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**NOTES ON THE INDIAN SUCKING LICE *HOPLOPLEURA MANICULATA* (NEUMANN) AND *NEOHAEMATOPINUS ECHINATUS* (NEUMANN)
(Anoplura: Hoplopleuridae)¹**

HARRY D. PRATT² AND CHESTER J. STOJANOVICH³

During his study of ectoparasites and arthropod-borne viruses in India, Dr. Harold Trapido of the Virus Research Centre, Poona, India, has sent the writers specimens of *Hoplopleura maniculata* (Neumann) and *Neohaematopinus echinatus* (Neumann). These were collected at Sagar, Shimoga District, Mysore, India, in December, 1958, from squirrels in the genus *Funambulus*. Since the original descriptions of Neumann and the later papers of Ferris dealing with these two species are now out of print and difficult for many entomologists to obtain, the two species are refigured in both sexes with short critical notes which may aid in the identification of these lice.

In 1909 the French entomologist Neumann published descriptions of two species of sucking lice, *Haematopinus (Polyplax) maniculatus* and *Haematopinus (Polyplax) echinatus*, from squirrels [*Funambulus* (as *Sciurus) palmarum*] collected at Rajkote, India. Neumann also recorded both species from specimens taken at Navapour, India, which were erroneously attributed to a bat, *Scotophilus wroughioni*.

In 1921 Ferris transferred *maniculatus* to the genus *Hoplopleura* and figured the male and female based on specimens collected at Colombo, Ceylon, on *Funambulus tristriatus*. Some of these specimens are now in the U.S. National Museum. In 1951 Ferris and Stojanovich included *maniculata* in their key to the species of *Hoplopleura* of the world. No additional records as to distribution and hosts appears to have been published.

In 1912 Cummings transferred *echinatus* to the genus *Neohaematopinus*. Ferris (1923) described and figured what he thought was a male *echinatus* from Colombo, Ceylon. This specimen was made the type of a new species, *Neohaematopinus ceylonicus*, by Ferris in 1951, who had seen material of the true *echinatus* type from Agra, India, collected on *Funambulus*. No other records appear to have been published on this species.

Hoplopleura maniculata (Neumann)

Haematopinus (Polyplax) maniculatus Neumann, 1909, Archives de Parasitologie, 13: 521-523, figs. 21, 22.

Hoplopleura maniculata (Neumann) Ferris, 1921, Contributions Toward a Monograph of the Sucking Lice, Part 2: 112-113, figs. 71, 72.

Hoplopleura maniculata (Neumann) Ferris, 1951, The Sucking Lice, pp. 129, 183.

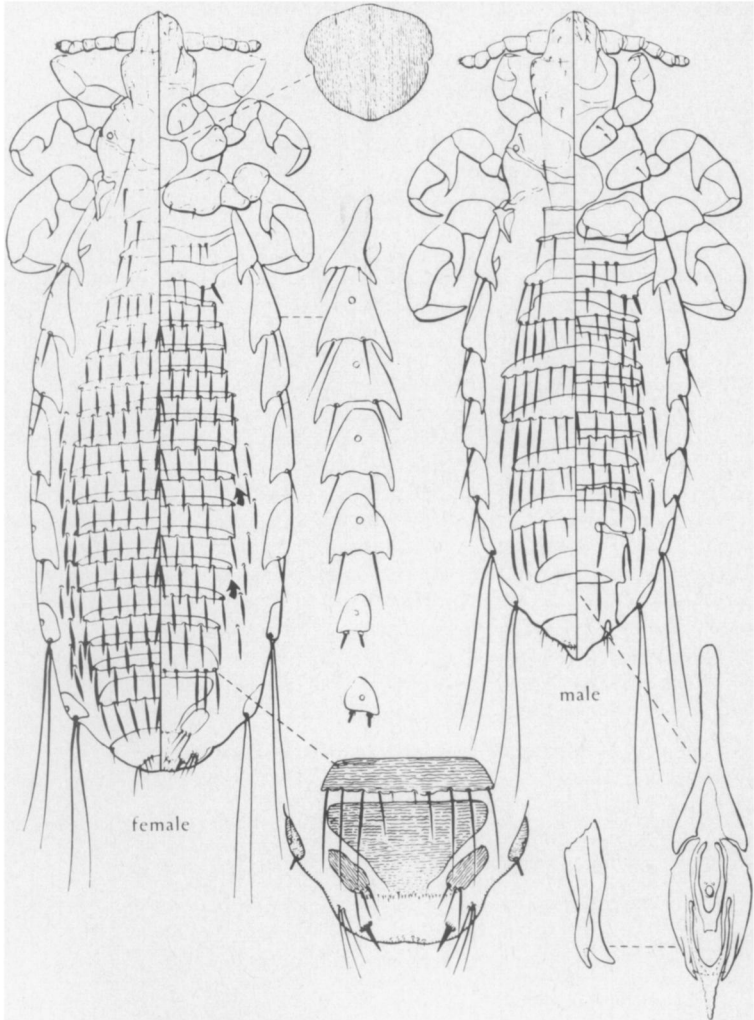
H. maniculata has acute angles on the posterior margins of the para-

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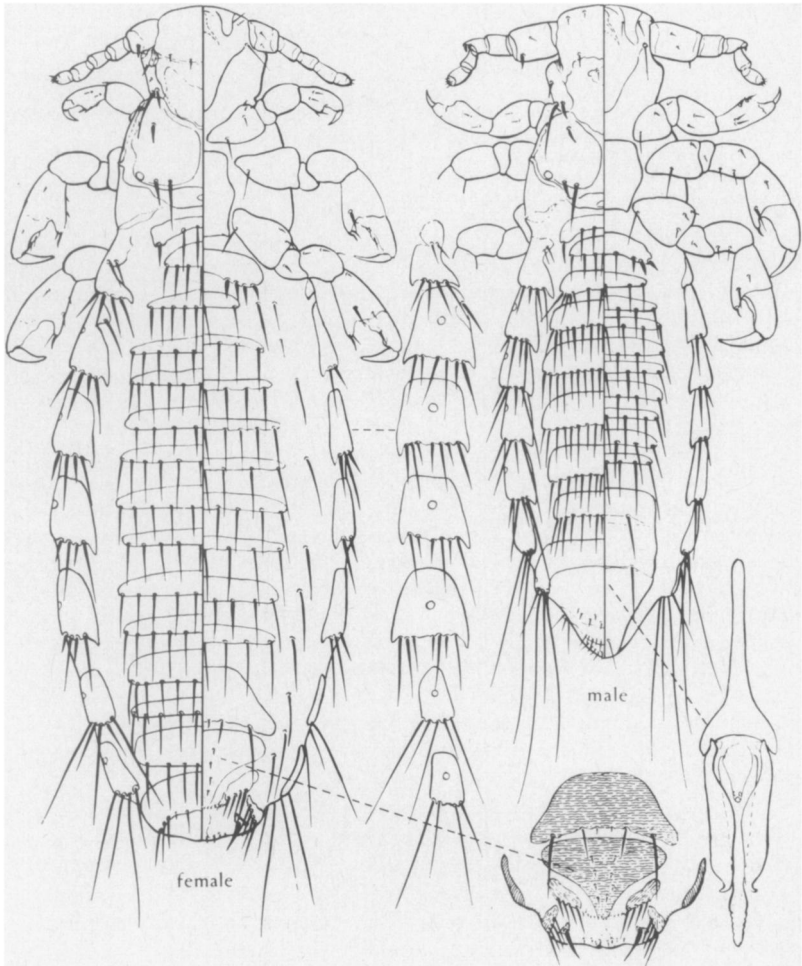
tergal plates on the third to sixth segments, similar in many respects to the Nearctic species *H. erratica* (Osborn) and *H. arboricola* Kellogg and Ferris found on chipmunks, *H. sciuricola* Ferris found on squirrels, or *H. hirsuta* Ferris found on cotton rats. It is closest to *erratica* and *arboricola* in that many of the specimens have the two stout spines on each side of the first sternite on segment III with the bases of these two spines set rather close together and placed on a projection. The majority of the abdominal setae are inflated, and the sternal plate of the thorax is rather short. *H. maniculata*



Hoplopleura maniculata (Neumann)

Plate I

differs from *erratica* and *arboricola* in that the abdominal sternites and tergites are more strongly developed. None of the other species in this genus known to the writers, and none of the figures of *Hoplopleura* from all parts of the world figured by Ferris (1921), have a short seta on the ends of the last sternites on segments V and VI as shown by the arrows on Plate I. Ferris (1921) did not show these short setae in his drawings, figure 71, but they are present on female specimens of *maniculata* from Ceylon in the National Museum collection.



Neohaematopinus echinatus (Neumann)

Plate II

The male genitalia are different from those of all Nearctic species except *arboricola* and *erratica* in having a definite notch at the tip of each paramere and in having a pronounced ear-like lobe on each side of the subgenital plate which bears a short and a moderately long seta.

Twenty-three male and 43 female specimens from Sagar, Shimoga District, Mysore, India, December, 1958, host *Funambulus* species, collected by Harold Trapido. Specimens are now in the collection of the Communicable Disease Center, U.S. National Museum, Virus Research Center, in Poona, India, and the private collection of Dr. K. C. Emerson.

Neohaematopinus echinatus (Neumann)

Haematopinus (Polyplax) echinatus Neumann, 1909, Archives de Parasitologie, Paris, 13:517, figs. 19, 20.

Neohaematopinus echinatus (Neumann), 1912, Cummings, Bull. Ent. Res., 3:393. (Generic transfer).

Neohaematopinus echinatus (Neumann), 1923, Ferris, Contributions toward a Monograph of the Sucking Lice, Part 3: 250-252, (female, not male).

Neohaematopinus echinatus (Neumann), 1951, Ferris, The Sucking Lice, pp. 189, 191.

N. echinatus apparently belongs in the *sciuropteri* group of *Neohaematopinus* which is characterized by a definite concave posterior margin on the sternal plate of the thorax, the male antenna being conspicuously more stout than that of the female, with the first segment markedly enlarged and bearing a stout spine, and the third segment with two strong, spine-like setae, and no rows of setae inserted in the membrane between abdominal sternites and tergites. *N. echinatus* differs from other species of *Neohaematopinus* in having a well-developed, rounded lobe bearing three or four stout setae at each end of the second sternite. This modification suggests the genus *Hoplopleura* which has a group of two or three stout spines on each side of the first sternal plate of the third segment of the abdomen; but, in *echinatus* this first sternal plate does not articulate with the adjacent paratergal plates as in the case of *Hoplopleura*. *N. echinatus* differs from the closely allied *N. ceylonicus*, both of which occur on squirrels of the genus *Funambulus*, in having two to four setae on the ventral lobe of paratergal plates III to VI, whereas in *ceylonicus* the ventral lobe of paratergal plates III to VI has only a single seta. In the single male of *echinatus* from Mysore collected by Dr. Trapido, the posterior portion of the male paramere is deeply emarginate before the tip, whereas Ferris' (1921, figure 161) drawing shows the paramere tapering gradually from the posterior fourth to the apex.

One male, and four female specimens with the same collection data as above. Specimens are now in the collections of the Communicable Disease Center, Virus Research Center, Poona, India, and U.S. National Museum.

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TWO NEW SPECIES OF *SEPSISOMA* FROM KANSAS (Diptera: Richardiidae)

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In my recently published revision of the Richardiidae found north of Mexico,¹ only one species of *Sepsisoma* is listed. The following new species make the total three, distinguished as in the key below. In all three species the entire thorax is yellowish, while the other species of the genus from farther south have the thorax dark red-brown or black.

- Key to the Species of *Sepsisoma* Johnson Found North of Mexico
- 1 (2). Humeral bristle lacking; anal cell markedly shorter posteriorly than anteriorly, anal crossvein distinctly retrorse; cell M_4 (3d posterior cell) at least 0.4 mm. wide; ocellar bristles distinctly posterior to anterior ocellus; hind tibiae dark brown to black *S. flavescens* Johnson
- 2 (1). Humeral bristle present; anal cell approximately of equal length fore and aft, anal crossvein not retrorse; cell M_4 0.3 mm. or less in width; ocellar bristles in line with or slightly anterior to anterior ocellus; hind tibiae yellow to light brown.
- 3 (4). Length of wing 3.95-4.0 mm.; only minute hairs anterior to *dc* bristles; scutellar bristles less than half as far apart as *dc*; petiole of abdomen as in fig. 1a; male post-abdomen as in fig. 1
 *S. sabroskyi*, new species
- 4 (3). Length of wing 3.0 mm.; a distinct although small second pair of *dc* present; *sc* 0.6 as far apart as *dc*; petiole of abdomen as

Sepsisoma sabroskyi, new species

(Figs. 1, 1a)

MALE. Length of wing, 3.95 mm. Color of body and legs wholly yellowish brown; bristles and hairs brownish to black; wings hyaline, with weak brown spot at apex; abdomen a little pitchy in middle.

¹ Steyskal, G. C. 1958. Notes on the Richardiidae, with a review of the species known to occur in the United States (Diptera, Acalypttratae). Ann. Ent. Soc. Amer. 51(5):302-310.