

NEW GENERA OF MALLOPHAGA. I

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(With 4 Figures in the Text)

A NEW genus is here described for the reception of three species of *Mallophaga*, belonging to the family Philopteridae, which have up to the present been listed under two separate genera, representing two subfamilies. The hosts of the three species under consideration all belong to the Charadriiformes. For the present, three species only are included in this new genus, but it is probable that certain other already described species may ultimately have to be transferred to it.

Rhynonirmus n.gen.

Head. Variable in shape; strongly thickened along clypeal edge; signature indefinite though an irregular transverse clypeal suture is present; mouth parts unmodified; oral fossa remote, transverse, rounded, oblong. Trabeculae distinct, not exceeding the first antennal joint, generally much shorter. Heterocerous. Occipital edge nearly straight.

Chaetotaxy

Eight lateral clypeal bristles (4, 4), one minute at trabecula. Behind antenna three long bristles, viz. one at eye, one about one-half and one before postero-lateral angle, one minute bristle between the two last mentioned and two minute at angle, eight (4, 4) short, fine bristles on upper surface, viz. one at suture, one opposite trabecula, one behind antenna, one before occipital edge; ventrally, six (3, 3) short fine bristles along posterior edge of clypeal band, and one long ventral hair at insertion of antenna, also two (together) from underside of antennal band shortly before and one (minute) at the trabecula.

Thorax. Metathorax very wide angled posteriorly.

Abdomen. First tergite with sides divergent; tergites transversely continuous, transparent near spiracles. Tergites two to six meniscus shaped, and the intertergital membrane becomes strongly chitinised in fully adult specimens. Pleurites simple. Chaetotaxy, one dorsal and one ventral row.

♂. *Genitalia.* Basal plate widest posteriorly. Mesosome triangular, shortly produced posteriorly; parameres excessively thin towards inner edge, and closely fitting the mesosome. The latter bears one pair of minute bristles on the wider portion, and three pairs apically. A sac is present.

Genotype. *Rhynonirmus infuscatus* (*Lipeurus infuscatus* Osborn 1896).

Rhynonirmus infuscatus (Osborn) 1896

Lipcurus infuscatus Osborn, *Bull. U.S. Bur. Ent.* p. 234, Pl. 2, figs. e, f.

Lipcurus infuscatus Kellogg, *Gen. Insect.*, Mallophaga, 1908, p. 40.

Esthiopterum infuscatum Harrison, *Parasitology*, 1916, 9, p. 136.

Type hosts. *Philohela minor* (Gmelin) and *Bartramia longicauda* (Bechstein).

Specimens examined. All off *Bartramia longicauda* (Bechstein) from the following localities: 2 ♀♀, Bay of Honduras, Ruatan Island, 1886 (G. F. Ganner Coll.); 5 ♀♀ 2 ♂♂, Isthmus of Panama (McLeannan); 1 ♀, U.S.A., Florida, Tarpon Springs, 20. iii. 1889 (W. E. D. Scott Coll.); 1 ♀ 1 ♂, 49th parl., 4. vi. 1874, N. A. Boundary Comm. (M. Dawson); 1 ♂, Brazil, Trisanga, 7. xii. 1822.

Note. Although I have not seen Osborn's type material or any specimens taken off *Philohela minor* (Gmelin) I feel convinced that the specimens listed above are identical with Osborn's species.

Description

Length: ♀ 1.9–2.05 mm.; ♂ 1.69–1.73 mm. Breadth (5th seg.): ♀ 0.49–0.57 mm.; ♂ 0.40–0.44 mm.

♀. *Head.* Forehead circumfasciate; just longer than hindhead, clypeal band medianly about twice as broad as antennal band. Antennal emargination shallow. Antennae 20, 30, 20, 15, 23; the first joint nearly as broad as long, and about one-half wider than the others. Trabecula less than half as long as first joint.

Thorax. Prothorax transverse (2:1); one strong bristle at postero-lateral angle. Mesometathorax (8:5) with bristles 5, 5, the third and fourth being strongest. A minute bristle at side in front of first bristle. Sternal plate kite-shaped, widest at two-fifths from anterior angle with a pair of bristles anteriorly, another pair posteriorly.

Abdomen. About one-half longer than head plus thorax, tergite 1 divided medianly, tergite 2 divided to beyond one-half, tergite 3 to nearly one-half, tergites 4–5 or 6 merely notched.

♂ similar to ♀. *Head* (see Fig. 1a). Antenna (see Fig. 1b), apical edge of third joint oblique, but the actual appendage very short.

Abdomen. About one-third longer than rest of body. The secondary chitinations between tergites 4 and 6 are broad and strongly developed.

Chaetotaxy

Abdomen. Upper surface and sides.

In both sexes tergite 1 bears 2 bristles (1, 1) just behind the posterior margin of the metathorax, and on all tergites 2–8 is a posterior row of bristles (2, 2); not including the post spiracular bristles. The latter on tergites 3–5 are longer; on tergites 6–7 short and fine; on tergite 8 rather short, fine, and displaced into association with the lateral bristles.

In the ♀ the posterior row on tergites 5–8 may contain one or two extra

bristles. Tergite 9 has two (1, 1) rather short and fine median bristles just behind the anterior edge, and a second pair (1, 1) long and stout near the lateral margin just behind one half. Lateral bristles tergites 4–5, one fine, tergites 6–7, two and three respectively. Tergite 8, four bristles (two long, two short). Tergite 9, two (long and short) at antero-lateral angle, a similar pair behind one half, and one very short before apex of terminal lobe.

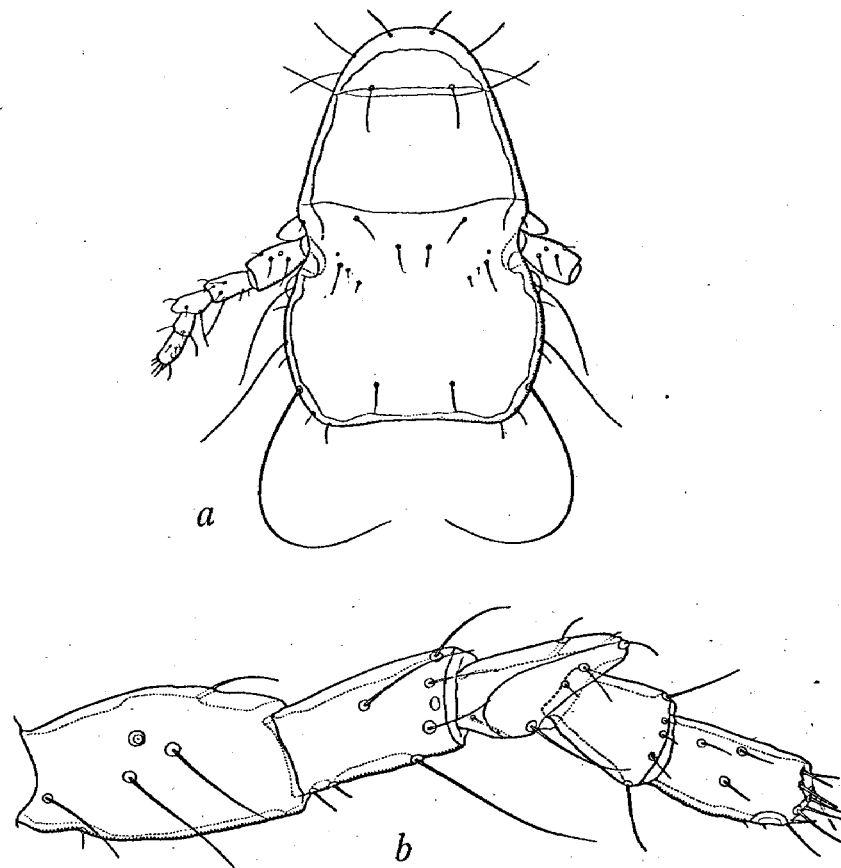


Fig. 1. *Rhynonirmus infuscatus* (Osborn). a, head of male; b, antenna of male.

In the ♂ the posterior row apparently never has any extra bristles. Tergites 8–9, one pair fine bristles. Anteriorly, another posteriorly, and wider apart with four (2, 2) on suture between tergites 9 and 10. The latter with a minute bristle on each apical lobe terminally.

Lateral bristles, tergite 8, two (long and short) at antero-lateral angle, and one very long and strong postero-laterally.

Under surface. *In both sexes* sternites 2–6 bear six bristles of which the middle pair on sternites 2 and 3 are placed anteriorly (so that these sclerites have two rows). *In the ♀* sternites 7 and 8 with two (1, 1) bristles each, and two

more (belonging to sternite 7) on the suture between them. Sternite 9, three short stiff bristles behind the vulva.

In the ♂, sternite 7, four bristles; sternite 8, two bristles; sternite 9, two (1, 1) with two minute anteriorly at the base of each of the longer bristles, and ten minute bristles in two patches near posterior edge. Sternite 10, four bristles (2, 2) transversely placed, and nearly decussating.

♂. *Genitalia* (see Fig. 4a). Paramere straight edged internally, and shorter than mesosome; six to seven times as long as broad, and gradually contracted apically.

Rhynonirmus scolopacis (Denny) 1842

Nirmus scolopacis Denny, *Anoplur. Brit.* p. 149, Pl. 11, f. 8.

Nirmus tristis Giebel, *Ins. Epiz.* 1874, p. 168.

Nirmus truncatus Nitzsch, in Giebel, *Z. ges. Nat.* 1866, 28, p. 375.

Nirmus truncatus Giebel, *Ins. Epiz.* 1874, p. 168.

Nirmus truncatus Piaget, *Les Pédiculines*, 1880, p. 178, Pl. xv, f. 2.

Degeeriella scolopacis Harrison, *Parasitology*, 1916, 9, p. 122.

Type host. *Capella gallinago gallinago* (Linn.).

Specimens examined. Denny's type material consisting of 1 ♀ and one immature off *Scolopax gallinago* (= *C. g. gallinago*), Britain; 1 ♂ and 1 ♀ off *Gallinago coelestris* Frenz. (= *C. g. gallinago*), Shetland Islands, N. Mavine, Bardister, 30. xi. 1912 (J. Waterston Coll.).

Note. I am accepting Harrison's synonymy as I have not seen any of the types of the other authors cited.

Description

Length: ♀ 1.76 mm.; ♂ 1.74 mm. Breadth (5th seg.): ♀ 0.43 mm.; ♂ 0.38 mm.

♀. *Head.* Forehead one-fourth longer than hindhead, clypeal band three and a half times as broad as antennal band. Antenna 20, 25, 15, 15, 20. Trabecula about half as long as first joint.

Abdomen. Nearly one-half longer than the rest of body.

♂. *Head* (see Fig. 2a). General proportions of fore-, hindhead and abdomen to rest of body as in ♀. Antenna (see Fig. 2b), third joint apically uniform.

Chaetotaxy

Abdomen. ♀. Almost identical with *infuscatus* (Osborn), but no extra bristles in posterior row on tergites 5-8. The sternites tend to have fewer bristles, e.g. sternites 1 and 2 have four each only.

♂. Sternites 1-6 with four bristles, sternite 9 with up to seven minute bristles.

♂. *Genitalia* (see Fig. 4c). Paramere straight edged internally, and shorter than mesosome; nearly five times as long as broad, and rather abruptly narrowed distally.

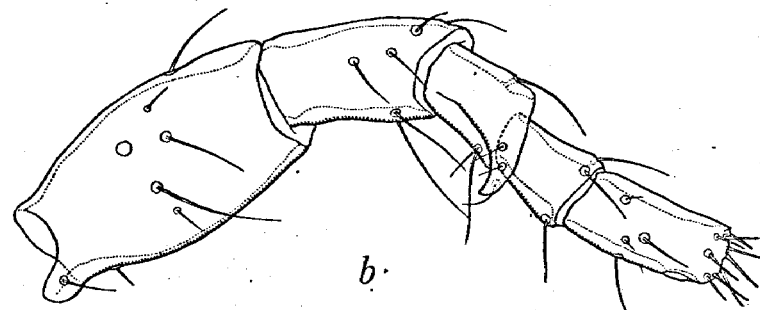
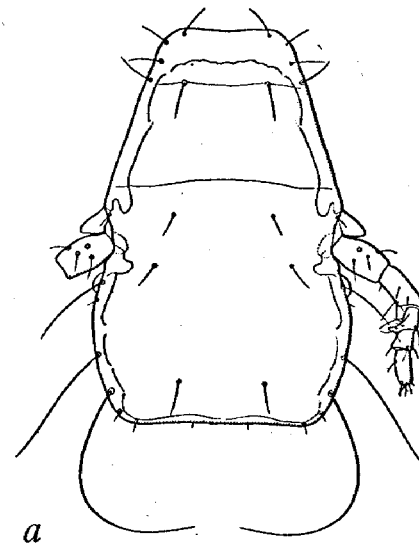


Fig. 2. *Rhynonirmus scolopacis* (Denny). a, head of male; b, antenna of male.

Rhynonirmus helvolus (Nitzsch) 1838

Lipeurus helvolus Nitzsch, in Burmeister, *Handbuch*, 1838, 2, p. 433.

Lipeurus helvolus Giebel, *Ins. Epiz.* 1874, p. 229, Pl. xvi, figs. 10-11.

Lipeurus helvolus Piaget, *Les Pédiculines*, 1880, p. 375.

Esthiopterum helvolus Harrison, *Parasitology*, 1916, 9, p. 136.

Type host. *Scolopax rusticola rusticola* Linn.

Specimens examined. 1 ♀ and 2 ♂♂ off *S. r. rusticola* Linn., Macedonia, Vetrina, 23. xi. 1918 (J. Waterston Coll.).

Description

Length: ♀ 1.98 mm.; ♂ 1.7-1.8 mm. Breadth (5th seg.): ♀ 0.53 mm.; ♂ 0.46-0.48 mm.

♀. *Head* (see Fig. 3a). Forehead distinctly (about one-third) longer than

headhead. Antenna as in *infuscatus* (Osborn). Trabecula a little more than half the first joint.

Thorax. Prothorax over twice as broad as long, mesometathorax about twice as broad as long. Bristles long of prothorax reaching back across the metathorax, all of which ten (5, 5) bristles, except the outermost one on each side, are strong and reach back to the hind edge of the fifth segment of the abdomen.

Abdomen. One-third longer than rest of body.

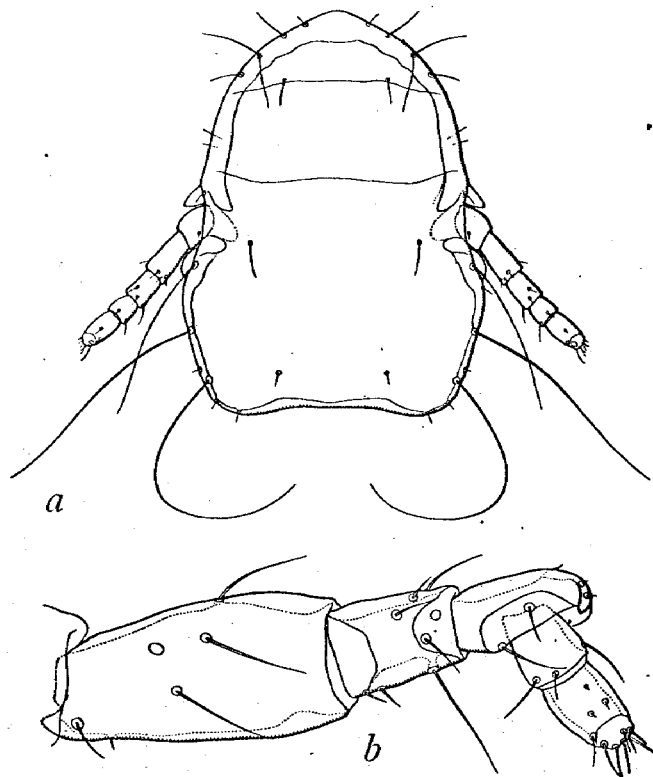


Fig. 3. *Rhynonirmus helvolus* (Nitzsch). a, head of female; b, antenna of male.

♂. *Head.* Antenna (see Fig. 3b). Trabecula about two-sevenths the first joint.

Thorax. Metathoracic bristles up to 7, 7 of which four are generally major.

Abdomen. In proportion to rest of body 17 : 5.

Chaetotaxy

Abdomen. Upper surface. In both sexes the posterior row on tergites 2-8 contains only two bristles (1, 1), but the bristles at the sides are as in *infuscatus* (Osborn).

♀. Tergites 8-9 like *infuscatus* (Osborn), but with an extra pair of long bristles laterally behind one half.

♂. The very long and strong bristle between tergites 9 and 10, lateral in

infuscatus (Osborn), is inwardly displaced with its two small accompanying bristles.

Under surface. Sternites 1 and 2 (and in the male sometimes sternite 3) have only two bristles, sternites 3-5 have four bristles (2, 2), otherwise like *infuscatus* (Osborn).

♂. *Genitalia* (see Fig. 4b). Paramere concave on inner edge in its proximal half and slightly exceeding the mesosome in length.

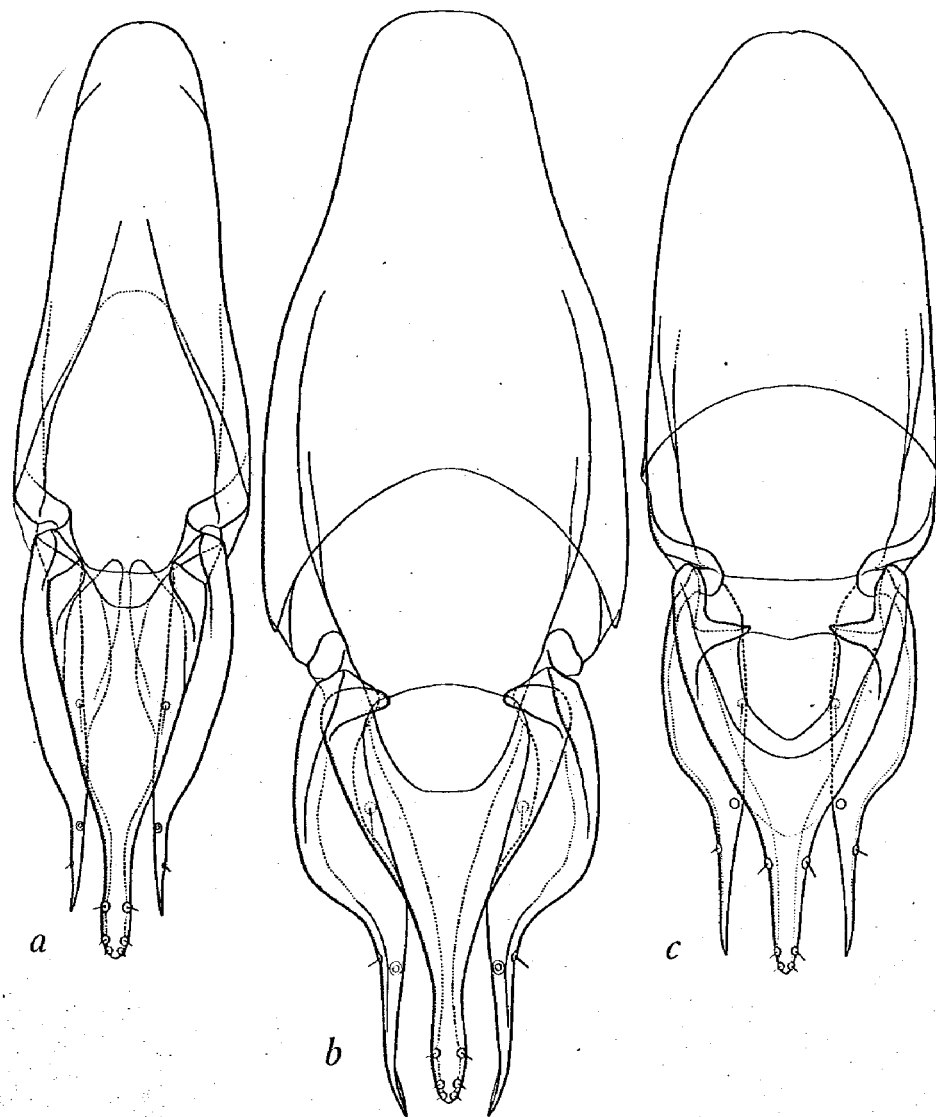


Fig. 4. a, *Rhynonirmus infuscatus* (Osborn), male genitalia; b, *Rhynonirmus helvolus* (Nitzsch), male genitalia; c, *Rhynonirmus scolopacis* (Denny), male genitalia.