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TRANSLATION FROM RUSSIAN VSHIVKOV, F. N. (1956). Evaluation of the role played by wild birds in feeding and transportation of ixodid ticks in Crimea. Tr. 2. Nauch. Konf. Parazit., Ukrain. SSR, Kiev, pp. 33-34.

1. Ticks collected in 1954 and 1955 from 1,255 specimens of birds belonging to 103 species in Crimea served as material for this work.

Other information on tick transport by seven additional species of birds recorded in literature by Grobov (1946), Piontkovskaya (1947), and Mel'nikova (1953).

2. Of the 110 bird species, infestation was recorded in 56 (51%). Of the 1,255 bird specimens inspected by us, 406 (32.3%) proved to be tick carriers. From them, 5,881 tick specimens belonging to 12 species was collected: Ixodes ricinus (L.), I. redikorzevi Olen., I. crenulatus Koch, I. frontalis Panz., I. tauricus sp. nova, I. aff. berlesei Bir., Haemaphysalis punctata Can. and Fanz, H. concinna Koch, H. otophila P. Sch., H. caucasica Olen., Rhipicephalus rossicus Jak and K.-Jak., and Hyalomma plumbeum plumbeum Panz. \*

For the first time on the Crimean birds were found I. redikorzevi, I. crenulatus, I. tauricus sp. nova, I. aff. berlesei, H. otophila, H. caucasica, and H. rossicus. Systematic relationship of I. aff. berlesei is being studied.

3. General infestation index of birds was 4.8. On one bird there were 14.4 ticks. Maximum number of ticks was found on the Corn Bunting (Emberiza calandra L.) 860 larvae and 2 nymphs of H. punctata, on the Shag (Phalacrocorax aristotelis L.) 127 I. tauricus, and on the Common Kestrel (Falco tinnunculus L.) 112 I. crenulatus.

\* H. marginatum of western workers (H.H.).

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4. On birds in the steppe zone, H. punctata and H. plumbeum plumbeum are most frequently encountered, less frequently I. redikorzevi, and H. otophila, and very rarely R. rossicus.

In the forest zone, H. punctata, H. plumbeum plumbeum, and I. ricinus are frequently encountered, but in some areas of this zone for instance in the Crimean State Forest Reservation, H. concinna and I. redikorzevi were comparatively rare and H. caucasica, H. otophila, I. frontalis and I. crenulatus were very rare.

I. tauricus and I. aff. berlesei and in great numbers I. crenulatus are encountered only on birds which build their nests in crags and precipices along the littoral of the Black and Azov seas.

5. Chiefly larvae, fewer nymphs, and still fewer adults feed on birds. Thus, from 406 birds, 4,854 larvae, 914 nymphs, and 113 adults was collected.

6. Based on our data and on literature data (Pavlovsky et al., 1935; Ivanov, 1945; Kucheruk et al., 1953; and Ter-Vartanov et al., 1956) we made the following conclusions:

I. Qualitative factors of infestation of birds are: (a) landscape zone and biotopes, habitat of birds (this determines possibility of attack by different tick species; (b) period of the year; (c) places of nesting; (d) type of food.

II. Qualitative factors of infestation of birds are: (a) number of the bird species in a definite biotope; (b) number of ticks in investigated biotope; (c) period of the year; (d) time of residence (moving) of the bird on the ground.

7. Transportation of ticks by birds beyond the boundary of Crimea and in Crimea is effected from March till May and from September till November (period of arrival and departure).

Within the boundary of Crimea, transportation and dispersion of ticks is possible throughout the entire year. Maximum is for the period of migration of birds - from July till August, and minimum for November till March. During the nesting period (May-July), transportation of ticks is effected within the boundary of the nesting territory and in places where food is obtained.

8. Classification of obtained birds in groups characteristic for Crimea, shows that of the 36 local bird species, 27 (75%) were infested by ticks, of the nesting 58 bird species - 26 (44.9%), of the overwintering 11 bird species - 3 (27.3%), and of the transient 5 bird species - 1 (20%).

9. It appears that on the basis of conclusions 2, 3, 4, 6 and 7, and knowledge of the basic biological features of ixodid ticks and birds, it is possible to determine general features of the role of each bird species in carriage and transportation of ticks.