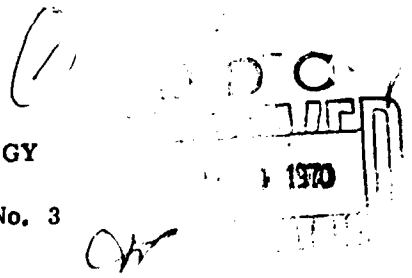


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TRANSLATION 350 (T350)
DEPARTMENT OF MEDICAL ZOOLOGY
UNITED STATES
NAVAL MEDICAL RESEARCH UNIT No. 3
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TRANSLATION FROM RUSSIAN. REZNIK, P. A. * (1966) On distribution area features of ticks belonging to the genus Haemaphysalis in the Soviet fauna. Tezisy Dokl. 1. Akad. Soveshch., pp. 171-172.

The species of the genus Haemaphysalis occurring in the USSR fauna can be divided into several zoogeographical groups.

1. H. concinna, a relict species, developed in the warm, humid climate of the Tertiary period. This species occurs in western Europe, Iran, and south-eastern Asia; in USSR in Primor'ye, Zakavkaz'ye and Crimea. Separate foci are also recorded in other localities, chiefly in the south of the country. The origin of these foci can be explained partially by the high probability for this tick being spread by birds. As an ancient form, this species does not form subspecies. It requires high temperature and humidity and its developmental period is protracted with the most primitive adaptation to change in annual seasons; the previous continuous and protracted developmental cycle characteristic of southern area inhabitants has disintegrated into a few parts with a single developmental stage per year.

2. South Asian inhabitants, H. neumanni¹ and H. japonica douglasi occur in the humid forests of Primor'ye. These species have survived the Quaternary period in the area which was not subjected to glaciation. They changed very little biologically, therefore their northward penetration is slight.

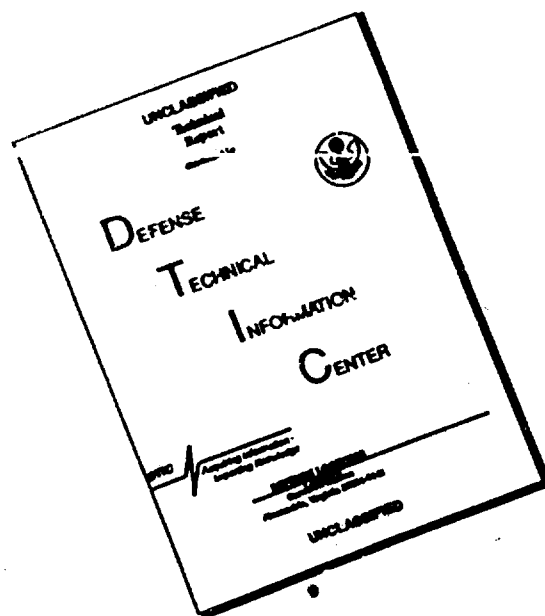
3. H. warburtoni², an element of the eastern fauna, apparently was formed under severe conditions of the Quaternary period within the same areas in which it now lives. The species preserved its former features as well as a partially 3-4 year developmental period. It occurs in mountains of Kirgizia and Altai, and in a limited area of the Caucasus.

* Stavropol' Pedagogical institute

1 "H. neumanni" is synonym of H. longicornis [see J. Parasit., 54(6):1197-1213 (1968)]. H. longicornis is typical of temperate NE Asia; it has been introduced into certain more southern areas. (H. H.)

2 "H. warburtoni" of USSR is H. pospelovashtromae [see J. Parasit., 52(4):787-800 (1966)]. (H. H.)

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4. The species of western origin have distribution areas chiefly characteristic of the Mediterranean type. Their ancestors survived the Quaternary fall of temperature and shifted northward where they became differently adapted to the conditions. H. inermis is found in western Europe and Iran and in the USSR in Crimea, along the Black Sea coast of Caucasus, in Ciscaucasia, and in the mountain forest area of Georgia. As regards morphology and biology, this species has preserved the features of an ancient form. It develops slowly and has little possibility for distribution, requiring high humidity and warmth which is provided by southern forests. H. sulcata is distributed from Mediterranean coasts throughout Iran to Central Asia and India; in the USSR it is found in Crimea, Transcaucasia, Ciscaucasia, and Central Asia, where it is numerous in foothills and along river valleys. As a thermophilic species, this tick does not penetrate northward. It has no distinct periodicity but changes depending on the geographical features of the locality. H. otophila³ inhabits the Balkans and Asia Minor. In Ukraine it is found chiefly in littoral areas; it is numerous in Ciscaucasia and also on the Black Sea coasts of Caucasus, as well as in Azerbaijan and eastern Georgia. This species inhabits eastern areas of the Caspian Sea in the Apat-Daga foothills. It is thermophilic and hygrophilic. Its shifting to hot, arid areas is due to development of a tendency to a burrow(-inhabiting) type of life, and its penetration northward is hindered by low temperature. H. punctata is found in Europe, North Africa, Asia Minor, and Iran; in USSR this species penetrates further north than others, to about 50° latitude. It is spread throughout almost the entire Ukraine and is abundant in the Caucasian Isthmus as well as in Asia Minor foothill areas. Displacement of this species northward is favored due to the 2 year developmental cycle, thus the short summer seasons of northern areas have proved to be sufficient for it. The quantity of rain during the spring-summer period is very important in the life of this tick species. During the isolation process of the last 3 species, it is very important that their immature forms develop chiefly on different animal groups; those of H. punctata on birds, of H. sulcata on reptiles, and of H. otophila on mammals. H. numidiana⁴ occurs in North Africa, Asia Minor, and Iran; in USSR it is found in Crimea, seldom in Caucasus, and very commonly in Central Asia and Kazakhstan. This species probably formed simultaneously with the entire desert animal complex. Thus it became more adapted to desert life than other species of the same genus. It also changed to the burrow type of life, thus requirement for protracted development was reduced to annual periodicity.

The forms living west and east of the Caspian Sea probably originate from Iranian ticks, which in this case occupy a rather intermediate situation.

5. Two species, H. pavlovskiy and H. caucasica, were most probably formed within Soviet Union territory. Their distribution and biology has not been sufficiently studied.

3 "H. otophila" is H. parva

4 "H. numidiana" is H. erinacei (see J. Parasit., 41(3):221-233 (1955).) (H. H.)