

THE FINDING OF ADELINA SP. (COCCIDIA, ADELEIDAE) AND MICROFILARIAE (FILARIATA, FILARIIDAE) IN SANDFLIES (DIPTERA, PHLEBOTOMIDAE) IN THE AREA OF ULCINJ-YUGOSLAVIA

MARIJA MILUTINOVIĆ*, Z. PETROVIĆ**, Z. MIŠČEVIĆ*, and LJ. BIŠEVAC*

*Institute For Medical Research, **Faculty Of Veterinary Medicine, Belgrade, Yugoslavia

(Received, 4. Septembar 1995)

Within faunistic and ecological investigations of sandflies in the area of Ulcinj, two specimens with a large number of coccidia of the genus Adelina and three specimens with microfilariae of the family Filariidae were detected. All contaminated specimens belonged to the species Sergentomyia minuta.

Besides the fore mentioned species Phlebotomus major and Phlebotomus tobbi were also found.

Key words: sandflies, coccidia, microfilariae, ecology

INTRODUCTION

Detailed investigations of the sandflies in the area of Ulcinj were carried out within the period 1986-1990. They included the faunistic and ecological characteristics of the sandfly population in this area. A total of 35 specimens were caught.

Parasites were detected in five specimens of the species *Sergentomyia minuta*. Thus, in two specimens the presence of coccidia was observed, while microfilariae were detected in another three specimens.

The coccidia were identified as *Adelina* sp. (Rioux et al. 1972), while for the microfilariae it was only found that they belonged to the family *Filariidae* (Simić et al. 1962).

MATERIAL AND METHODS

Sandflies were collected manually, in test tubes with chloroform or greasy papers, depending on the location of collection. The specimens, caught in test tubes, were immediately dipped into 70% alcohol, while the specimens found on greasy papers were kept in 96% alcohol for 48 hours and then dipped into 70% alcohol. The insects were so kept till final laboratory identification (Živković and Miščević 1973, Miščević and Milutinović 1987).

The preparations with microfilariae were dried in acid carmine solution for 20 minutes and then washed in alcohol (Langeron 1934).

RESULTS AND DISCUSSION

Coccidia were encountered in two specimens, one female and one male sandfly of the species *Sergentomya minuta*. They were in the oval oocyst form with a double membrane, the outer thick and the inner one significantly thinner. The sizes of the oocyst's were approximately 30 μ m x 40 μ m (Figure 1). The majority of oocysts found in the insect bodies were empty, but some contained about ten spherical sporocysts, about 8 μ m in diameter (Figure2).



Figure 1. The oocysts in the sandfly body (x 200)

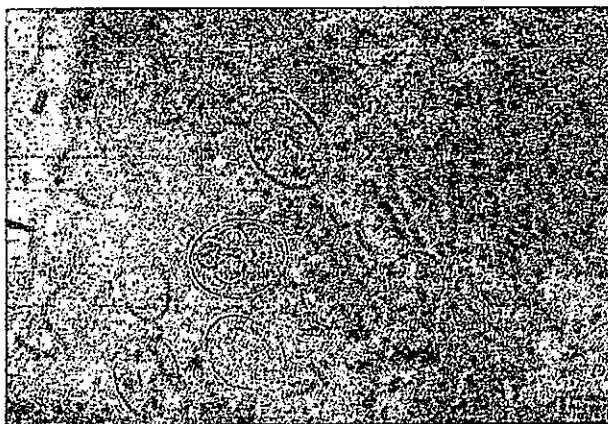


Figure 2. The oocysts with sporocysts (x 400)

A great number of empty oocysts had small openings on the apical parts, through which the sporocysts had been released.

It is interesting that parasites were encountered in both a male and a female, which coincides with the results of Rioux and co-workers (1984) and Martinez-Ortega and Conesa-Gallego (1987).

The coccidia, detected in sandflies on the Island of Corsica by Rioux and co-workers (1972), were classified by Levine (1977) as the species *Adelina riouxi* Levine, 1977. The description of them is appropriate to the parasites which we detected here.

Evidently, these are insect parasites. Other representatives of the genus *Adelina* were detected in various insect species. Thus, *Adelina mesnili* was found in *Alophora mesnili* (Diptera, Tachinidae), *Adelina tribolii* in *Tribolium castaneum* (Coleoptera, Tenebrionidae), *Adelina cryptocerici* in *Cryptocercus punctulatus* (Blattoidea, Blattidae) etc. (Steinhaus 1974).

Microfilariae were encountered in two females and one male of the species *Sergentomyia minuta*. The length of the microfilariae was between 220-290 μ m (Figure 3 and 4). Due to the regular laboratory treatment of the sandflies, the microfilariae were faded. After being dyed in acid carmine, they became more visible, but except for classifying them in the family *Filariidae*, it was not possible to determine their closer origin.

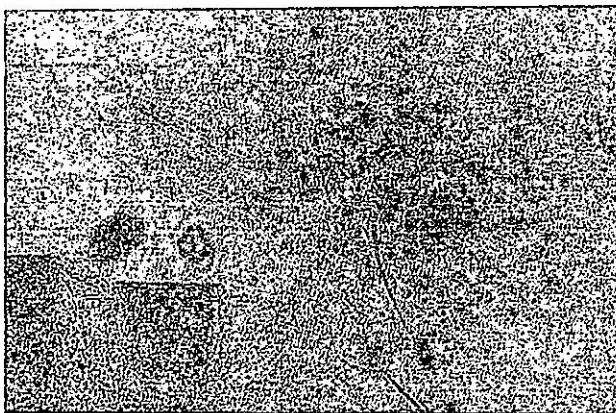


Figure 3. Microfilariae found in sandflies (x 200)

In their development cycle, members of the *Filariidae* are mainly connected with dipterae from the family *Culicidae*, as indicated in many literature data. However, nothing is known about a possible vectorial role for the sandflies in this parasite group.



Figure 4. Microfilariae found in sandflies (x 200)

Further faunistic and ecological research on sandflies in the area of Ulcinj will enable determination of the possible role of sandflies in the development of the mentioned nematodes.

A c k n o w l e d g e m e n t This work was supported by a grant from the Scientific Research Foundation of Serbia.

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**NALAZ ADELILNA SP. (COCCIDIA, ADELEIDAE) I MIKROFILARIJA (FILARIATA, FILARIIDAE)
KOD FLEBOTOMINA (DIPTERA, PHLEBOTOMIDAE) NA PODRUČJU ULCINJA, JUGOSLAVIA**

MARIJA MILUTINOVIĆ, Z. PETROVIĆ, Z. MIŠČEVIĆ I LJ. BIŠEVAC

SADRŽAJ

U okviru faunističko-ekoloških proučavanja flebotomina na području Ulcinja nađena su dva primerka vrsta *Sergentomya minuta* sa velikim brojem kokcidijskih rodu *Adelina* i tri primerka vrste *Sergentomyia minuta* sa mikrofilarijama porodice *Filariidae*. Pored pomenute vrste flebotomina zastupljene su i vrste *Phlebotomus major* i *Phlebotomus tobbi*.