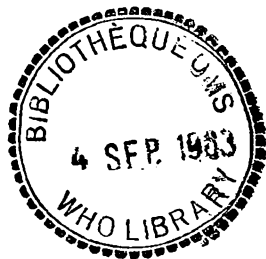


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A PARASITE FROM BULGARIAN ANOPHELES MACULIPENNIS ✓

by

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An interesting finding was made during the dissection of mosquitos in the course of investigations of anopheline bionomics carried out in the autumn of 1960 near the town of Ruse (Ruschuk), northern Bulgaria. While determining the stage of ovarian development of 10 examples of Anopheles maculipennis on 31 August, little round bodies superficially somewhat resembling polymorphonuclear neutrophils were discovered in the abdomen of three of them. The structures, which were evidently of parasitic nature, exhibited cytoplasmic movement.

This observation led to a purposeful search for parasites in further anophelines, comprising part of the catch from stables at two villages near Ruse, Sredna Koula and Nikolovo. Towards this end, 201 A. maculipennis were dissected and examined microscopically between 31 August and 20 October 1960 (Table 1).

TABLE 1. PARASITOLOGICAL SURVEY, A. MACULIPENNIS

Village	Number examined	Number parasitized	Parasite incidence
Sredna Koula	147	30	20.4%
Nikolovo	54	2	3.7%
TOTAL	201	32	15.9%

The organisms proved to be trematode ziphidocercariae, having a broadly rounded body averaging about 500 μ in diameter, and a well-defined cyst wall. The cytoplasm exhibits a great many fine granules and there is a central more or less

spherical zone, but the most conspicuous feature of living examples is the dark Y-shaped excretory bladder, which extends across most of the width of the body and for up to two thirds of its length. Near the point of divergence of the two branches of this bladder, one of the suckers may be distinguishable. Rotatory movements take place in situ, and there is some progressional movement if the parasite is dissected out into water or blood from the mosquito's stomach when this is ruptured by light pressure with a cover slip.

Other tasks precluded further study of the fluke, so it is not possible to assign it to its genus or to discuss its effects upon the host at this stage. It is noted, though, that immature trematodes have been reported from larval, pupal and adult mosquitos of numerous species, certain of them injuring or killing the host. Those known from A. maculipennis include Pneumonoeces variegatus Rud. (van Thiel, 1921, 1922, 1925, 1930, 1954), the final host of which is the frog, Rana esculenta L. An earlier record from a Balkan mosquito is that of Cercaria armata from Macedonian Culex hortensis (Joyeux, 1918).

In view of the present revival of interest in the various factors operating towards the natural regulation of numbers in mosquito populations, and the possible relevance of such factors to control practices, it was felt worth while to circulate these incomplete observations from Bulgaria in the hope that they may serve to draw fresh attention to one of the more neglected aspects of vector parasitology and pathology.

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