

TWO NEW SPECIES OF *HOHORSTIELLA* (MALLOPHAGA: MENOPONIDAE) FROM NEW GUINEA AND NEW BRITAIN¹

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Abstract. Two new species of *Hohorstiella* are described and illustrated for lice off columbiform hosts: *H. radovskyi* off *Otidiphaps nobilis* from New Guinea and *H. tenorioae* off *Caloenas nicobarica* from New Britain.

There are currently 18 recognized species in the menoponid genus *Hohorstiella* Eichler. Although there has not been any revisional work dealing with these chewing louse taxa, the features of the 2 new species described and illustrated herewith are so different from those of any already described as to leave no doubt that they represent undescribed species. Members of *Hohorstiella* are restricted to the avian order Columbiformes and, although each louse species is fairly host-specific and thereby geographically limited, as a group they are worldwide in distribution: 6 are restricted to the New World, 3 to Africa, 5 to northern Africa, Europe, and Asia, and 3 to Pacific islands; 1 is found worldwide [*H. lata* (Piaget) on the domestic pigeon]. The material described here represents the first to be reported off hosts from the New Guinea area.

In the following descriptions, morphological terminology and numbers applied to certain setae generally follow those of Clay (1969). Measurements are in millimeters. The host nomenclature follows that of Peters (1937).

Hohorstiella radovskyi Price & Emerson, new species FIG. 1-8

Type-host: *Otidiphaps nobilis* Gould, the Magnificent Ground Pigeon.

♂. As in Fig. 1. Head broadest across temples, with very shallow preocular indentation. Preocular setae 10 and 11 short, only 0.03-0.04 long. Dorsal setae 15 and 16 long, 14 medioanteriorly adjacent to 15 but shorter, subequal in length to ocular seta 19; sensilla *c* and *d* absent. Occipital setae 21, 22, and 23 very long, with alveoli in straight line on each side; marginal temple setae 24 and 25 minute; seta 26 much shorter and finer than very long seta 27, with alveolus adjacent to that of 27;

with 5 very long marginal and submarginal temple setae, including seta 27. With pair of ventral spinous postpalpal processes, each 0.06-0.08 long; subocular comb row preceded anteriorly by series of 8-9 short to medium setae (Fig. 5); gula usually with 5 + 5 setae, less often 6 on side. Sitophore sclerite of hypopharynx well developed (Fig. 6). Pronotal margin with 7 long, 3 short setae on each side, arranged SLSLS5L from lateral corner to midline; outer pronotal seta 1 much longer than minute inner seta 2. With 4 minute anterior mesonotal setae immediately posterior to postnotum, with pair on each side close together. Metanotum with total of 14-16 marginal setae, 10-12 of these long; irregular diagonal row of 5-7 short lateroanterior setae; pair of short medioanterior setae. Prosternum moderately developed (Fig. 7), with weak medioposterior projection; mesosternum with 9-11 setae, metasternum with 11-14. Femur III with ventral brush of setae. Abdomen with tergites undivided, evenly wide across segment. Postspiracular setae very long on I-VIII, with adjacent medial seta also long to very long; remaining setae mixed long and short. Tergite I with short seta laterad to postspiracular seta. Marginal tergal setae: I, 15-19; II, 20-22; III-IV, 19-25; V-VII, 18-23; VIII, 16-18. Without anterior tergal setae. Each side of last tergite with 1 very long seta, 1-2 short lateral setae, and 3 relatively short inner posterior setae. Without evident sternite I; sternites IV-V with brush of short setae on each side. Sternal setae: II, 29-33; III, 46-58; IV-V, 85-106; VI, 59-71; VII, 34-42. Subgenital plate of VIII fused to IX; VIII with 17-24 setae, IX with 16-21. Pleurites developed, with II-VII having medioposterior projection, that of VII smallest (Fig. 8); each pleurite with single row of marginal setae. Genitalia (Fig. 3) with complex of slender sac sclerites as shown, most specimens appearing close to Fig. 3, but occasionally sclerites as in Fig. 2. Dimensions: preocular width, 0.52-0.53; temple width, 0.67-0.69; head length, 0.43-0.44; prothorax width, 0.49-0.51; metathorax width, 0.60-0.62; total length, 2.00-2.07; genitalia length, 0.54-0.60; genitalia width, 0.18-0.20.

♀. As in Fig. 4. Much as for ♂, except as follows. Abdominal tergal setae: I, 17-22; II, 21-24; III-VI, 19-27; VII, 18-23; VIII, 17-20. Each side of last tergite with 2 long inner posterior setae. Sternal setae: II, 30-38; III, 58-67; IV-V, 106-127; VI, 72-87; VII, 39-47. Ventral terminalia as shown in Fig. 4; sternite VII separate from subgenital plate; subgenital plate with 21-26 short evenly distributed marginal setae, 14-20 anterior; anus with 52-58 ventral, 42-48 dorsal fringe setae. Dimensions: preocular width, 0.53-0.55; temple width, 0.71-0.74; head length, 0.41-0.44; prothorax width, 0.51-0.54; metathorax width, 0.66-0.69; total length, 2.22-2.32.

Holotype ♂ (BPBM 13,445), ex *O. nobilis*, IRIAN JAYA: Archbold Lake, 29.XI.1961 (L.W. Quate, BBM-NG 439); in Bishop Museum, Honolulu. *Paratypes*, 25♂, 18♀, same data as holotype; in Bishop Museum, United States National Museum of Natural History, University of Minnesota, Oklahoma

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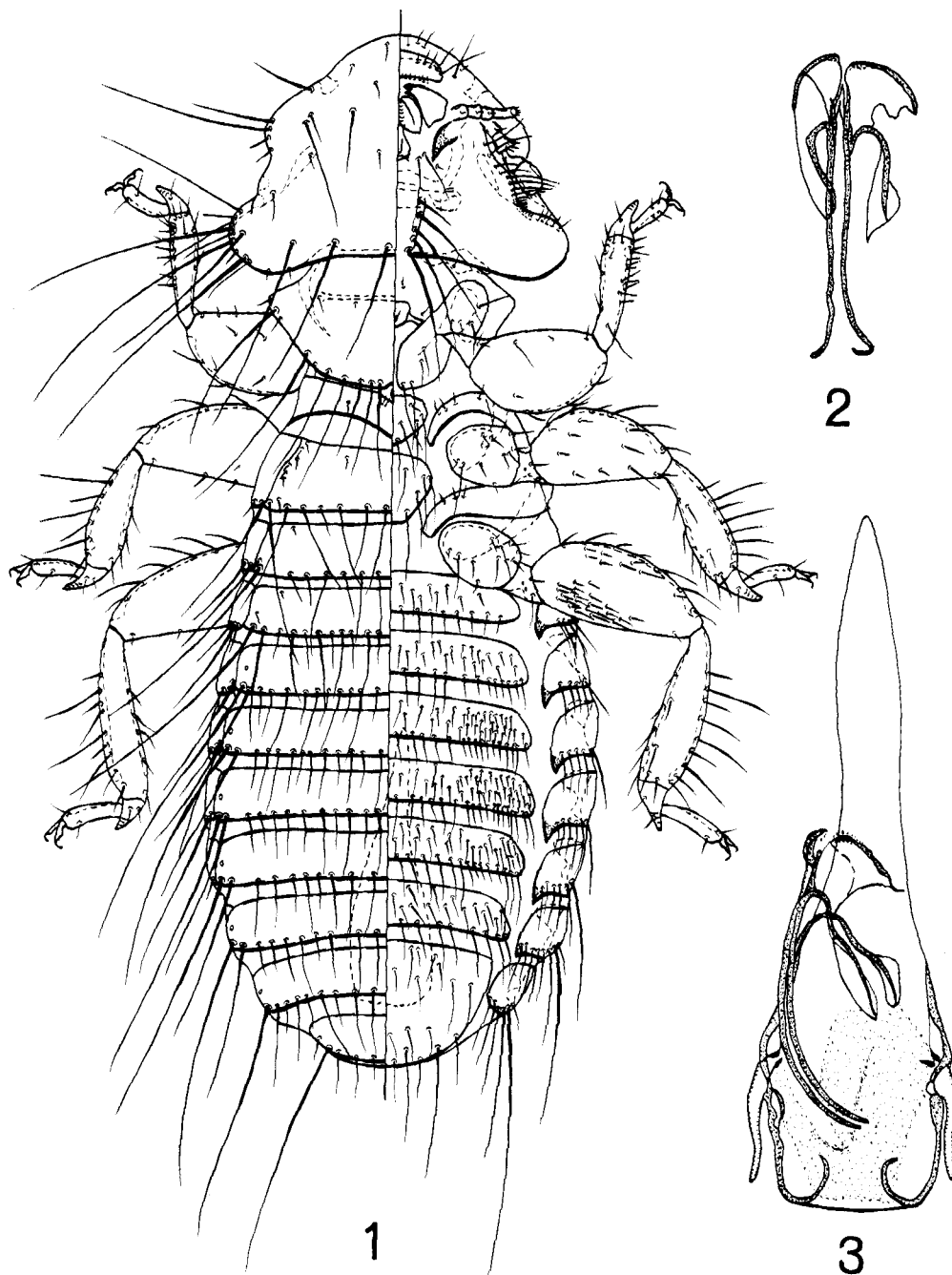


FIG. 1-3. *Hohorstiella radovskyi*: 1, ♂ dorsal-ventral view; 2, ♂ genital sac sclerites; 3, ♂ genitalia.

State University, and British Museum (Natural History).

Remarks. The head shape of both sexes of *H. radovskyi* and the complexity of the long slender sac sclerites of the male genitalia offer ready means for distinguishing this species from all previously

known *Hohorstiella*. The heads of the other species are more evenly rounded and/or have a distinct preocular slit or deep notch; the male genitalia of none of the others has associated sac sclerites approaching those shown in Fig. 2 and 3. Additional characters, which in combination confirm the uniqueness of *H. radovskyi*, are (1) the absence of

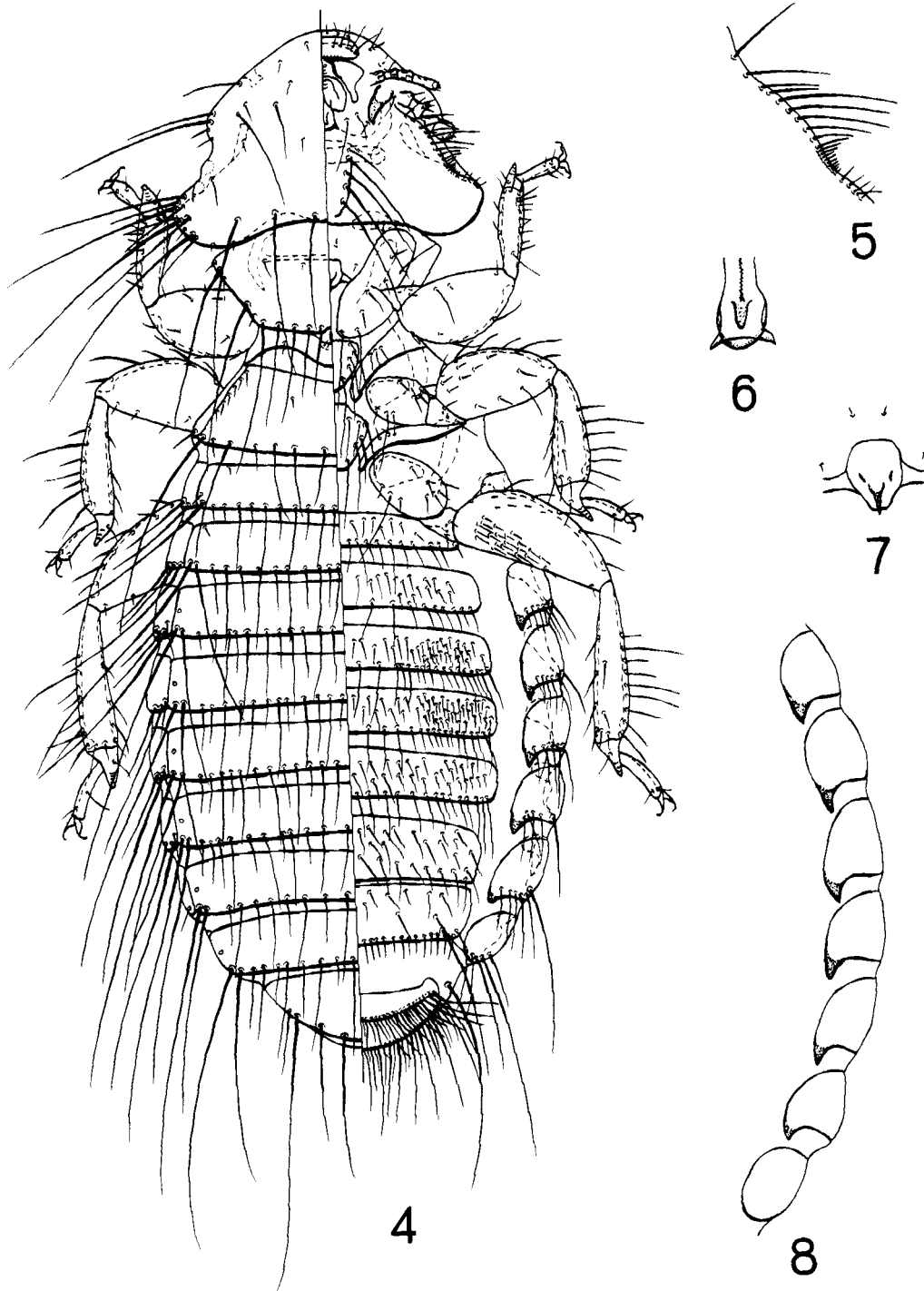


FIG. 4-8. *Hohorstiella radovskyi*: 4, ♀ dorsal-ventral view; 5, ♀ subocular comb row and associated setae; 6, ♀ sitophore sclerite of hypopharynx; 7, ♀ prosternum; 8, ♀ pleurites II-VIII.

anterior abdominal tergal setae, (2) the mixed short and long marginal setae on the abdominal tergites, (3) the medioposterior projection on each of the abdominal pleurites II-VII, (4) the female subgen-

ital plate with setae spaced evenly across the entire posterior margin, and (5) the large number of setae in both anal fringes of the female.

The host individual from which the specimens

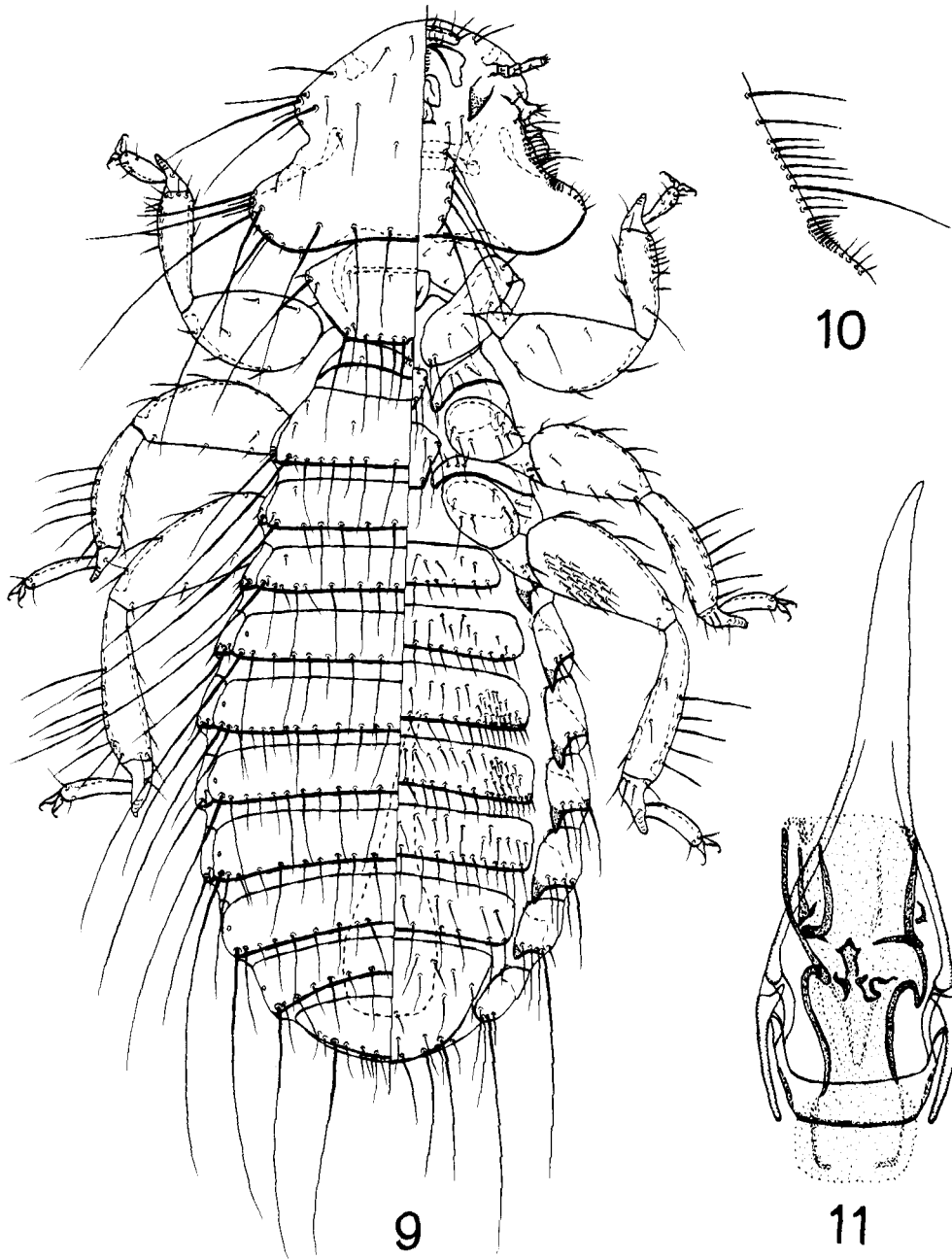


FIG. 9-11. *Hohorstiella tenorioae*: 9, ♂ dorsal-ventral view; 10, ♂ subocular comb row and associated setae; 11, ♂ genitalia.

of *H. radovskyi* were collected harbored a most unusual louse fauna. Clay & Price (1970) described the genus *Cavifera* and type-species, *C. abdita*, and Price & Emerson (1975) described another genus, *Quateia*, and its type-species, *Q. irianensis*, with materials for all of these taxa off the BBM-NG 439 host specimen, which at the time of those descriptions was an "unknown" host. Emerson & Price

(1979), on the basis of subsequent collections of lice from verified *O. nobilis*, concluded that the "unknown" host most likely was also *O. nobilis* and declared *O. nobilis* to be the type-host for the *Cavifera* and *Quateia* taxa. It is not surprising that *H. radovskyi*, as a 3rd new species from the same host specimen, has proven to be so different.

This species is named for Dr Frank J. Radovsky,

formerly of Bishop Museum, in recognition of his longstanding friendship with us and his cooperation with us in our studies of chewing lice.

Hohorstiella tenorioae Price & Emerson, new species FIG. 9-11

Type-host: *Caloenas nicobarica* (Linnaeus), the Nicobar Pigeon.

♂. As in Fig. 9. Much as for *H. radovskyi*, except as follows. Head with somewhat deeper preocular indentation. Preocular setae 10 and 11 longer, 0.05-0.06 long. Subocular comb row preceded anteriorly by series of 9-10 setae, with 1 seta noticeably longer than others (Fig. 10). Pronotal margin with only 6 long, 3 short setae on each side, arranged SL SLS4L from lateral corner to midline. Metanotum with only 2 short lateroanterior setae on each side. Mesosternum with 6-7 setae, metasternum with 9-10. Tendency for fewer marginal tergal setae: I, 11-16; II-III, 17-20; IV, 22-23; V-VI, 19-21; VII, 18-19; VIII, 14-16. Considerably fewer sternal setae: II, 18-22; III, 33-37; IV-V, 71-79; VI, 44; VII, 27-28; VIII, 15-18; IX, 9-10. Genitalia (Fig. 11) with complex of sac sclerites as shown. Much smaller in all dimensions: preocular width, 0.35-0.36; temple width, 0.49-0.50; head length, 0.31-0.32; prothorax width, 0.33-0.34; metathorax width, 0.39-0.40; total length, 1.47-1.51; genitalia length, 0.41-0.45; genitalia width, 0.14-0.15.

♀. Unknown.

Holotype ♂ (BPBM 13,446), ex *C. nicobarica*, NEW BRITAIN: Mt Sinewet, 14.XI.1962 (H. Clissold, BBM-NG 20775); in Bishop Museum, Honolulu. *Paratype*, 1♂, same data as holotype except BBM-NG 20776.

Remarks. The shape of the head of *H. tenorioae* and the details of the male genitalia ally this species with *H. radovskyi* and thereby differentiate it from all other known species of the genus. *Hohorstiella tenorioae* may be separated easily from *H. radovskyi* by the former having (1) a longer seta in the row preceding the subocular comb row, (2) only 12 long

marginal pronotal setae, (3) only 2 lateroanterior setae on each side of the metanotum, (4) considerably fewer setae on each abdominal sternite, (5) much smaller dimensions, (6) a deeper preocular notch, and (7) markedly different genital sac sclerites. Since there is no known pronounced sexual dimorphism for *Hohorstiella* species, the female of *H. tenorioae*, once it has been collected, should support most of the nongenitalic character differences established for the male.

It is interesting that the type-hosts for *H. radovskyi* and *H. tenorioae* are listed consecutively by Peters (1937) as the last 2 genera of the subfamily Columbinae. Both genera are monotypic and their proximity in this listing and in their geographic distribution suggests a relationship that is supported by their *Hohorstiella* lice being uniquely different from other lice of the genus.

This species is named for Dr JoAnn M. Tenorio, Bishop Museum, in recognition of her generous cooperation with us in our studies of chewing lice.

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