

species differs further from *Hypoaspis murinus* in that the second pair of pores on the sternal plate are oval instead of slit-like. On the gnathosome the anterior setae and the centrolateral setae are equal in size and length and are approximately two-third the length of the central and basal pairs which are of equal size and length. The dorsal setae are much heavier and longer in this species, 55-76 microns long as compared to 35-45 microns on *H. murinus*. The width of the anal plate at the widest portion is greater than the distance from the anterior margin to the base of the odd setae, in *H. murinus* these measurements are approximately equal. The anal pore is placed nearer the anterior margin than to the posterior setae, and the paired setae are located opposite the posterior margin of the anal pore.

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## A NEW FLEA FROM WESTERN NORTH AMERICA

(SIPHONAPTERA, HYSTRICHOPSYLLIDAE, NEOPSYLLINAE)

By F. G. A. M. SMIT, *British Museum (Natural History), The Zoological Museum, Tring, Herts.*

The new species described here has hitherto been confused with *Delotelis telegoni* (Rothschild), which it closely resembles and with which it is compared below. I have much pleasure in naming this previously unrecognized flea after the eminent Canadian siphonapterist, George P. Holland, to whom I am indebted for the loan and gift of additional specimens of it. I also wish to express my sincere thanks to Miss Phyllis T. Johnson for checking specimens of *Delotelis* at her disposal.

*Delotelis hollandi*, new species

*Types*.—Holotype male and allotype female: Gaston, Oregon, ex *Microtus townsendi*, 14 Feb. 1940, C. A. Hubbard. Paratypes—Oregon: Chehalem Mt., Newberg, ex *Peromyscus maniculatus rubidus*, 20 April 1932, C. A. Hubbard, 1 ♀; California: 2 mi. east of Quincy, Plumas Co., ex *Neurotrichus gibbsi*, 28 Sept. 1950, E. W. Jameson Jr. 1 ♂, 1 ♀; British Columbia: Vancouver, ex *Microtus oregoni serpens*, 25 Sept. 1948 to 6 Dec. 1948, M. Merry, 2 ♂, 7 ♀. All these specimens are in the British Museum flea collection at Tring. Through



the courtesy of Mr. G. P. Holland (who also presented to the British Museum the 9 specimens from Vancouver listed above) I have been able to study the following additional paratypes which have been returned to the Canadian National Collection. British Columbia: Vancouver, ex *Peromyscus maniculatus austerus*, 22 Oct. 1947, G. P. Holland, 1 ♂; ex *Microtus oregoni serpens*, 16 Jan. 1945, H. D. Fisher, 1 ♂, 1 ♀; Rayleigh, ex nest of *Microtus montanus canescens*, 25, Oct. 1947, G. P. Holland, 1 ♀; Chilliwack, ex *Peromyscus maniculatus austerus*, 18 March 1947, G. P. Holland, 1 ♀; Mt. Seymour, ex *Peromyscus maniculatus oreas*, 14 Dec. 1947, J. Yatwood, 1 ♀; Huntingdon, ex *Microtus townsendi townsendi*, 14 March 1943, G. P. Holland, 1 ♀; Kinbasket Lake, ex *Peromyscus* sp., 7 Sept. 1948, G. P. Holland, 2 ♂; ex *Microtus longicaudus mordax*, 6 Aug. 1943, G. P. Holland, 1 ♂; Tenguille Lake, ex *Clethrionomys* sp., Aug. 1945, J. Ronayne, 1 ♂, 1 ♀; Washington; Tacoma, ex *Peromyscus* sp., 27 Feb. 1945, F. M. Prince, 1 ♀; Oregon: Gaston, ex *Neurotrichus gibbsi gibbsi*, 22 Dec. 1940, C. A. Hubbard, 1 ♀. Additional specimens from Alaska not included in the type series.

*Diagnosis*.—Separable from the only other known species in the genus, *Delotelis telegoni* (Rothschild) 1905 (Nov. Zool. 12:172-174), in the male by the shape and chaetotaxy of the clasper and the ninth sternum, and in the female by the shape of the posterior margin of sternum VII.

*Description*.—*Male*. Apart from differences in the genitalia of the male and the 7th sternum of the female, which are described below, the two species are practically indistinguishable. The phallosomes of the two are likewise virtually identical.

*Delotelis hollandi*, new species

(Fig. 1)

*Corpus of Clasper.*

Eight strong setae near upper part of posterior margin; this row of large setae ending well below acetabular sclerotization.

Along apical part of dorsal margin 6-7 small setae, below which, on outer surface, a patch of about 13-15 slender setae and along lower part of posterior margin, below row of large setae, a row of 10-12 slender setae which decrease in size from above downwards.

*Delotelis telegoni* (Rothschild)

(Fig. 2)

Five or six strong setae near upper part of posterior margin; this row not reaching acetabular sclerotization.

Along apical part of dorsal margin 2-3 small setae, below which, on outer surface, a patch of about 11 thin setae; along lower part of posterior margin, below row of large setae, a row of 5-7 slender setae, also decreasing in size downwards.



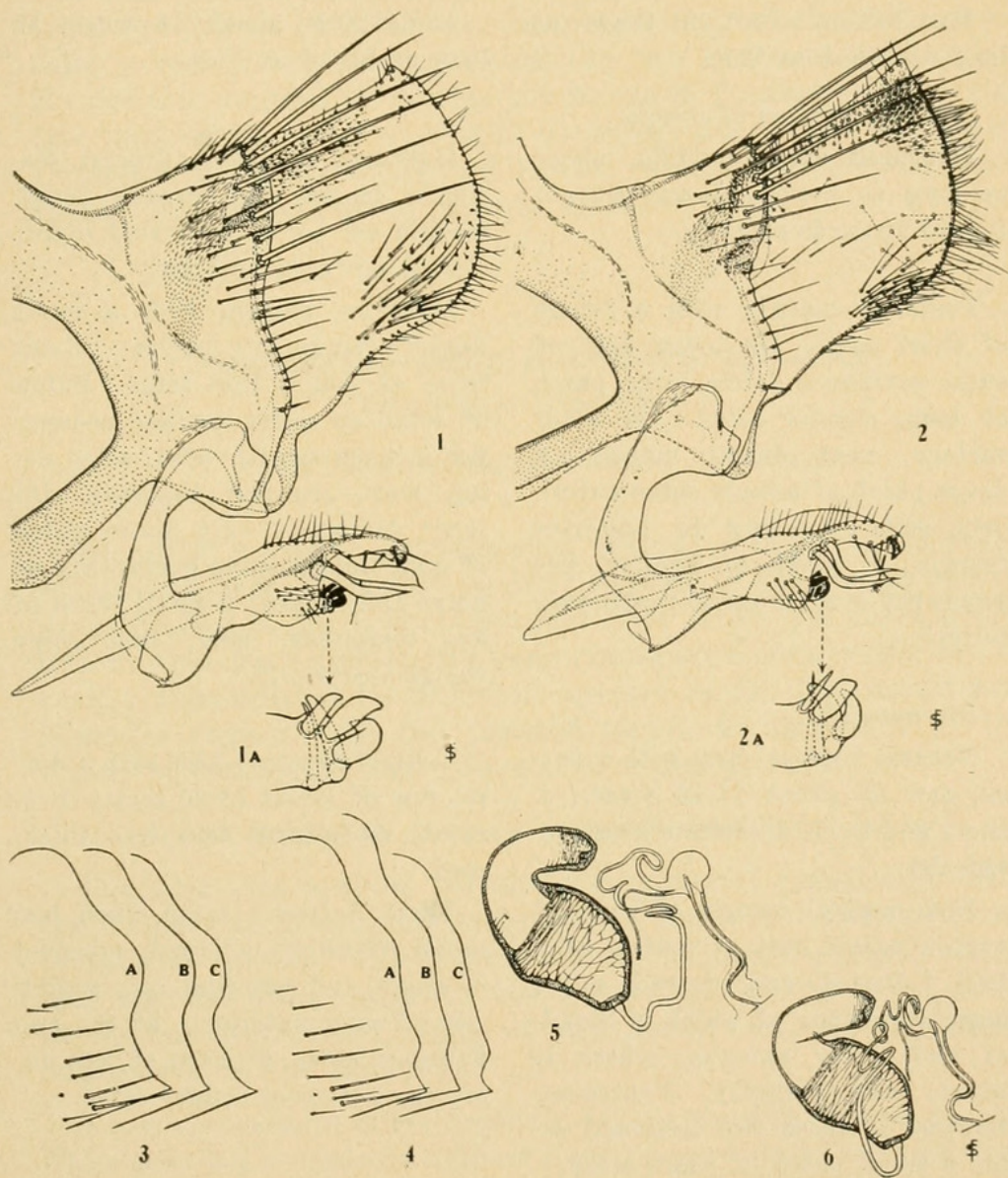


Fig. 1, *Delotelis hollandi*, new species, clasper and sternum IX of holotype; fig. 2, *D. telegoni* (Rothschild), clasper and sternum IX of holotype; fig. 3, *D. hollandi*, sternum VII of female (A from Gaston, Oregon, B from Newberg, Oregon, C from Quincy, California); fig. 4, *D. telegoni*, sternum VII of female (A and B from Kicking Horse Canyon, B. C., C from Horse Creek, B. C.); fig. 5, *D. hollandi*, genitalia of female (from Quincy, California); fig. 6, *D. telegoni*, genitalia of female (from Horse Creek, B. C.).



Dorsal margin of manubrium forming an angle of at least  $90^{\circ}$  with anterior margin of corpus.

Manubrium about 9 times as long as broad at base.

*Movable process of clasper.*

Measured across middle, about as long as broad; dorsal margin turned upwards apically.

Posterior margin with a fringe of short setae. On lower half of outer surface a fairly large patch of long, slender setae. On inner surface, near dorsal margin, a dense patch of minute setae anteriorly, not extending to posterior margin; a patch of similar, but somewhat stouter setae ventro-posteriorly.

*Sternum IX.*

Ventral (apical) arm with a dorsal row of about 11-12 setae. A short and thick, spiniform seta pre-apically.

Near ventral margin of basis of narrow apical part of ventral arm, two flattened and curved setae, more apical one of which is broader and wider apically, where it tapers very abruptly. Ventro-anteriorly of these two flattened setae a small patch of short setae.

All three outer apical spiniforms of inner branch of vertical arm stout (fig. 1 A).

*Female.*—The genitalia of both species are very similar, and I have been unable to find constant differences in either the spermatheca or the bursa copulatrix (cf. figs. 5 and 6). *Sternum VII:*

Fig. 3

Posterior margin with a very distinct, rounded lobe in about its middle part (fig. 3).

Dorsal margin of manubrium forming an angle of less than  $90^{\circ}$  with anterior margin of corpus.

Manubrium about 14 times as long as broad at base.

Measured similarly, process distinctly longer than broad; dorsal margin not (or at most very little) turned upwards apically.

Posterior margin with a much denser fringe of longer (about twice as long), thin setae. Patch of setae on outer surface occupying a much smaller area, setae being more crowded together. On inner surface a very dense patch of much longer setae posteriorly on dorso-apical area; a small patch of less numerous, long, thin setae ventro-posteriorly.

Ventral (apical) arm with a dorsal row of about 18-20 setae. Pre-apical, spiniform seta less thickened.

These flattened setae much less broad, distinctly elbowed, subequal in shape, and tapering very gradually. Ventro-anteriorly of the two flattened setae, a patch of less numerous but much longer setae.

Most anterior and lowest of these three outer spiniforms much more slender (fig. 2 A).

Fig. 4

This lobe much less distinct and not rounded; instead, this portion of margin straight or even slightly concave (fig. 4).



Although *Delotelis hollandi* seems to have a more western distribution than *D. telegoni*, they both occur in the Columbia River Valley. This could be a meeting-place of two subspecies, but the evidence from the general pattern of distribution and from the degree of difference in morphology of the male genitalia is rather against regarding the two forms as subspecies. No definite conclusion can as yet be made because of the relative paucity of records; this is doubtless due to the species of *Delotelis* being nest-fleas and rather difficult to collect. Both species apparently occur mainly on Microtinae.

### CONCERNING SOME HOLARCTIC MIRIDAE

(HEMIPTERA, HETEROPTERA)

BY EDUARD WAGNER<sup>1</sup> and JAMES A. SLATER<sup>2</sup>

Recently we have investigated several species of Miridae considered to be Holarctic in distribution. In the course of this investigation it has become evident that in several cases populations that have previously been considered conspecific are in reality represented by different species in the Palearctic and Nearctic regions. In the present paper a discussion of the status of several of these forms is undertaken.

#### 1. *Lygus campestris* (Linnaeus) and *L. scutellatus* (Uhler)

The Nearctic species formerly considered conspecific with the Palearctic *campestris* represents a distinct, although closely related species. The parameres of the males present excellent specific differences for the separation of the two species as do the sclerotized rings of the dorsal wall of the bursa copulatrix in the females.

A name is available in the literature for the Nearctic species. In 1877 Uhler described *Orthops scutellatus*<sup>3</sup> from specimens taken at Clear Creek Canyon, Colorado. Reuter (1909) synonymized this species with the European *campestris* and this synonymy has been followed by subsequent authors. Dr. Sailer of the U. S. National Museum has kindly informed us that there are at present no specimens of *scutellatus* in the Uhler collection from the type locality. However, there is a specimen in the Uhler collection bearing the locality label "Wyoming July 26-83" and labeled "type." Dr. Sailer informs us that this specimen is identical with material we have used in this study.

<sup>1</sup> Hamburg-L.G.H. 1, Moorreyhe 103, Hamburg, Germany.

<sup>2</sup> Department of Zoology and Entomology, Iowa State College, Ames.

<sup>3</sup> *Lygus scutellatus* Lindberg 1934, a homonym, was renamed *L. lindbergi* by Hsiao (1942).



1952. "A new flea from western North America. (Siphonaptera, Hystrichopsyllidae-Neopsyllinae)." *Proceedings of the Entomological Society of Washington* 54, 269–273.

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