G.

ORG: Department of Pharmacology /Head--Prof. M. F. Merkulov/ (Kafedra farmakologii); Department of Microbiology /Head--Active Member AMN SSSR Prof. V. D. Timakov) Second Moscow Medical Institute im. N. I. Pirogov (Kafedra mikrobiologii II Moskovskogo meditsinskogo instituta)

TITLE: Effect of 5-fluorouracil on the development of an immunological response to soluble and corpuscular antigens

SOURCE: Farmakologiya i toksikologiya, v. 31, no. 6, 1968, 745-748

TOPIC TAGS: selective drug effect, antigen antibody reaction, precipitin, fluorouracil, cancer drug

ABSTRACT: Rabbits were administered 5 mg of bovine serum albumin into the paw cushions and 30 mg/kg of bovine serum albumin intravenously on the same day. 5-Fluorouracil 10 mg/kg/day was administered subcutaneously for 10 days, with the first injection administered simultaneously with the antigen. The synthesis of precipitins was suppressed by 5-fluorouracil. Antibodies could not be detected with immunosorbent

Card 1/3

UDC: 615.277.3:547.854.4].015.46:612.017.1

ACC NR: AP9005780

Effect of 5-fluorouracil on the number of antibody-forming cells in mice spleens and the titer of hemolysins and hemagglutinins. Mice killed 5 days after injection of a suspension of sheep erythrocytes

Experimental design	Number of mice per group	Thymus gland wt (in mg)	Spleen wt (in mg)	Number of lymphoid cells in spleen homogenates	Number of zones of hemolysis in 1:10 ⁶ lymphoid cells of spleen	Titer of hemolysins	Titer of hemagglutinins
5-Fluorouracil (20 mg/kg) single dose 24 hr before antigen injection							
5-Fluorouracil (20 mg/kg) single dose on day of antigen injection							
5-Fluorouracil (10 mg/kg) single dose 24 hr before antigen injection							
5-Fluorouracil (10 mg/kg) administered 5 times. First injection 24 hr before antigen injection							
Control							

Card 2/3

ACC NR: AP9005780

on the 5th day after immunization. Immunoglobulins in rabbits administered 5-fluorouracil never reached the level of control animals. Hypoproteinemia was noted on the 5th day after 5-fluorouracil; this had returned to control levels by the 15th day. Results of a study of the effect of 5-fluorouracil on the immune reactivity of mice administered a single intraperitoneal dose of 0.2 ml of a 5% mixture of sheep erythrocytes are shown in the table. Orig. art. has: 3 tables. [WA-50; CBE No. 40][XF]

Card 3/3

ACC NR: AP8034904

SOURCE CODE: UR/0396/68/012/005/0067/0069

AUTHOR: Utyumova-Malova, A. V. (Director, Docent); Brumshteyn, M. S. (Director, Professor)

ORG: Department of Pathological Physiology/Acting Head -- Docent A. V. Utyumova - Maloval, Department of Pathological Anatomy/Head -- Professor M. S. Brumshteyn, Astrakhan Medical Institute (Kafedra patologicheskoy fiziologii, kafedra patologicheskoy anatomii Astrakhanskogo meditsinskogo instituta)

TITLE: Some parallels between pathophysiological and pathomorphological changes during experimental diphtheria intoxication

SOURCE: Patologicheskaya fiziologiya i eksperimental'naya terapiya, v. 12, no. 5, 1968, 67-69

TOPIC TAGS: bacterial toxin, diphtheria, brain tissue

ABSTRACT: Functional shifts in the hypothalamus-hypophysis-adrenal system (HHAS) caused by experimental diphtheria intoxication (produced in dogs by an intravenous injection of 0.2--0.4 ml/kg of toxin) preceded functional shifts in the heart. Morphological changes in the HHAS were observed on the second-third days after intoxication, when no

Card 1/2

UDC: 616.931-092.9-091/.92

- 280 -

ACC NR: AP8024904

changes were noted in the heart. The most pronounced functional and morphological changes in the heart were noted on the 8—11th day of intoxication. Early pathomorphological changes in the brain included hyperemia, and perivascular and capillary hemorrhages. Cardiac changes included arrhythmia, extrasystole and disappearance of glycogen in the myocardium. Orig. art. has: 1 figure and 1 table.

[WA-50; CBE No. 40] [JS]

SUB CODE: 06/ SUBM DATE: 17Jul67/ ORIG REF: 007

Card 2/2

ACC NR: AP9002881

SOURCE CODE: UR/0016/68/000/012/0116/0117

AUTHOR: Valova, G. P.; Mefod'yev, V. V.

ORG: Tyumen' Institute of Regional Infectious Pathology (Tyumenskiy institut krayevoy infektsionnoy patologii)

TITLE: Study of the epidemiology of leptospirosis in Northwest Siberia

SOURCE: Zh mikrobiol, epidemiol i immunobiol, no. 12, 1968, 116-117

TOPIC TAGS: leptospirosis, epidemiology, leptospira

ABSTRACT: A survey of leptospirosis foci in Tyumen' Oblast from 1961 to 1962, including study of 6500 small animals showed that natural foci exist in about 20 locations, 10 in tundra, forest-tundra, and the northern taiga subzone and 9 in the aspen-birch forest subzone and the southern taiga. *L. grippotyphosa*, *L. javanica* and *L. bataviae* were isolated from 15 rodent species. Natural leptospirosis foci of the *grippotyphosa* type were located in all natural zones and coincided with zones of *Microtus* voles. An epizootic of leptospirosis of the *grippotyphosa* type among root voles in the transpolar region showed the same characteristics as epizootics in other zones. An unusual leptospirosis focus of the *javanica* type was identified in Siberia; previously such

Card 1/2

UDC: 616.986.7-036.2(571.16)

ACC NR: AP9002881

foci were only known in southeast Asia. The chief source of *Leptospira* in Tyumen' were *Sorex* shrews. The *grippotyphosa* type of leptospirosis focus varies from sporadic illnesses to group outbreaks, depending on population density, characteristics of farming activity and other work performed outdoors, etc. Natural conditions in the far north (low population density of the chief carrier of *Leptospira*, acidity of soil and water, etc. can produce latent infection in people. Cattle, pigs, and domestic reindeer are important sources of infection here. Leptospirosis foci of the *pomona* type predominated in the aspenbirch forests, where animal husbandry was developed. Foci of the *poi*, *icterohaemorrhagiae* and *grippotyphosa* types predominated in the Arctic.

[WA-50; CBE No. 40][JS]

SUB CODE: 06/ SUBM DATE: 05May68

Card 2/2

ACC NR: AP9003387

SOURCE CODE: RU/9016/68/019/006/0447/0454

AUTHOR: Vladimirtseva, E. A.; Botis, S.; Bukrinskaja, A. G.

ORG: Institute of Virology "D. I. Ivanovski" Academy of Medical Sciences SSSR and Institute of Virology "St. S. Nicolau" of the Academy of the Socialist Republic of Rumania

TITLE: Evolution of RNA synthesis in Ehrlich ascites cells in the early stages of Sendai virus infection

SOURCE: Studii si cercetari de intramicrobiologie, v. 19, no. 6, 1968, 447-454

TOPIC TAGS: Sendai virus, tissue culture, RNA synthesis, biosynthesis

ABSTRACT: Inhibition of cellular RNA synthesis by the inoculation of the ascites cell with allantoic cultures infected with Sendai virus (100 TID₅₀/cell) appears to be caused by an inhibitor, pre-existing in the virus allantoic culture. When high infective doses were used, inhibition of cellular RNA synthesis was more pronounced than when the ascites were infected with purified virus. Orig. art. has: 7 tables and 1 figure. [WA-50; CBE No. 40][LP]

SUB CODE: 06/ SUBM DATE: 10Jul68/ OTH REF: 013/ SOV REF: 003

Card 1/1

UDC: 612.398.145.1:616.988

- 282 -

ACC NR: AP9002989

SOURCE CODE: UR/0402/68/000/006/0733/0735

AUTHOR: Vlodavets, V. V.; Dmitriyeva, R. A.; Rovnova, Z. I.

ORG: Institute of General and Municipal Hygiene im. A. N. Sytin, AMN SSSR (Institut obshchey i kommunal'noy gigiyeny AMN SSSR); Institute of Virology im. D. I. Ivanovskiy, AMN SSSR, Moscow (Institut virusologii AMN SSSR)

TITLE: Detecting influenza virus in the air of closed rooms

SOURCE: Voprosy virusologii, no. 6, 1968, 733-735

TOPIC TAGS: influenza virus, hemagglutination, biologic agent filte

ABSTRACT: Isolation of a considerable amount of infectious material from the air of chambers used for intranasal infection of mice with influenza virus showed that this method is hazardous for people working in the chamber, but at the same time opens up possibilities for cross-infection of animals. Air samples of 200 liters were passed through Rechmenskii's bacteria trap and a no. 2 foam filter. A total of 5 ml of MPB was used for collection of bacteria in each Rechmenskii apparatus trap, with a mixture of MPB and 30% glycerin in the foam filter. A total of 10 air samples were taken during infection of

Card 1/2

UDC: 613.155-078:576.858.75

ACC NR: AP9002989

three batches of mice (150-200 specimens in each batch). Hemagglutinating viral agents were isolated on 10-day chick embryos. A positive hemagglutination reaction was obtained in 6 out of 10 tests. Identification of the isolated hemagglutinating agents with the hemagglutination inhibition reaction (HIR) showed that hemagglutinating agents were influenza virus A (although in low serum titers in most tests) and influenza virus A (strain PR-8) in one test. Mice were infected with strain PR-8. Orig. art. has: 1 table. [WA-50; CBF No. 40] [JS]

SUB CODE: 06/ SUBM DATE: 07Feb67/ ORIG REF: 003/ OTH REF: 002

Card 2/2

ACC NR: AP9001289

SOURCE CODE: UR/0016/68,000/011/0014/0018

AUTHOR: Yablonskaya, V. A.

ORG: Institute of Epidemiology and Microbiology im. Gamaleya, AMN SSSR, Moscow (Institut epidemiologii i mikrobiologii AkN SSSR)

TITLE: The characteristics of immunity caused by live combined scrub typhus vaccine E in guinea pigs

SOURCE: Zhurnal mikrobiologii, epidemiologii i immunobiologii, no. 11, 1968, 14-18

TOPIC TAGS: scrub typhus, rickettsia

ABSTRACT: Guinea pigs immunized with a live combined scrub typhus vaccine E (prepared from strain E of *Rickettsia prowazeki*) eliminated within 7 days a virulent rickettsial culture introduced a month after immunization. Guinea pigs immunized with components of live scrub typhus vaccine E eliminated the virulent rickettsial culture within nine days. Guinea pigs immunized with an antigen from Breinl strain of *R. prowazeki* took 11 days to eliminate a virulent rickettsial culture. Animals were immunized with 1 ml of live combined or live strain E vaccine (10^{-3} in both cases). After 30 days, immunized animals were

Cord 1/2

UDC: 615.571:576.851.71-036.8

ACC NR: AP9001289

infected with 100,000 Mid of a virulent culture of *R. prowazeki*, strain Breinl. The dynamics of self-purification of immunized animals were studied in those organs in which rickettsia were most frequently observed in infected control animals (brain, kidneys, and testicles). Experiments showed the possibility of producing immunity to virulent *R. prowazeki* by immunization with a live combined scrub typhus vaccine E. Orig. art. has: 2 tables. [WA-50; CBE No. 40][JS]

SUB CODE: 06/ SUBM DATE: 04Jan68/ ORIG REF: 001

Cord 2/2

ACC NR: AP9001297

SOURCE CODE: UR/0016/68/000/011/0073/0077

AUTHOR: Yanisker, G. Ya.; Fayn, V. I.; Meshalova, A. N.

ORG: Central Institute of Epidemiology, Ministry of Public Health
SSSR (Tsentral'nyy institut epidemiologii Ministerstva zdravookhraneniya
SSSR)

TITLE: The immunogenic properties of orally administered typhoid and
paratyphoid B components of a divaccine (experimental study)

SOURCE: Zhurnal mikrobiologii, epidemiologii i immunobiologii, no. 11,
1968, 73-77

TOPIC TAGS: typhoid, typhoid-paratyphoid vaccine

ABSTRACT: Combination of typhoid and paratyphoid B components in a
double vaccine did not decrease the immunogenic activity of either
component as compared with monovaccines, regardless of the method of
introduction. Liquid heated monovaccines prepared from strain
Tu2-4446 (typhoid) and strain 42 (paratyphoid B) were used either
alone or in equal amounts in the double vaccine. The average, orally
administered, immunizing doses of divaccine and single vaccine were
slightly higher than vaccinal doses during subcutaneous administration

Card 1/2

UTC: 615.371:576.851.49].032.31.036.8

ACC NR: AP9001297

(more than 1000 times greater for typhoid, and 20—29 times greater
for paratyphoid B). The average immunizing dose of typhoid and para-
typhoid B components in a divaccine upon oral and subcutaneous inocula-
tion of mice was 0.79 billion cells and 0.71 million cells, respectively.
This preliminary information can be used to select the proper doses of
typhoid and paratyphoid B components of a divaccine for human oral use.
Orig. art. has: 2 tables. [WA-50; CBE No. 40][JS]

SUB CODE: 06/ SUBM DATE: 05Feb68/ ORIG REF: 006/ OTR REF: 003

Card 2/2

ACC NR: AP9001308

SOURCE CODE: UR/0016/68/006/011/0140/0141

AUTHOR: Yastebov, V. K.; Morozova, M. Yu.; Shayman, M. S.

ORG: Omsk Institute of Infections of Natural Foci (Omskiy institut prirodnookhagovykh infektsiy); Institute of Epidemiology and Microbiology im. Gamaleya, AMN SSSR, Moscow (Institut epidemiologii i mikrobiologii AMN SSSR)

TITLE: Use of the indirect hemagglutination reaction to study contacts with the agent of North Asian tickborne rickettsiosis

SOURCE: Zhurnal mikrobiologii, epidemiologii i immunobiologii, no. 11, 1968, 140-141

TOPIC TAGS: hemagglutination, serologic test, tick, rickettsial disease

ABSTRACT: The indirect hemagglutination reaction (IHR) can be used to detect contacts of the population with *D. sibiricus* (the agent of tickborne rickettsiosis) occurring in the same season, since the reaction is positive for only 1.5-3.5 months after the disease. Serum antibodies were found considerably more often with the IHR than with the complement-fixation test (CFR), both in rickettsiosis patients

Card 1/2

UDC: 616.981.71-022.1-078

ACC NR: AP9001308

and in the healthy population of endemic areas. Serological tests were conducted in the various landscape zones of Altay Kray. The IHR was always positive on the 8-13th day of the disease, while the CFR was positive in less than half of these patients. Positive reactions in the IHR were most frequently observed among the agricultural population of Onguday Rayon (Gorno-Altay) (21.2%). Only 18.4% of the agricultural population of Biysk Rayon (forest-steppe zone) gave positive reactions. In Biysk settlements, antibodies were found in 6.8% of the inhabitants. The lowest incidence of positive reactions (4.7%) was observed in the steppe settlements of Shipunovo Rayon. Contact with *D. sibiricus* was recorded among all age groups. The frequency of contact with ticks corresponded to the percentage of positive reactions in the IHR. Study of the sera of cows, yaks, and marals showed 90.2% positive reactions in titers of 1:80-1:160.

[WA-50; CBE No. 40][JS]

SUB CODE: 06/ SUBM DATE: 29Jan68

Card 2/2

ACC NR: AT9001901

SOURCE CODE: UR/3287/67/000/022/0138/0143

AUTHOR: Yelinov, N. P. (Research head, Professor); Mordvinova, Ye. T.

ORG: none

TITLE: Antibacterial activity of some pharmacologically active substances

SOURCE: Leningrad. Khimiko-farmatsevticheskiy institut. Trudy, no. 22, 1967. Nekotoryye voprosy biokhimii mikroorganizmov (Some problems dealing with the biochemistry of microorganisms) part 2, 138-143

TOPIC TAGS: surface active agent, detergent, bacteriostasis, bactericide

ABSTRACT: The surface tension of different concentrations of 21 pharmacologically active agents in distilled H₂O was determined by the method of Mikhaelis with $t = 23^{\circ}\text{C}$. Surface activity was greatest in sovcaïne (dibucaine), brilliant green, and dicaine (tetracaine). The antibacterial activity (bacteriostatic action) of these drugs was then determined by the serial dilution method with subsequent seeding of the test microorganisms on solid media (bactericidal action). Results are shown in Table 1. Brilliant green was most active against all the

Card 1/2

ACC NR: AT9001901

Table 1. Antibacterial activity of some drugs

Drug Test culture	Dicaine		Sovcaïne		Brilliant green	
	Bacteriostatic action	Bactericidal action	Bacteriostatic action	Bactericidal action	Bacteriostatic action	Bactericidal action
St. aureus 893	1:1600	1:800	1:3200	1:1600		1:100000
E. coli 138	1:800	1:800	1:800	1:800		1:10000
S Typhi abd. 69	1:800	1:400	1:1600	1:1600		1:10000
Sh. dysent. Fl. C	1:1600	1:800	1:1600	1:1600		1:1600
Pr. vulgaris 401	1:200	1:200	<1:100	<1:100		1:400
Bac. subtilis Л ₂	1:1600	<1:100	1:1600	<1:100	1:600000	1:100000

microorganisms tested, followed by sovcaïne and dicaine. The remaining drugs showed only an insignificant effect on the test microorganisms.

Orig. art. has: 2 tables.

[WA-50; CBE No. 40] [XF]

SUB CODE: 06/ SUBM DATE: none/ ORIG REF: 002

- 287 -

Card 2/2

ACC NR: AT9001897

SOURCE CODE: UR/3287/67/000/022/0105/0110

AUTHOR: Yelinov, N. P. (Research head, Professor); El'-Sukkari, A.

ORG: none

TITLE: Studies of hyaluronidase activity in various microorganisms

SOURCE: Leningrad. Khimiko-farmatsevticheskiy institut. Trudy, no. 22, 1967. Nekotoryye voprosy biokhimii mikroorganizmov (Some problems dealing with the biochemistry of microorganisms) part 2, 105-110

TOPIC TAGS: hyaluronidase, enzyme action, enzyme kinetics, Staphylococcus, Streptococcus, Escherichia coli, clostridium, bacterial metabolism

ABSTRACT: Hyaluronidase activity in the following organisms was determined and compared: *Staphylococcus aureus*, strains 4, 015, 057, 11, K-80, 4-9871, F-7, 39, 7, 186, and 209; *Staph. albus*; *Staph. citreus*; *Streptococcus* sp. (group A, B, D); *Str. faecalis*; *Str. hemolyticus*; *Str. viridans*; *Proteus vulgaris*; *P. vulgaris*, strain 401; *Proteus* OX₁₉; *E. coli*; *Pseudomonas fluorescens*; *Ps. aeruginosa*; *Bacillus subtilis* strains 537, NV and L-2; *Clostridium welchii*; *Sarcina lutea*; *Bacillus*

Card 1/3

ACC NR: AT9001897

pseudotetanus; *Candida albicans*, strains 1-13; *C. guilliermondii*; *C. tropicalis*; *G. viswanathii*; *C. crusei*, strain E and 14; *C. pseudotropicalis*, strains 1-3; *C. parakrusei* strains 1 and 2; *C. pelliculosa*; and *C. snaveolens*, and *C. lipolytica*. All culturing was done on meat-peptone broth or other appropriate liquid media at 24°C and at 37°C. Calculation of enzyme activity was made according to the following formula,

$$\frac{T_k - T_{k_{300}}}{T_k - T_0} \cdot 100 = A$$

where A is hyaluronidase activity, T_k is initial hyaluronic acid content, $T_{k_{300}}$ is hyaluronic acid content 300 sec after addition of hyaluronidase, and T_0 is the time after enzyme action is complete. In general, a culture temperature of 24°C was better for enzyme formation than 37°C. Maximum hyaluronidase activity occurs on the second day after initiation of culture. Twenty-five of the 65 strains tested produced both exo- and endo- hyaluronidase. *Candida* and related species have special nutrient requirements in order to form the enzyme. More of the enzyme was produced when the organisms were grown on special medium A than when they were grown in meat-peptone broth.

Card 2/3

ACC NR: AT9001897

Special medium A consists of: sodium hydrophosphate, 2.5 g; calcium dihydrophosphate, 0.3 g; glycerine, 2.5 ml; yeast extract, 2.5 ml; and meat-peptone bouillon, to 500 ml. Orig. art. has: 1 figure and 3 tables. [WA-50; CBE No. 40][LP]

SUB CODE: 06/ SUBM DATE: none/ ORIG REF: 002/ OTH REF: 003

Card 3/3

ACC NR: AP9001292

SOURCE CODE: UR/0016/68/000/011/0037/0042

AUTHOR: Yezepchuk, Yu. V.

ORG: Central Scientific Research Institute of Epidemiology (Tsentrálny nauchno-issledovatel'skiy institut epidemiologii)

TITLE: The protective antigen of *B. anthracis* and its relationship to other anthracis antigens

SOURCE: Zhurnal mikrobiologii, epidemiologii i immunobiologii, no. 11, 1968, 37-42

TOPIC TAGS: bacillus anthracis, antigen

ABSTRACT: Recent Soviet research includes many important contributions to study of the protective antigen of *B. anthracis*. The polysaccharide antigenic complex isolated from anthrax bacteria and introduced into the animal body stimulates antibody formation but does not create protection (Babich and Plotnikova). The polysaccharide antigen is somatic (Abdulin). The polypeptide antigenic component isolated from a virulent anthrax strain is not the only component of the capsule (Ievina and Katz). Mashkov showed that antibodies to the polypeptide are present in antianthrax serum in low titer. In recent years an

Card 1/2

UDC: 576.851.511.097.2

ACC NR: AP9001292

additional protein-nucleic-polysaccharide complex has been isolated from anthrax bacteria, which also has no protective properties and is used as an allergen (Shlyakhov). Aleksandrov, Revo, and Dunayev obtained the protective anthrax antigen. Anthrax bacteria synthesize protective antigen *in vitro* in media containing both protein and products of protein hydrolysis or amino acids (Yezepchuk and Dunayev). Yezepchuk also found that glucose is the most effective energy source for biosynthesis of protective antigen. Sodium bicarbonate is also important in forming protective antigen (Aleksandrov-1962). A pH greater than 7 is optimum for accumulation of protective antigen in the medium. Kolev, Yegorov, and Spitsyn discovered that anthrax bacteria are facultative anaerobes and that cultivation conditions (anaerobic or aerobic) did not affect the capacity for synthesis of protective antigen. Protective antigen confers a high degree of immunity on white mice (Mashkov and Aleksandrov) and also on sheep, goats, and cattle. It has also been studied on human volunteers (Aleksandrov-1963). [WA-50; CBE No. 40][JS]

SUB CODE: 06/ SUBM DATE: 26Jun67/ ORIG REF: 028/ OTH REF: 107

Cord 2/2

ACC NR: AT9006081

SOURCE CODE: UR/3111/67/076/000/0011/0015

AUTHOR: Zabozyayeva, Ye. A.; Bushuyeva, T. I.; Pauk, S. I.; Epshteyn, Ya. A.

ORG: none

TITLE: Nucleotide structure and some features of RNA of pathogenic and nonpathogenic strains of *Escherichia coli*

SOURCE: Dushanbe. Gosudarstvennyy meditsinskiy institut. Trudy, v. 76, 1967. Nekotoryye voprosy normal'noy i patologicheskoy biokhimi (Some problems of normal and pathological biochemistry), 11-15

TOPIC TAGS: *Escherichia coli*, ribonucleic acid, bacterial enzyme, nucleotide

ABSTRACT: The individual mononucleotides in the ribonucleic acid (RNA) of nonpathogenic and a pathogenic strain (0111:B4) of *Escherichia coli* were found to be approximately equal. Analysis was made with the CF-4 spectrophotometer in quartz vessels on a 1 cm layer of solution. Optical density was measured at 220 to 270 m μ . Hypo- and hyperchromic effects were studied following the addition of 0.1 ml of 50 mg% solution of toluidine blue or 0.2 ml of 0.1 N of MgCl₂ to specimens containing

Cord 1/2

ACC NR: AT9006081

0.1--0.15 mg of RNA. There was a significant hyperchromic effect following the addition of toluidine blue to the RNA of both pathogenic and nonpathogenic strains; it was noted that a hypochromic effect was characteristic for RNA in liver and yeasts following the addition of toluidine blue. In contrast to RNA from yeasts, liver and other sources, there was no hypochromic effect following addition of magnesium ions to RNA of nonpathogenic and pathogenic strains of *Escherichia coli*.
Orig. art. has: 2 tables. [WA-50; CBE No. 40][XF]

SUB CODE: 06/ SUBM DATE: none/ ORIG REF: 009

Card 2/2

ACC NR: AT9006083

SOURCE CODE: UR/3111/67/076/000/0103/0105

AUTHOR: Zabozyayeva, Ye. A.

ORG: none

TITLE: The chemical nature of coli hemolysins

SOURCE: Dushanbe. Gosudarstvennyy meditsinskiy institut. Trudy, v. 76, 1967. Nekotoryye voprosy normal'noy i patologicheskoy biokhimi (Some problems of normal and pathological biochemistry), 103-105

TOPIC TAGS: *Escherichia coli*, hemolysin, amino acid analysis, lipid, tryptophan

ABSTRACT: Coli hemolysin was produced by *Escherichia coli* on a synthetic nonprotein medium; after four hours' growth, the culture fluid was separated from the bacteria by centrifugation. Elura amino acids were isolated by chromatography from a hydrolysate of coli hemolysin as follows: glutamine, alanine, glycine, serine, asparagine, treonine, leucine, phenylalanine, proline, valine (methionine) and histidine. Tryptophan was not identified in coli hemolysin by alkaline hydrolysis.

Card 1/2

- 291 -

ACC NR: AT9006083

The total nitrogen content determined with Nessler's reagent and by colorimetry was 246 mg %. Maximum hemolytic activity in eluates from a chalk block after electrophoresis of coli hemolysins was found in eluate containing the greatest amount of nitrogen. A lipid component was also detected in coli hemolysin. This was identified by the addition of Sudan III to a solution of coli hemolysin, and electrophoresis. Orig. art. has: 2 figures. [WA-50; CBE No. 40][XF]

SUB CODE: 06/ SUBM DATE: none/ ORIG REF: 001/ OTH REF: 001

Card 2/2

ACC NR: AP9002850

SOURCE CODE: UR/0346/68/000/012/0106/0108

AUTHOR: Zaychenko, A. S. (Aspirant); Lyubashenko, S. Ya. (Research head, Professor)

ORG: Moscow Technological Institute of the Meat and Dairy Industry (Moskovskiy tekhnologicheskii institut myasnoy i molochnoy promyshlennosti)

TITLE: The prolonged complement fixation reaction in leptospirosis diagnosis

SOURCE: Veterinariya, no. 12, 1968, 106-108

TOPIC TAGS: leptospirosis, complement fixation reaction, serologic test

ABSTRACT: A polyantigen has been prepared from antigens of *Leptospira grippotyphosa*, *L. pomona*, *L. icterohaemorrhagiae*, *L. tarassovi*, *L. habdcmadis* and *L. bataviae*, which does not affect the specificity of diagnostic serological reactions. Polyantigen was specific in the complement fixation reaction and prolonged complement fixation reaction (PCFR), did not decrease titers, and remained active for more than a year (the observation period). The microagglutination and

Card 1/2

UDC: 619:616.986.7-077.37

292

ACC NR: AP9002850

lysis (MAL) reaction is the standard method of diagnosing leptospirosis. Results of the complement fixation and MAL reactions coincided in 60% of the tests, and of the PCFR and MAL, in 87% of the tests. The PCFR gives more positive reactions than the standard complement fixation test. Orig. art. has: 3 tables. [WA-50; CBE No. 40][JS]

SUB CODE: 06/ SUBM DATE: none

Card 2/2

ACC NR: AP9001421

SOURCE CODE: UR/0438/68/030/006/0566/0568

AUTHOR: Zhak, S. P.; Datsenko, M. F.

ORG: Odessa Medical Institute (Odes'kyy medychnyy Instytut)

TITLE: The effect of *Cl. sporogenes* proteinases on the hemolytic activity of *Cl. perfringens* type A toxin

SOURCE: Mikrobiologichnyy zhurnal, v. 30, no. 6, 1968, 566-568

TOPIC TAGS: clostridium perfringens, toxin, proteinase

ABSTRACT: Study of the effect of centrifugates of *Cl. sporogenes* cultures of various ages on the hemolytic activity of *Cl. perfringens* type A toxin showed that the product of a 1-, 2-, 3-, or 5-day culture of *Cl. sporogenes* did not intensify the hemolytic activity of *Cl. perfringens* type A toxin. The longer the culture periods of *Cl. sporogenes*, the greater the inhibition of hemolytic activity of *Cl. perfringens* toxins. The products of 2- and 4-hr cultures of *Cl. sporogenes* intensified the hemolytic activity of *Cl. perfringens* toxin. This phenomenon is apparently due to the increasing amount of proteinases accumulating during longer cultivation, which cause proteolysis of toxins. A statistically reliable increase in gelatinase activity

Card 1/2

UDC: 576.851.55.095

ACC NR: AP9001421

in 24-hr cultures as compared with 2-hr cultures was established.
Heated cultures of *Cl. sporogenes* did not intensify the hemolytic
effect of *Cl. perfringens*. [WA-50; CBE No. 40][JS]

SUB CODE: 06/ SUBM DATE: 29Oct67/ ORIG REF: 003

Card 2/2

ACC NR: AP9003592

SOURCE CODE: UR/9079/68/000/005/0055/0057

AUTHOR: Zhuravskaya, S. A.; Bobyreva, T. V.

ORG: Institute of Zoology and Parasitology AN UzSSR (Institut zoologii
i parazitologii AN UzSSR)

TITLE: Effect of insecticides on some esterases of insect cotton pests

SOURCE: Uzbekskiy biologicheskiy zhurnal, no. 5, 1968, 55-57

TOPIC TAGS: insect, insect control, chloride insecticide, insecticide
damage, cholinesterase inhibitor, pest control

ABSTRACT: Cholinesterase activity, with, and without, the influence of
insecticides, was determined in *Aphis gossypii* and *Lepidigma exigua*.
The insects were treated with 0.002%--0.05% methylmercaptophos and
0.2% sevin, or with a mixture of the two substances. Organ homogen-
ates were then tested for cholinesterase activity. The cotton
aphid cholinesterase was the most active and was more effective at
resisting methylmercaptophos than sevin. Cholinesterase inhibition
by rogor and DDT was insignificant. Cocoons were most sensitive to
sevin. Orig. art. has: 1 table. [WA-50; CBE No. 40][LP]

SUB CODE: 05/ SUBM DATE: 17Jul67/ ORIG REF: 002/ OTH REF: 005

Card 1/1

UDC: 632.951:591.105:576.895.7

ACCESSION NUMBERS FOR BIOLOGICAL FACTORS

AM9008874	AP9002879	AP9006759
	AP9002880	AP9007198
	AP9002882	AP9007227
AN9005588	AP9002883	AP9007232
	AP9002991	AP9007236
	AP9002992	AP9007240
AP8007870	AP9003333	AP9007274
AP8026564	AP9003593	AP9007278
AP8026567	AP9003595	AP9007281
AP8028776	AP9003625	AP9007612
AP8033824	AP9003650	AP9007960
AP8033825	AP9003652	AP9007961
AP8035174	AP9003653	AP9007963
AP8036878	AP9003655	
AP8036879	AP9003656	
AP8036883	AP9003657	AT8028044
AP8037595	AP9003658	AT8028045
AP8037596	AP9003664	AT8028046
AP8037597	AP9003665	AT8028048
AP8037600	AP9003666	AT8028049
AP8037715	AP9003668	AT8028050
AP8037716	AP9003669	AT8028051
AP8037719	AP9003670	AT8033767
	AP9004103	AT8033769
AP9001112	AP9004691	AT8035367
AP9001296	AP9005459	AT8035368
AP9001473	AP9005741	
AP9001474	AP9005742	AT9001476
AP9001492	AP9005743	AT9001874
AP9001509	AP9005772	AT9001876
AP9001512	AP9005774	AT9001878
AP9001689	AP9006282	AT9001879
AP9002844	AP9006283	AT9003192
AP9002845	AP9006425	AT9003193
AP9002846	AP9006426	AT9003197
AP9002864	AP9006427	AT9004487
AP9002865	AP9006753	AT9004721
		AT9005109

III. ENVIRONMENTAL FACTORS

ACC NR: AP8037160

SOURCE CODE: UR/0362/68/004/010/1060/1069

AUTHOR: Bakulin, V. N.; Sen'ko, Ye. Ye.

ORG: Kirov Pedagogical Institute (Kirovskiy pedagogicheskiy institut)

TITLE: Determination of turbulence parameters from the vertical distribution of Tn and ThB in the atmospheric surface boundary layer

SOURCE: AN SSSR. Izvestiya. Fizika atmosfery i okeana, v. 4, no. 10, 1968, 1060-1069

TOPIC TAGS: atmospheric turbulence, atmospheric stratification, trace element distribution, radioactive isotopes

ABSTRACT: The limits of fluctuations in turbulent exchange in the atmospheric surface boundary layer are determined from an analysis of 15 round-the-clock series of observations of Tn and ThB concentrations at altitudes of 1 and 5 m. An attempt is made to determine the conditions of applicability of different vertical distribution models of these isotopes. Measurements were made during anticyclonic weather conditions in May-July 1967. Experimental data were compared with theoretical distributions for the following assumptions about the vertical profile of the turbulence coefficient: 1) the turbulence

Cord 1/3

UDC: 551.551.8:551.510.7

ACC NR: AP8037160

coefficient is constant with height; 2) the turbulence coefficient increases linearly with height; 3) the coefficient of turbulence D increases linearly with height up to $H(D = D_0 + kx)$ but above this remains constant and is equal to $D = D_0 + kH$; 4) there is a gradual increase in the coefficient of turbulence with height: $D = kx^{1-\epsilon}$. The magnitude of the velocity of the turbulence coefficient with height k near the ground was determined by the equation

$$k = 0.0305 v_1 \left(1 + 15.4 \frac{\Delta t}{v_1^2} \right)$$

for convective conditions and by

$$k = 0.38^* \frac{v_1}{\ln[(z+z_0)/z_0]} (z+z_0)$$

for neutral stratification and inversion conditions in the presence of wind. The results of daily fluctuations in the concentration of Tn and ThB and the parameter of turbulence near the earth's surface (1, 1.5 and 5 m) determined by the various methods are presented and

Cord 2/3

ACC NR: AP8037160

analyzed. Near the ground the vertical profiles of thoron concentration computed according to methods involving conditions 2,3, and 4 are very similar, especially at 1 and 5 m, and the values of k determined according to the ratio of thoron at two levels by these methods coincide. The mean values of rate of increase of the turbulence coefficient k determined from meteorological parameters is 2-4 larger than that computed from concentration at 2 levels, although for cases of stable stratification and near neutral stratification both methods differ by not more than 20-30%. Orig. art. has: 7 figures, 9 formulas, and 1 table. [WA-50; CBE No. 40][729]

SUB CODE: 04/ SUBM DATE: 13Nov67/ ORIG REF: 009/ OTH REF: 004

Card 3/3

ACC NR: AT9002515

SOURCE CODE: UR/3213/68/000/011/0055/0067

AUTHOR: Bordovskaya, L. I.; Koval'chuk, A. N.

ORG: none

TITLE: Wind field and hail

SOURCE: Nalchik. Vysokogornyy geofizicheskiy institut. Trudy, no. 11, 1968. Metody vozdeystviya na gradovyye protsessy (Methods of modifying hail processes), 55-67

TOPIC TAGS: weather modification, hail formation, jet stream, atmospheric wind field, wind shear, atmospheric turbulence, updraft

ABSTRACT: The characteristics of the jet stream over the northern Caucasus and the relationship between hail storms and jet streams in this region were investigated on the basis of observations made during the period 1958-1966. A total of 192 instances of hail storms were examined. Jet streams were most frequent from April through August (76-85% of the total number of cases). In 95% of the cases hail was observed to be associated with the jet streams; in 80% of the cases the hail was on the periphery and in 15% of the cases in the center of the jet stream. Hail was observed outside the jet stream in only 5% of the

Card

1/2

UDC: 551.55:551.578.7

- 297 -

ACC NR: AT9002515

cases. No obvious association was observed between the hail frequency and the frequency of jet streams over the territory of the northern Caucasus. An examination of the relationship between hail formation and wind shear showed that wind shear played a role in hail formation only if the wind shear was observed at the level of principal hail growth, determined by the velocity of the updrafts in a cloud. In the formation of hail under the influence of wind shear the determining factor is not only the magnitude of the shear but also the height at which it is observed relative to the level of maximum velocity of the updrafts. At this level the wind shear facilitates fallout of particles from the cloud and thus the process of hail formation. The magnitude of horizontal wind-speed variation in hail incidence was averaged as $0.2 \cdot 10^{-2} \text{ sec}^{-1}$. Hail fell in the absence of wind shear in 82% of the total number of days on which hail occurred. Orig. art. has: 6 figures, 2 tables and 5 formulas. [WA-50; CBE No. 40] [729]

SUB CODE: 04/ SUBM IATE: none

Card 2/2

ACC NR: AP8037587

SOURCE CODE: PO/0027/68/000/003/0209/0229

AUTHOR: Budziszewska, E.

ORG: PIHM, Warsaw

TITLE: Tropospheric jet streams over Poland. Part I. Frequency of high-wind streams in the upper troposphere

SOURCE: Przegląd geofizyczny, no. 3, 1968, 209-229

TOPIC TAGS: atmospheric wind field, tropospheric wind, jet stream, atmospheric pressure field

ABSTRACT: An analysis is made of the frequency with which "high-wind streams" (v of 60 + knots/hr and large lateral gradients) occur in the upper troposphere over Poland (between 48—57°N and 10—30°E). The basic data used were taken from the Central Weather Bureau charts for the 300- and 200-mb levels covering the period between September 1960 and December 1967. Over this period the frequency of these winds (jet streams) was maximum in 1961 and 1962 and diminished irregularly after 1963, attaining a minimum in 1967. The years 1963 and 1964 represent a relatively stable period in so far as the frequency distribution of these high winds are concerned. Before this time the variation amplitudes were small and the monthly changes were very similar. After 1963,

Card 1/2

- 298 -

ACC NR: AP8037587

however, the amplitudes were large, with the maximum frequencies approximating those of the earlier period, but the minima being smaller. For the most part, these high-wind streams approach from the west (~50% for the year and ~60% over the summer months), but their frequency varies greatly in some months. Maximum occurrence was observed for 20 or more days in a month, but these maxima occurred every 12-15 months, i.e., were unrelated to season; this suggests that these variations are of a long-term character. In jet streams approaching from the north the wave length periodicity is about 12 months. For those originating from the south, there is no clearly defined occurrence periodicity but changing seasons appear to have some influence. Four classifications of jet-stream durations are identified: short period (1-2 days), medium period (3-5 days), long period (6-10 days), and those lasting more than 10 days. Orig. art. has: 14 figures. [Based on author's abstract] [WA-50; CBE No. 40] [ER]

SUB CODE: 04/ SUBM DATE: 16Feb68

Card 2/2

ACC NR: AT8032590

SOURCE CODE: UR/3269/68/000/027/0035/0038

AUTHOR: Chogovadze, I. V.

ORG: none

TITLE: Vertical motions and changes in air temperatures at high altitudes over the Caucasus

SOURCE: Gidrometeorologicheskii nauchno-issledovatel'skiy tsentr SSSR. Trudy, no. 27, 1968. Prognoz osadkov i temperatury (Forecasting precipitation and temperature), 35-38

TOPIC TAGS: weather forecasting, atmospheric circulation, atmospheric turbulence, vertical current, lapse rate

ABSTRACT: Formulas are derived by which vertical velocities over the mountainous terrain of the Caucasus can be forecasted. In this procedure, minor terms in the Chogovadze formulas are neglected and the velocity equations become

$$\begin{aligned}v_{850} &= 63 \left(\bar{u} \frac{\partial \bar{x}_0}{\partial x} + \bar{v} \frac{\partial \bar{x}_0}{\partial y} \right) + a_1, \\v_{700} &= 38 \left(\bar{u} \frac{\partial \bar{x}_1}{\partial x} + \bar{v} \frac{\partial \bar{x}_0}{\partial y} \right) + a_1 + a_2.\end{aligned}\quad (1)$$

Card 1/3

UDC: 551.524:551.551(234.9)
- 299 -

$$\tau_{850} = 25 \left(\bar{u} \frac{\partial \zeta_0}{\partial x} + \bar{v} \frac{\partial \zeta_0}{\partial y} \right) + a_1 + a_2 + a_3,$$

$$\tau_{300} = 13 \left(\bar{u} \frac{\partial \zeta_0}{\partial x} + \bar{v} \frac{\partial \zeta_0}{\partial y} \right) + a_1 + a_2 + a_3 + a_4,$$

where

$$a_1 = -4.2 \tau_{850} \left(\frac{d \Delta H}{dt} \right)_{850} - 3.2 \frac{1}{\zeta_0} \Delta H_{850},$$

$$a_2 = -4.2 \tau_{850} \left[\left(\frac{d \Delta H}{dt} \right)_{850} + \left(\frac{d \Delta H}{dt} \right)_{700} \right],$$

$$a_3 = -5.6 \tau_{850} \left[\left(\frac{d \Delta H}{dt} \right)_{700} + \left(\frac{d \Delta H}{dt} \right)_{300} \right],$$

$$a_4 = -5.6 \tau_{850} \left[\left(\frac{d \Delta H}{dt} \right)_{300} + \left(\frac{d \Delta H}{dt} \right)_{300} \right].$$

Here, $\tau = \frac{1}{p} \frac{dp}{dt}$ is in mb/12 hr; $\zeta_0(x, y) = \frac{p}{1000}$, where p is the standard pressure on the mountain slope. The expression $\bar{u} \frac{\partial \zeta_0}{\partial x} + \bar{v} \frac{\partial \zeta_0}{\partial y}$ was calculated using wind measurements made at the 850-mb level. Velocities were calculated for the Tbilisi, Yerevan, and Sukhumi regions (30 instances).

Card 2/3

Semidiurnal local changes in temperature were calculated from the equation

$$\delta T = -(\delta T)_{adv} - 0.293(\gamma_a - \gamma) \frac{T}{p}. \quad (2)$$

where γ_a is the dry-adiabatic gradient, γ is the actual lapse rate, p is pressure, and $(\delta T)_{adv}$ is the advective change in temperature. These calculations indicated that these formulas, which take orography into account, give truer magnitudes of vertical motions and that these values agree rather well with variations in air temperature. Orig. art. has: 2 tables and 2 formulas. [WA-50; CBE No. 40] [ER]

SUB CODE: 04/ SUBM DATE: none/ ORIG REF: 004

Card 3/3

ACC NR: AT8032591

SOURCE CODE: UR/3269/68/000/027/0039/0043

AUTHOR: Chogovadze, I. V.

ORG: none

TITLE: Method of calculating regular vertical movements of air over the Caucasus

SOURCE: Gidrometeorologicheskii nauchno-issledovatel'skiy tsentr SSSR. Trudy, no. 27, 1968. Prognoz osadkov i temperatury (Forecasting precipitation and temperature), 39-43

TOPIC TAGS: numeric weather forecasting, atmospheric circulation, vertical motion, atmospheric turbulence, wind speed, vertical turbulent mixing

ABSTRACT: A method is developed by which the vertical velocities of air flows over the Caucasus can be calculated without construction of air parcel trajectories. The formulas used to calculate the vertical velocities are

Card 1/6

UDC: 551.55(234.9)

ACC NR: AT8032591

$$\begin{aligned}\tau_{850} &= 63 \left(\bar{u} \frac{\partial \zeta_0}{\partial x} + \bar{v} \frac{\partial \zeta_0}{\partial y} \right) + a_1, \\ \tau_{700} &= 38 \left(\bar{u} \frac{\partial \zeta_0}{\partial x} + \bar{v} \frac{\partial \zeta_0}{\partial y} \right) + a_1 + a_2, \\ \tau_{500} &= 25 \left(\bar{u} \frac{\partial \zeta_0}{\partial x} + \bar{v} \frac{\partial \zeta_0}{\partial y} \right) + a_1 + a_2 + a_3, \\ \tau_{300} &= 13 \left(\bar{u} \frac{\partial \zeta_0}{\partial x} + \bar{v} \frac{\partial \zeta_0}{\partial y} \right) + a_1 + a_2 + a_3 + a_4.\end{aligned}\quad (1)$$

$$a_1 = -7.5 \left(\frac{\partial \Delta H}{\partial t} \right)_{850} - 1.08 (\bar{H}, \Delta \bar{H})_{850} - 7.3 \Delta H_{850}.$$

$$a_2 = -7.5 \left[\left(\frac{\partial \Delta H}{\partial t} \right)_{850} + \left(\frac{\partial \Delta H}{\partial t} \right)_{700} \right] - 1.08 [(\bar{H}, \Delta \bar{H})_{850} + (\bar{H}, \Delta \bar{H})_{700}].$$

$$a_3 = -10.0 \left[\left(\frac{\partial \Delta H}{\partial t} \right)_{700} + \left(\frac{\partial \Delta H}{\partial t} \right)_{500} \right] - 1.14 [(\bar{H}, \Delta \bar{H})_{700} + (\bar{H}, \Delta \bar{H})_{500}].$$

$$a_4 = -10.0 \left[\left(\frac{\partial \Delta H}{\partial t} \right)_{500} + \left(\frac{\partial \Delta H}{\partial t} \right)_{300} \right] - 1.14 [(\bar{H}, \Delta \bar{H})_{500} + (\bar{H}, \Delta \bar{H})_{300}].$$

Here, $\tau = \frac{1}{p} \frac{dp}{dt}$ are in millibars for 12 hr; u and v are the horizontal components of the wind velocity (m/sec); $\zeta_0(x, y) = \frac{p}{1000}$.

Card 2/6

- 301 -

ACC NR: AT8032591

where p is the standard pressure on the mountain slope; H is the geopotential on the isobaric surface; $\Delta = \frac{\partial}{\partial x^2} + \frac{\partial^2}{\partial y^2}$; $\frac{\partial \Delta H}{\partial t}$ is the local variation of the Laplacian of ΔH for 12 hr;

$$(H, \Delta H) = \frac{\partial H}{\partial x} \frac{\partial \Delta H}{\partial y} - \frac{\partial H}{\partial y} \frac{\partial \Delta H}{\partial x}$$

is the Jacobian; the horizontal line over a value means that the values are computed as the arithmetic mean of these values at the beginning and end of a moment in time, and the axes x and y are always directed eastward and northward from the point at which the calculations are made. Since orographic effects diminish with height, the term

$$\left(\bar{u} \frac{\partial \zeta_0}{\partial x} + \bar{v} \frac{\partial \zeta_0}{\partial y} \right)$$

is assigned different weights for different levels.

Small-scale orographic effects are distinguished by calculating

$$\frac{\partial \zeta_0}{\partial x} \text{ and } \frac{\partial \zeta_0}{\partial y}$$

for 24 points on a 28-km grid, and their values are

averaged by trajectories. Fig. 1 gives the results of these calculations of large-scale effects for 15 regions of the Caucasus.

Card 3/6

ACC NR: AT8032591

Numerical values, presented in a table, are used to solve (1). Data on the wind speeds at the 850-mb level were used to calculate the

$$\text{expression } \left(\bar{u} \frac{\partial \zeta_0}{\partial x} + \bar{v} \frac{\partial \zeta_0}{\partial y} \right)$$

for the Tbilisi, Sukhumi, Yerevan, and

Lankoran regions. The Laplacian of ΔH and the $\frac{\partial}{\partial x}$ and $\frac{\partial}{\partial y}$ derivatives were calculated by the formulas:

$$\Delta H = \frac{1}{12} [2(H_5 + H_6 + H_7 + H_8) - (H_1 + H_2 + H_3 + H_4) - 4H_0],$$

$$\frac{\partial H}{\partial x} = \frac{1}{6} (H_1 + H_5 + H_8 - H_3 - H_6 - H_7),$$

$$\frac{\partial H}{\partial y} = \frac{1}{6} (H_2 + H_5 + H_6 - H_4 - H_7 - H_8),$$

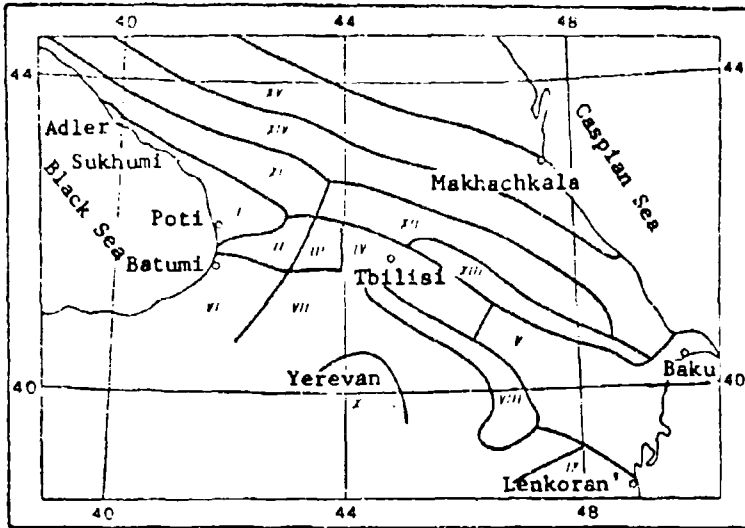
$$\frac{\partial \Delta H}{\partial x} = \frac{1}{6} (\Delta H_1 + \Delta H_5 + \Delta H_8 - \Delta H_3 - \Delta H_6 - \Delta H_7),$$

$$\frac{\partial \Delta H}{\partial y} = \frac{1}{6} (\Delta H_2 + \Delta H_5 + \Delta H_6 - \Delta H_4 - \Delta H_7 - \Delta H_8).$$

Card 4/6

ACC NR: AT8032591

Magnitudes of τ were calculated on a computer for 30 semidiurnal instances, using 42 points located on a 250-km-interval grid. In 98%



Card 5/6 Fig. i. Regions having different $\frac{\partial v_z}{\partial x}$ and $\frac{\partial v_x}{\partial y}$ values

ACC NR: AT8032591

of the instances the modulus of vertical velocity varied within the limits of 0—50 mb/12 hr, with $|\tau|$ of more than 75 mb/12hr never occurring either at the 850- or the 700-mb levels; at the 300-mb level, vertical velocities of from 76 to 100 mb/12hr were most frequent. Orig. art. has: 2 figures, 3 tables, and 2 formulas. [WA-50; CBE No. 40][ER]

SUB CODE: 04/ SUBM DATE: none/ ORIG REF: 003

Card 6/6

ACC NR: AT8032589

SOURCE CODE: UR/3269/68/000/027/0025/0034

AUTHOR: Galakhova, T. A.

ORG: none

TITLE: Multi-level numerical scheme for calculating vertical velocities in the troposphere and stratosphere

SOURCE: Gidrometeorologicheskii nauchno-issledovatel'skiy tsentr SSSR. Trudy, no. 27, 1968. Prognoz osadkov i temperatury (Forecasting precipitation and temperature), 25-34

TOPIC TAGS: weather forecasting, numeric weather forecasting, atmospheric model, atmospheric circulation, atmospheric turbulence, tropospheric wind, stratospheric wind

ABSTRACT: A multi-level numerical scheme, proposed for the calculation of vertical velocities, takes into account "frontal terms" and the actual stability distribution parameter c^2 . The initial equations include equations for heat influx, eddy velocity, atmospheric statics, state and discontinuity:

$$\zeta^2 \frac{\partial \tau}{\partial z} + c^2 \Delta \tau = \zeta F(x, y, \zeta), \quad (1)$$

Card 1/3

UDC: 551.511.3

ACC NR: AT8032589

where

$$F(x, y, \zeta) = -P \frac{R}{T} \left\{ \frac{g}{T} \Delta(T, z) + \frac{\Delta z}{c_p} + \frac{g}{T} (T, \Delta z) + \right. \\ \left. + \frac{g}{T} (z, \Delta T) + \beta \frac{\partial T}{\partial x} \right\}. \quad (2)$$

Here, τ is the analog of the vertical air velocity, in mb/12 hr;

$\zeta = \frac{P}{P_0}$; $P = 1000$ mb; R is the gas constant; l is the Coriolis parameter;

g is the gravitational acceleration; $\beta = \frac{\partial l}{\partial y}$; and $c^2 = \frac{RT}{K} (\gamma - 1)$ is the stability parameter (assumed to be constant). The solution is derived by simple iteration. Vertical velocities, calculated for each level by the Pyatygina method, are adopted as the first approximations. The method was checked using actual data fed into an electronic computer. The τ magnitudes, obtained by the Pyatygina method at 192 grid intersections, and τ magnitudes, calculated by the above scheme at 140 grid points on the 50-, 100-, 200-, 300-, 400-, 500-, 700-, and 850-mb surfaces, were fed from the computer. Comparison of the vertical velocities in frontal and anticyclonic areas, obtained by calculating temperature stratification curves, with velocities

Card 2/3

- 304 -

ACC NR: AT8032589

calculated by other methods, showed that temperatures at all levels could be most accurately calculated by the proposed numerical scheme, and that errors in predicting temperatures in frontal areas could be effectively reduced by taking the frontal terms into account. Orig. art. has: 4 figures, 1 table, and 22 formulas. [WA-50; CBE No. 40][ER]

SUB CODE: 04/ SUBM DATE: none/ ORIG REF: 010

Card 3/3

ACC NR: AP8035697

SOURCE CODE: BU/0011/68/021/009/0869/0872

AUTHOR: Godev, N.

ORG: Institute of Geophysics, Bulgarian Academy of Sciences

TITLE: Influence of friction and orography on the wind distribution in the planetary boundary layer - stationary nonlinear problem

SOURCE: Bulgarska akademiya na naukite. Doklady, v. 21, no. 9, 1968, 869-872

TOPIC TAGS: atmospheric wind field, planetary boundary layer, atmospheric model, boundary layer friction

ABSTRACT: A study is made of various laws governing the distribution of wind in the planetary boundary layer, with the simultaneous effects of friction and topography taken into account. Numerical solutions show that acceptance of the law of kinematic coefficient of turbulent viscosity $\gamma(z) = 0$ gives results which are contrary to observed data. In addition, in the law of turbulent exchange, a change from $n = 0$ to $n \neq 0$ produces qualitatively new phenomena, i.e. when $n \neq 0$ the orography of an area may greatly affect the distribution of wind with

Card 1/2

- 305 -

ACC NR: A:8035697

height. However, when $\frac{d\alpha}{ds} < 0.01$, β becomes less than one, and it is assumed that the zero approximation M_0 adequately describes the distribution of wind with height. [Submitted by L. Krastanov on 4 June 1968]. [Original article in English]. Orig. art. has: 10 formulas. [WA-50; CBE No. 40][ER]

SUB CODE: 04/ SUBM DATE: 04Jan68/ ORIG REF: 001

Cord 2/2

ACC NR: AT8038159

SOURCE CODE: UR/2531/68/000/223/0028/0037

AUTHOR: Golikov, V. I.

ORG: none

TITLE: Accuracy of calculating particle spectra from small-angle scattering indicatrices

SOURCE: Leningrad. Glavnaya geofizicheskaya observatoriya. Trudy, no. 223, 1968. Aktinometriya atmosferyaya optika i ozonometriya (Actinometry, atmospheric optics and ozonometry), 28-37

TOPIC TAGS: atmospheric optics, scattering indicatrix, atmospheric model, aerosol dispersion model, error analysis, spectrophotometry, aerosol physics

ABSTRACT: Results are presented of studies carried out to demonstrate the influence of absolute, relative, and random photometric errors on the accuracy of calculating the ordinates of real aerosol particle-size spectra of a polydispersed medium (polymethyl methacrylate). The method of small angles was used, using a scattering indicatrix measured under laboratory conditions. Equations are derived and tables are presented which illustrate the effects of errors in

Cord 1/2

UDC: 551.521.3

- 306 -

ACC NR: AT8038159

optical measurements of light scattering and in the selection of the significant ranges of angles on the accuracy of determining the ordinates of particle-size spectra. Orig. art. has: 3 figures, 3 tables, and 15 formulas. [WA-50; CBE No. 40][ER]

SUB CODE: 04/ SUBM DATE: none/ ORIG REF: 008

Card 2/2

ACC NR: AT8038162

SOURCE CODE: UR/2531/68/000/223/0065/0080

AUTHOR: Gushchin, G. P.

ORG: none

TITLE: Spectrophotometric investigations of the characteristics of atmospheric aerosols in various geographic regions of the USSR

SOURCE: Leningrad. Glavnaya geofizicheskaya observatoriya. Trudy, no. 223, 1968. Aktinometriya atmosfernaya optika i ozonometriya (Actinometry, atmospheric optics and ozonometry), 65-80

TOPIC TAGS: spectroscopy, atmospheric physics, atmospheric optics, atmospheric aerosol, aerosol network, ozone meter /M 83 ozone meter (U)

ABSTRACT: Spectrometric research on atmospheric aerosols is now being carried out in a special network of stations located at 38 ozone stations originally participating in the Soviet portion of the IQSY program. Systematic aerosol observation programs were initiated at some of these stations in 1967 (at the Main Geophysical Observatory at Veyeykovo, and at Karadag, Dushanbe, Bol'shaya Yelan', Kuybyshev, and Murmansk) and plans call for others to be in operation in 1968, with a total of 50 stations envisioned for activation. The 350-650 normal meter

Card 1/3

UDC: 551.510.42

- 307 -

ACC NR: AT8038162

portion of the spectrum was used in these programs. At present, the principal instruments are M-83 ozone meters equipped with eight combinations of glass light filters, with measurements being made both on clear and on partly cloudy days. Because of experimental difficulties a rather small number of direct measurements of aerosol particle sizes are being made within the wide range from 0.08 to 10 μ . Initial plans called for the collection of experimental data on particle-size distributions in various geographical regions and under different atmospheric physical conditions. Systematic observations of spectral transparency of the atmosphere and the corresponding optical density of the aerosols are made in direct sunlight. The Junge parameters n and c , characterizing the aerosol particle-size distribution $dN/dr = cr^{-n}$, are determined from the optical density. A special method was developed for finding these parameters; estimates of determining magnitude errors are made on the assumption that the particle-size distribution is in agreement with the Junge equation. An equation was also derived for making careful estimates of the numbers of large ($0.1 < r < 1.0 \mu$) and giant ($r > 1.0 \mu$) aerosol particles. An analysis is presented of some of the measurements made at the 6 stations mentioned above. Comparisons of the optical densities of the aerosols and of the Junge parameters observed with two instruments at Karadag showed that their deviations fell within measurement error limits. At Dushanbe the aerosol attenuation with

Card 2/3

ACC NR: AT8038162

height was neutral, but at Voyeykovo, Kurybyshev, Bol'shaya Yelan', and Murmansk it decreased with increasing wave lengths. The n magnitudes fluctuated from 3—5, and the averages were about 4 except at Dushanbe, where the magnitude was 3. The number of large particles varied in the range of 1×10^7 — 1×10^9 particles per cm^2 . Orig. art. has: 3 figures, 8 tables, and 21 formulas. [WA-50; CBE No. 40][ER]

SUB CODE: 04, 20/ SUBM DATE: none/ ORIG REF: 005/ OTH REF: 002

Card 3/3

ACC NR: AP9002247

SOURCE CODE: UR/0050/68/000/011/0097/0102

AUTHOR: Il'yin, G. P.; Rublev, P. A.

ORG: Leningrad Military Engineering Red Banner Academy im. A. F. Mozhay-skiy (Leningradskaya voyennaya inzhenernaya krasnoznamenaya akademiya)

TITLE: Investigation of the spectra of horizontal and vertical fluctuations of the wind measured simultaneously from an aircraft

SOURCE: Meteorologiya i gidrologiya, no. 11, 1968, 97-102

TOPIC TAGS: atmospheric wind field, wind gust, meteorologic instrument, atmospheric turbulence, gust load meter

ABSTRACT: Simultaneous measurements of the fluctuations of horizontal and vertical components of wind speed (gusts) by layers up to an altitude of 7000 m are reported. The measurements were made from an aircraft which contained special measuring devices for recording horizontal (lateral relative to the longitudinal axis of the aircraft) and vertical wind gusts. Instruments necessary for controlling the reliability and analysis of the data obtained (MP-66 aircraft acceleration sensor) a central gyrovertical for recording fluctuations in the pitch of the aircraft, their wind speed and altitude, ambient air temperatures and

Card 1/3

UDC: 551.551.5

ACC NR: AP9002247

humidities, a time recorder, K-12-21 and K-4-51 oscillographs, etc. The data were collected in the daytime between 1000 and 1100 hr and from 1400--1500 hr near Lake Ladoga. The weather was caused by a diffuse anticyclone. Depending on the character of the gust intensity there was distinguished a lower kilometer atmospheric layer where the variation in gust structure was greatest; in this layer the amplitude of the horizontal and vertical gusts decreased with height. In the layer up to 500 m vertical gusts with an amplitude of 5--10 m/sec were characterized generally by a trapezoidal form with large gradient increments in velocity; the mean scale of these gusts was 100--200 m. In addition, the spectral density of the vertical and horizontal fluctuations was calculated by assuming that over an observational period of about 10 min the gusts are stationary random processes. The main computational formulas used were:

$$\left. \begin{aligned} \Omega &= \frac{2\pi}{\lambda_x} = \frac{\omega}{v} \\ \lambda_x &= vt, \end{aligned} \right\} (1)$$

where Ω is the spatial frequency (rad/m), ω is the temporal (angular) frequency (rad/sec), λ is the length of the wave of a gust (m), v is the speed of the aircraft in m/sec, t is the period of gust wave in sec. Spectral density was determined with the autocorrelation functions of the vertical and

Card 2/3

ACC NR: AP9002247

horizontal fluctuations of the wind speed, using (2) and (3)

$$R(A, \Delta x) = \overline{A_i(x) A_i(x + \Delta x)}, \quad (2)$$

$$S(\Omega) = \frac{1}{\pi} \int_0^{\infty} R(A, \Delta x) \cos \Omega x dx, \quad (3)$$

where $R(A, \Delta x)$ is the autocorrelation at each individual point, $A_i(x)$, $A_i(x + \Delta x)$ is the horizontal and vertical wind fluctuations in spatial coordinates, and $S(\Omega)$ is the spatial spectral density. Analysis of the spectra showed that the energy of u and w fluctuations is not uniform for distribution frequencies: at high frequencies the spectral density of both components is practically of the same order at all heights, but at low frequencies the energy of vertical fluctuations in the layer up to 1500 m is somewhat larger than the energy of horizontal fluctuations. In the region of frequencies $\Omega = 5 \cdot 10^{-3}$ to $7 \cdot 10^{-1}$ rad/m which corresponds to ranges of turbulence scale of 700 m to 10 m, the forms of the curves of horizontal and vertical spectra are close to one another. In the area of frequencies $\Omega = 2 \cdot 10^{-2}$ and higher such curves can be described by the $^{-5/3}$ law. Orig. art. has: 4 figures and 5 formulas.

[WA-50; CBE No. 40] [729]

SUB CODE: 04/ SUBM DATE: 05Apr68/ ORIG REF: 011/ OTH REF: 001

Card 3/3

ACC NR: AP9003766

SOURCE CODE: UR/0362/68/004/012/1324/1326

AUTHOR: Ivanov, V. N.; Ordanovich, A. Ye.

ORG: Institute of Experimental Meteorology (Institut eksperimental'noy meteorologii)

TITLE: Relationship between the instability parameters in the boundary layer of the atmosphere and the Rayleigh number

SOURCE: AN SSSR. Izvestiya. Fizika atmosfery i okeana, v. 4, no. 12, 1968, 1324-1326

TOPIC TAGS: atmospheric boundary layer, atmospheric turbulence, atmospheric convection, turbulent heat transfer, Ra number

ABSTRACT: In this paper it is assumed that the critical Richardson number R_f is related to the origin of large-scale convective motions (cellular convection) in the atmosphere. Since the Rayleigh number R_a characterizes cellular convection it is assumed that the critical numbers R_f and R_a are related and may be expressed by a functional relationship. R_f is expressed for the surface boundary layer of the atmosphere by

Card 1/3

UDC: 551.551.2

ACC NR: AP9003766

$$Rf = \frac{gQ}{T\epsilon}$$

where g is the acceleration of gravity, Q is the turbulent heat flux, T is the absolute temperature, ϵ is the dissipation of turbulent energy as a result of friction. The following expression is derived for the Rayleigh number:

$$Ra = \frac{gQ}{T\epsilon} \frac{1}{\alpha^2 \nu^2} \frac{1}{z_+} \left(\frac{h}{\delta} \right)^4$$

where h is the thickness of the layer investigated, z_+ is the nondimensional height ($z_+ = z/\delta$), δ is the thickness of the boundary layer, α is the von Karman constant referring to the height z . This formula, with the formula for Rf gives

$$Ra = k Rf,$$

$$\text{where } k = A z_+^{-1} (h/\delta)^4 \text{ and } A = (\alpha^2 \nu^2)^{-1}.$$

Card 2/3

ACC NR: AP9003766

For the critical Ra value:

$$Ra_{cr} = 7 \cdot 10^6 Rf_{cr}.$$

From the above equation the value of Rf_{cr} at 1.5 m is computed to be $Rf_{cr} = 10^{-2}$. Orig. art. has: 13 formulas. [WA-50; CBE No. 40][729]

SUB CODE: 04/ SUBM DATE: 05Feb68/ ORIG REF: 004

Card 3/3

- 311 -

ACC NR: AT8035572

SOURCE CODE: UR/2531/68/000/221/0205/0211

AUTHOR: Kasatkina, O. I.

ORG: none

TITLE: Experimental investigation of light scattering by cloud particles. II. Measurement of the light-scattering function with a water drop model

SOURCE: Leningrad. Glavnaya geofizicheskaya observatoriya. Trudy, no. 221, 1968. Sputnikovaya meteorologiya (Satellite meteorology), 205-211

TOPIC TAGS: atmospheric optics, light scattering model, cloud drop, nephelometer

ABSTRACT: A statement is given which lists the requirements needed in measuring devices used to determine accurately the light-scattering function of a quasi-monodispersed aerosol — here glass balls in a liquid. A description, schematic, and electrical circuitry are given of a photoelectric nephelometer developed at the Main Geophysical Observatory. This equipment makes it possible to measure accurately the light-scattering function within a wide range of angles and with

Card 1/2

UDC: 551.593

ACC NR: AT8035572

high angular resolution, and with any adequately small particle-size dispersions. An analysis is made of possible errors and the means by which they can be reduced. Orig. art. has: 2 figures, 3 tables, and 2 formulas. [WA-50; CBE No. 40] [ER]

SUB CODE: 04/ SUBM DATE: none/ ORIG REF: 006/ OTH REF: 001

Card 2/2

ACC NR: AT8035571

SOURCE CODE: UR/2531/68/000/221/0198/0204

AUTHOR: Kasatkina, O. I.

ORG: none

TITLE: Experimental investigation of light scattering by cloud particles. I. Modelling water drops

SOURCE: Leningrad. Glavnaya geofizicheskaya observatoriya. Trudy, no. 221, 1968. Sputnikovaya meteorologiya (Satellite meteorology), 198-204

TOPIC TAGS: atmospheric model, cloud drop model, atmospheric physics, light scattering

ABSTRACT: A description is given of a laboratory method and procedures used in preparing a cloud-drop model. The cloud particles are simulated by glass spheres satisfying the principle requirement that

$n_{\text{glass}} = n_{\text{water}}$ in the 0.35—1.0 μ spectral range. Several glasses and fluids were investigated, the final selections being STF1 glass and cedar oil and TP6 glass and glycerin. The optical characteristics

Card 1/2

UDC: 551.593

ACC NR: AT8035571

of the models are described in detail and they are compared with those of water drops. An estimate is made of the degree of polydispersion possible in the suspensions. Orig. art. has: 3 figures, 6 tables, and 9 formulas. [WA-50; CBE No. 40][ER]

SUB CODE: 04/ SUBM DATE: none/ ORIG REF: 006

Card 2/2

- 313 -

ACC NR: AP9003767

SOURCE CODE: UR/0362/68/004/012/1327/1330

AUTHOR: Klyatskin, V. N.

ORG: Institute of Physics of the Atmosphere, Academy of Sciences SSSR
(Institut fiziki atmosfery, Akademiya nauk SSSR)

TITLE: Space-time spectrum of microfluctuations in a pressure field

SOURCE: AN SSSR. Izvestiya. Fizika atmosfery i okeana, v. 4, no. 12,
1968, 1327-1330

TOPIC TAGS: atmospheric pressure, atmospheric acoustic phenomenon,
microfluctuation spectrum

ABSTRACT: The spectral function $P(r, \omega)$ is determined in the case of turbulent flux on the basis of the hypothesis of Millionshchikov and the hypothesis of frozen turbulence and in the case of random acoustical waves. It is shown that it is possible to isolate these factors from experiments on the space-time structure of the microfluctuations of pressure waves. The pressure field generated by turbulent flux is examined. The medium is considered incompressible and the turbulent fluxes as uniform and isotropic. The expression for the spectral function is:

Card 1/4

UDC: 551.541

ACC NR: AP9003767

$$\mathcal{P}_T(r, \omega) = \frac{3A^4}{2^{11/2} \Gamma(1/2)} \rho^2 e^{2i\alpha} V^{1/2} (r \sin \alpha)^{1/2} \omega^{-1/2} \exp\left(i \frac{\omega r}{V} \cos \alpha\right) K_{7/6}\left(\frac{\omega r}{V} \sin \alpha\right)$$

where $K_{7/6}(z)$ is McDonald's function. In the case $(\omega r/V) \sin \alpha \ll 1$ the expression becomes

$$\mathcal{P}_T(r, \omega) = \frac{A^4}{81^{1/2} \Gamma(1/2)} \rho^2 e^{2i\alpha} V^{1/2} \omega^{-1/2} \exp\left\{i \frac{\omega r}{V} \cos \alpha\right\}$$

In the case $(\omega r/V) \gg 1$ it becomes

$$\mathcal{P}_T(r, \omega) = \frac{3A^4}{2^{11/2} \Gamma(1/2)} \rho^2 e^{2i\alpha} (rV \sin \alpha)^{1/2} \omega^{-1/2} \exp\left\{i \frac{\omega r}{V} \cos \alpha - \frac{\omega r}{V} \sin \alpha\right\}$$

In the case where the three-dimensional pressure spectrum has the characteristic of a power, i.e., $P(k) = Bk^{-\nu}$ and the power index is not equal to $13/3$, as is the case when the Millionshchikov hypothesis is used, but varies in the range of 3.4—5.6, the expression becomes

$$\mathcal{P}_T(r, \omega) = \frac{2^{(4-\nu)/2} \pi B}{\Gamma(\nu/2)} (r \sin \alpha)^{(\nu-2)/2} \omega^{(2-\nu)/2} V^{(\nu-2)/2} \exp\left(i \frac{\omega r}{V} \cos \alpha\right) K_{(\nu-2)/2}\left(\frac{\omega r}{V} \sin \alpha\right)$$

Card 2/4

- 314 -

ACC NR: AP9003767

In the case of fluctuations in the pressure field generated by random acoustical waves the spectral function for $\omega > 0$ is

$$\mathcal{P}_a(r, \omega) = \frac{\pi \omega^2}{c^2} \int_0^\pi B\left(\frac{\omega}{c} \frac{1}{1+M \cos \theta}, \omega\right) \frac{\sin \theta}{(1+M \cos \theta)^2} \exp\left\{i \frac{\omega r}{c} \frac{\cos \theta}{1+M \cos \theta}\right\} d\theta,$$

where $M = V/c \ll 1$ is the Mach number. It was established that the field of random acoustical waves is isotropic, i.e., $B(k\omega) \equiv B(k, \omega)$. In the zero order up to the Mach number M

$$\text{Re } \mathcal{P}_a(r, \omega) = 2\pi \frac{\omega}{c^2 r} \sin \frac{\omega r}{c} B\left(\frac{\omega}{c}, \omega\right).$$

In the case of one point correlation at different moments of time

$$\mathcal{P}_a(r, \omega) = \frac{c}{\omega r} \sin \frac{\omega r}{c} \mathcal{P}_a(\omega).$$

Card 3/4

ACC NR: AP9003767

The spectral function of the pressure field generated by turbulent flux can be determined directly from experimental measurements of microfluctuations in the entire pressure field by means of

$$\mathcal{P}_T(r_1, \omega) = \mathcal{P}(r_1, \omega) - \mathcal{P}(r_2, \omega).$$

Orig. art. has: 2 figures and 26 formulae. [WA-50; CBE No. 40][729]

SUB CODE: 04/ SUBM DATE: 15Feb68/ ORIG REF: 005

Card 4/4

ACC NR: AP8037086

SOURCE CODE: CZ/0085/68/000/003/0078/0084

AUTHOR: Koldovsky, M.

ORG: HMU

TITLE: Fogs on Milesovca in 1956—1960

SOURCE: Meteorologicke zpravy, no. 3, 1968, 78-84

TOPIC TAGS: microclimatology, air pollution, aerosol, fog, advection fog, radiation fog

ABSTRACT: Over the 1910—1939 period the number of foggy days on Milesovca steadily increased, probably as the result of increasing air pollution. During this period there were 11,438 hours with fog in 1055 days and a total of 1044 fog periods. These figures are so high that fog must be considered to be a major factor in controlling the local climate of the Milesovca summit. An analysis of the diurnal variations and the interrelationships between the fogs and temperature, pressure, wind, and types of weather led to a study to determine the frequency of the various types of fogs occurring in the area. The following data were obtained: 10—15% of the total

Card 1/2

UDC: 551.575"311"

ACC NR: AP8037086

number of fogs were advection-radiation valley fogs, 25—30% were convective clouds, and 55—65% were of various types, but mainly were those occurring in low-level clouds in atmospheric fronts. Orig. art. has: 21 figures and 2 tables. [WA-50; CBE No. 40] [ER]

SUB CODE: 04/ SUBM DATE: none/ ORIG REF: 009/ OTH REF: 006

Card 2/2

ACC NR: AP9000858

SOURCE CODE: UR/0115/68/000/010/0037/0040

AUTHOR: Kolerskiy, S. V.; Ruzer, L. S.

ORG: none

TITLE: Application of the method of two average radii in determining the dispersion state of aerosols

SOURCE: Izmeritel'naya tekhnika, no. 10, 1968, 37-40

TOPIC TAGS: aerosol, error statistics, statistic distribution, statistic analysis

ABSTRACT: When the aerosol radius distribution is measured indirectly by measuring the average values of certain quantities x_v and x_μ , the parameters and errors of the normal-logarithmic distribution

$$f(r) dr = \frac{1}{\sqrt{2\pi} \lg \beta_g} \cdot \exp \left[-\frac{(\lg r - \lg r_g)^2}{2(\lg \beta_g)^2} \right] d \lg r.$$

(where r is the aerosol radius, r_g is its average geometric radius, and $\lg r_g = \overline{\lg r}$, $(\lg \beta_g)^2 = \overline{(\lg r - \lg r_g)^2}$ are the mean square errors of the logarithms of the radii) are completely specified provided the errors of measurements of \bar{x}_v and \bar{x}_μ are known. The authors cite expressions

Card 1/1

UDC: 541.182.2/.3

ACC NR: AP9000858

for determining $\lg r_g$ and $\lg \beta_g$ and their errors for the case when the diffusion and turbidometric methods are used to determine x_v , x_μ and x_ν , x_ρ (assuming that $x_v = a_v r^v$ and $x_\mu = a_\mu r^\mu$, and that the exponents are real numbers other than zero). The range of applicability of this method is given in terms of the relative measurement errors $\Delta \bar{x}_v / \bar{x}_v$ and $\Delta \bar{x}_\mu / \bar{x}_\mu$. The parameters for the above distribution falling outside this range can be determined better by the graphic methods suggested by the authors. It is shown that a combination of the diffusion and turbidometric measurement methods gives the minimum error in determining $\lg \beta_g$ and $\lg r_g$. Orig. art. has: 2 figures, 3 tables, and 14 formulas.

[WA-50; CBE No. 40] [631]

SUB CODE: 12/ SUBM DATE: 04Oct67/ ORIG REF: 004/ OTH REF: 001

- 317 -

Card 2/2

ACC NR: AM9003950

AUTHOR: Konstantinov, A. R.

SOURCE: Evaporation in nature (Ispareniye v prirode) 2nd ed. Leningrad. Gidrometeorizdat, 1968, 532 p.

TOPIC TAGS: micrometeorology, evaporation, soil evaporation, snow evaporation, water evaporation, atmospheric turbulence, water balance

PURPOSE AND COVERAGE: This book is intended for meteorologists, climatologists, agrometeorologists, hydrologists, design engineers, and land-use and soil conservation engineers. It is also of value in the education and training of university and institut students. Broad questions dealt with include the measurement and calculation of components affecting evaporation in nature; methods of measuring evaporation from the soil, snow, and water; and studies of turbulent processes whose analyses form the basis for methods of calculating evaporation from gradient measurements. One of these methods is for the calculation of evaporation from air temperature and humidity observations made regularly at network stations. Agricultural applications are stressed. Orig. art. has: 139 figures, 50 tables, and 245 formulas. [WA-50; CBE No. 40] [ER]

Card 1/1

ACC NR: AT8029937

SOURCE CODE: UR/3276/67/000/169/0141/0147

AUTHOR: Kulikov, G. I. (Docent)

ORG: none

TITLE: Profile of a vertical velocity analog

SOURCE: Perm. Universitet. Uchenyye zapiski. no. 169. 1967. Gidrologiya i meteorologiya (Hydrology and meteorology), 141-147

TOPIC TAGS: atmospheric circulation, atmospheric motion, atmospheric physics, updraft velocity analog

ABSTRACT: Factors causing altitude variations in the vertical profile of the variable $w_p = dp/dt$ are studied. This variable, called the vertical velocity analog w_p , characterizes the rate at which an isobaric surface is displaced vertically with respect to a constant surface P . The changes in this variable with height are determined using statics and thermodynamics with the three-term differential being

$$w_p = \frac{P}{\rho} w_{p,0} + \frac{R(z-z_0)}{RT} \frac{dT}{dt} - \frac{R}{RT} w_p \quad (1)$$

Card 1/2

ACC NR: AT8029937

obtained for the logarithmic representation of the barometric formula

$$P = P_0 \exp \left\{ \frac{g \Delta z}{R T_m} \right\}, \quad (2)$$

where P and P_0 are the pressures at the upper and lower levels of a vertical segment $\Delta z = z - z_0$; g is the gravitational acceleration; R is the gas constant; and T_m is the average barometric temperature. The three terms of this differential (where $T_m \approx T$) represent the vertical velocity of an isobaric surface ascending from z_0 to z (Term 1), the time-dependent variation rate of the average temperature in Δz , (Term 2), and the convergent air mass transfer in Δz (Term 3). The behavior of these terms is discussed qualitatively for an isothermal motion (when the polytropic heat capacitance $c = \infty$); for an adiabatic motion ($c = 0$); for normal lapse rate conditions ($c \ll R_p$); for isochoric processes ($c = c_p$); and for superadiabatic lapse rates. Orig. art. has: 10 formulas and 1 table. [WA-50; CBE No. 40][615]

SUB CODL: 04/ SUBM DATE: none

Card 2/2

ACC NR: A18029935

SOURCE CODE: UR/3276/67/000/169/0115/0132

AUTHOR: Kulikov, G. I. (Docent)

ORG: none

TITLE: Vertical motions in the atmosphere

SOURCE: Perm. Universitet. Uchenyye zapiski. no. 169. 1967. Gidrologiya i meteorologiya (Hydrology and meteorology), 115-132

TOPIC TAGS: atmospheric circulation, atmospheric wind field, dynamic meteorology, wind field, vertical flow, turbulent mixing, thermal

ABSTRACT: Different values found analytically by various methods for the velocity of vertical atmospheric movements are discussed. The methods used are based on tabulated mean squares of meteorological elements and their derivatives (Grandin et al. *Sovetskaya klimatologiya i gidrometeorologiya*, 1958), and on the following expressions:

$$w = \frac{R}{2gP} \Delta P \sum_{i=1}^2 V_i^2, \quad (1)$$

(where R is the gas constant; $\Delta P = P_1 - P_2$ is the pressure integration

Card 1/3

ACC NR: AT8029935

interval; T and P are the temperature and pressure of the upper integration limit; g is gravitational acceleration; and $D = \partial u/\partial x + \partial v/\partial y$ denotes plane divergence);

$$w = - \left(\frac{RT}{2\omega_z P} \right)^2 \Delta P \frac{d\gamma^2 P}{dt} \Big|_{P_1}^{P_2}, \quad (2)$$

(where the term $d\gamma^2 P/dt \Big|_{P_1}^{P_2}$ denotes variations of the pressure Laplacian $\nabla^2 = \partial^2/\partial x^2 + \partial^2/\partial y^2$ on the isobaric surfaces P_1 and P_2 ; and ω_z is the angular velocity of the earth at altitude z) in the boundary layer by:

$$w = \frac{g}{2a} f(a, z), \quad (3)$$

(where $f(a, z)$ is a function of the altitude z and a parameter $a = \sqrt{\frac{\omega_z}{k}}$; k is the turbulence coefficient; and Ωg is geostrophic vorticity);

$$w = \frac{RT}{2\omega_z} \frac{\partial p}{\partial n} \lg \beta \sin \alpha, \quad (4)$$

Card 2/3

ACC NR: AT8029935

(where $\partial p/\partial n$ is the horizontal pressure gradient; β is the inclination angle of the smoothed surface of an orographic obstruction; and α is the angle between the isobaric surface and the vertical);

$$w = \sqrt{\omega_z^2 + \frac{2RT}{P} \Delta P \left(\frac{T - T_1}{T} \right)} at, \quad (5)$$

(here T is the temperature of ambient air; and T_1 is the temperature of an ascending air parcel). Analysis of the results suggests the existence of at least two classes of vertical movements of atmospheric air: 1) relatively homogeneous macromotions extending horizontally over areas of 10,000 to 100,000 km, and 2) less homogeneous mesomotions extending over areas of tens of square kilometers. Orig. art. has: 5 tables and 13 formulas. [WA-50; CBE No. 40][615]

SUB CODE: 04/ SUBM DATE: none/ ORIG REF: 021/ OTH REF: 001

Card 3/3

ACC NR: AT8033425

SOURCE CODE: UR/2531/68/000/230/0109/0116

AUTHOR: Lapshova, L. P.

ORG: none

TITLE: Comparison of different methods of determining the evaporation in irrigated fields in the Vashskaya valley in Tadzhikistan

SOURCE: Leningrad. Glavnaya geofizicheskaya observatoriya. Trudy, no. 230, 1968. Kontrol' i pervichnyy analiz rezul'tatov meteorologicheskikh nablyudeniy (Control and initial analysis of the results of meteorological observations), 109-116

TOPIC TAGS: microclimatology, heat balance, evaporation, irrigated field evaporation

ABSTRACT: An evaluation is made of the principal methods used to determine the evaporation occurring in irrigated fields, especially in those of the Vashskaya valley of Tadzhikistan. These methods were: the generally accepted and recommended heat balance methods, the lysimeter method, the A. R. Konstantinov turbulent diffusion method, and the American method proposed by Blaney and Criddle. The R/L ratios (radiation balance/heat loss in evaporation) and the GGI-3000

Card 1/2

UDC: 551.501

ACC NR: AT8033425

evaporation meter data were also compared. The heat balance method was found to apply best to the geographic area studied, although the lysimeter results were comparable to those obtained with the heat balance method (total evaporation, determined by both methods). This close comparability was most noticeable during the growing season. The American method gave results which were widely divergent from either the heat balance or lysimeter methods. Orig. art. has: 2 figures and 2 tables. [WA-50; CBE No. 40][ER]

SUB CODE: 04/ SUBM DATE: none/ ORIG REF: 014/ OTH REF: 002

- 321 -

Card 2/2

ACC NR: AT9002513

SOURCE CODE: UR/3213/68/000/011/0028/0039

AUTHOR: Lapteva, L. M.; Sulakvelidze, G. K.

ORG: none

TITLE: More accurate calculations of the duration of atmospheric instability resolution

SOURCE: Nalchik. Vysokogornyy geofizicheskiy institut. Trudy, no. 11, 1968. Metody vozdeystviya na gradovyye protsessy (Methods of modifying hail processes), 28-39

TOPIC TAGS: atmospheric temperature gradient, atmospheric circulation

ABSTRACT: A method is presented of calculating the duration of resolution of atmospheric instability by considering the variation in the velocity of ascending currents with time and in a cross section of a cloud. The duration of resolution of instability is the time during which the actual lapse rate changes to a new magnitude equal to $\gamma - \gamma_m$ (γ_m is the moist adiabatic lapse rate) because of the mixing of air masses between the upper and lower layers. The data of Lebedev and Shishkin and experimental observations made at the Mountain Geophysical Institute were used to calculate the variation of maximum (according to altitude) velocity of ascending currents with time. The Shishkin equation for the

Card 1/4

UDC: 551.577.22

ACC NR: AT9002513

variation of maximum velocity of ascending currents with time is

$$w(t) = w_m - \frac{t^2}{2p},$$

where w_m is the maximum velocity of ascending currents, t is time, and p is a parameter determined from the boundary conditions and equal to $3.8 \cdot 10^3 \text{ sec}^3/\text{cm}$. The L. S. Lebedev equation is

$$w(t) = w_m \left(1 - \frac{t^2}{t_1^2} \right)^{1/2},$$

where $t_1 = 2.5$ hours, $w_m = 12.2$ m/sec. To calculate the variation of the vertical velocity component of ascending currents for the cloud cross section, the data of N. I. Vul'fson, N. Z. Pinus, et al. were used; equations for calculating the mean velocity for the cross section of a cloud are given as:

$$\bar{w}_x = \left[\frac{\arcsin \sqrt{1 - \left(\frac{v_k}{w_m} \right)^2}}{2 \sqrt{1 - \left(\frac{v_k}{w_m} \right)^2}} + \frac{1}{2} \frac{v_k}{w_m} \right] w_m;$$

Card 2/4

ACC NR: AT9002513

$$\bar{w}_x = \frac{w_m}{2\sqrt{\ln \frac{w_m}{v_k}}} \sum_{n=0}^{\infty} (-1)^n \frac{2 \left(\sqrt{\ln \frac{w_m}{v_k}} \right)^{2n-1}}{n! 2n+1};$$

$$\bar{w}_x = \frac{2w_m + v_k}{3}.$$

By substituting \bar{w}_t ($\bar{w}_t = 2/3 w_m$) for w_m , the mean velocity is obtained by time and cross section. The results of the computations are presented in a table. An equation for calculating the duration of the resolution of atmospheric instability based on the method of layers is given in the form:

$$\tau = \tau_1 + \frac{\rho_0 \left[1 - \left(\frac{T_m}{T_0} \right)^{\frac{k}{\gamma_1}} \right]}{K \rho_m S_m \bar{w}_t \left(\frac{\rho_0 \left[1 - \left(\frac{T_m}{T_0} \right)^{\frac{k}{\gamma_1}} \right]}{F_m \left[1 - \left(\frac{T_0}{T_m} \right)^{\frac{k}{\gamma_1}} \right] + 1} \right)},$$

where τ is the time of resolution and τ_1 is the time from the initiation of convection to its maximum development. This equation is simplified if the masses m_1 and m_2 are expressed by the mean density $\bar{\rho}_1$ and $\bar{\rho}_2$ and the thickness H_1 and H_2 of the layer, namely

Card 3/4

ACC NR: AT9002513

$$m_1 = \bar{\rho}_1 H_1;$$

$$m_2 = \bar{\rho}_2 H_2;$$

giving the equation

$$\tau = \tau_1 + \frac{\bar{\rho}_1 H_1}{\rho_m S_m \bar{w}_t \left(\frac{\bar{\rho}_1 H_1}{\bar{\rho}_2 H_2} - 1 \right)}.$$

Orig. art. has: 6 figures, 42 formulas, and 1 table.

[WA-50; CBE No. 40] [729]

SUB CODE: 04/ SUBM DATE: none/ ORIG REF: 009/ OTH REF: 003

Card 4/4

ACC NR: AP8032519

SOURCE CODE: UR/0170/68/015/003/0450/0454

AUTHOR: Maslov, V. Ye.; Lebedev, V. D.; Ushakov, S. G.

ORG: Eastern Branch of the All-Union Institute of Heat Engineering
(Vostochnyy filial Vsesoyuznogo teplotekhnicheskogo instituta)

TITLE: Effect of initial aerosol velocity on the trajectory of its motion in a curvilinear gas flow

SOURCE: Inzhenerno-fizicheskiy zhurnal, v. 15, no. 3, 1968, 450-454

TOPIC TAGS: gas dynamics, aerosol jet, aerosol velocity, aerosol trajectory, thermal jet, inertial aerosol settling

ABSTRACT: Experimental and numerical studies have been carried out to determine the effects of the initial velocity of an aerosol stream $W_{\psi 0}$ on the trajectories of aerosols moving at velocities v of from 5 to 20 m/sec, where the aerosol sizes range from $\bar{\delta} = 16.5$ to $\bar{\delta} = 427 \mu$. The apparatus used was an annular channel in which the air was heated to $T = 293-303^\circ\text{C}$. The aerosols were particles of $\text{K}_2\text{Cr}_2\text{O}_7$ ($\rho_0 = 272 \text{ kg/sec}^2/\text{m}^3$). The arithmetic mean hydraulic diameter of the dust fraction was used as the diameter for the spherical

Card 1/7

UDC: 532.529.5

ACC NR: AP8032519

particles $\bar{\delta}$. Bars D_1-D_2 in length and consisting of 25 small, vaseline-coated cylinders having outside diameters of 6 mm were set every 12° along the channel radius. Since the axial projection of the velocity essentially equalled zero, the radial projection was 10-20% of the total velocity and, therefore, the flow motion was assumed to be tangential. A low dust concentration (not more than 60 mg/m^3) allowed comparison of the experimental trajectories with results calculated on an Ural-2 computer. The initial conditions were: $\phi_0 = 0$; $\rho_0 = 1$; $W_{r0} = 0$, and $W_{\psi 0}$. Both the experiments and the calculations showed that a change in $W_{\psi 0}$ in the 0-2.0 range had some effect on the dust motion for all $\bar{\delta}$ investigated. However, the effect depended on the magnitudes of $\bar{\delta}$ and v , as Fig. 1 shows. This figure shows that

Card 2/7

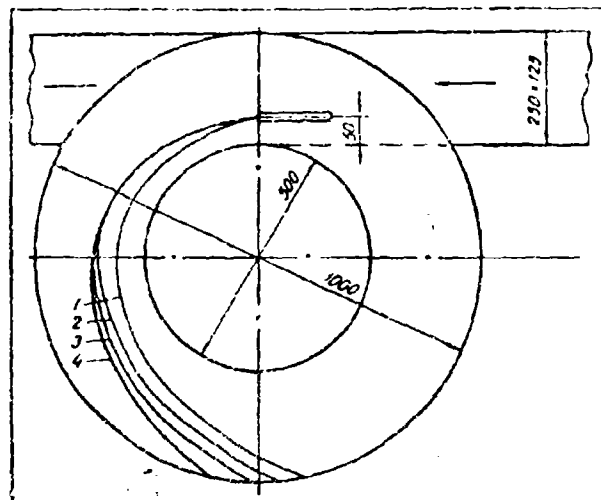


Fig. 1. Experimental trajectories of particle motions when $\bar{\delta} = 16.5 \mu$ and $v = 5 \text{ m/sec}$ ($D_1 = 1000, D_2 = 500$):
 1 - $W_{\phi 0} = 0$; 2 - 0.6; 3 - 1.0; 4 - 2.0

Card 3/7

when $\bar{\delta} = 16.5 \mu$ the divergence between trajectories when $W_{\phi 0} = 0.6$ and $W_{\phi 0} = 2.0$ begins only after the aerosols follow a path of $\pi/2$. This divergence increases further as $W_{\phi 0} = 0$. When $\bar{\delta} = 126.5 \mu$, aerosol trajectories with different $W_{\phi 0}$ begin to diverge even at the first sector in the channel, as Figs. 2 and 3 demonstrate. These diagrams

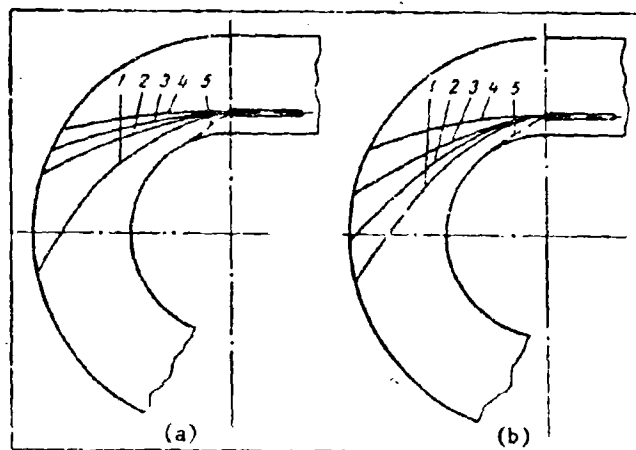


Fig. 2. Experimental (a) and calculated (b) aerosol motion trajectories ($\bar{\delta} = 126.5 \mu$ and $v = 5 \text{ m/sec}$).

1 - $W_{\phi 0} = 0$; 2 - 0.6;
 3 - 1.0; 4 - 2.0, 5 - 0, when $\bar{\delta} = 427 \mu$,
 $v = 5 \text{ m/sec}$

Card 4/7

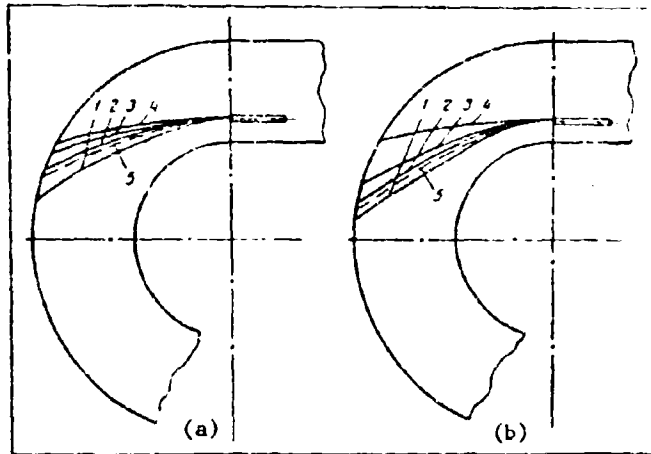


Fig. 3. Experimental (a) and calculated (b) aerosol motion trajectories ($r = 126.5 \mu$ and $v = 19$ m/sec).

1 - $W_{\phi 0} = 0$; 2 - 0.6; 3 - 1.0; 4 - 2.0; 5 - 0, when $\bar{\delta} = 427 \mu$, $v = 19$ m/sec

show that when $\bar{\delta} = \text{const}$, the effect of $w_{\phi 0}$ increases as v decreases, but that the amount of divergence due to changes in $w_{\phi 0}$ at different values of v depends primarily on $\bar{\delta}$ and increases as the aerosol sizes increase. A more precise demonstration of the calculated and

Card 5/7

experimentally determined effects of $w_{\phi 0}$ is illustrated in Fig. 4, which shows the deviation in the terminal points of the trajectories for various $w_{\phi 0}$ ($v = 5$ m/sec) from instances when $w_{\phi 0} = 1.0$. This

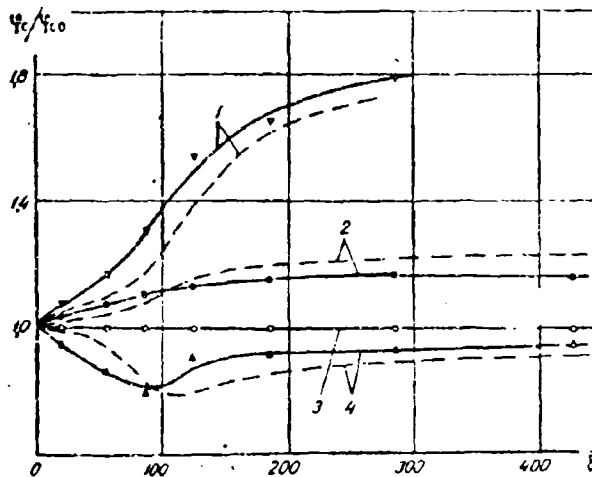


Fig. 4. Dependence of $\phi_c/\phi_{c0} = f(\delta)$:

1 - $W_{\phi 0} = 0$; 2 - 0.6; 3 - 1.0; 4 - 2.0 (solid curve—experiment, dashed curve—calculated)

Card 6/7

ACC NR: AP8032519

figure shows that when $\bar{c} = \text{const}$, the trajectory deviation becomes greater as the change in W_{40} from $W_{40} = 1$ increases. The terminal points of the trajectories of fine dusts ($\lambda < 16.5 \mu$) had almost no dependence on W_{40} . It also shows that the calculated and experimental curves are very similar and, therefore, calculation of the influence of W_{40} is adequate for practical purposes. Orig. art. has: 4 figures, 1 table, and 1 formula. [WA-50; CBE No. 40] [ER]

SUB CODE: 20, 04/ SUBM DATE: 11Dec67/ ORIG REF: 005

Card 7/7

ACC NR: AM9002440

AUTHOR: Murzayev, E. M. ed.

SOURCE: Central Asia (Srednyaya Aziya) Moscow, Izd-vo "Nauka," 1968. 484 p.

TOPIC TAGS: desert geography, hydrology, natural resource, water supply, agriculture, mining water power, desert physiography, climatology

ABSTRACT: This book is one of a series of monographs intended for use as a reference tool for geologists, agronomists, geographers, economists, meteorologists, and climatologists concerned with the development of Central Asia — here including the Uzbek, Kirgiz, Tadzhik, and Turkmen Republics. The book contains descriptions of the relief characteristics, geological structures, climatology, hydrology, and the fauna and flora of key areas in each of these republics. Natural resources discussed include minerals, water supply, water power, and related irrigation facilities and potentials. There are two indexes: a list of Russian and Latin plant names, and an index to the most important geographical names. The bibliography includes 427 entries, 421 of which are Russian. Orig. art. has: 121 figures and 43 tables.

[WA-50; CBE No. 40] [ER]

Card 1/1

- 317 -

ACC NR: AT8033423

SOURCE CODE: UR/2531/68/000/230/0065/0078

AUTHOR: Ogneva, T. A.

ORG: none

TITLE: Necessary density of a network of a heat balance station network

SOURCE: Leningrad. Glavnaya geofizicheskaya observatoriya. Trudy, no. 230, 1968. Kontrol' i pervichnyy analiz rezul'tatov meteorologicheskikh nablyudeniy (Control and initial analysis of the results of meteorological observations), 65-78

TOPIC TAGS: meteorologic station network, heat balance station, station density, meteorologic facility

ABSTRACT: Work has started on evaluating some of the results of observations being made at the 63 (in 1966) stations in the USSR heat balance network. These observations include three heat balance components: heat flow in the soil, turbulent heat flux in the atmosphere, and heat lost in the evaporation process. The characteristics of these magnitudes are evaluated with respect to time and geographical area of the Soviet Union. The criterion used for comparison purposes is the ratio of the monthly sums of each of these components

Card 1/2

UDC: 551.501

ACC NR: AT8033423

to the corresponding sums of radiation balance. The preliminary analysis of these data indicate that areal (geographic area) variations in the characteristics of heat balance are closely related to the various types of physiographic zones. On this basis, recommendations are made to improve the efficiency of the network by more judicious establishment of additional stations in 11 of the 27 natural physiographic zones into which the territory of the Soviet Union has been divided — these zones being in tundra, subtropical, and mountainous areas. Consideration is also given to the advisability of locating stations in areas covered by broad-leaf varieties of forests and in desert areas. Orig. art. has: 9 tables.

[WA-50; CBE No. 40][ER]

SUB CODE: 04/ SUEM DATE: none/ ORIG REF: 012

Card 2/2

- 314 -

ACC NR: A18033424

SOURCE CODE: UF/4531/68/000/230/0099/0108

AUTHOR: Ogneva, T. A.

ORG: none

TITLE: Some problems in the application of the heat balance method in determining the evaporation from farm fields.

SOURCE: Leningrad. Glavnaya geofizicheskaya observatoriya. Trudy, no. 230, 1968. Kontrol' i pervichnyy analiz rezul'tatov meteorologicheskikh nablyudeniy (Control and initial analysis of the results of meteorological observations), 99-108

TOPIC TAGS: microclimatology, heat balance, evaporation

ABSTRACT: Results are reported of an investigation carried out with the heat balance method to determine the amounts of evaporation taking place in fields planted to different crops growing to various heights. The accepted rule for the change in the level of the active surface ($2/3$ the average height of the vegetation above the ground) is examined for various heights and types of crops, and under different meteorological conditions (wind, air temperature, and humidity). Recommendations are given for procedures of measuring temperature, humidity, and wind speed gradients. Some data are also presented on errors occurring

Card 1/2

UDC: 551.501

ACC NR: AT8033424

in calculating evaporation from averaged primary data collected during various observation periods in a 24-hr period. Orig. art. has: 7 tables. [WA-50; CBE No. 42][EN]

SUB CODE: 04/ SUBM DATE: none/ ORIG REF: 016/ OTH REF: 002

Card 2/2

ACC NR: AT8036080

SOURCE CODE: UR/11-1168/000/000/0001/0071

AUTHOR: Petrenko, N. V.

ORG: none

TITLE: Fundamentals of constructing charts of vertical wind shears in jet streams

SOURCE: Gidrometeorologicheskii nauchno-issledovatel'skiy tsentr SSSR. Trudy, no. 26, 1968. Planetaryarnaya tsirkulyatsiya atmosfery (Planetary circulation of the atmosphere), 61-71

TOPIC TAGS: aviation meteorology, meteorologic charting, meteorologic code, atmospheric wind field, vertical wind shear, jet stream, wind sounding, temperature sounding, weather forecasting, atmospheric turbulence

ABSTRACT: A description is given of measures taken and proposed by a Soviet meteorologist in adapting or supplementing World Meteorological Organization (WMO) regulations for USSR civil aviation purposes, especially as they apply to the compilation of forecasting charts of vertical wind shear in jet streams. For instance, in the USSR vertical wind shears are measured in meters per second per kilometer and isolines

Card 1/6

UDC: 551.557.5:551.509.322.7

ACC NR: AT8036080

are drawn on the charts in 3 m/sec/1 km intervals (approximately equivalent to the WMO regulation for isolines at every two grid junctions per 300 m). The author describes his proposal for adding supplemental national operational information on vertical wind shears in jet-stream zones to the international codes used for the telegraphic transmission of temperature-wind and wind soundings. This supplementary information would contain data on the absolute magnitudes of the vectorial difference (in m/sec) between the maximum wind velocity and the wind speeds in the layers 1 km below and 1 km above the maximum wind-speed level, along with the coded data for vertical wind shears above and below the maximum wind speed level, and the maximum wind speed between the 500-mb surface and the sounding point. These data would then be plotted on a maximum wind-speed chart or on blank charts; the data for a station would be denoted beside the sounding point as a fraction, with the shear in the upper level denoted as the numerator and the shear in the lower level as the denominator. For several reasons, vertical wind-shear isolines drawn in accordance with this proposal have proved to be unsatisfactory. Another proposal by the author is designed to correct this deficiency. In this method of constructing USSR forecasting wind-shear charts, a determination is made of the dependence of vertical wind-shear magnitudes in the atmospheric layers, 1 km thick, below and above the maximum wind-speed level

Card 2/6

- 339 -

ACC NR AT8036080

on the latter magnitudes. This approach also is applicable in supplementing vertical wind-shear charts compiled from current temperature wind soundings. Vertical wind-shear isolines were found to be more valid when the supplementary data were plotted for an area delineated by 30 m/sec isotachs on the maximum wind chart. Factual determinations of this dependence were made using temperature-wind sonde data observed over Moscow and Novosibirsk in the 1963-1964 period. All maximum wind-speed measurements made in the layer between the 500- and 200-mb levels which exceeded 20 m/sec were selected for the study. In each instance, compilations were made of the vectorial difference between the maximum wind speed and the wind speed in the layers 1 km below and above the maximum speed level. The analytical results showed different vertical shear values with identical maximum wind speeds. The isotachs on the vertical profiles of the jet stream were elongated in different directions, the profiles were variously symmetrical relative to the maximum wind speed, and the wind-speed peaks on the vertical profiles varied in configuration. Since the results of this investigation failed to identify objective quantitative criteria for the steepness and asymmetry of the maximum wind speed in the jet stream zone as functions of the velocities on the jet-stream axes, or the characteristics of the synoptic situations, determinations were made of the dependence of the absolute values of the mean vertical wind shears in the 1-km layers

Card 3/6

ACC NR: AT8036080

Table 1. Relationship between maximum velocity values and the mean arithmetic values determined from the absolute values of the vertical wind shears below and above the maximum wind-speed levels

Maximum wind speed, m/sec	Vertical wind shear, m/sec per 1 km				
	Over Moscow		Over Novosibirsk		
	All seasons of year, max. speed any maxi-level	Summer, max. speed above level	All seasons of year, max. speed level		Summer, max. speed level above 300 mb
			Not above 300 mb	Above 300 mb	
30	8	8	7	7	8
40	15	12	9	10	10
50	12	14	11	12	13
60	17	19	14	16	18
70	22	-	16	20	-
80	26	-	18	24	-
90	-	-	20	26	-
100	-	-	-	-	-

Card 4/6

ACC NR: AT803680

below and above the maximum wind-speed level on their magnitudes. The relationships determined to exist between the maximum wind-speed values (10 m/sec intervals) and the mean arithmetical values determined from the absolute values of the vertical wind shears in the two layers are given in Table 1. The currently recommended procedure, used to compile forecasting charts of vertical wind shears in a jet-stream zone, is that proposed earlier by the author (*Meteorologica i glaciologia*, no. 5, 1966, p. 39-48 —ATD abstract no. AP7026227, CBE FACTORS, no. 22, 1968). In this method, the mean arithmetical values of the vertical wind shears in the layers below and above the maximum wind-speed level are determined from the maximum wind-speed values at each standard grid junction on a precomputed chart, using Table 1. These shears are plotted on blank charts immediately to the right of points corresponding to the grid junctions on the precomputed maximum wind chart. Jet-stream positions are then plotted, as are the vertical wind-shear isolines (3 m/sec/1 km intervals). However, the author proposes a simpler procedure for compiling vertical wind-shear charts from the forecasting chart for maximum wind speeds on which the isotachs and jet streams have been plotted. This is achieved by superposing a blank chart on the maximum wind chart and by copying onto it the isotachs and jet-stream axis. Then, the mean arithmetical values of the vertical wind shears corresponding to

Card 5/6

ACC NR: AT803680

the maximum speeds denoted on each isotach are taken from Table 1 and the shear values are designated on the appropriate isotach. The height of the jet stream is marked in the center of the vertical wind-shear area as a numerator and the maximum wind speed as the denominator. Orig. art. has: 7 figures and 6 tables. [WA-50; CBE No. 40] [ER]

SUB CODE: 04/ SUBM DATE: none/ ORIG REF: 007/ OTH REF: 002

- 332 -

Card 6/6

ACC NR: AT8037667

SOURCE CODE: UR/3269/68/000/030/0003/0008

AUTHOR: Popova, T. P.

ORG: none

TITLE: Vertical motions of the air and cloud cover

SOURCE: Gidrometeorologicheskii nauchno-issledovatel'skiy tsentr
Trudy, no. 30, 1968. Sputnikovaya meteorologiya (Satellite meteorology), 3-3

TOPIC TAGS: satellite meteorology, weather forecasting, atmospheric
wind field, vertical flow, cloud cover, weather satellite

ABSTRACT: This paper is a continuation of a statistical study by the
author on the relationship between cloud cover and vertical motions
in the atmosphere (Trudy MMTs, no. 8, 1965), determined from television
photos transmitted from Kosmos-122. A joint analysis is made of these
cloud pictures and the actual stability of the parameters of the
vertical motion velocities, using a 7-level scheme, to obtain the mean
vertical velocities for various types of clouds (stratus and cumulus
for the most part). Dispersion coefficients indicated that the vertical
velocity field in the lower 3 kilometers of the atmosphere is the most
satisfactory and constant factor in determining cloud types. Ascending

Card 1/2

UDC: 551.509.311:551.576.1

ACC NR: AT8037667

air currents (flows) having velocities in the 0.6—0.7 cm/sec range
are most characteristic of stratiform clouds which cover large conti-
nental areas, while cumulus-type clouds form in regions over which
the vertical velocities are near zero. Clear skies generally occur
in descending flows having mean velocities of from 0.3—0.5 cm/sec.
Orig. art. has: 3 figures and 1 table. [WA-50; CBE No. 40] [ER]

SUB CODE: 04/ SUBM DATE: none/ ORIG REF: 002

Card 2/2

ACC NR: AP8037086

SOURCE CODE: CZ/0085/68/000/003/0087/0088

AUTHOR: Reinhartova, J.

ORG: HMU

TITLE: Maximum frequencies of wind gusts

SOURCE: Meteorologické zpravy, no. 3, 1968, 87-88

TOPIC TAGS: atmospheric wind field, atmospheric turbulence, wind gust frequency

ABSTRACT: Data on the frequency of maximum wind gusts recorded in the 1956—1965 period at the Ruzyn and Brno weather stations in Czechoslovakia are tabulated. Wind directions are included in the analysis. Orig. art. has: 2 figures and 2 tables.

[WA-50; CBE No. 40] [ER]

SUB CODE: 04/ SUBM DATE: none

Card

1/1

UDC: 551.551

ACC NR: AP8021374

SOURCE CODE: UR/0053/68/095/001/0159/0208

AUTHOR: Rozenberg, G. V.

ORG: Institute of Physics of the Atmosphere, AN SSSR (Institut fiziki atmosfery AN SSSR)

TITLE: Optical investigations of the atmospheric aerosol

SOURCE: Uspekhi fizicheskikh nauk, v. 95, no. 1, 1968, 159-208

TOPIC TAGS: atmospheric aerosol, atmospheric physics, atmospheric optics, aerosol dispersion, radiation balance

ABSTRACT: This is a major review article summarizing recent theoretical and experimental studies of the disperse phase of atmospheric air, its optical properties, and the aerosol structure of the atmosphere, as well as the condensation phenomena occurring in the atmosphere; it updates an earlier review by the author (Usp. fiz. nauk, v. 71, no. 2, 173, 1960). Emphasis is placed on additional information obtained as a result of experiments and studies performed under the author's direction at the Institute of Physics of the Atmosphere (IPA), AS USSR. It is pointed out that many previously held notions have been made obsolete by the latest findings. The major topics discussed include:

Card

1/2

UDC: 551.51+535.32

- 334 -

ACC NR. AP8021374

the theory of the optical properties of aerosols; optical methods of investigating the atmosphere as part of the general problem of indirect measurements; optical properties of aerosols and the micro-physics of the dispersed phase; and aerosol structure of the atmosphere and vertical variation of the scattering coefficient. An evaluation is made of the status of Soviet research in this field, and recommendations are proposed for improving instrumentation and the development in the USSR of a network of regularly operating optical sounding stations. Orig. art. has: 34 figures, 3 tables, and 5 formulas. [WA-50; CBE No. 40][ER]

SUE CODE: 04, 20/ SUBM DATE: none/ ORIG REF: 148/ OTH REF: 087

Card 2/2

ACC NR: AP9002249

SOURCE CODE: UR/0050/68/000/011/0118/0119

AUTHOR: Rudnev, G. V.

ORG: none

TITLE: [Seminar on the compilation of agroclimatological maps]

SOURCE: Meteorologiya gidrologiya, no. 11, 1968, 118-119

TOPIC TAGS: scientific conference, agricultural climatology, agricultural cartography

ABSTRACT: A seminar on methods of compiling agricultural climatological maps was held on 5-18 June 1968 at the Institute of Experimental Meteorology in Obninsk. Participants included meteorologists from Bulgaria, the German Democratic Republic, the Democratic Republic of Vietnam, Mongolia, Poland, Rumania, the USSR, and Czechoslovakia. Soviet scientists presented more than 10 papers on the principles and methods of evaluating the agroclimatological resources of an area, areally grouping farm crops by agroclimatological characteristics, and compiling agroclimatological maps. A representative from Bulgaria, E. Khershtovich, presented a paper entitled "Result: a study on the problem of the optimum approach to a method of delineating the moisture characteristics of an area bounded by the European socialist countries." Other delegates read papers dealing with

Card 1/3

- 335 -

ACC NR AP9002249

specific problems related to the main theme of the seminar. Z. Varga - Khasonich (Hungary) described his model for the determination of water balance from climatic data; G. Wilhelm (GDR) discussed research carried out at agrometeorological stations near Berlin and Rostok; M. Blashkova (Bulgaria) dealt with the delineation of mountainous terrain from cartographic materials, and with gradients taken into account; M. Kurlpelova (Czechoslovakia) pointed out the need for carrying out microclimatic studies and for the utilization of climatic atlases in delineating agroclimatological areas; delegates Nguen Nam (Vietnam) and Danzanam (Mongolia) stated that the procedures and programs, developed for studying the agroclimatological resources of European countries, were applicable to similar studies in their homelands, requiring only adaptations relating these techniques to specific local climatological conditions; L. S. Kel'chevskiy reported on the results of Soviet comparative studies of moisture indices as they relate to winter and summer wheat crops and potatoes (Budyko criterion adjudged to be the most accurate index); S. A. Sapozhnikov presented a map compiled to show temperature and moisture resources and winter crop conditions of an area; Yu. I. Cherkov discussed the principles involved in delineating farm crop areas by climatological criteria; and another paper described the method developed at the Main Geophysical Observatory under the guidance of I. A. Gol'tsberg for mapping such agroclimatological characteristics as air temperature, precipitation, etc. A paper also was presented which

Card 2/3

ACC NR: AP9002249

described a catalog containing the following maps which have been compiled to portray the agrocharacteristics of the entire area covered by the socialist countries of Europe: temperature totals for periods having a mean diurnal air temperature above 10°, duration of frost-free periods, mean of the absolute annual air temperature minima, index of moisture availability, amount of cold weather precipitation, and soil moisture reserves at the beginning of growing seasons.

[WA-50; CBE No. 40] [ER]

SUB CODE: 04, 08/ SUBM DATE: none

Card 3/3

ACC NR: AM9002287

AUTHOR: Shekhan', M. I.

SOURCE: Microclimatology (Mikroklimatologiya). Kiev, Izd-vo Kiev. Universiteta, 1968. 211 p.

TOPIC TAGS: atmospheric physics, microclimatology, atmospheric boundary layer, light energy, heat balance, radiation balance, atmospheric turbulence, atmospheric surface boundary layer, vertical gradient

ABSTRACT: This book is intended for a wide circle of scientists and engineers concerned with both the applied and teaching aspects of the microclimatological and agricultural sciences. It is a very useful reference tool for weather forecasters, engineers, and scientists concerned with air pollution problems and cloud modification procedures and techniques; soil agronomists, silviculturists, and hydrologists; and meteorologists and climatologists engaged in studying the physics of the atmospheric boundary layer. Considerable attention is paid to such elements as solar energy, radiation balance and heat balance components, and the effects of ground surface types and configurations (land and water areas). Of special interest are the chapters on the history of microclimatological research, primarily in the Soviet Union, and the extensive treatment of the effects of soil heat and moisture, geographic area, vegetation, and physiographic

Card 1/2

ACC NR: AM9002287

characteristics on atmospheric circulation, turbulence, and heat and moisture exchange in the atmospheric boundary layer. An extensive bibliography of 715 Russian and 2 non-Russian entries covers both the climatological and soil science disciplines. Orig. art. has: 9 figures, 43 tables and, 12 formulas. [WA-50; CBE No. 40] [ER]

Card 2/2

ACC NR AT6037668

SOURCE CODE: UR/3269/68/000/030/0009/0020

AUTHOR: Vel'tishchev, N. F.

ORG: none

TITLE: Influence of stratification on the formation of convective cells in the atmosphere

SOURCE: Gidrometeorologicheskii nauchno-issledovatel'skiy tsentr SSSR. Trudy, no. 30, 1968. Sputnikovaya meteorologiya (Satellite meteorology), 9-20

TOPIC TAGS: atmospheric convection, atmospheric circulation, atmospheric turbulence, atmospheric stratification, satellite meteorology, atmospheric model

ABSTRACT: Equations are derived for two convection models describing the stationary motions of a liquid, i.e., in a horizontally unlimited layer and in a limited circular area. Linearized hydrodynamic and thermodynamic equations are used to construct the convective motion models; nonisotropic viscosity and heat conductivity in both the horizontal and vertical directions are taken into account, as is the nonlinearity of the temperature profile. An investigation is made of the effects of all of these factors on the distribution of the vertical

Card 1/2

UDC: 551.576.1

ACC NR: AT6037668

motions inside a symmetrical convective cell and of the relationship between the horizontal and vertical scales of the cell. This study indicated that the most significant factor influencing the character of the circulation in a convective cell (updrafts or downdrafts in its center) was the distribution of the vertical velocity in the cell. A convective cell with updrafts in its center formed when the vertical velocity profile was sinusoidal in character, and a cell with downdrafts in its center formed when the profile was exponentially attenuated. These conclusions are in substantial agreement with empirical data and with results obtained by investigators reporting on related research based on weather satellite data (Tiros, Kosmos-144). Orig. art. has: 6 figures and 25 formulas. [WA-50; CBE No. 40] [ER]

SUB CODE: 04/ SUBM DATE: none/ OTH REF: 005

Card 2/2

ACC NR: AM9006269

AUTHOR: Vorob'yev, V. I.

SOURCE: Upper frontal zones of the northern hemisphere (Vysetnyye frontal'nyye zony Severnogo polushariya). Leningrad. Gidrometeorizdat, 1968, 231 p.

TOPIC TAGS: atmospheric circulation, atmospheric wind field, troposphere, tropospheric front, jet stream, weather forecasting, short range forecasting, stratospheric front

ABSTRACT: This book is intended for meteorologists and weather forecasters. It deals with the upper air seasonal frontal zones and their interrelationships with macrosynoptic processes, and with jet streams in the Northern Hemisphere. The results of research carried out by the author, subsequent to the publication in 1960 of his book entitled *Jet streams in the high and middle latitudes*, are incorporated in this volume. Emphasis is on the value of these studies in short-range (3 day) forecasting of upper tropospheric and lower stratospheric winds. The bibliography includes 158 titles, 119 of which are Russian and 39 are non-Russian. [WA-50; CBE No. 40] [ER]

Card 1/1

ACC NR: AP8037087

SOURCE CODE: CZ/0055/68/000/003/0085/0087

AUTHOR: Zavodská, E.

ORG: UMK-SAV

TITLE: Daily maximum wind gusts at Bratislava and at Kosice

SOURCE: Meteorologické zprávy, no. 3, 1968, 85-87

TOPIC TAGS: atmospheric wind field, atmospheric turbulence, wind gust frequency

ABSTRACT: Seasonal (winter and summer) frequencies of wind gusts measured in the 1956-1965 period at the Kosice and Bratislava (Czechoslovakia) weather stations are tabulated by wind directions (16 directions) and in wind gust strengths in the following ranges: 0-3.0; 3.1-6.0; 6.1-9.0; 9.1-12.0; 12.1-15.00; 15.1-18.0; 18.1-21.0; 21.1-24.0; 24.0-27.0; and 27.1-30.0 m/sec. Orig art. has: 6 figures and 3 tables. [WA-50; CBE No. 40] [ER]

SUB CODE: 04/ SUBM DATE: none/ ORIG RLF: 003

Card 1/1

UDC: 551.551(437.6)
- 339 -

ACC NR: AP8012776

SOURCE CODE: UR/0050/68/000/002/0011/0026

AUTHOR: Zilitinkevich, S. S. (Candidate of physico-mathematical sciences); Chalikev, D. V.

ORG: Institute of Oceanology, AN SSSR (Institut okeanologii AN SSSR)

TITLE: Vertical structure of the planetary boundary layer of the atmosphere in unstable stratification

SOURCE: Meteorologiya i gidrologiya, no. 2, 1968, 11-26

TOPIC TAGS: atmospheric boundary layer, atmospheric stratification, atmospheric model, boundary layer structure, turbulent flux, atmospheric convection

ABSTRACT: The authors present a theoretical, mathematically simple model of the stationary, horizontally homogeneous boundary layer of the atmosphere in the case of unstable stratification. The description of the structure of the mean wind, temperature, and humidity fields is shown to be a matter of determining the four universal functions F_u , F_v , F_θ , and F_q depending upon the arguments z/L_* and \bar{u} entering into a formula of the type

Card 1/4

UDC: 551.510.522

ACC NR: AP8012778

$$\frac{a(z) - a(z')}{a_*} = F_a \left(\frac{z}{L_*}, \bar{u} \right) - F_a \left(\frac{z'}{L_*}, \bar{u} \right)$$

and determining the four functions A , B , C , D depending upon \bar{u} and entering into the equation

$$\ln Ro = B - \ln \frac{v_*}{G} + \sqrt{\frac{-3}{(v_*G)^2} - A^2}, \quad \frac{T_*}{T_0} = a_H^{(0)} / \left[\ln \left(Ro \frac{v_*}{G} \right) - C \right],$$

$$\sin |\alpha| = \frac{A}{v_*} \frac{v_*}{G}, \quad \frac{q_*}{q_0} = a_F^{(0)} / \left[\ln \left(Ro \frac{v_*}{G} \right) - D \right].$$

In these equations z and z' are any height, a is the scale of magnitude of any meteorological element, F_a is a universal function of two non-dimensional arguments to be determined with the accuracy of an additive constant; these arguments are the ratio of the height z (or z') to the scale of length L_* and the Kazanskly and Monin stratification parameter \bar{u} ; $a_H^{(0)}$, $a_F^{(0)}$ are values of the ratios of the turbulent exchange coefficient for heat and water vapor to the coefficient of turbulent viscosity in the case of neutral stratification, Ro is the Rossby

Card

2/4

- 340 -

ACC NR: AF5012778

number, A , b , C , D are universal functions of the nondimensional argument \bar{z} in

$$\bar{z} = -\nu z \frac{H \rho_f \bar{z} + 0.61 T E \bar{z}}{f \rho_a v_*^2}$$

The wind profile and dynamic interaction of the atmosphere with the underlying surface is determined on the assumption that the vertical turbulent fluxes of water vapor and heat are constant with height and nondimensional equations are derived for calculating the vertical wind profiles for values of ν (or $\bar{\nu}$) equal to 10 and 100, namely

$$\frac{u}{v_*} (u - G \cos \alpha) = F_u (\xi, \nu) =$$

$$= \begin{cases} \ln \xi + B + \ln x & \text{where } \xi \leq \zeta_u/\nu \\ \left(\frac{\zeta_u}{\nu}\right)^{1/3} e^{\Phi} \left[\left(\ln \frac{\zeta_u}{\nu} + B\right) \cos \Phi - A \sin \Phi \right] & \text{where } \xi > \zeta_u/\nu \end{cases}$$

$$\frac{v}{v_*} (v - G \sin \alpha) = F_v (\xi, \nu) =$$

$$= \begin{cases} A \sin \Phi & \text{where } \xi \leq \zeta_u/\nu \\ \left(\frac{\zeta_u}{\nu}\right)^{1/3} e^{\Phi} \left[\left(\ln \frac{\zeta_u}{\nu} + B\right) \sin \Phi + A \cos \Phi \right] & \text{sign where } \xi > \zeta_u/\nu \end{cases}$$

Card 3/4

ACC NR: AP8012778

Equations are also derived for computing the universal functions $A(\bar{\nu})$ and $B(\bar{\nu})$, and their distributions are graphically depicted. The equations for calculating profiles of temperature and humidity, heat exchange and evaporation from the underlying surface, and the height of the boundary layer are derived. Graphs of the distribution of the universal functions $C(\bar{\nu})$ and $D(\bar{\nu})$ and nomograms for determining friction velocity and vertical turbulent heat and moisture fluxes are presented. Orig. art. has: 9 figures and 34 formulas.

[WA-50; CBE No. 40] 729,

SUB CODE: 04/ SUBM DATE: 28Oct67/ ORIG REF: 012/ OTH REF: 000

Card 4/4

ACCESSION NUMBERS FOR ENVIRONMENTAL FACTORS

AP9009083
AP9009084
AP9009085

IV. GENERAL

ACC NR: AP9006729

SOURCE CODE: UR/0392/68/000/006/0084/0085

AUTHOR: Abdrakhmanov, M. I. (Kazan'); Bogoyavlenskiy, V. F. (Kazan')

ORG: none

TITLE: New equipment for functional analysis of external and internal respiration

SOURCE: Kazanskiy meditsinskiy zhurnal, no. 6, 1968, 84-85

TOPIC TAGS: respiratory physiology, medical equipment, medical laboratory instrument

ABSTRACT: This article appears in Biological Factors

Card 1/1

ACC NR: AP9007229

SOURCE CODE: UR/0433/68/000/012/0027/0029

AUTHOR: Adalin, G. N. (Senior engineer)

ORG: none

TITLE: Mechanized division [for plant protection]

SOURCE: Zashchita rasteniy, no. 12, 1968, 27-29

TOPIC TAGS: crop dusting, CW delivery equipment

ABSTRACT: When it was created five years ago, the Mechanized Division of the Gor'kiy Plant Protection Station had 4 trucks, 6 tractors, 4 OPS-30B dusters, 5 CVT-1 sprayers, and 3 aerosol generators. The division now has 10 tractors, 10 trucks, 9 sprayers, 19 dusters, and 17 aerosol generators. The volume of work has increased from 11,415 ha, in 1963, to 34,740 ha, in 1967. [WA-50; CBE No. 40][BC]

SUB CODE: 15/ SUBM DATE: none

Card 1/1

UDC: 632.915

- 545 -

ACC NR: AT9006108

SOURCE CODE: UR/3457/66/000/044/0092/0095

AUTHOR: Andronov, B. Ye. (Engineer)

ORG: Moscow Institute of Industrial Hygiene (Moskovskiy institut okhrany truda)

TITLE: Determination of oil aerosols in the air

SOURCE: Nauchnyye raboty institutov okhrany trudy VTSPS, no. 44, 1966, 92-95

TOPIC TAGS: aerosol, aerosol chemistry, air pollution

ABSTRACT: A filter method with a sensitivity of 200—300 µg, in the absence of additional organic contaminants, has been developed which will detect oil particles in the air. A mineral oil fog was used as the test substance and was trapped on an AFA-KhA filter or on a series of filters of the AFA series: V-10, KhP, KhA. Air containing the mist is usually blown through the filter at 10 l/min. Instructions for chemical analysis of the substance trapped on the filter is presented.

[WA-50; CBE No. 40] [LP]

SUB CODE: 06/ SUBM DATE: none/ ORIG REF: 005/ OTH REF: 001

Card 1/1

ACC NR: AP9003659

SOURCE CODE: UR/0433/68/000/011/0021/0621

AUTHOR: Barabash, A. V. (Candidate of technical sciences)

ORG: VNIISKHSPGA, Krasnodar

TITLE: Device for spreading grain bait

SOURCE: Zashchita rasteniy, no. 11, 1968, 21

TOPIC TAGS: plant protection, chemical delivery method

ABSTRACT: In 1965, the All-Union Institute for Agricultural and Special Use of Civil Aviation developed a new device for the AN-2 aircraft for spreading grain bait. It has a flow rate of 0.5—2.0 kg/ha, and a working width of 50 m, with a strip width of 6—7 m. The bait has a maximum concentration of 70—80% on the center 3 m of the strip. The device considerably reduces zinc phosphide losses. Research conducted by the institute showed that grain bait contaminated with zinc phosphide can be delivered without loss of the poison at air speeds of not less than 20 m/sec. The bait is spread in narrow strips with the required concentration of grain in the center by a forced air stream. The device consists of a microdosimeter—shut-off, an air sampler with two diffusors for the left and right channels, hose sections, and terminal diffusors. An assembled view of the device is shown in

Card 1/3

UDC: 632.982.05

- 344 -

ACC NR: AP9003659

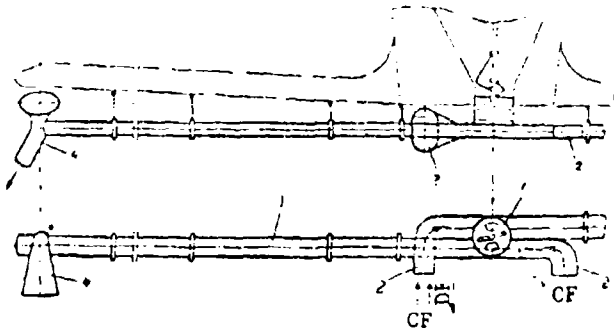


Fig. 1. Grain bait spreader (right section).

1 - Microdosimeter; 2 - diffuser for the left and right channels; 3 - hose sections; 4 - terminal diffusers; DF - flight direction; CF - counter flow.

Figure 1. Grain from a container flows simultaneously into the right and left channels, along which it is transported by the air current flowing into the terminal diffuser, the latter directing it downward. The device was tested by VNIISKhSPGA and by the Urals Plant Protection

Card 2/3

ACC NR: AP9003659

Station in 1967, in the Ural Oblast on an area of 25,000 ha. The tests showed that the device met technical specifications and exceeded the single-strip spreader in effectiveness. Ten more of the devices have been built this year. [WA-50; CBE No. 40] [BC]

SUB CODE: 15/ SUBM DATE: none

Card 3/3

ACC NR AP9007228

SOURCE CODE: UR/0432/68/000/G1:/0024/0025

AUTHOR: Bykhovets, A. I. (Chief agronomist for plant protection of Gorodetskiy rayon)

ORG: none

TITLE: Aerosol sprayers in Gorodetskiy Rayon

SOURCE: Zashchita rasteniy, no. 12, 1968, 24-25

TOPIC TAGS: chemical dispersion, CW delivery equipment

ABSTRACT: The majority of kolkhozes and sovkhoses in Gorodetskiy Rayon have 3--4 sprayers. The AG-UD-2 [aerosol] generator mounted on a GAZ-51 is widely used in the rayon for treating grain crops. Instead of a 250-liter barrel, the GAZ-51 carries a 1000-liter hermetically sealed tank which is filled with 160--170 liters of an amine salt of 2,4-D and water. The working width of the equipment is 38--42 m and speed is 20--25 km/hr. [WA-50; CBE No. 40][BC]

SUB CODE: 15/ SUBM DATE: none

Card 1/1

UDC: 632.912

ACC NR: AP9004504

SOURCE CODE: UR/0063/68/013/006/0690/0699

AUTHOR: Dorokhov, Yu. V.; Baranov, N. A.

ORG: none

TITLE: Principles of the therapy of injuries caused by poisonous substances

SOURCE: Vsesoyuznoye khimicheskoye obshchestvo. Zhurnal, v. 13, no. 6, 1968, 690-699

TOPIC TAGS: poison effect, antidote, chelation, chelate compound, medical chelate compound, organophosphorus toxicology, BW antidote, cholinesterase reactivator, artificial respiration, lachryator/ (U)TMB4 organophosphorus antidote

ABSTRACT: This article appears in Biological Factors

Card 1/1

UDC: 423.459

- 346 -

ACC NR. AT9006106

SOURCE CODE: UR/3457/66/000/044/0054/0063

AUTHOR: Kaminskiy, S. L. (Senior research associate)

ORG: Leningrad Institute of Industrial Hygiene (Leningradskiy institut okhrany truda)

TITLE: Establishing permissible levels of respiratory interference of antidust masks

SOURCE: Nauchnyye raboty institutov okhrany trudy VTsS. S, no. 44, 1966, 54-63

TOPIC TAGS: biologic filter, biologic protective mask, air pollution

ABSTRACT: This article appears in Biological Factors

Card 1/1

ACC NR. AT9006106

SOURCE CODE: UR/3457/66/000/044/0054/0063

AUTHOR: Kaminskiy, S. L. (Senior research associate)

ORG: Leningrad Institute of Industrial Hygiene (Leningradskiy institut okhrany truda)

TITLE: Establishing permissible levels of respiratory interference of antidust masks

SOURCE: Nauchnyye raboty institutov okhrany trudy VTsSPS, no. 44, 1966, 54-63

TOPIC TAGS: biologic filter, biologic protective mask, air pollution

ABSTRACT: This article appears in Biological Factors

Card 1/1

ACC NR: AP9002959

SOURCE CODE: UR/0240/68/000/012/0000/0064

AUTHOR: Karpukhin, G. I.; Slobodenyuk, A. V.; Slobodenyuk, V. K.

ORG: Institute of Viral Infections, Ministry of Public Health RSFSR, Sverdlovsk (Institut virusnykh infektsiy Ministerstva zdavookhraneniya RSFSR)

TITLE: Method of quantitative determination of virus in the air and on surfaces during aerosol contamination

SOURCE: Gigiyena i sanitariya, no. 12, 1968, 60-64

TOPIC TAGS: biologic agent sampler, biologic agent detection, biologic aerosol

ABSTRACT: This article appears in Biological Factors

Card 1/1

UDC: 576.858.07

ACC NR: AT9004107

SOURCE CODE: UR/3457/66/000/044/0069/0078

AUTHOR: Tsutskov, M. Ye. (Candidate of technical sciences); Matrosova, K. Z. (Engineer); Subbotin, A. A. (Engineer)

ORG: Moscow Institute of Professional Hygiene (Moskovskiy institut okhrany truda)

TITLE: Classification of special clothing according to their protective properties

SOURCE: Nauchnyye raboty institutov okhrany trudy VTsSPS, no. 44, 1966, 69-78

TOPIC TAGS: protective clothing, cold weather clothing, special purpose clothing, impermeable protective clothing, impregnated protective clothing

ABSTRACT: Types of protective clothing for which state standards have been established are designed to protect the individual from the harmful effects of moisture, radioactive substances, acids and alkalis, byproducts of oil refining, dust, organic solvents, metal dust, temperature extremes, electric and magnetic fields, and poisonous chemicals. Table 1 shows the types of special clothing manufactured and their designations.

Card 1/4

Table 1. Type of special, protective clothing

Protective properties of the clothing	Symbol
Antimoisture	V
Antiradiation	Z
Antiacid	K
Antipetroleum	N
General	O
Antidust	P
Protects against organic solvents	R
Heat resistant	T
Protects against chemical poisons	Kh
Antialkali	Shch
Antielectric	E

Subgroups of protective clothing are designated by two- and three-letter codes in which the first letter indicates the general classification of the article; and the second and third letters, the specific factor against which the clothing is protective. Antimoisture clothing is rated according to the properties of the material and the amount of environmental moisture it is designed to resist. Acid protective

Table 2. Types of protective clothing

Subgroups of protective clothing designed for protection from different harmful factors and media	Designation
Moisture, nonpenetrating	VK
Moisture and water repellent	V0
Waterproof	V0
For radioactive handling I, II, III class	ZD
Radioactive contamination, short term, repairs, I and II class	ZDR
I and II class long-term radioactive handling	ZDP
Oil (to 80% and for sulfuric acid)	RO
High concentrations of acid	KN
Average concentrations of acid (equivalent to 50% sulfuric acid)	KN
Dilute acids (equivalent to 18% sulfuric acid)	KN
Oil and mineral oil	RO
Petroleum products	RO
General industrial contamination (nontoxic)	PO
Nontoxic dusts	PO
Glass fiber dust	PO
Organic solvents	RO
Sparks	PO
Spillage, sparks and vapor from molten metal	PO
Radiant heat	PO
Convection heat (relative humidity up to 50%)	PO
Convection heat (relative humidity over 50%)	PO
Low temperature (to -40°C)	TT

Table 2. (Cont.)

Low temperatures (below -40°C)	TM
Radiant heat and high temperatures-local	TM
Aerosols of toxic substances	KIAZ
Liquid toxic substances	ShZh
Toxic dusts	ShZh
Alkaline liquids	ShZh
Concentrated alkalis	ShZhK
Alkali flux	ShZhR
Electrostatic discharges	EA
Magnetic fields	EM
VLF, UHF	ECh

clothing is rated according to its resistance to a given concentration of acid. Antioil and antichemical clothing are more or less specifically designed to repel certain types of chemicals as is clothing which protects against poisonous chemicals. Antidust clothing is designed to screen out either particles or needle-like dust and is rated accordingly. Thermoprotective clothing is graded by temperature resistance. Anti-electric clothing protects against the effects of electric current and strong magnetic and electric fields. Table 2 shows the classifications of protective clothing subgroups. A detailed list of materials for these special purposes is also appended. Orig. art. has: 4 tables.
[WA-50; CBE No. 40] [LP]

SUB CODE: C6/ SUBM DATE: none

Card 4/4

ACC NR: AP9004501

SOURCE CODE: UR/0063/68/013/006/0655/0666

AUTHOR: Vladimirov, O. V.

ORG: none

TITLE: Detection of CW agents

SOURCE: Vsesoyuznoye khimicheskoye obshchestvo. Zhurnal, v. 13, no. 6, 1968, 655-666

TOPIC TAGS: CW detection, detection system, colorimetric analysis, chemiluminescence, isotope exchange, spectrometry, cholinesterase, mustard gas, arsenic gas, hydrogen cyanide

ABSTRACT: The following aspects of the detection of CW agents are discussed briefly in a review-like article: the scope and purpose of CW agent detection as the basis of chemical reconnaissance (to ascertain the initiation, intensity, and conclusion of an attack); subjective detection methods; objective detection methods; colorimetric reactions; changes in the physical constants of air; the historical background of detection systems; the GSP-1 M chemical agent alarm; chemiluminescence detection methods; the US Lopair and Shopair detectors; Soviet non-battlefield optico-acoustic detectors using CO; the French ionization

Card 1/3

UDC: 543-4+623.459.44

ACC NR: AP9004501

detection method; radioactive isotopic exchange detectors; non-battle-field thermoconductometric, manometric, electrochemical, interference, and spectrometric detectors; catalytic detection methods (e.g., oxidation of CO on hopcalite and oxidation of CH₃OH with poisoning of a Pt wire catalyst by CW agents); and biocatalytic detection (e.g., inhibition of cholinesterase). Organophosphorus compounds may be determined by the hydrolysis products of specific substrates of cholinesterase, the cholinesterase-catalyzed hydrolysis products of chromogenic substrates (e.g., indophenyl and azophenyl acetates), the luminescent products of the cholinesterase-catalyzed hydrolysis of indoxyl acetates, the hydrogen peroxide reaction, the aldoxime reaction, fusion with Na₂O₂ and testing for H₃PO₄, and tests for functional groups. Mustards may be determined by the reaction with γ -(4-nitrobenzyl)pyridine, the reaction with the alkaline salt of thymolphthalein with the formation of the yellow-orange ester of mustard and thymolphthalein, the reaction with thiourea and ammoniacal Ni₂SO₄ with the formation of red complexes, complexation with Degre reagents and Grignard reagents, and the Dragendorff test. Arsenicals may be determined by the reaction with hydroquinone hydrosulfide, the colorimetric oxidation of As³⁺ to As⁵⁺ with metallic oxides, the formation of Cu acetylenide, the formation of colored acid salts, and the formation of yellow-brown Hg salts. Hydrocyanic acid and cyanides may be determined by the formation of

Card 2/3

ACC NR: AP9004501

Prussian blue, the reaction of ClCN and pyridine with the formation of red condensation products with ArNH₂, the reaction with Cu(OAc)₂, the formation of benzidine blue, the formation of red isopurpuric acid, and the reaction with ninhydrin or p-nitrobenzaldehyde. The article concludes with a survey and critique of detection methods used by the US Army: M7A1 indicator crayon, M6A1 indicator paper, M15A1 detector, M6A1 alarm, E-41 alarm, M18A1 detector, M10A1 analyzing kit, M12 sampling kit, AN-42 and M4A1 kits, and M3 and M2 laboratories. Orig. art. has: 3 tables and 2 figures. [WA-50; CBE No. 40][FT]

SUB CODE: 07, 15/ SUBM DATE: none

Card 3/3

ACC NR AP9007739

SOURCE CODE: UR/0017/69/000/002/0000/0000

AUTHOR: none

ORG: none

TITLE: With the help of machines [civil defense equipment]

SOURCE: Voyennyye znaniya, no. 2, 1969, inside back cover

TOPIC TAGS: decontamination equipment, degassing, vacuum degassing

ABSTRACT: Several types of civil defense equipment are presented in the figures. Figure 1 shows a ZZhV-1.8 vacuum fuel tank-liquid sprayer mounted on a single-axle trailer. Filling and emptying of the tank is accomplished by exhaust gases from a "Belarus" or T-28 tractor. The ZZhV-1.8 can be used without any additional equipment. It can degas 17 motor vehicles or 1,700 m² of area in one filling.

Card 1/5

ACC NR: AP9007739

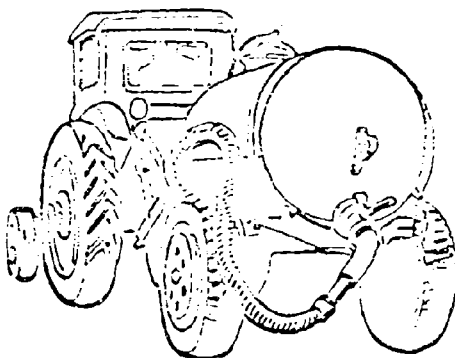


Fig. 1. ZZhV-1.8 Sprayer

Figure 2 shows the OKM-A sprayer which is also used for degassing and disinfecting. RPTM-2, RPT-2 and RPTU-2 spreaders are used for degassing

Card 2/5

ACC NR: AP9007739

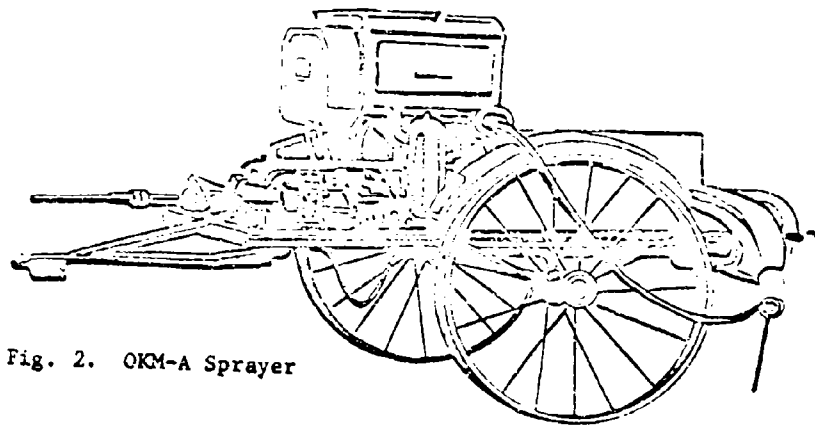
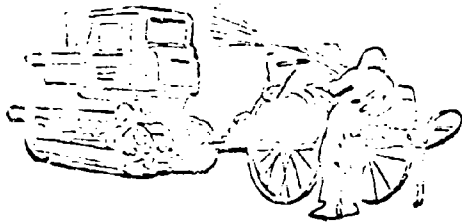


Fig. 2. OKM-A Sprayer

Card 3/5

ACC NR: AP9007739

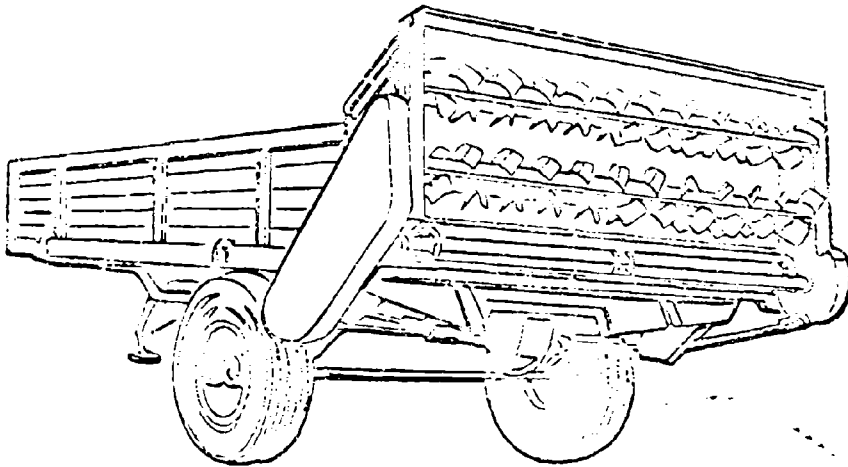


Fig. 3. RPT-series spreader

Card 4/5

ACC NR: AP9007739

ground with friable degassing substances. Their capacity of 2.5—2.7 m³ allows degasification of 2,000—2,200 m³ in one load with an average expenditure of 1 kg/m². [WA-50; CBE No. 40][BC]

SUB CODE: 15/ SUBM DATE: none

Card 5/5

ACC NR: AP9007231

SOURCE CODE: UR/0433/68/000/012/0029/0029

AUTHOR: none

ORG: none

TITLE: [Plant protection equipment in Gorkovskiy Rayon]

SOURCE: Zashchita rasteniya, no. 12, 1968, p. 29

TOPIC TAGS: CW delivery equipment, chemical dispenser

ABSTRACT: This brief article presents various data on the use of plant protection equipment and procedures in Gor'kovskiy Rayon. Six years ago there were 134 sprayers and dusters at farms in the Rayon, while in 1968 there were 1627. The number of OVT-1 ventilators has increased from 2 to 307. Disinfecting units of the kolkhozes and sovkhoses have been increased 8-fold over 1962, and aerosol generators, 5-fold.

[WA-50; CBE No. 40] [BC]

SUB CODE: 15/ SUBM DATE: none

Card 1/1

APPENDIX I. SOURCES

Aerозoli i zdorov'ye (Aerosols and health. Moscow)

AMN SSSR. Institut eksperimental'noy meditsiny. Trudy. Problemy klinicheskoy i eksperimental'noy fiziologii golovnogo mozga (Academy of Medical Sciences of the USSR. Institute of Experimental Medicine. Transaction. Contributions to the clinical and experimental physiology of the brain)

AN AzerbSSR. Doklady (Academy of Sciences of the Azerbaydzhan SSR. Reports)

AN BSSR. Doklady (Academy of Sciences of the Belorussian SSR. Reports)

AN GruzSSR. Soobshcheniya (Academy of Sciences of the Georgian SSR. Communications)

AN SSSR. Doklady (Academy of Sciences of the USSR. Reports)

AN SSSR. Izvestiya. Fizika atmosfery i okeana (Academy of Sciences of the USSR. News. Physics of the atmosphere and ocean)

AN SSSR. Izvestiya. Seriya khimicheskaya (Academy of Sciences of the USSR. News. Chemistry series)

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AN SSSR. Zoologicheskii institut. Migratsii zhivotnykh (Academy of Sciences of the USSR. Zoological Institute. Migration of animals)

AN TurkmSSR. Izvestiya. Seriya biologicheskikh nauk (Academy of Sciences of the Turkmen SSR. News. Series in Biological Science)

AN UkrSSR. Institut mikrobiologii i virusologii. Novoimanin i yego lechebnyye svoystva (Academy of Sciences of Ukrainian SSR. Institute of Microbiology and Virology. Novoimanin and its therapeutic properties).

Armyanskiy khimicheskii zhurnal (Armenian Journal of Chemistry)

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Byulleten' eksperimental'noy biologii i meditsiny (Bulletin of experimental biology and medicine)

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Dushanbe. Gosudarstvennyy meditsinskiy institut. Trudy. Nekotoryye voprosy normal'noy i patologicheskoy biokhimi (Dushanbe. State Medical Institute. Transactions. Some problems of normal and pathological biochemistry)

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Farmakologiya i toksikologiya (Pharmacology and Toxicology)

Genetika (Genetics)

Gidrometeorologicheskiy nauchno-issledovatel'skiy tsentr SSSR. Trudy. Planetarnaya tsirkulyatsiya atmosfery (Hydrometeorological Scientific Research Center of the USSR. Transactions. Planetary circulation of the atmosphere)

Gidrometeorologicheskiy nauchno-issledovatel'skiy tsentr SSSR. Trudy. Prognoz osadkov i temperatury (Hydrometeorological Scientific Research Center of the USSR. Transactions. Forecasting precipitation and temperature)

Gidrometeorologicheskiy nauchno-issledovatel'skiy tsentr SSSR. Trudy. Sputnikovaya meteorologiya (Hydrometeorological Scientific Research Center of the USSR. Transactions. Satellite meteorology)

Gigiyena i sanitariya (Hygiene and Sanitation)

Gigiyena trudy i professional'nyye zabolevaniya (Labor Hygiene and Occupational Diseases)

Inzhenerno-fizicheskiy zhurnal (Journal of Engineering Physics)

Ispareniye v prirode (Evaporation in nature). 2nd ed. Leningrad, Gidrometeorizdat, 1968

Izmeritel'naya tekhnika (Measurement techniques)

Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki (Inventions, Industrial Samples, Trademarks)

Kazanskiy meditsinskiy zhurnal (Kazan Medical Journal)

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Kiyev. Nauchno-issledovatel'skiy institut farmakologii i toksikologii. Farmakologiya i toksikologiya (Kiev. Scientific Research Institute of Pharmacology and Toxicology. Pharmacology and Toxicology)

Laboratornoye delo (Laboratory Affairs)

Leningrad. Glavnaya geofizicheskaya observatoriya. Trudy. Aktinometriya atmosfernaya optika i ozonometriya (Leningrad. Main geophysical observatoriya. Transactions. Actinometry, atmospheric optics and ozonometry)

Leningrad. Glavnaya geofizicheskaya observatoriya. Trudy. Kontrol' i pervichnyy analiz rezul'tatov meteorologicheskikh nablyudeniy (Leningrad. Main Geophysical Observatory. Transaction. Control and initial analysis of the results of meteorological observations)

Leningrad. Glavnaya geofizicheskaya observatoriya. Trudy. Sputnikovaya meteorologiya (Leningrad. Main geophysical observatoriya. Transactions. Satellite meteorology)

Leningrad. Khimiko-farmatsevticheskiy institut. Trudy. Nekotoryye voprosy biokhimi mikroorganizmov (Leningrad. Pharmaceutical Chemistry Institute. Transactions. Some problems dealing with the biochemistry of microorganisms)

Leningrad. Vsesoyuznyy institut rasteniyevodstva. Sbornik trudov aspirantov i molodykh nauchnykh sotrudnikov (Leningrad. All-Union Institute of Plant Growing. Collection of papers of aspirants and junior scientific associates)

Meditssinskaya parazitologiya i parazitarnyye bolezni (Medical parasitology and parasitic diseases)

Meteorologicheskiye zpravki (Meteorological reports)

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Nauchnyye doklady vysshey shkoly. Biologicheskkiye nauki (Scientific Reports of the Higher Schools. Biological Sciences)

Nauchnyye raboty institutu'ov okhrany trudy VTsSPS (Scientific papers of industrial hygiene institutes of VTsSPS)

Parazitologiya (Parasitology)

Patologicheskaya fiziologiya i eksperimental'naya terapiya (Pathological Physiology and Experimental Therapy)

Perm. Universitet. Achenyye zapiski. Gidrologiya i meteorologiya (Perm. University. Studies. Hydrology and meteorology)

Prikladnaya biokhimiya i mikrobiologiya (Applied Biochemistry and Microbiology)

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Zhurnal obshchey khimii (Journal of General Chemistry)

Zoologicheskii zhurnal (Zoological Journal)

APPENDIX II. AUTHORS

- Abdrakhmanov, M. I. 138, 343
 Abduvakhobov, A. A. 1
 Abenova, U. A. 139
 Abiyurov, B. D. 24
 Abramov, V. S. 3, 4
 Adalin, G. N. 343
 Afonina, L. G. 215
 Afonina, N. I. 46
 Afrikyan, V. G. 94
 Agabekova, I. I. 1
 Agarkov, V. A. 140
 Ageyeva, A. B. 58
 Akhmedkhodzhayeva, Kh. S. 65,
 194
 Akinshina, G. T. 141
 Akopyan, A. A. 149
 Akopyan, Zh. G. 6
 Alekhin, V. A. 142
 Aleksandrova, A. Ye. 10
 Aleksanyan, R. A. 94
 Aleskerov, Sh. A. 242
 Alexandrescu, M. 167
 Alimov, P. I. 11
 Al'kina, Yu. A. 148
 Andreyev, L. V. 131
 Andronov, B. Ye. 344
 Anina, I. A. 145
 Anisimova, V. A. 124
 Anufriyeva, V. N. 146
 Arbisman, Ya. S. 54
 Arbuzov, B. A. 13
 Arbuzov, S. Ya. 15
 Aren, A. K. 92
 Arkhangel'skiy, I. I. 147
 Aroyan, A. A. 17, 21
 Artishevskiy, A. A. 148
 Aslanyan, R. G. 149
 Asratyan, S. N. 110
 Athanasiu, P. 150
 Avanesyan, M. A. 86, 214
 Avezdhanova, G. P. 151
 Azaryan, A. S. 17
 Azerbayev, I. N. 24
 Badashvili, V. A. 244
 Bagdasar'yan, G. A. 152
 Bakulin, V. N. 296
 Balanin, N. V. 153
 Bal'chenko, R. K. 54
 Ban'kovskaya, A. N. 154
 Ban'kovskiy, A. I. 154
 Barabash, A. V. 344
 Baranov, G. M. 25
 Baranov, N. A. 39, 163, 340
 Batulin, Yu. M. 26
 Baydala, N. I. 140
 Bedenashvili, G. G. 155
 Bektemirov, I. A. 156
 Bektemirova, M. S. 156
 Belkina, G. G. 251
 Bel'skiy, V. Ye. 29
 Berdyayev, A. S. 157
 Besednova, N. N. 158
 Bessalov, V. S. 159
 Bezzubova, N. N. 29
 Blinova, N. I. 227
 Bliznyuk, N. K. 80
 Bobyleva, S. V. 33
 Bobyрева, T. V. 294
 Bodnarchuk, N. D. 31
 Bogoyavlenskiy, V. F. 343
 Boldyrev, A. A. 33
 Bondarenko, V. Ye. 129
 Bordovskaya, L. I. 297
 Botis, S. 282
 Botvinik, S. A. 160
 Bourkova, T. 61, 183
 Breytman, B. N. 253
 Brumshteyn, M. S. 280
 Budziszewska, E. 298

Buina, N. A. 101
 Bukrinskaya, A. G. 282
 Bumennik, A. Ye. 156
 Bushuyeva, T. I. 290
 Bychenkova, A. A. 231
 Bykhovets, A. I. 346

 Carasievici, E. 167
 Chaganova, G. G. 244
 Chalikov, D. V. 340
 Chebotarev, R. S. 172
 Chenborisov, R. Sh. 3
 Chernayev, Yu. A. 268
 Chistokletov, V. N. 72, 77
 Chkhaidze, G. K. 147
 Chogovadze, I. V. 299, 301
 Chumakov, M. P. 161
 Churakov, V. I. 43, 171

 Dakhno, O. V. 43, 171
 Datsenko, M. F. 293
 Davidkov, K. 35
 Degutis, Yu. 42
 Derkach, G. I. 31, 74, 120
 Diveyev, S. Kh. 258
 Dmitriyev, P. P. 187
 Dmitriyeva, R. A. 283
 Dombrovskiy, A. V. 82
 Domracheva, A. G. 161
 Donskaya, M. M. 131
 Donskaya, I. N. 162
 Dorofeyenko, G. N. 36
 Dorokhov, Yu. V. 39, 163, 346
 Doroshenko, V. V. 120
 Dozorova, A. D. 43, 171
 Drach, B. S. 39
 Druzhkov, O. N. 41, 136
 Duca, M. 167
 Dzhyuvene, D. 42

 El'bert, L. B. 161
 El'-Sukkari, A. 167, 288

 Epshteyn, Ya. A. 290
 Eydel'shteyn, S. I. 168

 Fayn, V. I. 285
 Fedorova, N. I. 204
 Fedrushkova, I. N. 43, 171
 Feshchenko, N. G. 121
 Fetisova, N. A. 197
 Florescu, C. 275
 Frankovskiy, Ch. S. 170

 Gadzhibalayev, A. A. 43, 171
 Galakhova, T. A. 304
 Gazizov, T. Kh. 107
 Genkina, G. K. 44
 Gevorkyan, A. A. 45
 Gilyarov, V. A. 44
 Gladkina, T. S. 174
 Glinskaya, O. V. 93
 Glonti, T. M. 184
 Glushchenko, Ye. Ya. 255
 Goboyavlenskiy, V. F. 138
 Godev, N. 305
 Godovikov, N. N. 1
 Golikov, A. V. 175
 Golikov, V. I. 306
 Gorbunova, A. S. 139, 218
 Gordeychuk, A. I. 177
 Goryayev, M. I. 43, 171
 Gozman, I. P. 81
 Granberg, I. I. 46
 Granenkina, L. S. 80
 Grapov, A. F. 47, 50, 88
 Grechkin, I. P. 101
 Grib, A. V. 51
 Gridzhin, G. A. 197
 Grinblat, M. P. 51
 Grokhovskaya, I. M. 178
 Gubanov, I. A. 238
 Gubin, S. G. 161
 Guguianu, E. 275
 Gupalo, A. P. 53

Guseynov, Yu. Ya. 86, 214
Gushchin, G. P. 307

Handrache, L. 167

Ignatova, L. A. 131
Ignatovich, V. F. 180
Ignat'yeva, G. V. 54
Il'in, V. V. 181
Il'yin, G. P. 309
Ioffe, I. S. 55, 56
Ionescu, L. 167
Ionin, B. I. 68
Ivanov, B. Ye. 58, 60
Ivanov, F. V. 183
Ivanov, I. 61, 183
Ivanov, M. M. 184
Ivanov, V. N. 310
Ivin, S. Z. 54

Kabachnik, M. I. 1, 25
Kalinkovich, A. G. 279
Kaminskiy, S. L. 185, 347,
Kanatov, Yu. V. 187
Kanatova, Ye. A. 187
Kanaulova, L. P. 43, 171
Karagezyan, K. S. 110
Kardovich, S. A. 160
Kargina, A. D. 3
Karpukhin, G. I. 188, 348
Karysheva, A. F. 189
Kasatkina, O. I. 312, 313
Kastorskiy, V. S. 181
Katar'yan, B. T. 190
Katayev, Ye. G. 64
Katsnel'son, Ye. Z. 170
Kavtaradze, K. N. 247
Kazaryan, L. Z. 94
Kenig, E. E. 192
Kereyev, N. I. 193
Khanov, M. 65, 194
Khaskin, A. N. 68

Khaskin, B. A. 69, 195
Khel'man, L. V. 195
Khmelevskiy, V. N. 196
Khokhlov, P. S. 80
Khomyakov, A. I. 197
Khoroshilova, L. L. 131
Kibal'chich, P. N. 238
Kim, V. S. 187
Kirisova, A. P. 3
Kirsanov, A. V. 121
Kir'yanov, Ye. A. 198
Kiselev, R. N. 227
Kiyanenko, V. F. 199
Klebanskiy, A. L. 51
Klochkova, L. G. 122
Klyatskin, V. N. 314
Knutov, V. I. 122
Koldovsky, M. 316
Kolerskiy, S. V. 317
Kolesnikova, M. A. 98
Kolokol'tseva, I. G. 72
Kolotilo, M. V. 74
Kondrashkina, K. I. 200
Kondrat'yev, Yu. A. 54
Konstantinov, A. R. 318
Korzenko, V. N. 251
Kosmacheskaya, E. A. 76, 201
Kosovtsev, V. V. 77
Kosyakov, P. N. 233
Koval'chuk, A. N. 297
Kovalev, L. A. 189
Kovaleva, T. V. 121
Krasil'nikova, Ye. A. 78
Kravchenko, A. T. 202
Krivolutskiy, D. A. 203
Kronshtadtskaya-Kareva, B. K. 215
Kruglyak, Yu. L. 79
Kuchmasov, I. S. 174
Kudelina, R. I. 204
Kudlay, D. G. 153
Kudryavtsev, V. A. 205
Kudryavtsev, B. V. 133, 134

Kudryavtsev, L. F. 136
 Kulikov, G. I. 318, 319
 Kurayev, J. I. 200
 Kurdina, D. S. 149
 Kurmukov, A. G. 65, 194
 Kutakov, K. V. 206
 Kuz'ninskaya, G. Ya. 244
 Kuz'ninskaya, U. A. 207

Landau, M. A. 79
 Lapin, I. S. 187
 Lapitskiy, G. A. 80
 Lapshova, L. P. 321
 Lapteva, L. M. 322
 Larina, I. A. 208
 Lavrent'yev, N. I. 208
 Lavrushin, V. F. 129
 Lebedev, V. D. 324
 Lebedev, V. V. 279
 Lebedeva, M. I. 210
 Lebedeva, N. V. 47
 Leplya, Ye. S. 211
 Levin, Ya. A. 81
 Levina, M. N. 212
 Levkovskaya, L. G. 118
 Leybovskaya, G. A. 79
 Linevich, Yu. G. 153
 Listvan, V. N. 82
 Lobachev, V. S. 187
 Loginov, V. B. 100
 Lomakin, A. N. 83
 Lustina, Z. V. 29
 Lyubashenko, S. Ya. 292
 Mach, V. — Makho, V. 128
 Makhsumov, A. G. 84
 Maksimovich, M. B. 213
 Malovik, V. V. 31
 Mamedov, Sh. 86, 214
 Manukyan, A. A. 45
 Martynov, I. V. 79
 Mashkov, A. V. 215
 Maslennikova, V. P. 129

Maslov, V. Ye. 324
 Mastryukova, T. A. 25
 Masyuta, G. F. 15
 Matrosova, K. Z. 348
 Matyusha, A. G. 74
 Mayzelis, M. Ya. 216
 Mdzhoyan, A. L. 94
 Mefod'yev, V. V. 281
 Megreladze, O. A. 155
 Melamed, N. V. 170
 Mel'nikov, N. N. 47, 50, 69, 88,
 195
 Meshalova, A. N. 285
 Mikhaylov, I. F. 247
 Mikhlina, Ye. Ye. 90
 Mikstays, U. Ya. 92
 Milyanovskiy, A. G. 147
 Mirkasimova, Kh. 219
 Mironova, T. A. 217
 Mistrik, E. J.—Mistrik, E. Yu. 128
 Mitel'man, G. M. 236
 Mitin, Yu. V. 93
 Mkrtchyan, A. R. 110
 Mnatsakanyan, A. G. 149
 Mokeyeva, Z. D. 97
 Molibog, Ye. V. 139, 218
 Molyavko, L. I. 121
 Mordvinova, Ye. T. 170, 287
 Morozova, M. Yu. 180, 286
 Morozovskaya, L. M. 98
 Moskva, N. A. 78
 Murzayev, E. M. 327
 Muslinkin, A. A. 100

Nakhmanovich, A. S. 122
 Nasyrova, T. 219
 Natsvlishvili, N. T. 244
 Nesterov, I. A. 221
 Nguyen, Suan Khoe 178
 Nikitchenko, V. M. 129
 Nikitina, V. I. 108, 110
 Nuretdinov, I. A. 101

Odinets, A. A. 222
 Ogneva, T. A. 328, 329
 Oktyabr'skaya, T. A. 222
 Ordanovich, A. Ye. 310
 Orzuyev, M. I. 236
 Ovchinnikova, A. M. 223

 Panteleyeva, A. R. 102
 Panyutin, K. K. 224
 Parasyuk, N. A. 259
 Parfenova, M. S. 213
 Pashinkin, A. P. 107
 Pasmanyuk, S. V. 58
 Pauk, S. I. 290
 Paziлова, S. 219
 Perekalin, V. V. 25
 Pervikov, Yu. V. 161
 Petrenko, N. V. 330
 Petrescu, Al. 150
 Petrov, A. A. 72, 77, 116
 Petrov, I. G. 102, 225
 Petrovskaya, V. G. 227
 Petukhov, G. G. 41, 136
 Pinegin, B. T. 279
 Pleshakov, V. G. 103, 105
 Pogosyan, M. K. 149
 Polezhayeva, N. A. 13
 Polyakova, P. Ye. 228
 Ponomarenko, M. V. 25
 Ponomarev, B. P. 230
 Popkova, K. V. 231
 Popov, V. F. 232
 Popova, K. I. 244
 Popova, T. P.
 Posevaya, T. A. 233
 Potapov, S. V. 43, 171
 Priklonskiy, S. G. 183
 Proklina-Kaminskaya, T. L. 234
 Prons, V. N. 51
 Prostakov, N. S. 103, 105
 Pudovik, A. N. 29, 107, 108,
 110

 Pugachevskiy, V. P. 235
 Pushkar', N. V. 236
 Pustovalov, Yu. I. 237
 Pysina, T. V. 218

 Rabinovich, I. M. 238
 Rakhimova, I. V. 84
 Rashidyan, L. G. 110
 Rasulova, T. A. 239
 Razumov, A. I. 78
 Razumova, M. A. 246
 Razumova, N. A. 116
 Razvodovskaya, L. V. 50, 88
 Rebenko, V. P. 240
 Reinhartova, J. 334
 Rodionova, V. G. 202
 Roldugina, V. I. 187
 Rovnova, Z. I. 283
 Rozenberg, G. V. 334
 Rozengart, V. I. 1
 Rublev, P. A. 309
 Rubtsov, M. V. 90
 Rudnev, G. V. 335
 Rudneva, O. A. 241
 Runova, V. F. 241
 Ruzer, L. S. 317

 Safarov, Yu. B. 242
 Safonov, N. M. 243
 Safonova, T. S. 118
 Sagayeva, O. F. 192
 Sakvarelidze, L. A. 244
 Salazhov, Ye. L. 147
 Saikhov, S. G. 81
 Saltykova, L. I. 79
 Sarbayev, T. G. 24
 Savin, B. M. 36
 Sedrakyan, R. O. 110
 Sekun, N. F. 245
 Selivanov, Ya. M. 233
 Selivanova, T. A. 246
 Semanova, F. F. 174

Sen'ko, Ye. Ye. 296
 Sergeyev, V. V. 247
 Sergiyev, V. P. 258
 Shagidullin, R. R. 58, 60
 Shakhlanov, V. A. 192
 Shakirova, A. M. 108
 Shayman, M. S. 286
 Shchban', M. I. 337
 Shcherbakov, V. A. 258
 Shermergorn, I. M. 102
 Shevareva, T. P. 248, 249
 Shikulov, V. A. 251
 Shipalov, M. S. 253
 Shirko, V. N. 255
 Shirokov, A. I. 255
 Shokol, V. A. 120, 121
 Shostakovskiy, M. F. 122
 Shubenko, M. A. 136
 Shumova, I. A. 256
 Shuykina, E. Ye. 258
 Shvachkina, V. I. 259
 Simonov, A. M. 124
 Simov, D. 35
 Sinitsa, A. D. 39
 Sitnikov, M. N. 260
 Skalon, O. I. 266
 Sladkov, A. M. 84
 Slepusev, V. S. 43, 171
 Slobodenyuk, A. V. 188, 348
 Slobodenyuk, V. K. 188, 348
 Smirnova, S. M. 10
 Sobko, A. I. 268
 Sokal'skiy, M. A. 79
 Sokolov, M. I. 259
 Solodovnikov, Yu. P. 269
 Solov'yev, V. N. 153
 Somov, G. P. 270
 Starovoytova, L. P. 233
 Stepanchenok, G. I. 204
 Stepanov, A. A. 126
 Stepin, V. S. 271
 Stresinka, J.—Strzhesinka, Y. 128
 Stroyev, S. S. 272
 Stroyev, V. S. 273
 Subbotin, A. A. 348
 Sulakvelidze, G. K. 322
 Sulakvelidze, T. S. 244
 Sultanov, M. B. 65, 194
 Suvorov, N. N. 98
 Syusyukin, A. A. 174
 Syusyukin, V. A. 189
 Syusyukina, M. S. 174
 Tantasheva, F. R. 64
 Tarasov, L. A. 4
 Tarasova, T. V. 189
 Tatevosyan, G. T. 6, 110
 Teodosiu, O. 275
 Terent'yeva, I. V. 83
 Terzyan, A. G. 6
 Tikhodeyeva, I. L. 76, 201
 Toma, R. 275
 Toma, V. 275
 Tomchin, A. B. 55, 56
 Trakhanov, D. F. 276
 Triers, I. I. 258
 Tropin, N. N. 277
 Tsipcnyuk, Ye. Ye. 178
 Tsukerman, S. V. 129
 Tsutskov, M. Ye. 348
 Tsvetkova, N. Ye. 174
 Turchin, K. F. 90
 Tuturina, N. N. 69, 195
 Tykin, L. F. 162
 Unkovskiy, B. V. 131
 Ushakov, S. G. 324
 Uteshev, B. S. 279
 Utyumova-Malova, A. V. 280
 Valova, C. P. 281
 Vasil'yan, S. S. 94

Vasil'yeva, N. A. 253	Yesayan, A. Ye. 21
Vel'tishchev, N. F. 338	Yevstigneyeva, O. A. 230
Vinogradova, V. S. 13	Yevtikhov, Zh. L. 116
Vinogradov, V. Ya. 270	Yezepchuk, Yu. V. 289
Vladimirov, O. V. 133, 350	Yuditskaya, N. M. 247
Vladimirteva, E. A. 282	
Vlodavets, V. V. 283	Zabozlayeva, Ye. A. 290, 291
Volovel'skiy, L. N. 36	Zakharova, G. A. 200
Vorob'yev, V. I. 339	Zavlin, P. M. 68
Vorob'yeva, V. Ya. 90	Zavodska, E. 339
Voznesenskaya, A. Kh. 116	Zaychenko, A. S. 292
	Zemlyanskiy, N. I. 53
Yablonskaya, V. A. 284	Zhak, S. P. 293
Yamshchikov, V. P. 170	Zharkova, I. I. 43, 171
Yanisker, G. Ya. 285	Zheltukhin, V. F. 60
Yarmukhametova, D. Kh. 133, 134	Zheludov, V. I. 237
Yashchuk, A. P. 162	Zhil'tsov, S. F. 41, 136
Yastebov, V. K. 286	Zhukova, Ye. N. 55, 56
Yastrebova, G. Ye. 110	Zhuravskaya, S. A. 294
Yelinov, N. P. 287, 288	Zilitinkevich, S. S. 340
Yeliseyev, V. N. 29	Zuyanova, T. I. 46
Yernakova, V. D. 134	Zvolinskiy, V. P. 105