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Selected Abstracts

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No. 4

Prepared by

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ABBREVIATIONS USED IN "SELECTED ABSTRACTS" -Series III, No. 4

Biull. eksper. biol. i medits.	- Biulletin' eksperimental'noi biologii i meditsiny
Med. parazitol.	- Meditsinskaia parazitologiya i parazitarnye bolezni
Parazitol. sbornik	- Parazitologicheskii sbornik
Sov. medits.	- Sovetskaia meditsina
Voenno - med. zh.	- Voenno - meditsinskii zhurnal
Vopr. virusol	- Voprosy virusologii
Vrach. delo	- Vrachehnoe delo
Zh. mikrobiol.	- Zhurnal mikrobiologii, epidemiologii, immunobiologii
Zh. nevrologii	- Zhurnal nevrologii
Zool. zhurnal	- Zoologicheskii zhurnal

Institutions

AMS	- Academy of Medical Sciences
AS	- Academy of Sciences
ASSR	- Autonomous Soviet Socialist Republic
ATP	- Institute of the Advanced Training of Physicians
IEM	- Institute of Epidemiology and Microbiology
MI	- Medical Institute
MH	- Ministry (Public) Health
SR	- Scientific Research
SSR	- Soviet Socialist Republic
USSR	- Union of Soviet Socialist Republics

265. Chumakov, M.P. et al., A study of the conditions influencing the efficacy of immunization against tick-borne encephalitis. Report I. Influence of the immunogenic properties of the vaccine on the efficacy of vaccination and re-vaccination. Vopr. virusol. (1965) 2:168-172
(From the Institute of Poliomyelitis and Virus Encephalitides, AMS USSR)

Summarizing the results of their work, the authors stated that

"1. It has been possible to establish a high degree of direct relation between the immunogenic properties of the vaccine in experiments assaying the resistance of immunized mice and the capability of stimulating the production of antibodies in immunized people. The immunogenic activity of the vaccine is of particular importance for an effective immunization when the initial course of vaccination is administered.

2. One of the deciding factors of high efficacy of re-vaccination is an intensive immunobiological transformation in the course of the initial immunization. If the initial vaccination has been made in an intensive manner, re-vaccination is effective regardless whether highly immunogenic vaccine series or such with a lowered immunogenicity are used for the booster doses.

If a slightly immunogenic vaccine has been used for the initial course of immunization, the use of an even highly immunogenic vaccine for re-vaccination is little effective."

266. Priimiagi, L.S. et al., Influence of the interferon on the state of cultures of the RES line infected with the tick-borne encephalitis virus. Vopr. virusol. (1965) 2: 225-226
(From the D.I. Ivanovskii Institute of Virology, AMS, USSR)

The conclusions reached by the authors of this note were that

"1. Under the action of the Newcastle virus cell cultures of the RES line produce interferon.

2. In RES cultures treated with homologous or heterologous interferon it comes to an inhibition of the appearance of the cytopathogenic changes produced by the tick-borne encephalitis virus."

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267. Ershov, F.I. and Vagzhanova, V.A., Dynamics of the multiplication of the Venezuelan equine encephalitis virus in cell cultures. Vopr.virusol. (1965) 2: 176-181
(From the D.I. Ivanovskii Institute of Virusology, AMS USSR)
268. Gaidamovich, S.IA. and Duan Suan Myou, Fractionation of the Japanese encephalitis virus with the aid of chromatography on calcium phosphate columns. Vopr.virusol. (1965) 2: 213-217
(From the D.I. Ivanovskii Institute of Virusology of the AMS USSR)
269. Somov, G.P. and Slonova, R.A. Isolation of the causative organism of tick rickettsiosis (D. sibiricus) from the organs of mouse-like rodents in human embryo kidney cell cultures. Vopr. virusol. (1965) 2: 229-232
(From the Vladivostok SR Institute of Microbiology, Epidemiology and Hygiene).

These articles are quoted by title.

270. Nizmailova, M.A., Cultivation of the varicella virus in growing chick embryos. Vopr.virusol. (1965) 2: 202-204
(from the Department of Epidemiology and Medical Parasitology of the Khar'kov Institute for the Post-Graduate Training of Physicians)

This article deals with the successful cultivation of the Varicella virus in the choric-allantoic membrane of embryonated chicken eggs.

271. Mekler, L.B. and Naumova, V.K., Production of fluorescent gamma-globulins suitable for the clinical and laboratory differential diagnosis of virus infections. Vopr.virusol. (1965 2:235-240)

(From the D.I. Ivanoskii Institute of the AMS USSR Moscow)

This well documented article must be studied in the original text or in a translation.

272. Sobornik nauchnykh rabot Elistinskoi protivochumnoi stantsii (collected papers of the Elista Anti-Plague station), Vypusk 1 (1959)

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Review:

- (a) Adimov, L. B., Protracted forms of plague in laboratory animals. Report IV. Generalization of protracted forms of plague after lowering of the resistance of the macro-organism. Loc. cit. pp. 93-107

The author of this article, the details of which must be studied in the text or in a translation, came to the conclusion that the lowering of the resistance of experimentally infected white rats and mice, brought about by cortisone, is capable of leading to a generalization of protracted forms of plague and to a fatal issue with a massive bacteremia.

- (b) Zaplatina, S. I. and Filimonova, A. A., A medium for the differentiation of P. pseudotuberculosis and the geographical varieties of P. pestis. Loc. Cit. pp. 173-175

As described in this note, the authors obtained satisfactory results with modification of the medium devised by Devignat and Boivin (Bull. Soc. Path. Exot, 46, (1953) No.5.)

- (c) Gurleva, G. G., Simplification of the method of adsorbing the group agglutinins of anti-plague serum. Loc. cit. pp. 177-181

The author obtained satisfactory results in the differentiation of plague and pseudotuberculosis bacilli with the method recommended by Kiktenko and his associates (Voenno-med. zh., (1955) No. 12.) (The latter group of workers, experimenting with organisms of the enteric group, had found that in order to remove the group agglutinins, a 10 minutes' contact of the serum and antigen was sufficient, the latter being afterwards removed with the aid of filtration through asbestos in a syringe).

- (d) Iurgina, Z. A. et al., Possibility of a prolonged preservation of P. pestis on casein hydrolysate media. Loc. cit. pp. 187-191

The conclusion reached by the authors of this article was that a preservation of P. pestis on agar prepared from casein hydrolysate under refrigeration for 10 months did not lead to changes in the fundamental properties of the strains. A preservation of the organisms under the same conditions at room temperature somewhat lowered the virulence of the strains and considerably impaired their immunogenicity.

- (e) Borodko, S. L. and Samsonovich, L. G., Compatibility of plague, tularemia, brucellosis and anthrax live vaccines in experiments on guinea-pigs. Loc. cit. pp. 193-203

Summarizing the results of their experiments, the authors stated that the combined immunization with four vaccines (plague, tularemia, brucellosis and anthrax) or with the three first-mentioned vaccines produced in guinea-pigs a sufficiently high immunity against challenge with plague (200 DCL), tularemia (1,000 DCL) and brucellosis (2 infecting units) - results comparable with those obtained through the administration of the corresponding monovaccines. The anti-anthrax vaccine, in the dose chosen by the authors, gave less satisfactory results.

The combined subcutaneous administration of the vaccines under test produced marked local reactions, fairly often (in 18%) leading to abscess formation. The use of cutaneous inoculations was therefore preferable for further studies.

- (f) Borodko, S. L. et al., Immunological shifts in persons simultaneously vaccinated against plague, brucellosis and tularemia. Loc. cit. pp. 205-213

The conclusions reached by the authors were that

"1. In our experience the cutaneous administration of a combined vaccine against plague, tularemia and brucellosis did not produce severe reactions in the immunized persons.

2. In the persons immunized with the combined vaccine as well as in those receiving the monovaccines the local reactions were more marked than the general reactions. Both types of reactions were of the same degree in persons immunized either with the combined vaccine or the monovaccines.

3. The results of allergic and serological tests in persons vaccinated with brucellosis and tularemia antigens indicated an immunological transformation of the body which appeared at the same time and was of the same degree after administration of either the combined vaccine or the monovaccines.

4. The combination of the usual doses for cutaneous vaccination against tularemia and plague and of 3 billion doses of brucellosis vaccine is innocuous and at the time fully active, being capable of protecting the vaccinated against the corresponding infections."

273. Sbornik nauchnykh rabot Elistinskoi protivochumnoi stantsii. Vypusk 2 (1961) (Collected papers of the Elista Anti-Plague Station).

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Reviews:

- (a) Levi, M. I. Methodological foundations of the study of the biological properties of *P. pestis*. Introduction. Loc. cit., pp. 9-36

Concluding this article, to which a fairly long list of references to Soviet publications and a brief list of references to foreign articles is appended, the author stated,

"Of greatest importance for the theory of the adaptive variability are investigations concerning the biological characterization of the various plague strains. Work of this nature is extraordinarily labor-consuming and for this reason V. M. Tumanskii (1959) recommended that it ought to be undertaken by a large number of members of the anti-plague institutes, stations and departments, and be carried out according to a uniform methodology and a uniform plan. The methods for the study of the biological properties of *P. pestis* proposed by us and consisting of four parts: cultural properties, virulence, bacteremia and antigenic structure - were used for the study of 11 strains from the different natural foci. The publications of the groups of authors (recording the results of this work) follow below.

It has to be added that in our program histological investigations were planned, i.e., a study of the pathological changes of the organs and tissues of the laboratory and wild animals infected with the different strains under the direction of V. N. Lobanov. However, these studies are not yet completed."

- (b) Levi, M.I. et al., Principal results of a study of the bacteriological properties of plague strains isolated in the different natural foci of the USSR.

Loc. cit., 123-137

The authors of this report, the numerous tables and graphs of which must be studied in the text, examined a total thirteen plague strains, three of which were obtained from the region north-west of the Caspian Sea, two from the Volga-Ural interfluvial area, two from the Central-Asian desert plague focus, two from the Central Asian mountain focus, two from Mongolia and one each from Eastern and Western Transcaucasia. Considering the results of these studies, they proposed to classify the varieties of P. pestis as follows:

Variety	Reduct- ion Of Ni-	Glyc- erol	Fermentation of		Motil- ity	Reaction to		Frac- tion I
	trates to Nitrites		Rhamnose (Within 48H)	Urea (Within 24H)		Plague Phages	Pseudob. Phages	
Rat	+	-	-	-	-	+	+	+
Suslik	-	+	-	-	-	+	+	+
Gerbil	-	+	-	-	-	+	+	+
Marmot	+	+	-	-	-	+	+	+
Vole	+	+	+	-	-	+	+	+
<u>P. pseudo- tuberculosis</u>	+	+	+	+	+	-	+	-

- (c) Kanatova, E.A. et al., Serological examinations in plague. Report III. Examinations of the sera of experimentally infected rodents with the passive hemagglutination reaction.

Loc. cit. pp.193-197

The conclusions reached by the authors of this article were that

"1. In the blood of M. meridianus, surviving on the 50th day after infection with virulent plague strains one could demonstrate in half of the animals with the aid of the passive hemagglutination test specific antibodies. They were found more frequently in animals infected with a strain from a focus where gerbils formed the fundamental reservoir in the infection. The hemagglutinins were found more rarely in the small susliks and their titer was lower.

2. In white mice surviving the infection the specific antibodies could not be demonstrated. The hemagglutinins were rare in guinea-pigs."

- (d) Levi, M.I. et al., Serological investigations on plague. Report IV. Importance of the immunological methods for the investigation of wild rodents in the natural plague foci. Loc. cit. pp. 199-205

Summarizing the results of their investigations, the authors stated that

"1. The method of testing the skin reactivity of wild and laboratory animals to the administration of plague toxin (0.1 mg) cannot be presently used for epizootiological purposes, in view of the high percentage of non-specific results.

2. The passive hemagglutination reaction for the observation of antibodies to the antigens of P. pestis was made with the serum of a small suslik and with that of a M. meridianus from the left Volga shore and gave a positive result in 10 instances. The examination of the sera of the rodents with the aid of this method is of substantial help in epizootiological surveys, supplementing the fundamental bacteriological method.

- (e) Levi, M.I. and Momot, A.G., Yield and characterization of the water-soluble fractions of different plague strains. Loc. cit. pp. 111-121

The conclusions drawn by the authors of this article were as follows:

"1. For a quantitative characterization of the yield of the water-soluble substances and their fractionation with the aid of ammonium sulfate 18 plague strains were studied, out of which the strains EV 4 and 1253 did not synthesize Fraction I to any considerable amount while the strains 1204, 1256 and 1258 produced this antigen in large amounts.

2. The greatest losses of the Fraction I antigen occur during repeated precipitations of the Fraction. The method of obtaining it devised by Baker et al. has a number of substantial shortcomings, the most important of which consists of the low yield of the fraction. At the same time this method permits to obtain Fraction I of a sufficiently uniform antigen content.

3. Freshly isolated virulent plague strains formed a larger amount of toxin than strains isolated some years ago and the avirulent strain EV 4. Out of the strains tested the best toxin producer was the strain 1260, isolated in 1959 in the Armenian SSR from a common vole. In a number of cases the yield of toxin in the Fraction II exceeded the amount of toxin in the water-soluble substances; still, we could not observe any fraction inhibiting the action of the toxin in white mice.

4. In the present work it has not been possible to observe substantial differences in the fractional composition of the water-soluble substances which was related to the different varieties of P. pestis."

- (f) Val'kov, B. G., Length of preservation of P. pestis and the antibodies in experimentally plague-infected small susliks.
Loc. cit. 215-220

Summarizing the results of his observations the author stated that

"1. From small susliks infected with a virulent plague strain the organisms could be isolated in winter on the 45th-56th days.

2. The virulence of the late obtained cultures remained high, actually unimpaired.

3. From small susliks infected during the active period of their life (April in the case of the adults, June in that of the young animals) no plague cultures could be obtained after twenty days.

4. The passive hemagglutination reaction proved positive in the sera of the susliks on the 41st-56th day after infection with the strain 1252 (4624) in 42.8%, after infection with the strain 1258 (280) in 28.2%.

5. Passive hemagglutination tests made with the sera of susliks on the 354th-375th day after infection with the strain 1256 (403) gave positive results in 26.4%.

6. The observation of antibodies in the sera of susliks one year after experimental plague infection gives reason to hope, that it will be possible also to detect in nature with the aid of this method animals which had had plague."

- (g) Kanatov, IU. V. and Shtel'man, A.I. Sensitivity of the midday gerbils to the plague toxin. Loc. cit. pp. 173-179

Experimenting with the Fraction 11 of P. pestis the authors found that generally speaking the midday gerbils were highly sensitive to the plague toxin during all seasons of the year. However, in contrast to the animals caught in the north-west of the Caspian Sea, those from the Volga-Ural interfluvial region proved more sensitive in spring and autumn than in summer and winter.

The plague toxin produced in the midday gerbils and in white mice specify hemagglutinins.

- (h) Borodko, S.L. and Samsonovich, L.G., Length of the immunity in guinea-pigs immunized with the combined live vaccine against plague, tularemia, brucellosis and anthrax.
Loc.cit. pp. 221-226

The conclusions of the authors were that

"1. Six to seven months after vaccination of guinea-pigs with the combined vaccine against plague, brucellosis, tularemia and anthrax, or against plague, tularemia and brucellosis, or also only with the corresponding monovaccines the intensity of the immunity against each of these infections becomes markedly lowered.

2. This drop in the immunity was more marked in the animals immunized with the complex vaccines.

3. The lowered intensity of the immunity is manifested by

(a) A considerable percentage of deaths in guinea-pigs challenged with virulent plague, tularemia or anthrax cultures and by a generalization of the infectious process in brucellosis-infected animals.

(b) A lowering of the agglutination titers in tests with tularemia and brucellosis antigens.

(c) An increase of the number of negative allergic reactions with brucellin and tularin."

- (i) Borodko, S.L. and Samsonovich, L.G., Influence of re-vaccination on the immunological shifts in animals immunized with complex vaccines

Loc. cit. pp.227-236

The authors summarized the results of their observations as follows:

"1. The re-vaccination of guinea-pigs immunized with monovaccines markedly increases the number of animals immune to challenge with the corresponding virulent organisms.

2. The re-vaccination of animals which had been immunized with a combined vaccine with one of the vaccines in question produces a re-enforcement of the allergic reactions against this vaccine and an increase of their number, but does not exert a marked influence on the allergic state of the body in regard to the other vaccines.

3. The re-vaccination of animals (initially) immunized with the combined trivaccine against plague, tularemia and brucellosis with one of the antigens of this combination or simultaneously with the combined vaccine, leads to a considerably increased production of antibodies against the repeatedly administered antigens and increases the number of animals immune to infection with the corresponding organisms. Re-vaccination with one of the three vaccines does not lower the intensity of the immunity produced by the other components of the trivaccine against plague, brucellosis and tularemia.

4. In the case of re-vaccination of animals immunized with the combined four vaccines, the anthrax vaccine inhibited to some degree the immunizatory functions of the tularemia vaccine and more still of the plague vaccine."

- (j) Shishkin, A. K., The Kalmyk Anti-Plague Organization in the fight against plague. Loc. cit. pp. 3-9

As can be gathered from this historical sketch, large-scale anti-plague work conducted during the period from 1934 to 1937 resulted in the disappearance of the almost perennial plague manifestations observed in the Kalmyk ASSR since 1913.* An interruption of the work from 1943-1946 necessitated by World War II lead to a reappearance of the disease in 1947, but the resumption of the campaigns resulted in the final disappearance of the infection which had last become manifested in 1954. The scope of the work conducted from 1941 to 1959 in the territory of the Kalmyk ASSR by the Elista and Astrakhan Anti-Plague stations can be gathered from the following table:

Rodents examined	1,001,600	Area of anti-rat campaigns in settlements(in thousands of square meters)	19,580.3
Ectoparasites examined	3,253,287		
Area of campaigns against wild rodents (thousands of hectares), 1933-1955	19,599.5	Area of deratization and disinsectization(in thousands of square meters)	13,763.4

* According to Levi and his colleagues (loc. cit. pp.293-307) who recorded the results of rodent surveys made in the focus north-west of the Caspian Sea and in the south-western part of the Volga-Ural interfluvial area in 1960, and made proposals for further work in 1961, the last appearance of plague there fell into the year 1938.

- (k) Kanatov, E.A. et al., Properties of freshly isolated cultures of P.pseudotuberculosis rodentium.
Loc. cit. 237-241

The conclusions reached by the authors of this brief but well documented article were that:

"1. The biochemical, cultural and serological properties of the cultures isolated from wild rodents* were typical for P. pseudotuberculosis rodentium.

2. The infectious sensitivity of these strains in the R form for subcutaneously infected susliks, midday gerbils, white rats and white mice was not high-highly sensitive were only guinea-pigs.

3. White mice, infected with the strain 97, succumbed only after the administration of 100 million or 1 billion organisms; nevertheless the susceptibility of these rodents was high, because an infectious process developed in these animals after the introduction of doses of 10,100 and 1,000 organisms."

- (1) Basova, N.N. et al., Distribution of Q-rickettsiosis.
Loc. cit. 243-252

Summarizing their results, the authors of this report stated that Q-fever was quite widely spread in the Stavropol Krai, Daghestan and the Kalmyk ASSR.

Antibodies to the Q-fever antigen were found nineteen times in the sera of practically healthy persons examined there as well as fifty times in 730 patients admitted under various diagnoses to infectious diseases wards.

Evidently the sheep, found frequently infected in the Stavropol Krai and the Kalmyk ASSR, were of greater epidemiological importance in the Q-fever manifestation than the cattle.

Serological evidence of the infection was found in two species of the birds while positive bacteriological findings were made with the aid of pooling tests in ticks of the species Ixodes frontalis, Rhipicephalus sanguineus and Hyalomma plumbeum.

* According to Levi and associates (loc.supra cit., pp.297) these two strains had been isolated in the spring of 1960, presumably from a forest mouse and from a small suslik. A third strain was isolated at the same time from a house mouse.

Selected Abstracts-III/306

274. Uraleva, V.S., Monomycin-dependent forms of brucellae.
Antibiotiki 10(1965)5: 428-432
(From the Rostov-on-Don SR Anti-Plague Institute)
Quoted by title.
275. Alisov, P.A. and Kasantsev, A.P., Frequency and peculiarities of sporadic ornithosis. Sov.medits.(1965) 5: 117-121
(From the Department of Infectious Diseases of the Order of Lenin S.M. Kirov Military-Medical Academy)

The conclusions of the authors of this article, which must be studied in detail by those interested in the subject of ornithosis, were as follows:

- "1. Sporadic ornithosis is a fairly widespread affection. Combined investigations (including complement fixation tests with ornithosis antigen) of 258 patients with pneumonia led to the detection of ornithosis in 55 (21.3%)
 2. The diagnosis of this affection is difficult owing to the absence of clear epidemiological data and the diversity of the clinical manifestations.
 3. The incidence of the disease was higher during the cool season. Men were somewhat more frequently affected than females, and persons over 40 years were in a majority among the sufferers.
 4. Most of the patients showed signs of intoxication with an increased temperature (over 39⁰c) and clinical signs of pneumonia. The lung processes had a tendency to take a protracted course and in part of the patients it came to the development of a chronic pneumonia.
 5. There was either a leucopenia or the number of leucocytes remained normal with a shift of the formula to the left, a neutropenia, lymphopenia, rarity or absence of eosinophiles and a monocytosis. During convalescence eosinophilia was often seen. The erythrocyte sedimentation rate was accelerated from the first days of the illness.
 6. Antibiotics were not always effective and also did not prevent relapses."
- 276 Formozov, A.N. and Isakov, I.U.A., Organizatsiia i metody ucheta ptits i vrednykh gryzunov (Organization and methods of accounting for the number of birds and harmful rodents). Izd. AN SSSR (1963). 256 pp.

The review of this book in No.2, (1965) of the journal Med. parazitol. i parazit. bolezni, p 242, can be mentioned by title only.

277. Important articles quoted in a reference list published in the Journal

Med. parazitol. etc. (1965)
2: 247-249

- 1) Burlachenko, T. A., The importance of the tick Ornithodoros tartakovskyi in the natural focality of plague. Thesis, Saratov (1964)
- 2) Erofeev, V. S., Virological and serological investigations in Tomsk natural focus of tick-borne encephalitis. Trudy Tomsk. inst. vaktsin i syvorotok 15 (1964): 41-44
- 3) Karpov, S. P. and Selezneva, A. A., The diagnostic significance of the hemagglutination inhibition reaction in tick-borne encephalitis. Ibidem: 55-59
- 4) Karpov, S. P. et al., Materials concerning the immunological structure of the tick-borne encephalitis foci in the Tomsk Oblast. Ibidem: 45-49
- 5) Karpov, S. P. et al., Prospects of liquidating the incidence of tick-borne encephalitis in the Tomsk focus. Ibidem: 91-98
- 6) Murina, L. M., Immunological shifts in persons vaccinated according to different schemes against tick-borne encephalitis. Ibidem: 306-309
- 7) Murina, L. M. and Stetkevich, A. A., Acquisition of an allergic state in the course of vaccination against tick-borne encephalitis. Ibidem: 323-329
- 8) Nesterov, V. S., Materials for a comparative characterization of the development of the immunity reaction in tick-borne encephalitis. Ibidem: 302-305
- 9) Kleshchevoi entsefalit. Kemerov tick-fever, hemorrhagic fever and other arbovirus infections. Materialy XI nauchnoi sessii inst. poliomielita i virusnykh entsefalitov AMN SSSR, Moscow (1964)
- 10) Kharitonova, E. P. and Vizen, E. M., Tick-borne encephalitis in children. Zh. nevrolog. etc. 64 (1964) 7: 970-973
- 11) Vysotskaia, S. O., The fleas of the small mammals in the Trans-Carpathian Oblast. Parazitol. sbornik 22 (1964): 153-172
- 12) Gauzshtein, D. M. and Kunitskii, V. N., Observations on the species composition of fleas on the birds in the region of Lake Balkhash in connection with the role of birds in the dissemination of plague. Zool. zh. 43 (1964) 10: 1473-1479

- 13) Isaeva, E. V., Fleas (suctoria) of Azerbaidzhan in relation to their importance in the epizootiology of plague. Thesis, Baku (1964).
- 14) Novokreshchenova, N. S. and Kuznetsova, G. S., Peculiarities of the ecology of the fleas of the big gerbils in the localities with constant plague epizootics. Zool. zh. 43 (1964) 11: 1638-1648.

278. Smirnov, E. I., Some lessons of the anti-epidemic protection of the troops during World War II. Zh. mikrobiol. (1965) 5:3-8.

This article which like some others in the May issue of the Zhurnal mikrobiologii is devoted to the memory of the victorious end of World War II in Europe 20 years ago, the author furnishes a few data on the incidence of epidemic diseases occurring during the hostilities in the Soviet armed forces. According to these data the incidence of epidemic diseases among the troops averaged 9 percent of the total diseases, the incidence of dysentery and hemorrhagic colitis amounting to 4.4%, that of typhus to 2.7%, those of typhoid and paratyphoid, and of tularemia to 0.6% each.

Again referring to the last mentioned disease in a later part of his article, Smirnov stated that

"During the first part of the war the medical service met with two non-considerable tularemia outbreaks. It was found that we were not fully acquainted with the mechanism of the transmission of the causative organism from the rodents to man, with the clinical manifestations of the disease in relation to the routes of infection and were insufficiently prepared for a fight against it."

279. Elkin, I. I., From the experience of a military epidemiologist Zh. mikrobiol. (1965) 5:8-13.

Referring to the subject of tularemia, the author pointed out that during World War II much new information on this disease became available. Hitherto unknown natural foci of the disease were detected in the northern part of the RSFSR in the Kalinin, Novgorod and Leningrad oblasts.

Aptly describing the deterioration of the tularemia situation during the war, Elkin stated that

"The hostilities interrupted the normal agricultural activity of the people in the zones near the front. The grain was not harvested, the grass not cut. Thus an abundant base of foods was created for the multiplication of the rodents. And really in the autumn of 1942 there appeared in the trenches and duggouts large numbers of mice and similar rodents.....This

population density was favoring the appearance of tularemia epizootics in localities where the infection was preserved among the water-rats and did not become manifest during the time of peace. Owing to the intensive epizootics among the mice and allied rodents attacks of tularemia became manifest in the troops on some parts of the front."

Being due to the inhalation of the dust of straw contaminated by tularemia-affected rodents, the "trench" form of the disease was characterized by the appearance of broncho-pulmonary manifestations. However, other forms of the disease, including the ulcero-bubonic type due to mosquito-bites, were also observed among the troops as well as the civilian population.

Since Gaiskii's and El'bert's vaccine became available in 1944 only, the measures taken against tularemia in the armies consisted of the following:

(1) Observations on the population density and the species incidence of the rodents as well as on manifestations of the infection among the animals; (2) A watch for suspicious manifestations of the disease among the troops as well as the civilian population including the performance of tularin tests in patients with suspicious febrile affections; (3) Rodent-proofing of food-stores, wells, etc. and rodent destruction, including the placing of cats into the trenches; (4) Substitution of pin twigs for the straw or hay used as bedding in the trenches or dug-outs.

280. Ugriumov, B. L., Experience of the work of an "infectionist" under the conditions of the front. Zh. mikrobiol. (1965) 5: 19-23

Relating his personal experiences the author described inter alia a tularemia outbreak seen by him at the end of 1943.

281. Bosova, N. N. and Gerasiuk, L. G., Preventive properties of the sera of experimental animals immunized against plague. Zh. mikrobiol. (1965) 5: 107-113
(From the Rostov-on-Don Govt. Anti-Plague Institute.)

The conclusions of the authors of this article, the text of which does not lend itself to the purposes of a brief review, were as follows:

"1. A close parallelism was found to exist between the preventive properties of the sera of animals immunized with various preparations determinable with the aid of mouse protection tests and the antibody titers to Fraction I in passive hemagglutination tests.

2. The sera of animals immunized only with Fraction I and showing considerable titers of the corresponding antibodies, had marked preventive properties. The sera of 10-18 days old white mice and rats, born by females immunized with Fraction I, protected adult mice against hundreds lethal doses of P. pestis.

3. The removal of the antibodies to Fraction I from the immune sera considerably lowered the activity of the latter in the mouse protection tests.

4. The degree of protection afforded by the sera depended upon the systematic affinity of the species of the donor to that of the recipient and also upon the degree to which the antibody titer to Fraction I approached the maximal values for the given species of animals.

282. Grekova, N. A., Histochemical characterization of the allergic vaccinal pathology caused by live anti-brucellosis vaccines. Zh. mikrobiol. (1965) 5: 122-125
(From the N. F. Gamaleia IEM, AMS, USSR.)

This illustrated article has to be studied in the original or in a translation.

283. Dranovskaia, E. A. and Dubrovskaja, I. I., Dehydrogenase activity of Br. abortus 19-BA. (Author's review). Zh. mikrobiol. (1965) 5: 149
(From the N. F. Gamaleia IEM, AMS, USSR.)

The authors of this note came to the conclusion that

"the chloride of 2,3,5-triphenyltetrazole, used as hydrogen acceptor in tests for the determination of the dehydrogenase activity of many organisms, is also suitable for analogous tests in the case of brucellae."

284. Rall, IU., Review of the article "Lutte contre la peste" by M. Baltazard and E. Brygoo (Revue d'Immunologie 27 (1963) 3: 123-143). Zh. mikrobiol. (1965) 5: 155-157

This on the whole benevolent review can be mentioned by title only.

285. Grebenchuk, A. I. et al., Salmonellosis among the rodents of Leningrad. Zh. mikrobiol. (1965) 6: 43-47*

The authors concluded their well documented report by stating that though it did not seem justified to consider the rodents as the reservoir of salmonellosis, the presence of the infection in them had been proved and in a number of instances identical serological types had been met with in these animals and in man. Every possible effort had to be made, therefore, to protect the food-stuffs destined for human consumption against contamination by potentially salmonella-infected rodents.

286. Akimovich, V. V. et al., In vitro selection of variants with vaccinal properties from virulent strains of P. pestis. Zh. mikrobiol. (1965) 6: 64-68

(From the All-Soviet SR Anti-Plague Institute "Mikrob", Saratov.)

Summarizing their proposals, the authors stated that

"Subcultures with vaccinal properties can be separated off from virulent plague strains according to the following signs: On the medium of Jackson and Burrows they ought to grow in the form of unpigmented colonies, on the magnesium-oxalate agar of Higuchi-Smith they ought to form colonies of the 3rd order (depending on calcium at a temperature of 37°C) and show no tendency to lose their 'residual' virulence; they have to be non-virulent for mice in a dose of 1×10^7 organisms; under the influence of iron salts their virulence ought to increase, but without restoration of their ability to form pigment and of their (full) virulence; in a dose of 5×10^3 organisms they ought to engender an immunity in 80-90% of white mice and guinea-pigs against challenge with 200 DCL of virulent plague bacilli."

287. Ilushchenko, G. V. and Kuzmaite, R. I., An instance of the isolation of Pasteurella multocida in appendicitis. Zh. mikrobiol. (1965) 6: 141-142

(From the Central SR Institute of Epidemiology, MH, USSR, and the Central Institute for the Post-Graduate Training of Physicians, Moscow.)

* From the Leningrad Port and Municipal Anti-Plague Observation Station and the Leningrad Sanitary-Epidemiological Station

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The authors report on the isolation and identification of a strain of P. multocida from an acutely affected appendix removed through operation. The patient in question, who was afterwards treated with penicillin and streptomycin, made an uneventful recovery.

288. Kucheruk, V. V. et al., Zoological factors of the existence of some natural tularemia foci. Zh. mikrobiol. (1965) 6: 80-86
(From the N. F. Gamaleia IEM, AMS, USSR.)

This ecological study of a tularemia focus in the Altai Mountains can be mentioned by title only.

289. Andris, V. G., Experience of the liquidation of brucellosis in the Osakarov Raion, Zh. mikrobiol. (1965) 6:137-141
(From the Hospital of the Osakarov Raion, Kazakh, SSR.)

As described in this well written article, close cooperation between the medical and veterinary services and the managements of the communal farms, systematic surveys of the domestic herds (cattle, sheep and goats) and of the human population, mass vaccination campaigns among the human population and later also mass vaccination of the herds led to a total disappearance of human brucellosis attacks and a marked reduction of the incidence of the disease in the herds.

290. Torban, M. A. and Malikova, M. V., Study of the peptidase activity of the brucellae. (Annotation). Zh. mikrobiol. (1965) 6: 155
(From the Odessa Institute of Epidemiology and Microbiology named after Mechnikov).

The authors of this brief note found that while the proteolytic activity of the brucellae was inconsiderable, their peptidase activity was considerably higher.

291. Kaplin, P. I. et al., A contribution to the detection of Q-fever in the Dnepropetrovsk oblast. (Annotation). Zh. mikrobiol. (1965) 6:155

As stated in this note, complement fixation tests with Q-fever antigen made in 348 patients admitted to hospitals with fever, gave a positive result in 7 instances.

292. Somova, A. G. Vibriocines of the cholera vibrio. Zh. mikrobiol. (1965) 6: 124-129
(From the Rostov-on-Don SR Anti-Plague Institute.)
293. Rogozin, I. I. and Kotliarova, Kh., Review of the book by F. N. Pavlovskii: Prirodnaia ochagovost transmissivnykh boleznei v sviazi s landshaftnoi epidemiologiei zooantroponozov. Moscow-Leningrad (1964). (Natural focality of transmissible diseases in relation with the landscape epidemiology of zoo-anthroponoses). Zh. mikrobiol. (1965) 6: 156-157 211 pp.

These two items are quoted by title.

294. Priadkina, M. D. et al., Study of the pest-allergen of the Tarasevich Government Control Institute on animals and volunteers. Report II. Zh. mikrobiol. (1965) 4: 27-33
(From the Tarasevich Government Control Institute of Medical Biological Preparations.)

As stated in the introduction to this article, at present two plague allergens are prepared in the Soviet Union - Pestin PP and the pest-allergen of the Tarasevich Institute. The latter, the method of manufacture of which has been described in an article by Priadkina et al. (Abstr. p. 782), is obtained through precipitation of the extract of acetone-dried plague bacilli with ammonium sulfate (at 40-60% saturation).

Amplly experimenting with this product, Priadkina and her associates came to the following conclusions:

- "1. The pest-allergen of the Tarasevich Government Control Institute produced a positive allergic reaction in immunized guinea-pigs and caused no reaction in non-immune animals.
2. With the help of the pest-allergen it was established that the different vaccinal plague strains vary in the property of producing an allergic transformation of the body.
3. The intracutaneous allergic reaction is a means of indicating the state of immunity of the body and, apparently, can be used for a preliminary indirect evaluation of the immunogenicity of the plague vaccine.
4. The intracutaneous administration of the pest-allergen is harmless for animals and man.
5. Tests on 95 volunteers showed that persons who had been immunized against plague intracutaneously and repeatedly by the cutaneous route reacted positively to the pest-allergen."

295. Basova, N. N. et al., Serological indices of the immunogenicity of the live plague vaccine under experimental conditions. Zh. mikrobiol. (1965) 4: 33-37
(From the Rostov-on-Don SR Anti-Plague Institute.)

In the introduction to this article, which must be studied in detail by those interested in the problems of immunization against plague, the authors pointed out that

"Since under our conditions (i.e. in the Soviet Union) it is practically impossible to arrive at an epidemiological evaluation of the efficacy of the vaccinations, it is an obvious necessity to devise methods of a direct evaluation of the immunological transformation in the vaccinated."

Studying this problem with the aid of the EV strain (which they considered as "the most immunogenic and innocuous" among the vaccinal plague strains used in the live state), the authors arrived at the following conclusions:

- "1. Single administrations of immunizing doses of the live plague strain EV regularly led in guinea-pigs, white rats and mice to the production of antibodies to the Fraction I of P. pestis. The time of appearance of these, the level of the titers and the length of circulation of the antibodies in the serum depended upon the species of the animals, the vaccine doses and also upon the number of vaccinations.
2. The most sensitive, specific and simple method of observation of the antibodies to the Fraction I was the passive hemagglutination reaction with a stable standard diagnosticum.
3. One could note a distinct parallelism between the presence of the antibodies to the Fraction I, the protective properties of the sera (of the vaccinated animals) and the resistance of the animals to challenge with a virulent cultures of P. pestis.
4. The serological methods can be used for assaying the immunogenicity of live plague vaccines."

296. Klassovskii, L. N. et al., Problems of the ecology of plague and pseudotuberculosis bacilli, Report I. Observations on the carbon and nitrogen requirements of P. pseudotuberculosis. Zh. mikrobiol. (1965) 4: 37-41
(From the Central-Asian SR Anti-Plague Institute.)

The conclusions reached by the authors of this study, the particulars of which do not lend themselves to a brief review, were that

1. The pseudotuberculosis bacillus was capable of utilizing as carbon sources glucose, rhamnose, glycerol, lactic, citric and succinic acids and the salts of organic acids (acetates, citrates). Glycerol proved most suitable in this respect.

2. P. pseudotuberculosis was capable of utilizing as nitrogen source both organic compounds like urea and amino-acids and the inorganic ammonia salts which proved to be most suitable.

3. A synthetic medium, containing glycerol as only carbon source and ammonium sulfite as nitrogen source may be used with advantage to help in the differentiation of the pseudotuberculosis from the plague bacillus which is incapable of growing on simple substrates of this kind.

297. Khveshchenko, E. N. et al., A note on the detection of tularemia in the Primorsk Krai. Zh. mikrobiol. (1965) 4: 12-13
(From the Anti-Plague Station of the Primorsk Krai.)

The authors of this note give a description of the first attack of tularemia observed (in 1963) in a resident of the Pacific coastal province. His illness was presumably the result of a water-borne infection. Tularin tests gave a positive result in 18 persons of the village inhabited by the patient but apparently only two had been infected locally.

298. Barancvskii, L. M. et al., Observations on the epidemiology of tularemia in the Semipalatinsk Oblast. Zh. mikrobiol. (1965) 4: 14-18
(From the Semipalatinsk Medical Institute and the Sanitary-Epidemiological Station of the Semipalatinsk Oblast.)

As shown in a table, during the period from 1947 to 1962 inclusively 234 cases of tularemia in man were recorded in the Semipalatinsk Oblast. The infection being mainly water-borne, 87.1% of the patients suffered from the anginose-bubonic form of the disease.

The reservoir of the infection in this focus was formed by the water-rats (A. terrestris). Positive bacteriological findings were repeatedly made in these animals and in sources of water supply, recently also in a tick (Dermacentor marginatus).

299. Brikman, D. I., Considerations on the probability of human tularemia infections in a focus of the floodland type. Zh. mikrobiol. (1965) 4: 18-20
(From the Irkutsk SR Anti-Plague Institute for Siberia and the Far East.)

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The author of this article, the text of which must be consulted by workers interested in the epidemiology of tularemia, made his studies in two severely affected raions of the Iakutsk Oblast. Water-rats served as the reservoir of the infection. The attacks in man were mainly mosquito-borne.

300. Uglovoi, G. P., Experience in the detection of natural tularemia foci in the Chuvash ASSR. Zh. mikrobiol. (1965) 4:21-25
(From the N. F. Gamaleia IEM, AMS, USSR and the Sanitary-Epidemiological Station of the Chuvash ASSR.)

The author found that owing to the scarcity of water-rats and the absence of rapid rises of the density of the rodent populations the tularemia foci in the Chuvash ASSR had a latent character. However, observations on an increase of the musk-rat population deserved attention.

301. Zaitsev, A. A. et al., Observations on the natural carriage of tularemia bacilli by the tick Hirstionyssus musculi Johnston. Zh. mikrobiol. (1965) 4: 25-27
(From the Sanitary-Epidemiological Station of the Stavropol Krai.)

Working in the Stavropol Krai the authors found that Hirstionyssus musculi was capable of becoming naturally tularemia-infected and of harboring the infection for about 6 months. Probably, therefore, these gamasides play a role in the maintenance and activation of the natural tularemia foci.

302. Meshalkin, G. I., Some data on anthrax in the Krasnoiarsk Krai. Zh. mikrobiol. (1965) 4: 78-80
(From the Sanitary-Epidemiological Station of the Krasnoiarsk Krai.)

The conclusions of the author of this brief article were that

- "1. The presence of anthrax in animals and in man has been recorded in the Krasnoiarsk Krai since the 'seventies of the last century.
2. The anthrax foci, active in the past, are presently localised in the floodlands of the Enisei, its affluents and on other rivers.
3. Many anthrax foci which were stationary in the period before the revolution, are still active at present."

Since the construction of hydroelectric stations on the Enisei River is planned, the author stresses the necessity of further studies of the anthrax situation in the Krasnoiarsk Krai.

303. Balandin, G. A., Use of safranin for the species differentiation of brucellae. Zh. mikrobiol. (1965) 4: 89-91
(From the Rostov-on-Don SR Anti-Plague Institute.)

As described in this article, the details of which must be studied in the original or in a translation, addition of safranin to agar media in a proportion of 1:10 000 renders it possible to differentiate Br. suis from Br. melitensis and Br. abortus.

304. Grekova, N. A. and Gubina, E. A., The course of brucellosis infection in guinea-pigs infected with brucellae isolated from reindeers. Zh. mikrobiol. (1965) 4: 92-96
(From the Gamaleia IEM, AMS, USSR.)

The conclusions of the authors of this illustrated article were that

"1. An examination of 3 strains of brucellae(3, 03, 011) isolated from reindeers demonstrated their marked virulence and pathogenicity for guinea-pigs; the strain 011 showed these properties to a somewhat lesser degree.

2. The patho-histological changes in the lymph nodes and organs due to the introduction of brucellae isolated from reindeers were analogous to the changes produced by the same doses of the Br. melitensis strain 565.

3. When determining the virulence and pathogenicity of brucellae, it is indispensable to use besides massive also small infective doses, because with the latter it is possible to bring out more fully the difference between the strains."

305. Karakulov, I. K., Fundamental results of a study of the epidemiology of Q-fever in the Kazakhstan. Zh. mikrobiol. (1965) 4: 53-57
(From the Institute of Regional Pathology of the AN of the Kazakh SSR and the Alma-Ata Medical Institute.)
306. Anokhin, I. I., Distribution of hemorrhagic nephroso-nephritis in the Amur Oblast. (Annotation). Zh. mikrobiol. (1965) 4: 147

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307. Somov, G. P., A study of the role of the mouse-like rodents as reservoir of the ticks-borne rickettsiosis of North Asia. Zh. mikrobiol. (1965) 4: 6-12
(From the Vladivostok Institute of Microbiology, Epidemiology and Hygiene.)

These three articles are quoted by title.

308. List of noteworthy articles in : Trudy Armianskoi protivochumnoi stantsii (collected papers of the Armenian Anti-Plague Station) Vypusk 2, Erevan (1963)

-
- 1) Mkrtchian, S. A., Activity of the Armenian Anti-Plague Station for 20 years (1941-1961). Pp. 5-14+
 - 2) Shekhikian, M. T. et al., Characterization of the Plague strains isolated in Armenia. Pp. 15-21+
 - 3) Mkrtchian, S. A. et al., Susceptibility and infectious sensitivity of the Asia Minor susliks to plague. Pp. 23-41+
 - 4) Vartanian, A. A. et al., Study of the bacteremia in Asia Minor susliks infected with different plague stains. Pp. 43-56+
 - 5) Kotliarova, R. I. et al., Results of the study of the bacterial culture 1384 isolated from a small suslik in the territory north of the Caucasus. Pp. 57-65+
 - 6) Davtian, G. G. et al., Infectious sensitivity of the Meriones vinogradovi to plague infection and character of the bacteremia in therm. Pp. 67-82+
 - 7) Aliev, M. N. and Zakutinskaia, N. A., Peculiarities of the course of plague in the red-tailed gerbils in eastern Transcaucasia. Pp. 83-96
 - 8) Zilfian, V. N. et al., Susceptibility of the common voles to plague. Pp. 97-105+
 - 9) Zilfian, V. N. et al., Bacteremia in plague-infected common voles. Pp. 107-114+
 - 10) Babenyshev, V. P., Observations on the role of the common vole in the plague epizootics. Pp. 115-120+

+ The articles marked + are reviewed below.

- 11) Pokrovskaia, M.P. et al., Improvements of the biological tests on white mice for detecting plague infection. Pp. 121-134+
- 12) Bliakher, S. L., A method for the evaluation of the immunogenic activity of anti-plague vaccines based on the use of cortisone. Pp. 135-157
- 13) Kraskina, N. A., Reactions of the lymph nodes and the spleen during the process of formation of the immunity against plague. Pp. 159-168
- 14) Kotliarova, R. I., Study of the protein content of the blood serum of guinea-pigs vaccinated and repeatedly re-vaccinated with the live dry anti-plague vaccine 1-17 with the aid of paper electrophoresis. Pp. 169-185
- 15) Kratinov, A. G. and Khar'kova, N. M., Glycemic reactions for acetylcholin in plague intoxication. Pp. 187-197
- 16) Gubina, N. E. and Pobivantseva, N. P., Preservation of the organs of rodents for their examination for plague. Pp. 199-207+
- 17) Rudnev, M. M., Contribution to the intracerebral method of infection of white mice for an accelerated diagnosis of plague. Pp. 209-216+
- 18) Kutsemakina, A. Z. and Biriukova, J. S., Casein-hydrolysate agar as a sensitive medium for the cultivation of P. pestis. Pp. 217-222
- 19) Klimukhina, M. N. et al., The problem of this natural focality of tularemia in the environs of the town Tbilisi. Pp. 223-244+
- 20) Mnatsakanian, A. G. and Pogosian, M. K., Results of the study of the natural focality of tularemia in the Armenian SSR for the period from 1956 to 1961 (according to the data of the Department of specially dangerous infections of the Republican Sanitary-Epidemiological Station). Pp. 245-254+
- 21) Ovasanian, O. V. et al., Instances of the transport of tularemia-infected pasture ticks on cattle imported into the Armenian SSR. Pp. 255-260+
- 22) Dzhanpoladova, V.P. et al., Long persistence of tularemia in man. Pp. 261-263+

+ The articles marked + are reviewed below.

Selected Abstracts-III/320

- 23) Pilipenko, V. G., Cultivation of the organs of rodents for tularemia with the aid of the impression method. Pp. 265-271
- 24) Kazarian, A. P. et al., Results and prospects of the fight against brucellosis in the Armenian SSR. Pp. 273-284+
- 25) Davtian, G. G. and Ananian, E. L., An anthrax outbreaks in the Kafan Raion of the Armenian SSR in 1961. Pp. 303-308+
- 26) Ledovskaia, A. P., Bactericidal action of chlorine on the V. choerae in waterworks water. Pp. 309-312
- 27) Adamian, A. O. et al., Distribution of rodents and their fleas in the Zangezur Raion of the Armenian SSR. Pp. 335-345
- 28) Avetisian, G. A., Fleas of the gerbils of the Armenian SSR. Pp. 347-360

Reviews:

- (a) Mkrtchian, S. A., Activity of the Armenian Anti-Plague Station for 20 years (1941-1956). (Loc. cit. 5-14): As stated in the introduction of this article, an anti-tularemia station, established in Erevan in 1941, was reorganized in the following year to serve as the Republican Anti-Plague Station. Branches of the latter were opened in Leninakan in 1944 and in Kafan in 1953. In the text of the article brief descriptions are given of the activities of the Erevan station, mentioning inter alia the work during the 1958 and 1959 plague epizootics.
- (b) Shekhikian, M. T. et al., Characterization of the plague strains isolated in Armenia. (Loc. cit. 15-21): Examining the 20 plague strains isolated in 1958 and 1959 from small rodents and their fleas, the author found them peculiar insofar as (a) they acidified rhamnose after 2-3 days; and (b) while virulent for white mice and Meriones vinogradovi, they were considerably less virulent for guinea-pigs, white rats and Asia Minor susliks.
- (c) Mkrtchian, S. A. et al., Susceptibility and infectious sensitivity of the Asia Minor susliks to plague infection. (Loc. cit. 23-41): The Asia Minor susliks, especially the young animals, proved highly susceptible to experimental plague infection.
- (d) Vartanian, A. A. et al., Study of the bacteremia in Asia Minor susliks infected with different plague strains. (Loc. cit. 43-56): The conclusions reached by the authors were that

+ The articles marked + are reviewed below.

- "1. Virulent plague strains (the "marmot" and the "gerbil" strains) produce in Asia Minor susliks a bacteremia which is uniform in character, intensive and long-lasting.
2. Differences in the age and sex of the animals did not exert an influence on the development and the course of the bacteremia.
3. The local plague strain 107 did not produce a bacteremia in the Asia Minor susliks.
4. The local plague strain 110 produced in rare instances a bacteremia in young susliks in the active period of their life."

- (e) Kotliarova, R. I. et al., Results of the study of the bacterial culture 1384 isolated from a small suslik in the territory north of the Caucasus. (Loc. cit. 57-65): As described in this article, the details of which must be studied in the text, the authors isolated in 1961 in the Stavropol Krai from a small suslik a strain which seemed to have an intermediate position between the plague and the pseudotuberculosis bacillus.
- (f) Davtian, G.G. et al., Infectious sensitivity of the Meriones vinogradovi to plague infection and character of the bacteremia in them. (Loc. cit. 67-82): Meriones vinogradovi proved to be highly sensitive not only to the virulent gerbil strain of P. pestis but also to the strains isolated from voles.
- (g) Zilfian, V. N. et al., Susceptibility of the common voles to plague. (Loc. cit. 97-105): Experimental studies, for the results of which the text of this article must be consulted, led the authors to the conclusion that the common voles were of "definite importance" in the epizootiology of plague in Armenia.
- (h) Zilfian, V. N. et al., Bacteremia in plague-infected common voles. (Loc. cit. 107-114): The authors summarized that

"Experimental work, performed by us, showed that in the voles one can observe a marked, intensive and long-lasting bacteremia, as a result of which the fleas feeding on the voles can easily contract plague."

It was also important to note that the vole flea Ctenophthalmus teres had been found naturally plague-infected. For these reasons the authors felt convinced that the common voles played an important role in the plague manifestations of Armenia.

- (i) Babenyshev, V. P., Observations on the role of the common vole in the plague epizootics. (Loc. cit. 115-120): The author of this article, the details of which do not lend themselves to the purposes of a brief review, came to the conclusion that on the Leninakan Plateau

"the common and social voles as well as the other species of small rodents do not serve as a long-functioning reservoir of plague but during acute epizootics become merely involved in the epizootic process as 'fellow-travellers'."

- (j) Pokrovskaya, M. P. et al., Improvements of the biological tests on white mice for the detection of plague infection. (Loc. cit. 121-134): In order to improve the results of animal experiments with plague-suspect materials the authors recommended

- 1) To use when testing materials presumably containing attenuated organisms at least 5 or preferably 10 white mice.
- 2) To inject the material intraperitoneally or intravenously.
- 3) To use if possible mice standing under the influence of cortisone (intramuscular injection of 3.75-5.0 mg of cortisone 4-16 hours before the infection).

- (k) Bliakher, S. L., A method for the evaluation of the immunogenic activity of anti-plague vaccines, based on the use of cortisone. (Loc. cit. 135-157): This well documented article has to be studied in the original or in a translation.

- (l) Gubina, N. E. and Pobivantseva, N. P., Preservation of the organs of rodents for their examination for plague. (Loc. cit. 199-207):

The conclusions reached by the authors of this article were that

"1. As a preservative for the individual keeping of the organs of animals destined to be examined for plague we recommend under field conditions meat-peptone broth with gentian violet in a concentration of 1:100 000.

2. Cultivations can be made by implanting material from the preserving fluid or agar.

3. Owing to the ability of the plague bacilli to multiply in the preserving fluid it is possible to detect the infection even when only single organisms are present in the material under test.

4. The virulence as well as the biochemical and morphological properties of the plague bacilli isolated from the preserving fluid, in which pieces of spleen had been kept at a temperature of +28° C, underwent no change during the observation period of 59 days.

5. The viability of the plague bacilli in the preserving fluid containing pieces of the spleen of guinea-pigs succumbed to plague, is somewhat better in meat-peptone broth with gentian-violet in a concentration of 1:100 000 than in a 2% salt solution containing the dye in the same concentration."

- (m) Rudnev, N. M., Contribution to the problem of the intracerebral method of infecting white mice for the purpose of an accelerated diagnosis of plague. (Loc. cit. 209-216): The conclusions reached by the author of this article were that

1. In white mice intracerebrally infected with a virulent or a vaccinal plague strain it comes to an intensive multiplication of the organisms in the brain and their dissemination into the internal organs.

2. If a virulent strain is used, the process becomes generalized already within the first hours after infection.

3. 2-5 organisms of a virulent plague strain represent the minimal generalizing dose for the intracerebral infection of white mice.

4. In order to obtain an early diagnosis it is advisable to use 8-10 mice for intracerebral infection. Part of the animals ought to be killed after 12 and 24 hours, while the others are kept under observation.

- (n) Klimukhina, M. N. et al., The problem of the natural focality of tularemia in the environs of the town Tbilisi. (Loc. cit. 223-244): Isolations of tularemia cultures made periodically from 1957 to 1960 in the western suburbs and near the water reservoir of Tbilisi led the authors to the conclusion that a natural focus of this infection existed in this zone.

- (o) Mnatsakanian, A. G. and Pogosian, M. K., Results of the study of natural focality of tularemia in the Armenian SSR during the period from 1956 to 1961 (according to the data of the Department of specially dangerous infections of the Republican Sanitary-Epidemiological Station). (Loc. cit. 245-254): As stated in this article, the details of which must be studied in the text, from 1956 to 1961 sixty-three attacks of tularemia were recorded in the population of Armenia, mainly in raions hitherto believed to be free from infection.

- (p) Ovasanian, O. V. et al., Instances of the transport of tularemia-infected pasture ticks on cattle imported into the Armenian SSR. (Loc. cit. 255-260): As can be gathered from this article, an examination of 17,776 ticks collected from cattle and sheep imported into Armenia during the period from 1954 to 1962 led to the isolation of 47 tularemia strains.
- (q) Dzhanpoladova, V. P. et al., Long persistence of tularemia in man. (Loc. cit. 261-263): The authors describe briefly two instances of the chronic relapsing form of tularemia, of which one of the patients suffered for 18 years.
- (r) Piliperko, V. G., Cultivation of the organs of rodents for tularemia with the aid of the impression method. (Loc. cit. 265-271): As described in this illustrated article, the author found it useful to make cultures from the liver and spleen of tularemia-infected animals by repeatedly impressing the cut surface of the organs in question on the surface of suitable media.
- (s) Kazarian, A. P. et al., Results and prospects of the fight against brucellosis in the Armenia SSR. (Loc. cit. 273-284): The concluding remarks of this article, the details of which must be studied in the text, were as follows:

"We do not believe that it is possible to liquidate brucellosis solely through mass vaccination of the human population.

In order to eradicate this infection among the human population it is necessary to implement besides immunization to the population under risk of the infection all measures for a complete eradication of brucellosis among the domestic animals, in the first line among the sheep which form the main source of human infection. For this purpose it is indispensable to make constant provisions for the cooperation of the veterinary and medical workers with the active participation of the administrations of the sovkhozes, kolkhozes and regional committees (raii spolkoms) and arrangements for the participation in the fight of the rural population, in the first line the cattle-and sheep-breeders."

It is important to note that within recent years anti-brucellosis vaccination of the cattle and sheep has been used in Armenia on a large-scale.

- (t) Davtian, G. G. and Ananian, E. L., An anthrax outbreak in the Kafan Raion of the Armenian SSR. in 1961. (Loc. cit. 303-308): The authors describe an outbreak of anthrax affecting 29 persons in the town of Kafan, Armenia, which stood in causal connection with the importation of cattle from the Azerbaidzhan SSR. All sufferers recovered.

309. Basalaev, A. A., Observations on the clinique and diagnosis of ornithosis. Zdravrookhr. Belorussii (1965) 5: 68-69 (From a military hospital.)

This note contains the histories of two out of the three ornithosis patients seen by the author.

310. Cherchenko, I. I. and Rudnev, M. M., Accelerated demonstration of P. pestis with the aid of intracranial infection of white mice. Zh. mikrobiol. (1965) 7: 108-113. (From the Stavropol Branch of the All-Soviet SR Anti-Plague Institute "Mikrob".)

As described in this article, intracranial infection of white mice with small, ordinarily sublethal doses of plague material produced rapid death of the animals. This method of infection appeared to be particularly useful for the detection of plague strains with a modified virulence, e. g. for investigations in Transcaucasia in order to study the "vole" variety of the plague bacillus. For practical purposes combined intracranial and intraperitoneal or subcutaneous infections of the test animals were found to give best results.

311. Ostrovskaya, N. N., Experimental study of the vaccinal properties of a variant of Br. abortus obtained under the action of the brucellosis phage T. 6. Zh. mikrobiol. (1965) 7: 36-41. (From the Gamaleia IEM, AMS, USSR.)

Summarizing the results of her observations, the author stated in the concluding paragraph of her text that

"The evidence adduced demonstrates the ability of the culture Brucella abortus 84 C (obtained through bacteriophage action from a virulent strain), if given in an amount of $2 \cdot 10^9$ organisms to guinea-pigs, to stimulate in the latter the formation of an immunity of a moderate degree. In our opinion it is indicated to continue the study of this culture, since in view of its weak pathogenicity and slight sensitizing properties it may be used as a vaccinal strain. Moreover, some peculiarities of the antigenic structure of this culture point to the possibility of a serological differentiation between vaccinated individuals and human beings or animals infected with and affected by brucellosis."

312. Kucheruk, V. V. et al., Seasonal peculiarities of the immunization of the small rodents of the natural tick-borne encephalitis focus in the southern taiga forests of the European plain. Med. parazitol. 34 (1965) 3: 259-264. (From the Department of Naturally Focal Diseases of the N. F. Gamaleia, IEM, AMS, USSR, Moscow.)

The conclusions of the authors were that

- "1. The presence of hemagglutination-inhibiting antibodies in the small rodent populations living in the territory of a natural tick-borne encephalitis focus (in the Kirov Oblast) shows a strictly seasonal character, somewhat lagging behind the infestation of the animals with the larvae and nymphs of the taiga ticks. Animals with antibodies appear during the second half of May, their percentage becomes highest in July-August, and they become absent by November.
2. The peculiarities of the seasonal curve of immunization in one and the same rodent species during different years are determined by the time of infestation of the animals and the amounts of larvae and ticks feeding upon them.
3. The seasonal curve of immunization, the percentage of immune animals and the maximal antibody titers markedly differ in the different rodent species. These differences depend upon peculiarities of the reactivity of the animals as well as upon the relation of the various rodent species with the larvae and nymphs of the ixodes ticks."

313. Shtil'mark, F. R., Considerations of the influence of the activity of man on the tick-borne encephalitis foci in southern Siberia. Med. parazitol. 34 (1965) 3: 271-273.
(From the Institute of Forestry and Tree Cultivation of the Siberian Branch of the USSR AN, Krasnoyarsk.)

This article, describing the in general stimulating influence of human activities on the incidence of tick-borne encephalitis, can not be briefly reviewed.

314. Birulia, N. B. and Zalutskaya, L. I., Temperature increase of the climate and outbreaks of tick-borne encephalitis. Med. parazitol. 34(1965) 3: 265-271.
(From the Rostov-on-Don SR Institute of Medical Parasitology of the RSFSR, MH.)

The thesis of the authors of this article, the text of which does not lend itself to a brief review, is that the presently increased incidence of tick-borne encephalitis stands in relation to the recent global warming of the climate.

315. Shumkov, M. A., Observations on the ecology of the tick Ixodes persulcatus. The incidence of the ticks and food-providers in areas of extensive felling of fir-tree forests. Med. parazitol. 34 (1965) 3: 274-277.
(From the Rostov-on-Don Institute of Medical parasitology of the RSFSR, MH.)

This article is quoted by title.

316. Prisiagina, L. A., Observations on the epidemiology of tick-borne encephalitis under the conditions of a raion center, situated in the southern taiga of the Krasnoiarsk Krai. Med. parazitol. 34 (1965) 3: 277-284.
(From the E.I. Martsinovskii Institute of Medical Parasitology and Tropical Medicine of the USSR MH, Moscow.)

This article deals with an epidemiological survey of the population of the district center Kozul'ka, in the course of which 56.7% of the 254 serologically examined individuals were found to react positively in hemagglutination inhibition tests with tick-borne encephalitis antigen. To decrease the risk of an infection of the people with this disease the author recommended (1) public health propaganda through the epidemic season; (2) yearly repeated vaccinations against tick-borne encephalitis, particularly among the endangered groups of the population; (3) close observation of the taiga sections most frequently visited by the people where anti-tick work (DDT distribution from airplanes) was indicated early in each season (first half of May).

317. Ivanova, L. M. and Chabovskii, V. I., Epidemiological evaluation of the method of direct tick eradication in the foci of tick-borne encephalitis. Report II. Tactics of the anti-tick measures. Med. parazitol. 34 (1965) 3: 284-289.
(From the Main Sanitary-Epidemiological Directorate of the RSFSR, MH (Moscow).)

In this article, the details of which can not be briefly reviewed, the authors stressed once more the value of extensive DDT distribution from airplanes for the prophylaxis of tick-borne encephalitis already advocated by them in an earlier report (see Abstract page 1193).

318. Zhumatov, KH. ZH. and Makhmetov, M. M., Materials regarding the study of the incidence of Q-fever in wild animals and birds in some raions of the Tselinny Krai. Med. parazitol. 34 (1965) 3: 291-293.
(From the Kazakh IEMH, and Alma-Ata.)

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The authors reported on the results of examinations for the presence of Q-fever infection made during the period of 1958-1960 in 1422 mammals (belonging to 20 species), 1097 birds (80 species), about 6000 ixodes ticks (4 species) and 11,000 gamasides (32 species).

Natural infection with Q-fever was found to be present in 6 species of mammals (Marmota bobac, Citellus major, C. pygmaeus, Cricetus cricetus and Mustela eversmanni) and nine avian species. The presence of Q-fever was also confirmed in guinea-pigs upon which ixodes ticks (Dermacentor marginatus) had been fed.

319. Makhmetov, M. M and Tagil'tsev, A. A., Q-fever infection of the blood-sucking arthropods of the virgin territories in the Kokchetav Oblast. Med. parazitol. 34 (1965) 3: 294-397.
(From the Kazakh IEMH, Alma-Ata.)

The presence of natural Q-Fever infection was established by the authors in ticks of the species Dermacentor marginatus and Ixodes crenulatus.

320. Nel'zina, E. N et al., Observations on the role of the rat mite Ornithonyssus bacoti (S. Hirst, 1913) (Parasitiforms, Gamasides) in the natural plague foci. Med. parazitol. 34 (1965) 3: 357-358 (Author's review).
(From the Rostov-on-Don SR Anti-Plague Institute and the Astrakhan Anti-Plague Station).

As shown by experimental observations, the mites of the species O. bacoti could be easily infected with P. pestis through feeding and could harbor the infection for weeks. Nevertheless the authors disbelieved that these mites played a significant role in transmission and perpetuation of plague. As far as established, they were incapable of transmitting the infection through their bites.

321. List of noteworthy articles quoted in a reference list published in Meditsinskaia Parazitologiya, Volume 34 (1965), 3: 361-367

- 1) Rementsova, M. M., Naturally focal diseases in the Kazakhstan. Trudy inst. zoologii AN Kaz. SSR 22 (1964): 22-26.
- 2) Ekologiya i geograficheskoe rasprostranenie chlenistonogov (Ecology and geographical distribution of arthropods). Trudy inst. zoologii AN USSR Vol. 20, Kiev (1964) . 240 pp
- 3) Akhunov, KH. and Uzakov U., Chlorofos - against ixodes ticks and gadflies. Kolkhozno-sovkhozn. proizvodstvo Uzbekistana (1964) 5: 56-57.

- 4) Guzev, V. M. et al., Importance of birds in the spread of fleas and ticks in Dagestan. Trudy Armiansk. protivochumn st. Vypusk 3(1964): 371-378.
 - 5) Drobinskii, I. R., Hemorrhagic fevers. Kishenev (1964) 20pp.
 - 6) Levkovich, E. N., The viruses of the tick-borne encephalitis group. Trudy inst. poliomiellita i virusnykh entsefalitov USSR AMS 5(1964) :200-211.
 - 7) Mirzoeva, M. N., Observations on the ixodes ticks of the tularemia focus in the Checheno-Ingush ASSR. Trudy Armiansk. protivochumn. st. Vypusk 3 (1964) 3: 367-370.
 - 8) Alanin, I. I., et al., Materials regarding the flea fauna of Adzharia. Report I. Trudy Armiansk. protivochumn. st. Vypusk 3 (1964): 433-435.
 - 9) Karandina, R. S., The larvae of the fleas of the red-tailed gerbil and some other rodents of Azerbaidzhan. Ibidem:473-504.
 - 10) Syrvacheva, N. G., Materials concerning the flea fauna of the Kabardino-Balkar ASSR. Ibidem: 389-405.
 - 11) Busalaeva, N. N. and Fedosenko, A. K., Fleas infesting the mammals in the high mountains of the Zailiiskii Alatau. Trudy Inst. zoologii AN Kaz. SSR 22 (1964) : 177-183.
 - 12) Martirosian, B. A. and Darskaia, N. F., Observations on the fleas of the snow vole in Armenia. Izvest. AN Armiansk. SSR, biolog. nauki (1964) 11: 97-99.
322. Chumakov, M. P. et al., Influence of the length of the intervals between the vaccinations on the efficacy of the vaccination on the efficacy of the vaccination and re-vaccination against tick-borne encephalitis. Voprosy virusologii (1965) 3: 266-270.
(From the Institute of Poliomyelitis and Virus Encephalitis of the USSR AMS and the Kemerovo Sanitary-Epidemiological Station).

The conclusions reached by the authors were that

- "1. Hand in hand with the prolongation of the intervals between the vaccinations of the initial course from 1-2 weeks to 4 weeks some increase of the efficacy of the immunization takes place which is particularly noticeable if native (not adsorbed) vaccine is used.

2. The efficacy of re-vaccination increases hand in hand with a prolongation of the intervals between the initial course of immunization and the administration of booster doses. Good results are obtainable with intervals of 4-6 months.

3. It is advisable to administer the first course of vaccination (with intervals of 1-2 weeks between the vaccinations) in September-October, and to resort to re-vaccination after 4-6 months - in March-April."

323. Terskikh, I. I. et al., Aerosol vaccination against tick-borne encephalitis. Vopr. virusol. (1965) 3: 359-360.
(From the D. I. Ivanovskii Institute of Virology of the USSR AMS.)

As described in this note, the authors obtained optimal results with three times repeated aerosol administrations of the killed tissue vaccine against tick-borne encephalitis prepared according to the method of Shubladze and Bychkova (Zh. mikro-biol. 1960, 2: 8-13). Single administrations of the vaccine by this route also gave initially satisfactory results but it was still unsettled how long the immunity engendered in this manner lasted.

It is interesting that the authors found it possible to combine aerosol immunization against tick-borne encephalitis with that against ornithosis.

324. Chumakov, M. P., Considerations regarding the classification and nomenclature of the viruses of the tick-borne encephalitis antigenic sub-group. Vopr. virusol. (1965) 3: 376-380.
(From the Institute of Poliomyelitis and Virus Encephalities of the USSR AMS.)

This well documented article must be studied in the original or in a translation.

325. Gaidamovich, S. IA. and Vagzhanova, V. A., Neutralization reaction for the Venezuelan encephalomyelitis virus, based upon the hemagglutination phenomenon. Vopr. virusol. (1965) 3: 271-274.
(From the D. I. Marsinovskii Institute of Virology of the USSR AMS, Moscow.)

Summarizing the results of their observations, the authors stated that

- "1. Neutralization tests with the virus of Venezuelan equine encephalomyelitis in tissue cultures, based on the hemagglutination phenomenon, yield positive results within 18 hours as against 72 hours in the case of tests for the evaluation of the cytopathic effect.
2. Neutralization tests in tissue cultures, made with the sera of convalescents, gave practically identical results with both methods. Immune rabbit sera showed considerably higher indices of neutralization when tested with the aid of the hemagglutination method.
3. Sera of convalescents tested 8 years after illness still showed complement-fixing antibodies at titers from 1:8 to 1:16."

326. Solov'ev, V. D. et al., Observations on the possibility of the experimental transformation of the smallpox virus into the vaccinia virus. Vopr. virusol. (1965) 3: 307-315.
(From the Department of Virology of the Central Institute for the Post-graduate Training of Physicians and the Moscow SR IEM.)

Resorting to numerous passages of two strains of the variola virus in tissue cultures of embryonal skin cells the authors found no changes suggestive of a transformation of the smallpox into the vaccinia virus.

327. Genig, V. A. et al., Experiences of mass immunization of man with the live M-44 vaccine against Q-fever. Report I. Subcutaneous method of immunization. Vopr. virusol. (1965) 3: 319-323.
(From the N. F. Gamaleia, IEM, AMS, of the USSR, Moscow.)

The authors of this article, the details of which can not be briefly reviewed, found subcutaneous administration of the Q-fever vaccine, prepared with the attenuated strain described by Genig (Vestn. AMS, USSR, 1960, 2: 46-57) suitable for mass immunization of persons exposed to the risk of Q-fever infection.

328. Ershov, F. I. and Tsareva, A. A., Site of synthesis of the virus of Venezuelan equine encephalomyelitis. Vopr. virusol. (1965) 3: 349-351.
From the D.I. Ivanovskii Institute of Virology, AMS, of the USSR.)

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329. Israelien, A. A. and Zasukhina, G. D., Variability of the virus of western equine encephalomyelitis in the process of passage through different systems. Vopr. virusol. (1965) 3: 283-287.
(From the Institute of Poliomyelitis and Virus Encephalitis, AMS of the USSR.)
330. Izotov, V. K. and Lararev, A. F., Stimulating action of the growth hormone on immunization with the tick-borne encephalitis virus. Vopr. virusol. (1965) 3: 280-282.
(From the Institute of Poliomyelitis and Virus Encephalitis of the USSR, AMS and the All-Soviet Institute of Experimental Endocrinology, Moscow.)
331. Vereta, L. A. and IUr'eva, T. P., Detection of Complement-fixing antigens in hemorrhagic fever with a renal syndrome. Vopr. virusol. (1965) 3: 275-280.
(From the Khabarovsk IEM.)
- These four articles are quoted by title.
332. Nikolaev, N. I. et al., Edts. Epidemiologiya i epizootologiya osobo opasnykh infektsii (Epidemiology and Epizootiology of specially dangerous infection). Sbornik nauchnykh rabot protivochumnykh uchrezhdenii (Collected papers of the anti-plague organizations), Moscow (1965).

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- 23) Veinblat, V. I. et al. (Ashkabad): Experiences on the use of the passive hemagglutination reaction for surveys in a natural plague focus. Pp. 314-320.
- 24) Rall, IU. M., Remarks on the monohostality of natural plague foci. Pp. 324-342.
- 25) Osolinker, B. E. and Soletskii, G. K. (Gur'ev): Evaluation of the role of secondary species of carriers in the natural plague foci. Pp. 342-349.
- 26) Liskina, I. V. (Saratov): Use of the method of methylene blue reduction for the determination of live organisms in the EV vaccine. Pp. 357-365.

Ectoparasites:

- 27) Tabunina, I. I. et al. (Gur'ev, Moscow): The flea fauna of the house mouse during mass multiplication in the basin and the delta of the Ural River in 1958. Pp. 249-257.

- 28) Lapina, N. F. and Luk'ianova, A.D. (Saratov): Life span of the suslik fleas in relation to the ambient temperature and humidity. Pp. 263-268.
- 29) Kolpakova, S. A. et al. (Saratov): Remarks on the practice of keeping rodent fleas in the laboratory for experimental observations. Pp. 287-299.
- 30) Marin, S. N. (Aral'sk): Methodology of the preservation of fleas under field conditions during epizootiological observations. Pp. 320-323.
- 31) Tiflov, V.E. (Stavropol): Bibliography of the fleas of the USSR (4th supplement). Pp.395-413.
- 32) Zarubina, V. N. (Irkutsk): Observations on the biology of the tarabagan louse in south-eastern Transbaikalia. Pp. 269-281.

Tularemia:

- 33) Pauller, O. F. (Irkutsk): Epizootiological characterization of the tularemia focus in the Selenga delta. Pp. 59-79.
- 34) Shiriaev, D.T. and Timofeev, M. A. (Rostov-on-Don): Tularemia and prophylactic measures against it in the south-western part of the steppe zone of the USSR. Pp. 79-88.
- 35) Timofeev, M. K. and Andronnikov, V. A. (Saratov, Cheboksary): Experiences of retrospective tularemia surveys of the population of the Chuvash ASSR with the aid of the tularin test. Pp. 89-94.
- 36) Shevchenko, S. V. and Sokolova, K.S. (Rostov-on-Don): Experimental study of the tick Rhipicephalus schulzei as a possible vector of tularemia. Pp. 281-286.

Varia:

- 37) Zemtsova, I. N. (Saratov): Use of the anthrax bacteriophage for the accelerated observation and identification of the anthrax bacillus in pure cultures and in the organs of experimental animals. Pp. 388-394.
- 38) Igonina, N. B. (Saratov): A simplified method for the identification of the brucella types. Pp. 385-387.

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- 39) Naumshina, M. S. (Saratov): Observations on the preservation of the viability and virulence of the cholera vibrio on artificial media. Pp. 366-375.
- 40) Petrova, L. S. (Saratov): Qualitative composition of the antigens of V. cholerae according to the results of specific precipitation tests in agar. Pp. 375-385.

(Abstracts of the noteworthy articles in this series will be furnished in due course.)

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333. Tinker, I. S. et al., Investigations on the therapeutic action of streptolymphin in experimental plague. Antibiotiki 10 (1965) 6: 531-534.
(From the SR Anti-Plague Institute, Rostov-on-Don.)

The authors of this article obtained promising results when studying the therapeutic action of streptolymphin, a compound obtained by mixing streptomycin with sodium polymethylacrylate on plague-infected guinea-pigs. The compound proved comparatively most effective when administered near the site of the infection.

334. Levi, M. I. et al., Distribution of the antigen and the antibodies in the body of small susliks immunized with depot antigen. Biull. eksper. biol. i med. 60 (1965) 7: 91-94.
(From the SR Anti-Plague Institute, Rostov-on-Don.)

This brief article, which is illustrated by two graphs, must be studied in the original or in a translation.

335. Shiriaev, D. T. and Timofeev, M. A., Tularemia and methods for its prophylaxis in the south-western part of the steppe zone of the USSR. Epidem. i epizootol, osobo opasn. infekts. Moscow (1965). Pp. 79-88.

The authors of this instructive article which must be studied in detail by those interested in the incidence and prevention of tularemia, (a) furnish statistical information on the incidence of the disease in the steppe regions of the Ukraine and adjacent areas during the period from 1946 to 1961 and additional data on the recrudescence of the infection in 1962; (b) evaluate the anti-tularemia work, particularly that within the more recent years of this period and (c) led by the results of a survey commenced under the auspices of the Rostov Anti-Plague Institute in 1958, formulate proposals for further prophylactic activities.

Commenting upon a table showing the incidence of the disease in the population of the areas under study from 1946 to 1961, the authors stated

"that the tularemia situation was worst in 1946, 1948, 1949 and 1951 when a mass multiplication of the mice and allied species was noted. Owing to the high frequency of these animals, due to slight agrotechnical progress, delayed collection of the harvests, the presence of large stretches overgrown with grass and also the absence of a systematic fight against the rodents and ticks during these years, widespread epizootics occurred which resulted in human outbreaks."

However, the authors pointed out, the incidence of tularemia in the individual parts of the study areas varied markedly. "Thus", they stated,

"in the Donetsk, Lugansk, Zaporozhsk, Krymsk and Nikolaevsk oblasts attacks were recorded (only) in 1-7 raions and that only for not more than for one to two seasons. On the contrary in the Krasnodar Krai and the Rostov Oblast tularemia outbreaks occurred in almost all raions and manifestations in man continued for several years. In the Odessa Oblast human attacks of the disease were recorded in almost all raions, but the epidemic wave continued (only) for two years (1948 and 1949)."

Evaluating the preventive work, the authors adduced evidence to show that no adequate use was made of anti-tularemic vaccinations, which were often administered on an insufficient scale in localities needing full attention while on the other hand they were used in places where no urgent need for them existed. In order to systematize this and the prophylactic work in general, in 1958 a large-scale survey of the areas under study was started under the auspices of the Rostov Anti-Plague Institute. Epizootiological observations showed that during the period from 1957 to 1961 the continued presence of tularemia could be demonstrated only in the Krasnodarsk Krai, the Rostov Oblast and the Biriuchi Island of the Khersonsk Oblast. That, however, microfoci of the infection might exist elsewhere in the study area, was confirmed in 1962 when four tularemia cultures were isolated in three "points" of the Odessa Oblast and 14 cultures in the Zaporozhsk Oblast - in all instances from ticks. However, the authors were of the opinion that owing to the current high level of agricultural operations the danger of a spread of the infection from these microfoci was remote. Therefore, they recommended a "differential" system of tularemia control according to which

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the full program of prophylactic measures was implemented only in and round the areas where manifestation of the infection continued to be present.

336. Timofeev, M. K. and Andronnikov, V. A., Experiences of a retrospective tularemia survey of the population of the Chuvash ASSR with the aid of the tularin test. Epid. i epizootol. osobo opasn. infekts. Moscow(1965) Pp. 89-94.

The authors report on the results of mass cutaneous tularin tests performed in the autumn of 1960 in the Chuvash Autonomous Republic, which had apparently been free from tularemia for a long time.

As shown in a table, out of 11,500 persons tested (1.6% of the population of the localities in question) 33 gave positive reactions but only 11 persons of this group appeared to have contracted the infection within the republic. Five of the latter had a history of affections suggestive of tularemia.

337. Somov, G. P. et al., Study of the reproduction of the rickettsia D. sibiricus in tissue cultures of the human embryo kidney with the aid of fluorescent antibodies. Zh. mikrobiol. (1965) 8: 39-43.
(From the Vladivostok IEMH.)

The authors found the method referred to in the title of their article prospective.

338. Baiar, G. A. and Konikova, R. E., Droplet method for the performance of the indirect hemagglutination reaction with tularemia antigen. Zh. mikrobiol. (1965) 8:50-53.
(From the Order of Lenin S. M. Kirov Military-Medical Academy.)

The authors claimed that the droplet method devised by them permitted the detection of 50,000- 400,000 tularemia bacilli in 1 ml and was highly specific, simple and expedient.

339. Pavlov, B. P. and Pokrovskaya, E. V.. Observation of Francisella tularensis in a lymph node two years and three months after a tularemia attack. Zh. mikrobiol. (1965) 8: 72-74.
(From the Central Institute ATP, the 2nd Stavropol Municipal Hospital and the Sanitary-Epidemiological Station of Stavropol Krai.)

The authors established with the aid of experiments on white mice the presence of virulent tularemia bacilli in an axillary lymph node of a man who had recovered from tularemia more than two years ago. It is noteworthy that he had not been treated with antibiotics during the acute stage of the disease but had been given streptomycin only on the 43rd day after onset of the disease.

340. Taran, I. F. et al., Results of a study of the brucellosis vaccine prepared from the strain Br. abortus 104-M. Zh. mikrobiol. (1965) 8: 99-104.
(From the SR Anti-Plague Institute of the Caucasus and Transcaucasus.)

The conclusions of Taran and his associates were as follows:

- "1. An experimental study of the vaccinal strain Br. abortus 104-M on guinea-pigs confirmed its satisfactory immunogenic properties after subcutaneous or cutaneous administration, its good viability and ability to produce an active immunity.
2. When given to sheep in doses of 8-10 billion, the vaccine prepared with the strain 104-M proved harmless, sufficiently viable and engendered a more intense immunity than the strain Br. abortus 19. In the farms where the vaccine made from the strain 104-M was used, one noted a marked reduction of the number of abortions, an increase of the output of fully valuable animals and a considerable lowering of the incidence of brucellosis in the persons attending the herds.
3. The strain Br. abortus 104-M can be recommended for the prophylactic vaccination of sheep in order to form healthy herds."

341. Adamov, A. K. and Karpuzidi, K. S., The antigenic structure of the causative organisms of brucellosis. Zh. mikrobiol. (1965) 8: 123-127.
(From the Rostov-on-Don Anti-Plague Institute.)

As described in this article, the details of which must be studied in the original text or in a translation, the authors established the presence of 7 antigens in the brucellosis strains of the different types examined by them with the aid of alizarin agglutinin suspensions.

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342. Semiotrochev, V. L. et al., Pasteurellosis attacks in the population of the Kazalinsk Raion of the Kyzyl-Ordinsk Oblast. Author's review. Zh. mikrobiol. (1965) 8: 143-144.
(From the Central-Asian SR Anti-Plague Institute, Alma-Ata.)

This note contains a brief description of 4 attacks of pasteurellosis (one with a fatal issue) among the staff of a sovkhos, the cattle of which was affected by the disease. The authors were of the opinion that the outbreak on the farm was causally related to a pasteurellosis epizootic among wild pigs and that horse-flies played an important role in the transmission of the infection.

343. Beliatskii, D. P., A contribution to the history of smallpox vaccination in Belorussia. Zh. mikrobiol. (1965) 8: 148-151.
(From the Minsk MI.)
344. Vashkov, V. I. and Skachkov, N. I., A disinfecting unit (atomizer) mounted on a motorcycle. Zh. mikrobiol. (1965) 8: 27-31.
(From the Central SR Disinfection Institute, Moscow.)

These two articles are quoted by title.

345. Mel'nik, M. N. et al., Experiences and further tasks in the fight against tularemia in the Ukraine. Vrach. delo (1965) 7: 110-114.
(From the Ukrainian MH and the Republic Department of Specially Dangerous Infections.)

As stated in this article which deserves the close attention of those interested in the incidence and control of tularemia in the Soviet Union, during the period from 1956 to 1964 the presence of this infection in mice and allied rodent species and in ticks has been established in 86 "points", situated in 47 raions of 12 oblasts of the Ukraine.

The authors describe and partly criticize the measures taken for the control of the disease in that republic, concluding their article by stating that

"Before the medical workers of the Ukraine stands the task of continuing and, in the coming years, of completing the detection and study of the natural tularemia foci and also that of finding new effective methods for the sanitation of the latter, so as to consolidate the achievements made and to obtain new successes in this work."

346. Pauller, O. F., Epizootological characterization of the tularemia focus in the Selenga Delta. Epidem. i epizootol. osobo opasn. infekts. Moscow, 1965 pp.59-79.

Evaluating the results of an elaborate study of tularemia in the Selenga Delta, the author stated that

"Under the conditions prevailing in Selenga Delta, a considerable part of which becomes inundated periodically resulting in the death of the animals and ectoparasites, infected ticks and susceptible animals may be preserved in the remaining limited and disconnected sections (microfoci). Inasmuch as 2-3 successive years without floods are indispensable for a massive multiplication of the small rodents and their ectoparasites, a situation which has been observed but twice during the last 25 years, one may say that in the Selenga Delta the conditions for the appearance of epizootics, particularly among the muskrats, are rather unfavorable."

347. Shiriaev, D. T. et al., The infectious sensitivity of small susliks to plague in relation to their state of nutrition, age and sex. Epidem. i epizootol. osobo opasn. infekts. Moscow, 1965, pp.103-111.

Summarizing the results of their work, the authors stated that

"our experimental studies, conducted with susliks obtained in a territory free from plague for more than 10 years, permit the conclusion that the regular course of the epizootic process in the populations of the small susliks depends not upon changes in the plague susceptibility of these animals in relation to their age and evidently, not upon the degree of their nutrition but upon ecological peculiarities in the life of the populations (increase of the number of the susliks related to the dispersal of the young animals, increased contact, activation of the work in the burrows).

While the possibility of individual differences in the susceptibility of the small susliks to plague is not denied, we believe that they do not materially influence the regular course of the epizootics."

348. Levina, A. A. et al., The susceptibility of the large and red-tailed gerbils to a repeated plague infection. Epidem. i epizootol. osobo opasn. infekts. Moscow, 1965, pp. 111-122.

The conclusions reached by the authors of this article as follows:

1. Out of the big gerbils surviving for 80 to 459 days after an initial plague infection, 41% succumbed to a second infection. After a third infection, 21-24 days after the second, only two animals succumbed on the 22nd and 37th day respectively without yielding a growth of P. pestis.
2. Out of the red-tailed gerbils surviving for 76-254 days after the first infection, 20% succumbed to plague after a second infection and 17% after a third infection.
3. The big gerbils which succumbed to a second infection after they had survived for various lengths of time after the primary infection, showed old encapsulated abscesses in their organs as well as signs of an acute infectious process. Such cases are, therefore, considered as instances of superinfection.
4. In the case of gerbils killed 8-10 days after a third infection, plague bacilli could be isolated from the abscesses at the site of infection in 60%, but only rarely from the internal organs.
5. In the gerbils killed 8-10 days after a third infection, one could note the presence of catarrhal-hemorrhagic pneumonic processes and of a hyperplasia of the spleen pulp.
6. After repeated infection of the big and red-tailed gerbils there appeared changes of an acute and a chronic character. The acute process was characterized by hemorrhages in the lungs and catarrhal-hemorrhagic pneumonias, necrotic foci in the liver and spleen, dystrophic changes in the liver, myocardium and kidneys.

In the protracted form of the process one could observe foci of purulent inflammation followed by encapsulation or replacement by scar tissue.

7. The experiences gathered through repeated infection of big and red-tailed gerbils with plague indicated that on the basis of a protracted course of the disease exacerbations due to the new infection may result. Morphologically one observes in such instances changes peculiar to acute as well as to chronic processes.
8. It was found that the resistance of a part of the gerbil population to plague is an inconstant phenomenon and can undergo changes during the life of individual animals, which partly confirms the claim of L.S. Malafeeva (1957) and of A.K. Borzenkov and V.I. Gorokhova (1959) that no stable immunity is produced in these animals through a plague attack.
9. An interval of 21-24 days between the infection is apparently more optimal for the presence of an acquired immunity in the gerbils, since already 88 days after the initial infection one observes a susceptibility of the gerbils to plague

349. Burlachenko, T. A. et al., Susceptibility and infectious sensitivity of the Afghan vole to plague. Epidemiol. i epizootol. osobo opasn. infekts. Moscow, 1965, pp. 122-130.

In the introduction to their article the authors stated that though the voles become involved in the plague epizootics with a comparative rarity, the presence of the infection in them is of interest in so far as recently in some of the foci P. pestis strains have been isolated which showed a selective virulence, being virulent for white mice and some wild rodents including voles but almost avirulent for guinea-pigs. Levi and his colleagues (Trudy of the Rostov-on-Don Anti-Plague Institute 18 (1961):3) spoke in this connection of a "Vole" variety of P. pestis. It seemed under these circumstances of interest to study the susceptibility of the Afghan voles, which abound in Turkmenia and the adjacent regions, to plague even though thus far the infection had never become manifest in this species.

The investigations made in this respect led the authors to the following conclusions:

- "1. The Afghan vole is susceptible to plague but individual animals show a varying degree of sensitivity to the infection.

2. Regardless of the size of the infecting dose used, plague cultures could be isolated from the majority of the animals succumbed to the infection. In the case of the surviving animals, sacrificed at different times after the infection, it was most often not possible to isolate cultures. In the experiments conducted in spring and in autumn plague cultures could be isolated (on the 10th, 20th and 38th day) only from the abscesses or infiltrates at the site of infection.

3. Macroscopic morbid changes were well marked in about 50% of the Afghan voles which succumbed to the infection; they were insignificant in 37% and totally absent in 12%. Plague cultures were isolated from almost all animals showing morbid changes in their organs, but only in 4 out of 11 animals not showing such changes.

4. The percentage of deaths in the Afghan voles receiving a single dose of P. pestis was considerably lower than that in animals which were given the same dose divided into four equal parts on four occasions. The four times repeated infections increased also the number of instances in which a bacteremia was present in the succumbed as well as in the sacrificed animals.

5. A bacteremia may be present in the Afghan voles already 30 minutes after infection. In our experiments it was observed in the succumbed animals not later than after 21 days of their life (i.e., after infection).

6. After its presence in the Afghan voles the virulence of P. pestis becomes somewhat lowered for white mice and guinea pigs."

350. Uspenskii, I. V., Peculiarities of the toxic action of the granulated form of DDT. Med. parazitol. 34 (1965) 4: 462-467.

(From the Department of Toxicology and the combat against Arthropods, E.I. Martsinovskii Institute of Parasitology and Tropical Medicine, MH. USSR, Moscow.)

Laboratory studies convinced the author that the toxic effect of granulated DDT becomes increased if it is distributed

on moist surfaces. For the fight against ticks it is recommendable, therefore, to distribute DDT in this form in early spring when the ground is still covered by snow.

351. Alekseev, A. N., Compulsory dosed feeding of insects. Med. parazitol. 34 (1965) 4: 467-471.
(From the Central SR Disinfection Institute, MH, USSR, Moscow.)

The author of this illustrated article gives a description of a complicated apparatus suitable for the administration of dosed amounts of food to insects like mosquitoes, fleas and cockroaches.

352. Balashov, I. U. S. et al., Feeding and impairment of the valve function of the proventriculus in fleas. Med. parazitol. 34 (1965) 4: 471-476.
(From the Zoological Institute, AS, USSR and the Central-Asian SR Anti-Plague Institute.)

In the concluding paragraph of this well documented and illustrated article the authors stated that

"Instances of a penetration of blood from the stomach into the esophagus (of fleas) are apparently related to a discordance between the peristaltic contractions of the stomach and the pulsations of the ante-stomach. They never lead to a disturbance of the vital processes of the fleas as in the case of plague blockage and the blood in the esophagus represents an "eructation" from the stomach. In plague blockage, on the contrary, there results a mechanical occlusion of the ante-stomach, due to the multiplication of the bacteria, and the presence of blood in the esophagus is causally related to the impossibility of its further penetration into the gastrointestinal tract."

353. Slonov, M. N., Contribution to the biology of the flea Ceratophyllus tamiar Wagn., 1927. Med. parazitol. 34 (1965) 4: 485-486.
(From the Entomological Department, E.I. Martshinovskii Institute of Medical Parasitology and Tropical Medicine, MH, USSR, Moscow.)

This note is mentioned by title.

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354. Loginovskii, G. E., Distribution and seasonal course of the activity of Ixodes persulcatus in the Kurgan Oblast. Med. parazitol. 34 (1965) 4: 487-488.
(From the Sanitary-Epidemiological Station of the Kurgan Oblast.)

A study of the distribution and seasonal incidence of Ixodes persulcatus, the main vector of tick-borne encephalitis in the Kurgan Oblast, led the author to the conclusion that these ticks were active from April to July. Accordingly prophylactic vaccinations of the population against this disease ought to be completed before the end of March.

355. List of noteworthy articles quoted in a reference list inserted in the journal Med. parazitol. 34 (1965) 4: 490-497.

- 1) Alifanov, V. I., Observations on the ecology and distribution of the ticks Ixodes apronophorus P. Sch. in Western Siberia in relation to their importance as tularemia vectors. Zool. zh. 54 (1965) 2: 291-294.
- 2) Ershova, L. S., The ticks Ornithodoros lahorensis and O. papillipes as reservoirs and vectors of the tularemia bacillus. Experiments. Thesis. Alma-Ata, 1964.
- 3) Miliutin, N. G., Distribution and structure of the natural tularemia foci in the left-shore forest-steppe and in the adjacent steppe raions of the Ukraine. Trudy Ukr. resp. n. obshestva parazitol., Kiev (1964) 3: 277-286.
- 4) Pilipenko, V. G. et al., Observations on the mechanism of the persistence of the microfoci of tularemia in relation to their liquidation. Zool. zh. 54 (1965) 4: 494-505.
- 5) Khodykina, Z. S., Some problems of the ecology of the ixodes ticks in relation to the problem of the existence of natural tularemia foci in the Crimea. Trudy Ukr. resp. n. obshestva parazitol. (1964) 3: 267-276.
- 6) Iurkina, V. I., Regularities of the distribution of fleas in the territory of the active and potential tularemia foci in the southwestern and central steppes of the USSR. Ibidem: 256-266.
- 7) Gibet, L. A., Birds and their importance for the nutrition of Ixodes persulcatus in the natural tick-borne encephalitis focus in the Kalinin Oblast. Zool. zh. 54 (1965) 2: 228-240.

- 8) Zhdanov, V. M., Tick-borne encephalitides and fevers. In: Evolutsiia zaraznykh boleznei cheloveka (Evolution of the Infectious Diseases of Man), 1964. Ch. IV. pp. 164-174.
- 9) Kokliagina, A. A., Fauna of the ixodes ticks of the Altai Krai. In: Kleshchevoi entsefalit v Altaiskom Krae (Tick-borne Encephalitis in the Altai Krai). Barnaul, 1963. Pp. 19-25.
- 10) Magazanik, S. S., Clinique and therapy of tick-borne encephalitis in the Ural. Probl. neurovirusn. infektsii. Kiev, 1965. Pp. 137-138.
- 11) Parkhomov, A. A., A contribution to the problem of the detection of tick-borne encephalitis in the Ukrainian Poles'e. Ibidem; pp. 142-143.
- 12) Pogodina, V. V., New materials on the pathogenesis of tick-borne encephalitis. Ibidem, pp. 139-141.
- 13) Shapoval, A. N., Iaponskii entsefalit (entsefalomielit). (Japanese encephalitis (encephalomyelitis). Leningrad, 1965.
- 14) Andrichuk, B. V., Study of trichlormetafos in the fight against ixodes ticks. Trudy VNII vet. sanitarii 24 (1964): 65-68.
- 15) Belozarov, V. N. and Kvitko, N. V., Fundamental features of the photo-periodical reaction in the tick Dermacentor marginatus Sulz. (Ixodidae). Zool. zh. 54 (1965) 3: 363-372.
- 16) Zhmaeva, Z. M., Ticks - vectors of the causative organisms of infectious diseases. Rukovodstvo po mikrobiologii, klinike i epidemiologii infekts. boleznei. Moscow, 1964, Vol. 5, pp. 351-398.
- 17) Khlobostin, K. D., Nikokhloran - an effective preparation for the fight against ectoparasites. Veterinariia (1965) 3: 109-110.
- 18) Novokreshchenova, N. S., Changes of the flea index in relation to the number of objects examined. Zool. zh. 54 (1965) 3: 403-410.
- 19) Kharlamov, V. P., Changes in the activity of feeding and mobility in fleas of the species Xenopsylla cheopis labelled with radio-active phosphorus p^{32} . Ibidem 4: 547-551.

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- 20) Kudiakov, I. S., Fleas (Aphaniptera) of the shore zone of the southern Primor'e. Entomol. obozrenie 54 (1965) 1: 117-122.
- 21) Nabokov, V.A., Use of the aviation-chemical method of fighting the arthropods. Rukovodstvo po mikro-biologii, klinike i epidemiologii infekts. boleznei, Moscow (1964) 5: 479-494.
- 22) Vasil'eva, V. L., Materials to the study of arbovirus infections in the USSR Poles'e. Probl. neurovirusn. infektsii, Kiev (1965): 132-133.
- 23) Levkovich, E. N., New findings in the study of the etiology and diagnosis of arbovirus encephalitides. Ibidem: 129-131.
- 24) Rodin, I. M. et al., A contribution to the problem of the serum prophylaxis and serotherapy of experimental arbovirus infections. Ibidem: 146-147.
356. Klimova, I. M., The activity of alpha-amylase and glucose-6-phosphatase of the liver and the sugar level in the blood of plague-intoxicated animals. Biull. eksper. biol. i med. 60(1965) 8: 61-64.
(From the Irkutsk SR Anti-Plague Institute for Siberia and the Far East.)

The conclusion reached by the author of this article was that the toxin of P. pestis exerted no influence on the activity of Alpha-amylase and glucose-6-phosphatase in the liver of white mice and rats. In the early stages of plague intoxication the blood sugar level in white rats underwent no change; later and in the agonal stage it resulted in a hypoglycemia, due apparently to an exhaustion of the glycogen reserve in the liver.

357. Kosyakov, P. N. et al., Suppression of the reproduction of the vaccinia virus by means of a specific action on the cells. Vopr. virusol. (1965) 4: 402-406.
(From the D. I. Ivanovskii Institute of Virology, AMS, USSR.)

The conclusions reached by the authors of this article were that

- "1. The sera of rabbits immunized against the chorio-allantoic membrane of chick embryos suppress the repro-

duction of the vaccinia virus. This action becomes manifest in infected as well as in not infected chick embryos.

2. The highest inhibitory activity was shown by immune sera containing antibodies against the vaccinia virus as well as against the sensitive cells."

358. Mel'nikova, L. A. et al., Observations on the origin of the factor producing the deproteinization of the nucleocapsid of the vaccinia virus. Vopr. virusol. (1965) 4: 447-453.
(From the D. I. Ivanovskii Institute of Virology, AMS, USSR, Moscow.)
359. Kamalyan, L. A. and Ter-Pogosyan, R. A., Virological and cytochemical studies of the initial phase of the interaction between the vaccinia virus and irradiated tissue culture cells. Vopr. virusol. (1965) 4: 473-476.
(From the Sector of Radiobiology, AMS, USSR.)
360. Marennikova, S. S. et al., Properties of the Alastrim virus. Vopr. virusol. (1965) 4: 439-447.
(From the Moscow SR Institute of Virus Preparations.)
361. Shestopalova, N. M. et al., Electron microscope studies of the morphology and localization of the virus of Omsk hemorrhagic fever in the cells of infected tissue cultures. Vopr. virusol. (1965) 4: 425-430.
(From the Institute of Poliomyelitis and Virus Encephalitides, AMS, USSR.)
- These four articles can be quoted by title only.
362. Votyakov, V. I. and Protas, I. I., Course of the experimental infection in sheep infected with tick-borne encephalitis strains isolated in different geographical zones of the USSR. Vopr. virusol. (1965) 4: 454-462.
(From the Belorussian SR EMH, Minsk.)

Summarizing the results of their observations, the authors stated that

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- "1. The existence of differences in the course of experimental infection of sheep with viruses isolated respectively in Belorussia and in the east of the USSR has been confirmed.
2. In 37.5% of the sheep infected with Belorussian strains there resulted only manifestations of a general infectious nature, in 54.2% symptoms of a diffuse meningo-encephalitis were noted and only in 8.3% could one observe signs of a subacute encephalomyelitis.
3. The most characteristic manifestations of meningo-encephalitis in the sheep were preliminary spastic pareses of the extremities (29.2%) and the phenomenon of "turn-sickness" (25%). The latter sign was observed in animals with a moderate affection of the nervous system.
4. All sheep infected with eastern strains showed severe affections of the central nervous system in the form of an encephalomyelitis with decerebration rigidity, deep coma and with a mortality of 100%."

363. Unanov, S. S. et al., Immunoprophylaxis of tick-borne encephalitis. Vopr. virusol. (1965) 4: 462-467.
(From the Moscow SR Institute of Virus Preparations, MH USSR and the Sanitary-Epidemiological Station of the Sverdlovsk Oblast.)

The authors discuss the results of a vaccination campaign against tick-borne encephalitis conducted in 1963 in the Sverdlovsk Oblast in which out of the three vaccines tested the fluid tissue-culture vaccine proved best. The efficacy of the tissue-culture vaccine, assessed with the aid of clinical observations, is shown in the following table:

<u>Raion</u>	<u>Persons Observed</u>		<u>Vaccinated</u>		<u>Controls</u>	
	<u>Vaccinated</u>	<u>Controls</u>	<u>Number</u>	<u>Per 10,000</u>	<u>Number</u>	<u>Per 10,000</u>
Novolialinskii	3,285	6,000	2	6.0	26	43.3
Verkhoturinskii	2,683	2,800	5	18.6	18	64.2
Total oblast	91,416	738,717	7	0.7	189	2.4

It is important to note that in 50% of the patients it was not possible to confirm the clinical diagnosis of tick-borne encephalitis through laboratory tests. The authors stressed, therefore, the necessity of further studies in order to elucidate the nature of the clinical syndrome.

364. Svet-Moldavskii, G. IA., A contribution to the history of the Far-Eastern tick-borne encephalitis. Vopr. virusol. (1965) 4: 490-492.

Quoted by title.

365. Uvarov, V. N., Concentration of the Japanese encephalitis virus with ammonium sulfate. Vopr. virusol. (1965) 4: 486-488.
(From the D.I. Ivanovskii Institute of Virology, AMS. USSR.)

Quoted by title.

366. Briefly noted article in Voprosy Virusologii (1965) 4: 494-495:

- 1) Potievskii, E. G. and Vereta, L. A., Dynamics of the complement-fixing antigen of the tick-borne encephalitis virus in the serum of experimentally infected animals.
(From the Khabarcvsk SR EM.)

As stated by the authors,

"The results of the tests made showed that the antigen can be observed from the first days after the infection. The appearance of the complement-fixing antigen preceded that the viremia. The antigen was present in the blood only after introduction of the active virus but could not be demonstrated in vaccinated animals."

- 2) Vereta, L. A., Isolation of the complement-fixing antigen of the tick-borne encephalitis virus.
(From the Khabarovsk SR EM.)

The isolation of the complement-fixing antigen was effected with ether followed by precipitation with ammonium sulfate and purification through dialysis.

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- 3) Kvashnina, S. A. and Komarova, O.N., Observations on the characteristics of the Sverdlovsk focus of spring-summer tick-borne encephalitis.

(From the Rostov SR Institute of Medical Parasitology.)

As stated in this brief note, in 1960 more than 20% of the Ixodes persulcatus ticks in the Sverdlovsk focus of tick-borne encephalitis were found to harbor the virus. The domestic animals and the rodents were also intensively involved in the circulation of the infection and antibodies against the virus were found in a large part of the human population.

- 4) Popov, V. F., Dynamics of the immunological structure of population in a tick-borne encephalitis focus (Kirov Oblast).

(From the Institute of Poliomyelitis and Virus Encephalitis, AMS, USSR, Moscow.)

Large-scale serological investigations in the tick-borne encephalitis focus of the Kirov Oblast during the period from 1960 to 1962 showed that the frequency of immune persons at various times and in the different localities varied from 34 to 73%. Clinically the inapparent form of the disease was prevalent, but the proportion between the frequency of this and the manifest form was found to vary markedly in different years and in the different age groups.

367. Danilov, Iu. E., Further improvements of the sanitary-epidemiological service. Gigiena i sanit. (1965) 8:3-10.
(From the MH. USSR.)

Turning attention to the fight against infectious diseases, the author refers to a new program adopted for this purpose in 1960, according to which these infections were divided into two groups - (a) Those which should be eradicated ("liquidated"), like diphtheria, poliomyelitis, malaria and tularemia; (b) infections, the incidence of which ought to be markedly lowered (pertussis, typhoid and paratyphoid, acute intestinal affections and brucellosis).

The author claims that the recent incidence of the various infectious diseases in the Soviet Union diminished as follows: diphtheria, 14 times; poliomyelitis, 26 times; malaria, 3.8 times; tularemia, 1.9 times; pertussis 2.9 times; typhoid and paratyphoid, 1.7 times; acute intestinal infections, 1.8 times; brucellosis 1.9 times.

While appreciating this progress, Danilov emphasizes that the incidence of some infectious diseases is still high and that therefore still much work ought to be done in this field.

368. Marennikova, S. S. and Solov'ev, V. D., The present state of smallpox prophylaxis. Zh. mikrobiol. (1965) 9:15-21. (From the Moscow Institute of Virus Preparations and the Central Institute for ATP.)

This well documented survey of the recent Soviet and foreign literature, the study of which is essential for all interested in smallpox and its prevention, does not lend itself to the purpose of a brief review.

369. IAtsenko, A. F. et al., Observations on the anti-smallpox immunity of sailors engaged in long distance journeys. Zh. mikrobiol. (1965) 9: 21-24. (From the Port Sanitary-Epidemiological Station of the Black Sea-Azov Maritime Health Department.)

In order to assess the state of Anti-smallpox immunity of Soviet sailors engaged in long distance journeys and of foreign sailors coming to Odessa, the authors compared the results of revaccinations in the following groups:

<u>Group</u>	<u>Number of Revaccinations</u>	<u>Percentage of Takes</u>
Soviet sailors	668	26.0
Foreign sailors from Europe	660	73.2
Foreign sailors from Africa and Asia	225	61.9

Commenting on these findings the authors stated

"that the percentage of positive skin reactions was about three times higher in the foreign sailors than among those from the Soviet Union. This can be explained first of all by the regularly administered compulsory revaccination of the Soviet sailors engaged in long journeys every year. The foreign sailors are revaccinated only every three years and often disregard even this norm prescribed by WHO. The foreign sailors from Africa and Asia are revaccinated more regularly than the European sailors."

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In view of these observations the authors recommended a strict control of the state of smallpox immunity of the foreign sailors arriving in the Soviet Union and their revaccination whenever this seemed to be indicated.

370. Zemel'man, B. M. and Bessmertnaia, F. S., Immunological transformation in persons repeatedly vaccinated against brucellosis in the foci of infection. Zh. mikrobiol. (1965) 9: 78-81.
(From the Daghestan Anti-Plague Station.)

From their observations, the details of which must be studied in the original or in a translation, the authors concluded that it is indispensable to exclude persons with positive immunological reactions from vaccination against brucellosis.

371. Arkhangel'skaia, M. V. and Gel'fand, A. S., Epidemiological characterization of the tick-borne encephalitis focus in the Prisaian area. Zh. mikrobiol. (1965) 9: 96-100.
(From the Irkutsk IEM.)

The ecological observations of the authors and their recommendations for prophylactic work based upon them cannot be briefly reviewed.

372. Saltykov, R. A., Considerations of the position of the attenuated vaccinal strains of bacteria in the system of microorganisms. Zh. mikrobiol. (1965) 9: 126-129.

In the conclusion of his article the author stated that

"On the basis of the data and considerations presented above we postulate that the vaccinal strains STI-1, EV and the tularemia strain No. 15 should be regarded taxonomically as subdivisions within the species of respectively the anthrax, plague and tularemia bacillus; as their varieties or subspecies. Consequently we consider it possible to speak of the typical representatives of these species of pathogenic bacteria and of their vaccinal variants. Making such taxonomical determinations and in agreement with the nomenclature accepted in the system of bacteria it is proposed to name these microorganisms as follows: Bacillus anthracis varietas STI-1, Ginsburg, 1940; Pasteurella pestis var. No. 15, Gaiskii, 1942."

373. Kozlov, M. P., Considerations on the classification of the infectious diseases. Zh. mikrobiol. (1965) 9: 129-134. (From the Stavropol Branch of the All-Soviet SR Anti-Plague Institute "Mikrob")

This article, in which a new tabulation for the classification of the infectious diseases is proposed, can be quoted by title only. The same holds true of the following two historical articles:

374. Machul'skii, E. N., Survey of new materials concerning the work of I.I. Mechnikov on Plague. Preliminary Report. Zh. mikrobiol. (1965) 9: 149-152. (From the Moscow Mechnikov Vaccine and Serum Institute.)
375. Gal'chuk, T. S., Report on a little known work of N.F. Gamaleia. Zh. mikrobiol. (1965) 9: 152-154. (From the Lugansk MI.)
376. Nesterenko, L. P., The epidemiology of brucellosis in the meat-packing plants of the Ukraine. Vrach. delo (1965) 9: 101-104. (From the SR Institute of Epidemiology, Microbiology and Parasitology, Kiev.)

The conclusions reached by the author of this article were that

"1. Sources of brucellosis infections leading to clinical manifestations among meat packing plant workers were sheep and goats* in 34.4%, cattle 10%, and both kinds of animals slaughtered simultaneously in 55.6%.

2. Brucellosis infections occurred most often among the workers in the departments where the carcasses were handled initially, considerably less frequently in those where the subsequent processes were done and in the ancillary departments.

3. The incidence of brucellosis showed a markedly seasonal character with two peaks - January-May, when 62.5% fell ill, and autumn (September-November), when 20.7 of the total brucellosis patients became affected.

* In the Russian texts sheep and goats are referred to under the common name of "small horned cattle".

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4. Among the brucellosis patients were persons who had been immunized with live brucellosis vaccine. These became ill at different intervals after their vaccination."

377. Potapov, A. A. and Vladimirova, V. V., Comparative investigations of repellents against horse-flies and goats with the aid of the olfactometer and of traps. Izvest. Sibirsk. otdel. USSR Ak. nauk, ser. biol. medits. nauk 8 (1965) 2: 99-104.
(From the Institute of Medical Parasitology and Tropical Medicine, Moscow.)

This article can be quoted by title only.

378. Rozlov, M. P., Classification of the infectious diseases. Zh. mikrobiol. (1965) 9: 129-134.
(From the Stavropol Branch of the All-Soviet SR Anti-Plague Institute "Mikrob".)

The author of this article which has been quoted already by title on Page 355, proposes the following classification of the infectious (non-epidemic as well as epidemic) diseases:

Table on Page 357.

CLASSIFICATION OF INFECTIOUS DISEASES

<u>According to Localization</u>	<u>According to Biological Principles</u>	<u>Name of the Disease</u>	<u>Mechanism of Human Infection</u>								
			<u>Fundamental</u>				<u>Possible (of secondary importance)</u>				
			Alimentary	Aerial-droplet	Mechanical contact	Vector-borne	Alimentary	Aerial-droplet	Mechanical contact	Vector-borne	Not definitely established
1	2	3	4	5	6	7	8	9	10	11	12
<u>Intestinal infections</u>	<u>Anthropo- noses</u>	Typhoid and para- typhoid A and B	+								
		Dysentery (bacil- lary and amebic	+								
		Cholera	+								
		Epidemic hepatitis	+						+		
		Poliomyelitis	+								
		Helminths without secondary host	+								
<u>Intestinal infections (cont'ed)</u>	<u>Zoonoses</u>	Brucellosis	+		+			+			
		Leptospirosis	+		+						

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1	2	3	4	5	6	7	8	9	10	11	12
<u>Intestinal infections</u> (cont'd)	<u>Zoonoses</u>	Salmonellosis	+								
		Botulism	+								
		Ornithosis and psittacosis		+			+		+		
		Melioidosis					+		+		
		Helminths having other hosts besides man	+						+		
		Toxoplasmosis					+	+	+		+
<u>Infections of the respiratory tract</u>	<u>Anthropo-noses</u>	Smallpox		+					+		
		Diphtheria		+					+		
		Scarlatina		+					+		
		Pertussis		+							
		Measles		+							
<u>Infections of the respiratory tract</u>	<u>Anthropo-noses</u>	Epidemic cerebro-spinal meningitis		+							
		Influenza		+							
		Chickenpox			+				+		

1	2	3	4	5	6	7	8	9	10	11	12
<u>Infections of the respiratory tract</u>	<u>Anthropo- noses</u> (cont'ed)	Mumps		+	+						
		Encephalitis Economo		+							
		Pulmonary tuberculosis		+			+				
		Leprosy						+	+		+
	<u>Zoonoses</u>	Bovine tuberculosis	+						+		
		Pneumocystosis						+			+
<u>Blood infections</u>	<u>Anthropo- noses</u>	Relapsing fever				+					
		Typhus				+					
		Malaria				+					
	<u>Zoonoses</u>	Plague		+	+	+	+				
		Tularemia	+	+		+			+		
		Endemic rickettsioses	+		+						
		Tick-borne spirochetoses				+					
		Yellow fever				+					
		Seasonal encephalitides				+					

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1	2	3	4	5	6	7	8	9	10	11	12
<u>Blood infections</u> (cont'ed)	<u>Zoonoses</u>	Equine encephalitis				+					
		Hemorrhagic fever				+					
<u>Infections of the external integuments</u>	<u>Anthropo-noses</u>	Aerobial wound infections			+						
		Gonorrhea			+						
		Erysipelas			+						
		Scabies			+						
		Trachoma			+						
		Syphilis			+						
	<u>Zoonoses</u>	Anthrax	+		+			+			
		Gas gangrene			+						
		Glanders			+			+			
		Foot- and mouth-disease	+		+						
		Cutaneous leishmaniosis									no entry!
		Tetanus			+						
		Rabies			+		+				
		Sodoku			+						

379. Basova, N. N. and Gerasiuk, L. G., A study of the immunity-inhibiting action of Fraction I of the plague bacillus on guinea pigs. Zh. mikrobiol. (1965) 10: 24-30.
(From the Rostov-on-Don Anti-Plague Institute.)

The conclusions reached by the authors were that

- "1. One of the main immunogenic substances of the P. pestis Fraction I in doses of 200 micrograms or in higher doses caused in guinea pigs a depression of the immunological reactivity. This was manifested by a long persistence of the antigen in the body, by the absence of antibodies from the serum in concentrations measurable by passive hemagglutination and anaphylactic tests and by a hypersensitivity to minimal doses of a virulent plague culture.
2. One could observe considerable individual differences between the guinea pigs in regard to the action of Fraction I and the ability of producing specific antibodies.
3. The above mentioned phenomenon like the other manifestations of immunity are specific. If one administered large doses of Fraction I in combination with live plague vaccine, one could observe an inhibition and prolongation of the process of immunological transformation in the guinea pigs."

380. Korobkova, E. I. et al., The intracutaneous allergic reaction as an index of the immunity against plague. Report IV. Allergens of the plague bacillus for the intracutaneous reaction in persons vaccinated by different methods. Zh. mikrobiol. (1965) 10: 30-35.
(From the All-Soviet SR Anti-Plague Institute "Mikrob," Saratov.)

As discussed in this article, the details of which must be studied in the text or in a translation, intracutaneous tests with "pestin" (a plague allergen) may be used for an assessment of the efficacy of anti-plague vaccination in man.

381. Suchkov, I. U. G. et al., The primary immunological reaction in white mice in response to the administration of a depot antigen. Zh. mikrobiol. 10: 36-39.
(From the Rostov-on-Don SR Anti-Plague Institute.)

The conclusions to this article, the text of which cannot be briefly summarized were that

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- "1. A relation was found to exist between the indices of the plasmocytic reaction, the quantity of the antigen at the site of its introduction and the antibody level in the blood.
2. In animals immunized with a depot antigen one noted after an apparent lowering (disappearance) of the antigen at the site of its introduction a quite definite increase of the antigen concentration. These oscillations of the antigen amounts were indirectly proportional to the antibody level in the blood and the indices of the plasmocytic reaction in the regional lymph nodes.
3. A fundamental difference between the depot antigen and that administered without depot substances was that the former produced in white mice not one but several immunological cycles promoting a transformation of the body.
4. The length of the persistence of the antigen at the site of its introduction was greater in animals immunized with a mixture of Fraction I and the complete activator of Freund."

382. Ponomarev, N. G., Use of the Higuchi-Smith medium for the improvement of the immunogenic properties of vaccinal plague strains. Zh. mikrobiol. (1965) 10:43-47. (From the All-Soviet SR Anti-Plague Institute "Mikrob.")

The author of this well documented article adduces evidence that through selective subcultivation on the Higuchi-Smith medium one may maintain the immunological activity of the vaccinal plague strains at a satisfactory level.

383. Pilipenko, V. G. et al., Properties of the dry cutaneous combined vaccine against plague, tularemia and brucellosis in one ampule. Zh. mikrobiol. (1965) 10: 47-54. (From the Stavropol Anti-Plague Institute for the Caucasus and Transcaucasus.)

Pilipenko and his co-workers who in several earlier published papers had proved the value of ad hoc prepared mixtures of monovaccines for the combined immunization against plague, tularemia and brucellosis, no described tests with a trivaccine against these infections already mixed in ampules.

Since the properties of this ready-made vaccine were identical with those of the formerly used mixtures, studies of ways and means for the large-scale manufacture of the new vaccine seemed indicated.

384. Shevtsova, Z. V. and Grekova, N. A., Morphological characterization of the process following brucellosis vaccination in guinea pigs under the influence of radiation. Zh. mikrobiol. (1965) 10: 61-65.
(From the Gamaleia IEM, AMS, USSR.)

385. Elkin, I. I. and IAshkul, V. K., Problems of epidemiological geography. Report V. Factors conditioning the geographical distribution of the causative organisms of naturally-focal zoonoses. Zh. mikrobiol. (1965) 10: 116-124.
(From the First Moscow Order of Lenin I.M. Sochenov Medical Institute.)

These two articles can be quoted by title only.

386. Proreshnaia, T. L. and Miroshnichenko, M. I., Results of serological examinations for Q-fever in different groups of the population of the Kirghiz' SSR. Author's review. Zh. mikrobiol. (1965) 10: 139.
(From the Kirghiz Medical Institute and the Republican Sanitary-Epidemiological Station.)

Investigations made since 1955 showed Q-fever is widely spread in the Kirghiz Republic, 9 out of the 10 towns and 31 out of the 36 raions being affected. Natural foci of the disease were detected in 11 raions.

The distribution of the disease among the various groups of the population was studied with the aid of complement fixation tests, performed in 5547 patients with fever and in 6140 healthy persons.

5 043 of the patients had been sent in by the health officers because they seemed to suffer from brucellosis; 361 of them proved positive for Q-fever. Among 280 persons suspected to suffer or to have suffered from the latter disease, 169 (60.4%) gave positive results in the complement fixation tests.

23% of the positive reactors were children 7-16 years old, while 66.4% of them belonged to the age groups from 17 to 35 years. 75% were inhabitants of rural areas.

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A large majority of the healthy people proving positive in the complementfixation tests were likewise inhabitants of ruralraions, particularly such where domestic animals were bred, and belonged to professional groups, the occupation of which brought them into direct or indirect contact with such animals.

387. Shalunova, N. V. et al., A study of the interference of the virus of Japanese encephalitis with some cytopathogenic viruses in tissue cultures. Vopr. virusol. (1965) 5: 551-557.
(From the Institute of Poliomyelitis and Virus Encephalitides, AMS, USSR.)

Best results were obtained in this study with a vaccinal Type I strain of the poliomyelitis virus and with the viruses of the Newcastle disease and of Western equine encephalomyelitis.

388. Karmysheva., V. Ia. et al., A study of the interrelation of the Omsk hemorrhagic fever virus with the cells of a susceptible tissue culture. Vopr. virusol. (1965) 5: 557-562.
(From the Institute of Poliomyelitis and Virus Encephalitides, AMS, USSR.)
389. Zalkind, S. IA. et al., Analysis of the HEp-2 cells chronically infected with the virus of tick-borne encephalitis with the aid of luminescent microscopy. Vopr. virusol. (1965) 5:563-567.
(From the Moscow SR Institute of Virus Preparations.)

These two well documented and illustrated articles can be quoted by title only.

390. Ado, A. D. et al., A study of the allergenic properties of the intermediate antigens of the brain vaccine against tick-borne encephalitis. Vopr. virusol. (1965) 5: 577-583
(From the SR Allergy Laboratory, AMS, USSR, AMN, Moscow.)

The authors concluded from their experiments with tick-borne encephalitis vaccines prepared from the brain of infected white mice

"that the intermediate antigens begin to appear already on the second day after infection of the mice with the encephalitis virus, when clinical signs of the disease are still absent and that their quantity increases *pari passu* with the multiplication of the virus hand in hand with the development of the typical syndrome of tick-borne encephalitis."

391. Solov'ev, V. D. et al., A contribution to the mechanism of anti-smallpox immunity. Report VI. Observations on the role of the antigen in the manifestations of the specific insusceptibility. Vopr. virusol. (1965) 5: 583-589.
(From the Department of Virusology of the Central Institute ATP and the Moscow SR IEM.)

The authors studied on the one hand the morphological features of the processes developing in the lymphoid organs of rabbits after immunization with vaccinia virus by different methods and in different doses, and tried on the other hand to follow up the fate of the virus used for the immunization in the body of the test animals. The conclusions reached through these investigations were as follows:

"1. Through a study of the regularities of the immunisatory process developing after administration of the vaccinia virus to rabbits it could be established that the development of the post-vaccinal immunity is related to changes in the cells of the lymphoid tissue, is characterized by an activation of the enzymatic systems and an increase of the mitotic and proliferative activity of the reticular cells, is accompanied by a number of cell transformations and that as a result of these processes there is production of specific antibodies and an increase of the cell resistance.

2. In the cells of the lymphoid tissue in contact with the antigen profound biochemical, morphological and functional changes take place. As a consequence a correlation exists between the amount of antigen present in the lymphoid tissues and the degree of the changes induced in the latter. There exist also close relations between the localization of these changes and the method of immunization as well as the virus doses used. In connection with this there exists a relation between the intensity of the development of the immunity and the degree of involvement

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of the organs rich in lymphoid tissue in the process of immunogenesis.

3. For the development of an intense and complete post-vaccinal immunity a dissemination of the virus in the body, leading to a general response of the lymphoid organs is indispensable.

4. The resistance of the lymphoid tissue cells developing as a result of the immunization is not related to disturbances of the adsorption and penetration of the virus into the cells but with the acquisition by the cells of the property to render the infective virus harmless, evidently owing to a transformation of the fermentative system."

392. Rzhakova, O. E. and Chumakov, M. P., Use of the agar precipitation method for the differentiation of the antigens of viruses belonging to the tick-borne encephalitis sub-group. Vopr. virusol. (1965) 5: 589-594.
(From the Institute of Poliomyelitis and Virus Encephalitides, AMS. USSR.)

As described in this well documented article, the details of which must be studied in the text, it was possible to demonstrate with the aid of the agar precipitation method antigenic differences between the virus of tick-borne encephalitis and allied viruses like those of louping ill, Omsk hemorrhagic fever and Kyasanur forest disease.

393. Gnuni, G. M. and Malygina, I. G., Some problems of the technology of preparing water for the large-scale production of tissue culture virus vaccines. Vopr. virusol. (1965) 5: 614-618.
(From the Institute of Poliomyelitis and Virus Encephalitides, AMS. USSR.)

The technical details of this article must be studied in the original or in a translation.

394. Voprosy virusologii (1965) 5: 619-627. Summaries of Articles Submitted for Publication:
- a. Tkachuk, V. V., Study of the distribution of ornithosis in Odessa. Report I. P. 623.
(From the I. I. Mechnikov SR IEM, Odessa.)

In 1963-1964 examinations were made of the sera of 393 half-wild pigeons and 14 sea gulls. Complement fixation tests proved positive in 55.4% of the former, while no positive results were obtained in the sea gulls. However, one ornithosis strain each could be isolated when suspensions of the liver and spleen of 2 pigeons, respectively 4 sea gulls were injected intracerebrally into white mice.

- b. Kas'ianenko, A. M., Some ornithosis studies in the Dnepropetrovsk Oblast. P. 624.
(From the Sanitary-Epidemiological Station of the Dnepropetrovsk Oblast.)

The pigeons of the Dnepropetrovsk Oblast appeared to be seriously affected by ornithosis. Complement fixation tests with the sera of 162 of these birds caught in 6 settlements gave a positive result in 43.8%. Allergic tests with ornithosis antigen gave a positive result in an "absolute majority" of the owners of pigeons. These birds served also as source of the infection in the case of 2 patients found to be affected by the pneumonic form of ornithosis.

- c. Kazantsev, A. P. and Bogorishvilli, V. G., Epidemiological peculiarities of sporadic ornithosis. P. 624.
(From the Department of Infectious Diseases of the S. M. Kirov Military-Medical Academy, Leningrad.)

An examination of 322 pneumonia patients with the aid of complement fixation tests with ornithosis antigen, made during the period from 1960 to 1963, led to the detection of 70 ornithosis patients. It could be established that in 37 of these instances pigeons served as the source of infection, in 3 domestic ducks, in 2 wild ducks, in one each a parakeet (parakeet) and a small singing bird. The 26 other patients probably derived their infection from pigeons. The ornithosis patients did not spread the infection.

- d. Polenova, I. N. et al., A contribution to the study of the Japanese encephalitis focus in the southern Primor'e. P. 625.
(From the Vladivostok SR IEM and the Far-Eastern Branch of the Siberian Department, AS. USSR.)

The authors examined the sera of 813 persons living in the southern part of the coastal province with the aid of hemagglutination inhibition, complement fixation and neutralization tests in white mice. In persons who lived in the focus of Japanese encephalitis for a prolonged time, the first mentioned test was positive in 10%, the neutralization test in 26%, whereas these tests were negative in people living in the focus for

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1-2 years. Complement fixation tests gave a negative result.

Ecological studies proved that wild birds played a role in the spread of Japanese encephalitis in the foci.

- e. Shirolin, L. I. (Tashkent). Determination of the antibodies to the vaccinia virus with the aid of the indirect hemagglutination test. P. 626.

This note, in which the technique of the indirect hemagglutination test is described, must be studied in the original or in a translation.

- f. Bektemirov, T. A.. Interference between the vaccinia and smallpox viruses in cell cultures. P. 626.

The author came to the conclusion that the mechanism of the interference between the smallpox and vaccinia viruses observed by him evidently was not related to the production of an interferon.

- g. Iumasheva, M. A., Morphological changes caused by the viruses of the smallpox group in susceptible tissue. P. 627.
(From the Moscow SR Institute of Virus Preparations.)

The author of this note, which does not lend itself to a condensation, was of the opinion that the morphological peculiarities exhibited by the various strains of the smallpox group (smallpox, alastrim, cowpox and vaccinia viruses) on various substrates can be used for differential-diagnostic purposes.

- h. Chikryzova, L. G. et al., Experiences of a comparative study on the evaluation of the activity of smallpox vaccines. P. 627.
(From the Tashkent SR Vaccine and Serum Institute.)

The conclusion reached by the authors of this note was

"that the method of titrating the smallpox vaccines on the chorioallantoic membrane of chick embryos is the most sensitive and expedient and correlates with the results of inoculability in children."

395. Zhukova, L. I., Productional trials of some repellents against gnats and ticks of the species Ixodes persulcatus. Report II. Med. parazitol. 34 (1965) 5: 540-543.

(From the Entomological Department of the E.I. Martsinevskii Institute of Medical Parasitology and Tropical Medicine, MH, USSR, Moscow.)

This article is quoted by title.

396. Uspenskii, I. V., Experience of the use of granulated DDT in a tick-borne encephalitis focus in early spring. Med. parazitol. 34 (1965) 5: 544-549.

(From the Entomological Department of the E. I. Martsinevskii Institute of Medical Parasitology and Tropical Medicine, MH, USSR, Moscow.)

As described in this article, excellent success was obtained in the fight against the ticks in a Taiga focus of tick-borne encephalitis through distribution of granulated DDT from an airplane in early spring when the ground was still covered by snow. An adequate instruction for the use of this method was formulated by the author.

397. Amanzhulov, S. A. et al., Detection of Rickettsia burneti in the horsefly Tabanus staegei. Med. parazitol. 34 (1965) 5: 612-614.

(From the Kazakh Institute of Regional Pathology, AMS [Alma-Ata], USSR, and the Department of Specially Dangerous Infectious Diseases of the Leningrad Pasteur IEM.)

As described in this note, the authors succeeded in demonstrating with the aid of animal passages the presence R. burneti in the horsefly Tabanus staegei. Further investigations were necessary to determine whether this species played a role in the spread of Q-fever.

398. List of noteworthy articles quoted in a reference list published in the journal Meditsinskaia parazitologii (1965) 5: 616-622:

- a. Gur'ianov, A. A., Experience in the prophylaxis of the spring-summer tick-borne encephalitis. Voen.-med. zh. (1965) 6: 67-68.
- b. L'vov, D. K., Immunoprophylaxis of tick-borne encephalitis. Thesis, Moscow (1965).
- c. Nesterov, V. S., Dynamics of the immunity in the different forms of tick-borne encephalitis according to the results of the immunological reactions. Materialy teoret. i klinich. meditsiny (Tomsk, 1964), Vypusk 4, pp.53-58.

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- d. Ostrovskaia, N. M., Isolation of the tularemia bacillus from ixodes ticks in the Karakalpak ASSR. Sbornik n. trudov Tashk. med. univers. (1964), Vypusk 4, pp. 160-164.
- e. Avetisian, G. A., Supplement to the flea list of the Armenian SSR. Izvest. AN Armian. SSR. Biol. nauki 18 (1965) 3: 75-80.
- f. Boroveskii, S. G. et al., Distribution and frequency of the fleas in the settlements of the Karakalpak SSR. Sbornik n. trudov Tashk. med. inst. (1964) Vypusk 4, pp. 165-168.
- g. Luk'ianova, A. D. and Lapina, N. F., Lifespan of the suslik fleas. Zool. zh. 44 (1965) 6: 883-887.
- h. Mironov, N. P. et al., Istochniki i perenoschiki chumy i tuliaremii. (Reservoirs and Vectors of Plague and Tularemia). Moscow, 1965.
- i. Novokreshchenova, N. S., Changes of the flea index in relation to the number of inspected objects. Zool. zh. 44 (1965) 3: 403-410.
- j. Bliumkin, V. N. et al., Cytological changes in the cells of the pig embryo kidney (RES cells) under the influence of the tick-borne encephalitis virus. Biull. eksper. biol. i medits. 60 (1965) 10: 107-112.
(From D. I. Ivanovskii Institute of Virology, AMS, USSR, Moscow.)

This well documented and illustrated article can be quoted by title only.

399. TSareva, S. A., Determination of the influence of antibiotics on the intensity of the immunity in experimental tularemia. Antibiotiki 10 (1965) 10: 904-908.
(From the All-Soviet SR Anti-Plague Institute "Mikrob", Saratov.)

In order to assess the degree of immunity against tularemia present in white mice which had survived experimental infection when treated with streptomycin, chlortetracycline colimycin or levomycetin, the author re-infected the survivors one month later with 1 000 organisms of the tularemia strain 503. She found that

"the intensity of the immunity in animals treated with antibiotics depends upon the therapeutic efficacy of these preparations, the length of the course of treatment and the frequency of the doses given each day, i.e. the immunity develops to a lesser degree after the administration of highly active preparations (streptomycin or chlortetracycline) started early after infection and continued more intensively and longer."

No inhibition of the immunity was observed in the white mice treated early and intensively with levomycetin or colimycin or in those, whose treatment with the potent antibiotics had been commenced after a generalization of the infection.

400. Korobkov, G. G. and Vasiukhina, L. V., Influence of avirulent P. pestis on the resistance of the body to the simultaneous administration of virulent plague bacilli. Zh. mikrobiol. (1965) 11: 140-141.
(From the Irkutsk SR Anti-Plague Institute.)

The authors found that

"avirulent plague bacilli (both live and killed) introduced into the body (of experimental animals) simultaneously with virulent organisms showed an anti-infectious (protective) action which was well marked not only after administration in mixture but also if administered in different parts of the body."

In the opinion of the authors the protective action of the avirulent strains was due to their capability of enhancing the phagocytic action of the reticulo-endothelial cells.

401. Klassovskii, L. N. et al., Problems of the ecology of plague and pseudotuberculosis bacilli. Report II. Oligonitrophilic and oligocarboophilic properties of the pseudotuberculosis bacillus. Zh. mikrobiol. (1965) 11: 136-137.
(From the Central-Asian SR Anti-Plague Institute.)

The authors of this note, the technical details of which must be studied in the original or in a translation, found that in contrast to P. pestis - the pseudotuberculosis bacillus was

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capable of growing on a synthetic medium to which no nitrogen or organic compounds had been added. They postulated that owing to its oligonitrophilic and oligocarbophilic properties the pseudotuberculosis bacillus resembled soil bacteria and that it might be capable of a prolonged survival in the soil.

402. Iushchenko, G. V., A contribution to the serological characterization of P. pseudotuberculosis strains isolated from man and rodents. Zh. mikrobiol. (1965) 11: 127-128.
(From the Central Epidemiological Institute, MH, USSR.)

The author of this note tested 268 pseudotuberculosis strains isolated in Moscow from various rodents and from patients affected with the mesenteric form of the disease. In this material strains of Type I prevailed; those of Types II and IV were considerably more rare and only one strain of Type III was found.

403. Silina, M. N., The pathogenic microflora of the rodents and of the objects of the external environment in the Vologda Oblast. Zh. mikrobiol. (1965) 11: 131-132.
(From the Sanitary-Epidemiological Station of the Vologda Oblast.)

As summarized by the author of this note,

"The isolation of the causative organisms of tularemia, listeriosis, erysipeloid, pseudotuberculosis and salmonellosis from wild animals testifies to the presence of natural foci of these infections in the Vologda Oblast. In this connection careful implementation of the sanitary -prophylactic measures and intensification of the anti-rat campaigns in the town (of Vologda) and in the raions is indispensable."

404. Sukhar, V. V., Study of the antigenic composition of some tularemia strains. Report I. Zh. mikrobiol. (1965) 11: 38-43.
(From the Rostov-on-Don Anti-Plague Institute.)

The conclusions of the author of this article were that

"1. Through an investigation made with the aid of the double immuno-diffusion method of Ouchterlony of one vaccinal and nine virulent tularemia strains it was established that all these strains produced one and the same number of precipitation bands.

2. The antigenic structure of the 10 strains did not depend upon their cultivation either on a coagulated egg-yolk medium or on glucose-cystin fish agar.

3. The virulent strain 128 and the vaccinal strain 38 caused the formation of 13 precipitation bands in agar which were identical for both strains.

4. Through water-salt extraction one could obtain a water-soluble complex of antigens, causing the formation of 13 precipitation bands in agar precipitation tests.

5. Through gel precipitation tests it was established that the complete antigen of the tularemia bacillus formed two precipitation bands and represented only a part of the antigenic complex of the organism."

405. Maslova, T. N., Quantitative assessment of the phagocytosis of anthrax bacilli with a different degree of virulence by macrophages in vitro. Report I. Principles and reliability of the method. Zh. mikrobiol. (1965) 11: 124-126.
(From the Gamaleia IEM, AMS, USSR.)

This note can be quoted by title only.

406. Vysotskii, V. V., Ultra-structure of the brucellae. Report I. Ultra-structure of the S cells. Zh. mikrobiol. (1965) 11: 3-6.
(From the Gamaleia IEM, AMS, USSR.)

With the aid of the electron microscope the author studied the appearance of ultrathin sections of the S form of the following strains: International reference strains Br. melitensis 16 M, Br. abortus 544, Br. suis 1330 and of the Soviet

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standard strains Br. melitensis 565 and 2506, Br. abortus 146 and Br. suis 6. He found that (a) the ultra-structure of the brucellae did not principally differ from that of other earlier studied gram-negative bacteria; and (b) the organisms of the international reference strains and the Soviet standard strains showed an analogous appearance.

407. Mukhamedov, S. M. et al., Characterization of the brucella strains isolated from man and animals in Uzbekistan. Zh. mikrobiol. (1965) : 6-9.
(From the Uzbekistan Institute of Regional Medicine AMS, USSR and the Sanitary-Epidemiological Station of the Uzbekistan Republic.)

The authors of this article arrived at the following conclusions:

"1. A study of 161 brucellosis cultures, isolated from cattle, Sheep and goats and also from human patients showed that 100 (62.1%) of the growths were typical representatives of Br. melitensis and 31 (19.1%) typical Br. abortus; atypical properties were shown by 19 cultures (11.1%) classified as Br. melitensis and 11 cultures (6.7%) identified as Br. abortus.

2. The strains of Br. abortus isolated from sheep and goats (their natural habitat) showed as a rule typical properties. Among the cultures isolated from cattle, 14.6% Br. melitensis strains and 13.4% Br. abortus strains proved atypical.

3. Among the Br. melitensis cultures isolated from patients were 11.2% atypical strains obtained from persons who attended to the cattle in brucellosis-affected farms."

408. Uraleva, V. S., The agglutination inhibition reaction and the possibility of its use for the observation of the brucellosis antigen. Zh. mikrobiol. (1965) 11: 48-52.
(From the Rostov-on-Don SR Anti-Plague Institute.)

Referring to the publication of Diernhofer (Wien. tierärztl. Mschr., 1956, 4:83), the author of this preliminary communication stated that apparently the agglutination inhibition reaction was suitable for brucellosis laboratory work.

409. Vershilova, P. A. et al., Quantitative determination of the blood opsonins in brucellosis infection. Zh. mikrobiol. (1965) 11: 57-61.
(From the Gamaleia IEM, AMS, USSR.)

Using the method of Victor and his associates (1952), the authors found the quantitative assessment of the blood opsonins useful for the diagnosis of brucellosis in man and animals and also for studies of the post-vaccinal immunity.

410. Uvarov, A. A. and Sadovnikov, V. I., Observations on the passive sensitization of the body to the brucellosis antigen. Zh. mikrobiol. (1965) 11: 79-81.
(From the Orenburg MI.)

The authors found it possible to transfer passively the infectious allergy engendered in guinea pigs with live brucellae to non-sensitized animals. The intracutaneous injection of the plasma of actively sensitized guinea pigs produced a local state of allergy.

411. Zatulovskii, B. G. et al., A study of ornithosis in some towns of the Ukraine. Zh. mikrobiol. (1965) 11: 138-139.
(From the Kiev IEM, the Kiev Bogomolets MI, and the Zaporozh'e ATP.)

This note can be mentioned by title only.

412. LIST OF IMPORTANT PAPERS QUOTED IN A REFERENCE LIST

INSERTED IN THE JOURNAL Meditsinskaia Parazitologiya, etc.
Vol. 34 (1965) 6: 744-749.

- 1) Bektemirov, T. A. Arbovirus infections (tick-borne and Japanese encephalitis). Meditsinskaia sestra (1965) 5: 14-20.
- 2) Borzhek, B. P. Observations on the relations of migrating annular erythema to tick-borne encephalitis. Trudy Tomskogo instituta vaktsin i syvorotok Transactions of the Tomsk Vaccine and Serum Institute 16 (1965): 41-45.
- 3) Erofeev, V. S. and Lonshakova, A. A. Use of the hemagglutination and hemagglutination inhibition reactions for the observation and identification of the tick-borne encephalitis virus. Ibidem: 19-22.

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- 4) Karpov, S. P. Observations on the mechanism of the formation of inhabited foci of tick-borne encephalitis. Ibidem: 7-11.
- 5) Karpov, S. P. et al. Characterization of the specific gamma-globulin against tick-borne encephalitis in different immunological reactions. Ibidem: 267-269.
- 6) Murina, L. M. and Stetkevich, A. A. Allergic reactions in persons vaccinated against tick-borne encephalitis. Ibidem: 255-260.
- 7) IAvia, A. R. and Blizniuk, V. V. A contribution to the epidemiological and immunological characterization of the natural foci of tick-borne encephalitis in the Tomsk Oblast. Ibidem: 182:189.
- 8) Gadzhiev, A. T. et al. The gamasides of the natural focus of tularemia, plague and erisypeloid in the Nakhichevan ASSR. Trudy inst. zoologii Akademii Nauk Azerbaidzh. SSR (Transactions of the Zoological institute of the Academy of Sciences of the Azerbaidzhan SSR) 24 (1965): 152-161.
- 9) Gorozhankina, T. S. Materials to the transovarian transmission of the tick-borne encephalitis virus. Authors's review of a thesis. Leningrad (1965).
- 10) Grebeniuk, R. V. Ixodes ticks (Parasitiformes, Ixodidae) of Kirghizia (ecology, characterization, harmfulness, methods of control). Author's review of a thesis. Frunze (1965).
- 11) Gur'ianov, A. A. Experience in the prophylaxis of spring-summer tick-borne encephalitis. Voenno-medits. zhurnal (1965) 6: 67-68.
- 12) Salatova, T. A. Method of preparation of a type immune serum against tick-borne encephalitis. Laboratornoe delo (1965) 7: 428-430.
- 13) Ustinov, S. K. Observations on the participation of the small mammals in the epizootological process of a tick-borne encephalitis focus. Zoolog. zhurnal 44 (1965) 7: 1079-1081.
- 14) Kir'iakova, A. N. The larvae of fleas (Aphaniptera) of the family Ceratophyllidae. Report III. Entomol. obozr. 44 (1965) 2: 383-394.

413. Pypina, I. M. and Davidov, S. U., Global smallpox morbidity during the period from 1960-1964. Voprosy virusologii (1965) 6: 643-648.
(From the Anti-Plague Laboratory, MH, USSR, Moscow.)

This well documented article can be quoted by title only. (The Soviet Union recorded only 46 attacks, taking place during the well described 1960 outbreak at Moscow).

- 414 Zaklinskaia, V. A. et al., The immunogenic and antigenic activity of the inactivated tissue culture vaccine in respect to the various viruses of the tick-borne encephalitis complex. Voprosy virusol. (1965) 6: 649-656.
(From the Institute of Poliomyelitis and Virus Encephalitides, AMS, USSR.)

Tests made on white mice and human volunteers (the details of which must be studied in the original or in a translation) convinced the authors that the tissue culture vaccine against tick-borne encephalitis ought to be efficacious against the western as well as against the eastern strains of this infection. Possibly the vaccine could be used also for the prophylaxis of other processes caused by viruses of the tick-borne encephalitis virus complex. However, more ample studies are necessary to confirm this assumption.

- 415 L'vov, D. K. et al., The spectrum of anti-hemagglutinating antibodies appearing after experimental immunization with viruses of the tick-borne encephalitis complex. Vopr. virusol. (1965) 6: 657-663.
(From the Institute of Poliomyelitis and Virus Encephalitides, AMS, USSR.)

The conclusions reached by the authors of this article were as follows:

"1. Studies were made of the formation and dynamics of the homologous and heterologous anti-hemagglutinins appearing after immunization of animals with eastern and western strains of tick-borne encephalitis, the viruses of louping ill, Omsk hemorrhagic fever, the Kyasanur Forest disease and the Langat, Powassan and Negishi viruses.

2. The differences in the dynamics of the homologous and heterologous anti-hemagglutinins appearing after

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"hypo- and hyper-immunization and re-immunization are of a quantitative character. No material changes in the titers of the homologous and heterologous antibodies are found if the animals are tested at different times.

3. Immunization with any given strain of the tick-borne encephalitis virus leads in an equal degree to the formation of anti-hemagglutinins against all other strains of the same virus. Simultaneously antibodies to all other viruses of the complex, are formed but at lower titers. In the cases of the viruses of Omsk hemorrhagic fever and the Langat, louping ill and Negishi viruses the difference in the antibody titers is slight (1-3 log), but this difference becomes more considerable in the case of the virus of the Kyasanur Forest disease (3-5 log) and particularly in that of the Powassan virus (5-7 log).

4. Immunization with any heterologous virus of the subgroup, with exception of the Powassan virus, also leads to the appearance of antibodies against the other viruses of the complex with titers 1-3 log lower than those to the homologous virus. The antibody titers against the virus of the Kyasanur Forest disease and the Powassan virus are in all instances considerably lower (4-6 log). The heterologous antibody titers after immunization with these two viruses, specially with the Powassan virus, are considerably lower than the homologous titers."

- 416 Sarmanova, E. S. et al., Characterization of the hemagglutinating properties of the Kemerovo virus, Vopro. virusol. (1965) 6: 663-669.
(From the Institute of Poliomyelitis and Virus Encephalitides, AMS, USSR.)

This article can be quoted by title only.

- 417 TSirkin, IU. M., A modified method for the rapid identification of the viruses of tick-borne and Japanese encephalitis with the aid of the hemagglutination inhibition test. Vopr. virusol. (1965) 6: 669-674.
(From the Central SR Institute of Epidemiology, MH, USSR, Moscow.)

Evaluating the results of his investigations, the author maintained that the identification of the strains of tick-borne and Japanese encephalitis, which both belong to the same group of arboviruses, with the aid of hemagglutination inhibition tests may prove difficult, unless the tests are performed simultaneously in several pH zones. When subjecting tick-borne encephalitis strains to such tests with the heterologous Japanese encephalitis serum, one could observe in the pH zones 6.4-6.8 in all instances clearly marked zones with an almost complete absence of hemagglutination inhibition. Vice-versa, when testing Japanese encephalitis strains with tick-borne encephalitis sera, one found corresponding zones of an absent hemagglutination inhibition within the pH zones 6.2-6.4. In tests with homologous sera hemagglutination inhibition took place uniformly in all pH zones. The author assumed that in hemagglutination inhibition tests with heterologous sera there existed a definite optimum at which aberrant reactions were at a minimum and that it was possible to take differential-diagnostic advantage of this phenomenon.

418. Unanov, S. S. et al., Isolation of tick-borne encephalitis strains from Ixodes persulcatus ticks isolated during the epidemic season of 1964. Vopr. virusol. (1965) 6: 674-677.
(From the Moscow SR Institute of Virus Preparations.)

Working in 1964 in the Sverlovsk Oblast, the authors were able to isolate 54 tick-borne encephalitis strains from 184 lots of ticks, most of the positive results being obtained in May. It was found advisable to use both experiments on mice and tissue culture methods for this work.

419. Iablonskaia, V. A. et al., Experience of mass vaccination of man with the live combined typhus vaccine made from the E strain of R. prowazeki. Vopr. virusol. (1965) 6: 680-685.
(From the Rickettsiosis Departments of the Gamaleia IEM and the Belorussian Institute of Epidemiology, Microbiology and Hygiene.)

Quoted by title.

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420. Genig, V. A., Experience of mass immunization of man with the live vaccine M-44 against Q fever. Report II. The epidermal and peroral methods of immunization. Vopr. virusol. (1965) 6: 703-707.
(From the Gamaleia IEM, AMS, USSR, Moscow.)

In the conclusions to his article the author stated that

- (a) The live anti-Q-fever vaccine M-44, if used cutaneously, produced slight local reactions. General reactions were likewise not marked and rare (1.3%).
- (b) If adequate doses were used, the expedient method of cutaneous inoculation was as effective as subcutaneous vaccination.
- (c) Mass vaccinations against Q-fever with live vaccine can be administered without the preliminary use of selective serological tests.
- (d) Peroral administration of the live Q-fever vaccine gave promising results.

421. Marennikova, S. S. et al., A contribution to the problem of the origin of the vaccinia virus. Vopr. virusol. (1965) 6: 716-719.
(From the Moscow SR Institute of Virus Preparations.)

This article can be quoted by title only.

422. Vasil'eva, L. D., A contribution to the characterization of the diagnostic antigen prepared from R. burneti. Annotation. Vopr. virusol. (1965) 6: 748.
(From the S.M. Kirov Institute ATP, Leningrad.)

As shown by comparative tests, the phase in which the R. burneti strains used for diagnostic work are is of decisive importance for their usefulness. The antigen of the standard strain "Grita", which was in the 2nd phase, produced specific antibodies at high titers, whereas laboratory strains in the 1st phase proved less satisfactory in this respect and did not react with all sera.

Local R. burneti strains ought to be used for complement fixation tests only after their suitability for diagnostic work has been ascertained by comparisons with standard strains and tests with sera known to contain specific antibodies.

423. Gitel'man, I. I. et al., A device for the study of the dynamic characteristics of the metabolism during the uninterrupted cultivation of organisms. Mikrobiologiya 34 (1965) 6: 1086-1091.
(From the Physical Institute, AS. USSR.)

424. Korneev, V. F., A dosimeter for microbiological inoculations with a sterilizing system. Ibidem: 1092-1094.
(From the All-Soviet SR Flax Institute.)

These two descriptive articles, which are illustrated by drawings, can be quoted by title only.

425. Kadatskaia, K. P., Ceratophyllus geminus Ioff 1946 - new flea species in the Greater Caucasus. Izvest. AN Azerbaidzhansk SSR, Seriya biol. nauk, (1965) 4: 107.

This one-page article records the detection of C. geminus in a nest of wild doves.

426. Gromashevskii, L. V. (Kiev), A contribution to the problem of the liquidation of infectious diseases. Zh. mikro-biol. (1965) 12: 3-10.

Asked by the 20th Assembly of the USSR Academy of Medical Sciences to give a definition of the term "liquidation of infectious diseases", the author stated that

"The term 'liquidation of an infectious diseases' signifies the complete annihilation of the infectious disease in question within the borders of one country, a number of countries or in the whole world, accompanied by the complete eradication or disappearance of the causative organism of the given disease within the corresponding territory, which excludes every possibility of a recrudescence of the liquidated infection in whatever form without an importation of the causative organism from the outside."

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- ...7. Sterkhova, A. N., Immunization of man with the live Q-fever vaccine M-44 Zh. mikrobiol. (1965) 12: 48-52. (From the Azerbaidzhan Musabekov Institute of Virology, Microbiology and Hygiene.)

Working with the live Q-fever vaccine prepared in the Gamaleia Institute under the leadership of Zdrodovskii, the author of the present article arrived at the following conclusions:

"1. Tested on 495 persons, the live vaccine M-44 in a dose of 10⁻⁴ proved to cause slight reactions and to be immunologically efficacious: complement fixation tests (with the sera of the vaccinated) gave a positive result in 82.3 ± 4% with a mean titer of 1:26.6.

2. The vaccination of persons who before the immunization had complement-fixing antibodies in their sera, did not lead to the appearance of allergic reactions. Consequently the live M-44 vaccine against Q-fever may be administered without preliminary serological investigations."

428. Akhundov, M. G. and Dzhebrailov, E. D., An epizootic and epidemic of tularemia in 3 raions of the Azerbaidzhan SSR. Zh. mikrobiol. (1965) 12: 48-52. (From the Azerbaidzhan Anti-Plague Station, MH, USSR.)

According to the authors of this article, the first conspicuous tularemia manifestations in the Azerbaidzhan SSR were observed in 1958, when epizootics were recorded in the Pushkinskii Raion as well as in the Nakhichevan ASSR which, though separated from Azerbaidzhan proper by a strip of Armenian territory, is considered as a part of the former. While tularemia became recrudescent in the Pushkinskii Raion only in 1959, the infection persists in the Nakhichevan area up to the present.

Early in 1964 the appearance of tularemia manifestations in man as well as in rodents was observed in the Kazakh, Shamkov and Khanlar raions of Azerbaidzhan. The epizootics which lasted a little more than a month and involved a territory of about 10,000 hectares, affected the following species:

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<u>Species</u>	<u>Number Examined</u>	<u>Found Infected</u>	<u>Species</u>	<u>Number Examined</u>	<u>Found Infected</u>
<u>Meriones</u> <u>erythraurus</u>	603	2	<u>Ceratophyllus</u> <u>consimilis</u>	3,731	7
<u>Microtus</u> <u>socialis</u> s	529	17	<u>Ctenophthalmus</u> <u>secundus</u>	1,318	3
<u>Mus musculus</u>	597	2	Gamasidae	5,246	3

Total strains isolated-30.

Out of the 58 human attacks 47 were observed in the Shamkov Raion, 8 in the Khanlar Raion and 3 in the Kazakh Raion. An overwhelming majority of the patients was found to suffer from the anginose-bubonic form of the disease, contracted, the authors maintained, through the consumption of food stuffs, especially bread, contaminated by tularemia-affected rodents.

In respect to the origin of the epizootics the authors considered it noteworthy that (a) the territory of three affected raions bordered on uchastki in the Armenian and Georgian SSR in which natural foci of tularemia had been found to exist; and (b) in recent years the high mountain pastures of Armenia were used by the Azerbaidzhan cattle-breeders to pasture their sheep and goats, the herds being returned with the onset of the cold weather into Azerbaidzhan. It must be noted, however, that before being driven into Armenia and when returning to Azerbaidzhan the animals were washed and freed from ticks.

To combat the outbreaks, more than 400,000 persons were vaccinated with dry anti-tularemia vaccine. Other prophylactic measures included deratization and disinsectization in the settlements, instruction of the local medical personnel in the recognition, treatment and prevention of tularemia and health education of the population.

The authors claimed that the observations made by them in 1964 proved the existence of natural tularemia foci in Azerbaidzhan.

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429. Elkin, I. I. and IAshkul, V. K., Problems of epidemiological geography. Report VI. The formation of nosological areas of the naturally focal zoonoses. Zh. mikrobiol. (1965) 12: 70-78.
(From the First Order of Lenin Moscow I.M. Sechenov Medical Institute.)
430. Sardar, E. A., Observations on the relation of the cholera-like vibrios to the cholera phages. Zh. mikrobiol. (1965) 12: 126-130.
(From the Khabarovsk Anti-Plague Station).

These two articles are quoted by title.

431. Kulagin, S. M., Some problems of the clinique and diagnosis of Q-fever. Sov. med. (1965) 12: 65-70.
(From the N. F. Gamaleia IEM, AMS, USSR, Moscow.)

This article by Professor Kulagin does not lend itself to a brief review. He emphasizes the difficulty of a clinical diagnosis of the disease in view of the absence of pathognomonic signs and the tardy results yielded by laboratory tests.

432. Landik, G. T., Experience with the sanitation of brucellosis foci resulting from the transition of Br. melitensis on cattle. Zh. mikrobiol. (1966) 1: 64-69.
(From the Sanitary-Epidemiological Station of the Lugansk Oblast).

The conclusions reached by the author of this article were that

"1. The predominance of alimentary brucellosis infections over those caused by contact observed in the Lugansk Oblast during the period of 1956-1963 was due to the presence of 6 foci in which the cattle were affected by Br. melitensis.

2. There exist possibilities for a transition of Br. melitensis from cow to cow with a long persistence of the virulence of the organisms for man in the infected animals - as far as observed for 26 months.

3. The sanitation of brucellosis foci of the sheep-goat type among the cattle must be effected through the immediate slaughtering of all infected animals including the cattle as well as the goats and sheeps.

The hitherto valid instruction for the fight against brucellosis among the domestic animals must be supplemented in this sense.

433. Ginsburg, N. N. and Maslova, T. N., Quantitative assessment of the phagocytosis in vitro of anthrax bacilli of different virulence by macrophages. Report II. * Results of quantitative calculations. Zh. mikro.-biol. (1966) 1: 125-130.
(From the Gamaleia IEM, AMS, USSR.)

Working with the anthrax strains STI-1 and TSenkovskii 71/12 the authors found that

(a) The intensity of phagocytosis did not differ when either normal or immune macrophages were used for the assessments but that the immune cells more effectively impeded the growth of the anthrax bacilli; and

(b) The macrophages were equally active against avirulent and virulent anthrax bacilli.

434. Roshchupkin, V. I. and Ermolinskii, V. I., Observations on the prophylaxis of hemorrhagic fever with a renal syndrome under the conditions of a pioneer camp. Zh. mikrobiol. (1966) 1: 134-138.
(From the Kuibyshev MI and the Medical-Sanitary Service of the Kuibyshev Railway.)

As described in this article, extensive deratization and desinsectization prevented the reappearance of a hemorrhagic fever outbreak in a Pioneer children's organization camp which had taken place in 1960. Baits containing 4% zinc phosphide and 1% DDT proved particularly effective.

435. Shapovalova, M. F., A contribution to the method of isolating anthrax bacilli from the soil. Zh. mikrobiol. (1966) 1: 144-146.
(From the Sanitary-Epidemiological Station of the Krasnodar Krai.)

* The first report of this series was quoted by title on p. 373 of these abstracts.

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The author thus described her method of isolating B. anthracis: 100-200 g of the soil under test were well mixed with a double volume of normal saline. After the mixture had been left standing for 1-2 hours, with the aid of a syringe or a Pasteur pipette 3-4 ml of the supernatant next to the sediment were removed and divided into two equal parts. From one part cultivations were made on meat-peptone agar and the rest of the fluid was used for the infection of white mice and guinea pigs. The second part of the test material was heated to 70°C for 30 minutes and then handled in the above described manner.

The cultures were examined after 18-24 hours and anthrax-suspicious colonies were subcultivated and used in suspension for animal experiments. The infected animals were kept under observation for 10 days. The internal organs of animals which succumbed were used for the preparation of smears and for cultivation. Moreover extracts of the organs were used for precipitation tests according to Ascoli.

Examining 87 specimens in this manner, the author obtained 8 positive results with unheated samples - 7 with the aid of animal experiments and 1 by cultivation. Tests made with the same samples according to Dold's method gave negative results.

436. TKachuk, V. V. et al., A study on the spread of ornithosis infection in Odessa. Vrachebnoe delo (1966) 1: 94-96.

(From the I. I. Mechnikov SR EM and the Department of Infectious Diseases of the Odessa MI.) Summarizing the results of their observations, the authors stated that

- "1. The presence of ornithosis among the human population of Odessa has been observed for the first time.
2. Among 214 patients supposedly suffering from pneumonia, tuberculosis, influenza, catarrh of the upper respiratory tract and suspicions of paratyphoid affections the presence of ornithosis has been established in 27 (12.6%).
3. In the presence of febrile affections with an unclear etiology, specially if pneumonic foci are present, it is very important to examine the patients for ornithosis."

437. Zatulovskii, B. G. et al., Clinical and laboratory observations on ornithosis in Kiev and Zaporozh'e. Vrachebnoe delo (1966) 1: 107-110.
(From the Kiev IEM, the Kiev MI and the Zaporozh'e Institute for ATP.)

As described in this article, the authors were able to prove for the first time the presence of ornithosis in the cities of Kiev and Zaporozh'e, the diagnosis being established with the aid of complement-fixation tests and also of clinical and epidemiological findings. Out of the 20 patients thus detected, 17 showed features of an atypical pneumonia.

The time of appearance of complement-fixing antibodies in the sera of the patients and the height of the titers varied considerably. Besides maximal titers of 1:640 one could observe such of only 1:40.

Out of the 640 serologically examined patients 38 showed low titers (1:10 - 1:20) in the complement fixation tests. Possibly these persons had suffered from ornithosis in the past.

The epidemiological observations inculpated as a rule pigeons as the source of infection.

438. Zaporozhenko, A. IA., New clinical and epidemiological materials on anthrax in man. Vrachebnoe delo (1966) 1: 111-112.
(From the All-Soviet SR Institute of Railway Hygiene of the Ministry of Communications.)

As briefly stated in this note, the author made a study of 2,406 anthrax attacks. 94% of the patients had shown cutaneous affections, 5.4% intestinal, 0.41% lung affections and 0.19% features of ocular anthrax. (Earlier observations on anthrax by the author have been dealt with on Ser. I Pg. 249 #510 and Ser. II Pg. 408 #792.)

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439. Kas'ian, G. G. and Chepurov, K. P., Methods of obtaining pasteurellosis vaccines. Veterinariia (1965) 1: 25-27.
(From the Ukrainian SR Agricultural Institute.)

The authors stated to have obtained best results with an "emulsin-vaccine", prepared with a water-oil emulsion to which a suspension of pasteurellae inactivated with formol was added. If administered twice intramuscularly, this vaccine protected 94.3% of the rabbits tested against challenge with 20 DCL of a virulent pasteurella strain.

440. Kaven'kin, N. A. , Deratization and disinsectization in a meat-packing plant. Veterinariia (1965) 2: 88-89.
(From the All-Soviet SR Institute of Veterinary Sanitation (VNIIVS).)

As described in this article, the recently introduced use of zookumarin as rodenticide and of chlorofos and nikochloran as insecticides gave satisfactory results in a Leningrad meat-packing plant.

441. Petukhovskii, A. A., Experience of rodent destruction with baktokumarin. Veterinariia (1965) 2: 91-92.
(From the Disinfection Station of the Moscow Municipal Health Department.)

442. Popov, N. A., Use of baktokumarin for deratization. Veterinariia (1965) 2: 90-91.
(From the All-Soviet SR Institute of Veterinary Sanitation.)

Baktokumarin, introduced by the VNIIVS, consists of a grain base to which both cultures of B. typhi murium (strains Isachenko or 5170) and 0.025% of the sodium salt of zookumarin are added. According to the brief statements of the two above quoted authors it gave satisfactory results in campaigns against rats and mice.

443. Zakomyrdin, A. A., Measures of veterinary sanitation in large bird-breeding plants. Veterinariia (1965) 2: 94-98.
(From the All-Soviet SR Institute of Veterinary Sanitation.)

This article can be quoted by title only.

444. Afanas'eva, IU. N., Examination of milk for brucellosis with the aid of the ring reaction. Veterinariia (1965) 2: 107.
(From the Meat and Milk Control Station of the Komarovsk Market, Minsk.)

Using the ring reaction for the examination of 2,000 milk samples, the author obtained 35 positive and 25 doubtful results. Further examinations confirmed that the cows in question suffered from brucellosis. The technique of the test is not described in this brief note.

445. Ivanov, V. L., Observations on the detection of brucellosis carriers with the aid of specific provocation. Veterinariia (1955) 3: 34-35.
(From the Donsk Agricultural Institute.)

Summarizing the results of his findings the author stated that

"1. The intravenous introduction of 10 billion killed brucellae of the strain 21 produces in animals....keeping in their bodies the causative organisms of brucellosis clearly marked serological reactions (agglutination and complement fixation tests) and thermic reactions.

2. The appearance of positive agglutination and complement fixation reactions in formerly negatively reacting animals or an increase of formerly low agglutination titers to 1: 100 or more in the presence of a temperature reaction proves that such animals are brucellosis carriers and excretors."

446. Arestov, I. G., Observations on the influence of chlorofos on the organism of pigs. Veterinariia (1965) 3: 57-58.
(From the Vitebsk Veterinary Institute.)

447. Ternovoi, V. I., Methods of personal prophylaxis in work with chlorofos. Veterinariia (1965) 3: 91-92.
(From the Krasnoiarsk SR Veterinary Station.)

These two articles can be quoted by title only.

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448. Khlobostin, K. D., Nikochloran- an effective substance for the fight against ectoparasites. Veterinariia (1965) 3: 109-110.
(From the Trust "Soiuzzoovetsnab".)

Nikochloran, recommended by N. P. Sal'nikov, is a fluid containing enriched hexachlorane, nicotine, turpentine, spindle oil and an emulsifier. Diluted, so as to contain 0.3-0.4% of the gamma isomer of hexachlorane, it gave inter alia good results against flies and pasture ticks.

449. Bannikov, A. A. et al., An instance of tularemia among sheep in the Stavropol Krai. Veterinariia (1965) 5: 59-60.
(From the Stavropol Agricultural Institute.)

This article contains a description of a severe tularemia outbreak among sheep, taking place in 1961 in a sovkhos of the Stavropol Krai. The infection of this herd was due to the presence of an epizootic among Microtus arvalis and M. musculus.

450. Experience of eliminating brucellosis-affected animals from farms. Veterinariia (1965) 6: 13-18.

This collection of statements which contains contributions dealing with the state of brucellosis and brucellosis control in the Lithuanian SSR, the Karelian ASSR and the Pskovsk Oblast, can be mentioned by title only.

451. Chernysheva, M. I. et al., Diagnostic value of the luminescent serum method for the observation of brucellae. Veterinariia (1965) 6: 22-25.
(From the Gamaleia IEM, AMS, USSR.)

The conclusions reached by the authors of this well documented article were as follows:

- "1. The specificity of the luminescent antibodies depends upon the quality of the agglutinating anti-brucellosis serum. The method of immunizing rabbits recommended permits to obtain immuno-specific luminescent antibodies.

2. The use of the luminescent serum method renders it possible to observe minimal amounts (5,000 microbial cells) of brucellae on smears from suspensions containing a large amount (1 billion) of the causative organisms of specially dangerous infections. The method also permits the detection of brucellae in the water of natural water courses, containing 2,000 microbial cells per ml.

3. In animals infected with a virulent *Br. melitensis* culture in a dose of 2,000 organisms one can observe the brucellae in impression films from the lymph nodes 5 days after infection."

In order to obtain the serum for these tests, the authors infected rabbits of 3-4 kg once with 1 ml of a mixture containing 2×10^9 microbial cells of two virulent cultures (*Br. melitensis* 565 and *Br. abortus* 146) and bled the animals 10 days later. The globulin fraction was separated off with ammonium sulfate and fluoresceine isocyanate was added to it.

452. Dan'shev, I. A. and Koriukin, E. I., Methods of rapid diagnosis of brucellosis in sheep. Veterinariia (1965) 6: 25-28.
(From the Saratov SR Veterinary Station.)

The authors of this article, the details of which must be studied in the original or in a translation, recommended spot agglutination tests for the rapid diagnosis of brucellosis.

453. Chepurov, K. P. and Bzhezhinskii, S. K., The influence of antibiotics on the development of an anti-pasteurellosis immunity in chickens. Veterinariia (1965) 6: 29-31.
(From the Ukrainian SR Agricultural Institute.)

This article can be quoted by title only.

454. Ivanov, M. M. et al., Investigation of the immunogenic properties of an oil vaccine against sheep brucellosis. Veterinariia (1965) 5: 39-41.

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(From the Government Scientific Control Institute
of Veterinary Preparations.)

The conclusions reached by the authors of this
study were that

"1. A comparative evaluation of the immunogenicity of the
killed oil vaccine and the live vaccine from Strain 19,
made on guinea pigs and sheep, confirmed the good
immunogenic properties of the killed vaccine against
sheep brucellosis. The oil vaccine of Renoux en-
gendered in guinea pigs after 60 days a more intense
immunity than the live vaccine made from Strain 19.

In tests on sheep the immunogenicity of the killed
oil vaccine was also high but never exceeded the im-
munity which could be produced with the live vaccine
made from Strain 19.

2. The slow resorption of the brucellae from the
site of introduction of the oil vaccine ensures a
prolonged immunisatory stimulus, which activates
the protective power of the vaccinated animals (one
finds a more marked neutrophilic reaction and a
larger number of cells in the state of clasmatoxis)."

455. Trilenko, P. A. et al., Investigation of a vaccine prepared
from the strain K of Br. melitensis. Veterinariia
(1965) 6: 41-43.
(From the Leningrad Veterinary Institute.)

The detailed findings recorded by the authors of
this article, which led to satisfactory conclusions, must be
studied in the original or in a translation.

456. Lokteva, F. P., A method of obtaining whey for making agglu-
tination tests with brucellosis-suspect specimens.
Veterinariia (1965) 6: 95.
(From the Rostov SR Veterinary Station.)

As described in this note, the text of which can-
not be summarized, the author used specimens of milk dried on
pieces of filter paper as material for her tests.

457. Kolomakin, G. A., Methodology of observing brucellosis in wild rodents. Veterinariia (1965) 6: 96.

The method of searching for the evidence of brucellosis among wild rodents recommended by the author consisted of the feeding of dogs with the carcasses or internal organs of captured or hunted wild rodents and, starting two weeks after commencement of the feeding, with serological examinations of the dogs' blood. To facilitate the work, the blood samples necessary for agglutination and complement fixation tests were collected on pieces of filter paper. The tests were repeated every 10-15 days and dogs which gave positive reactions were killed for a bacteriological confirmation of the diagnosis.

458. Mukhopad, V. A., On the possibility of obtaining low-titer un-specific results with the antigen of R. burnetii. Laboratornoe delo (1965) 3: 179-182.
(From the Kiev SR IEM.)

Observations set forth in detail in this article led the author to the conclusion that side by side with specific results of complement fixation tests unspecific reactions were observed which did not furnish proof for the previous presence of Q-fever in the individuals in question.

459. Olsuf'ev, N. G., On the paleogenesis of the natural tularemia foci. Zool. zh. 43 (1964) 3: 355-369
(From the Tularemia Laboratory of the Department of Naturally Focal Infections, IEM, AMS, USSR.)

The conclusions reached by the author of this fundamentally important article were as follows:

"1. The causative organism of tularemia, *Francisella tularensis*, shows a number of common features with the brucellae and pasteurellae and undubitably has derived together with them from a common ancestor.

2. Because of its morphological and biological properties the tularemia bacillus shows a considerably greater similarity to the brucellae than to the pasteurellae. One may postulate, therefore, that the ancestral form of the tularemia bacillus and the brucellae in the beginning separated from a common trunk with the pasteurellae, and afterwards, in the process of further evolution, became differentiated into the brucellae and the tularemia bacillus.

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3. The emergence of the tularemia bacillus and the formation of its initial foci apparently dates back to the second half of the tertiary period (end of the miocene - beginning of the pliocene) and stands in fundamental connection with the hares of the family Leporidae and the Dermacentor ticks.....The rodents and also the other tick species could play only a supplementary role in the formation of the tularemia bacillus.

4. The American variety of the tularemia bacillus emerged apparently at the end of the pliocene or at the beginning of the pleistocene as the result of an adaptation of Sylvilagus rabbits, whereas the Euro-Asiatic variety underwent its evolution mainly in adaptation with the hares Lepus.

5. The adaptation of the tularemia bacillus to a habitat in moist biotopes and the ability of circulating independently in populations of amphibiotic rodent species was acquired apparently in the late pliocene and particularly during the glacial period (pleistocene) and became more marked in the case of the Euro-Asiatic variety."