



SIX NEW SPECIES OF MALLOPHAGA.

By H. E. EWING, *United States Bureau of Entomology.*

Here are given the descriptions of six new species of biting lice. Each of these species is somewhat unusual in certain anatomical structures. The descriptions are in a way preliminary ones, as further studies are contemplated.

Colpocephalum menoponoides, new species.

Head of the *Menopon* type; ocular emarginations slight; expansions of head above antennal fossae, each with transverse suture. Eyes double, corneas degenerate, pigment spot pronounced; labrum greatly reduced; ventral clypeal region without sclerite; gular area about two-thirds as broad as long, gular setae very long, six in each row, first somewhat smaller than the rest.

Thorax somewhat longer than head; prothorax with strongly developed lateral lobes, each bearing a small anterior spine and a very long posterior seta; setae in posterior transverse row of prothorax eight, long, equally spaced. Mesothorax scarcely half as big as metathorax but separated from the latter by a somewhat indistinct dorsal suture. Metathorax not as broad as first abdominal segment, with about a dozen subequal setae in transverse row.

Abdomen broad, broadest near the middle, with all its nine segments un-reduced. Tergites poorly sclerotized, each typically with two transverse rows of dorsal setae. Spiracles minute, subequal and each situated laterally in a tergite. Last segment of abdomen with a marginal fringe of equally spaced, slender setae. Abdomen with only two pairs of ventral combs, which are on the third sternite. On one side of fourth sternite in one specimen there is an incomplete comb.

Legs typical, last pair longest. Third femora each with three complete ventral combs. Claws sharp but curved chiefly near the tip.

Length of female, 1.80 mm.; width, 0.78 mm.

Type host and type locality.—From *Fulica* sp., National Zoological Park, Washington, District of Columbia.

Type slide.—Cat. No. 42852, U. S. N. M.

Described from three females taken from a coot, *Fulica* sp., at the National Zoological Park. This species is so decidedly *Menopon*-like that it would be placed in the genus *Menopon* but for the ventral combs.



Colpocephalum africana, new species.

Head with large, protruding, rounded temporal lobes and well developed temporal bands (occipital bands), the latter being densely pigmented at the ends. Each expansion of head over antennal fossa pigmented, scaled above and with only lateral notch. Eyes wanting. Anterior margin of clypeus with about six setae and a pair of erect peg-like spines; last seta in lateral marginal row of forehead very long, next to last short.

Thorax about as long as head; prothorax angulate laterally and with a spine at lateral apex; prothoracic marginal setae stout, twelve in number; prosternite a small tubercle; mesothorax small, about twice as broad as long, almost completely overlapped dorsally by metathorax, separated from the latter dorsally by a line. Metathorax as large as pro-, and mesothorax taken together, broadest at posterior margin and studded above with setae arranged into irregular transverse and longitudinal rows.

Abdomen long and narrow, none of its nine segments reduced; tergites fused with pleurites and studded with many small, spinelike setae, also each bearing along its posterior margin a row of large, long setae; spiracles minute, subequal, dorso-lateral. Sternite III with three combs on each side.

Rodlike basal plate of male genital armature extending forward to anterior margin of segment III; parameres greatly reduced, almost straight and not reaching the end of endomeral plate; dorsal chitinizations resembling a spear-head with two large, lateral, recurved teeth near the base at each side and two converging rows of short, sharp, recurved teeth on ventral side.

Legs well sclerotized; first coxae platelike, contiguous at their posterior ends and divergent anteriorly; claws rather weak, sharp, slightly curved.

Length of male, 2.20 mm.; width, 0.66 mm.

Type host and type locality.—*Alopochen aegyptiacus*, from Tana River, British East Africa.

Type (holotype).—Cat. No. 42853, U. S. N. M.

A single male specimen from type host, a goose, at type locality, August 24, 1912.

Colpocephalum echinatum, new species.

Head much broader than long; temporal lobes large, subquadrate; labrum small, not extending laterally to bases of mandibles; anteclypeus (ventral clypeal region) almost obliterated; temporal bands (occipital bands) almost interrupted but expanded and heavily pigmented at the ends; anterior margin of clypeus with six short setae, the inner pair being dark and spinelike; last seta on lateral margin of forehead stout, about equal in length to last segment of palpus, next to last seta short, spinelike; eyes wanting.

Thorax slightly longer than head; prothorax fitting into and filling up occipital emargination, strongly lobed laterally; prosternite a flattened, spinelike tubercle; mesothorax subquadrate, broader than long, so completely overlapped dorsally by metathorax as to be seen from above only as a strongly sclerotized neck uniting rest of body to prothorax; metathorax not as broad as segment I of abdomen, above sparsely clothed with setae of varying length.

Abdomen of male broad and stout; segment I longer than II; segment VIII about one and a half times as long as VII; segment IX broadly rounded both in front and behind and with about ten long setae on the posterior margin. Abdomen of female beyond segment II drawn out into a long flat cone. Tergites completely fused with pleurites, provided with but few setae except near their lateral margins; last tergite with straight converging sides and angulate posterior margin. Posterior margin of this tergite with a fringe of setae, some of which are grouped into a tuft at the apex. Each pleurite typically with a very long seta and several short ones. Spiracles minute, subequal, dorso-lateral.

Rodlike basal plate of male genital armature extending to base of abdomen; parameres straight, blunt pointed, as long as endomeral plate; dorsal chitinizations (inner chitinizations) spear-head shape, with two pairs of large, hooklike, lateral teeth, but without smaller ventral teeth.

Legs stout; first coxae platelike, remarkably developed, anterior half of each quadrangular, well sclerotized, posterior half attenuated, semi-hyaline and overlapping the mesothorax for half of the latter's length; femur of each leg of posterior pair with 4-5 ventral combs.

Length of female, 2.15 mm.; width, 0.78 mm.; length of male, 1.35 mm.; width, 0.65 mm.

Type host and type locality.—*Pavo muticus* from Trong, Lower Siam.

Type slide.—Cat. No. 42854, U. S. N. M.

Description based on five females and one male taken from skin of type host, obtained at type locality. Specimens collected and mounted by Dr. E. A. Chapin. Kellogg and Paine have described a *Colpocephalum*, *C. thoracicum* taken from *Pavo muticus* in Burma. Their species is of a type different from *echinatum*. In it the abdomen of the female is not drawn out so as to be cone shaped; also the pterothorax of *thoracicum* is of a shape entirely different from that of *echinatum*.

Lipeurus volsellus, new species.

Head about one and two-thirds times as long as wide; forehead broadest at posterior aspect; trabeculae short, triangular, as broad as long. Labrum much reduced, membranous area in front of labrum very large. Temples very broadly rounded, not protruding, each with a single large seta and several minute ones. Eyes degenerate; corneas not evenly rounded; ocular seta small.

Thorax about as long as head; prothorax twice as broad as long, without any large setae; mesothorax completely fused with metathorax; pterothorax twice as long as prothorax and broader than either head or first abdominal segment, with about eight posterior marginal setae.

First segment of abdomen reduced, quadrangular, not as broad as second; segments VIII and IX fused in female but separated in male; segment VIII of male with a lateral, ventral pair of long, curved, hooklike appendages, equal in length to the segment that bears them; segment IX of male formed into two conspicuous lobes that curve backward, downward and inward; fused segments

VIII and IX of female ending in a stout pair of forceps and bearing a pair of poorly developed gonapods. Each typical pleurite of abdomen articulates with pleurite in front of it by means of an inner, capitate condyle.

Genital armature of male small, degenerate; basal plate extending forward only to about the middle of seventh abdominal segment; parameres minute, immovable, vestigial; endomeral sclerotization diamond-shape.

Legs rather long, last pair much the longest; each tibia of each pair of legs provided with an enlarged distal spine that is used to appose tarsal claws. First coxae contiguous, last coxae broadly separated.

Length of male, 1.90 mm.; width, 0.41 mm.; length of female, 2.25 mm.; width, 0.60 mm.

Type host and type locality.—*Aramides cajaneus chiricote* from Gatun, Canal Zone, Panama.

Type (holotype).—Cat. No. 42855, U. S. N. M.

Described from a male and female. Female from type host and type locality, May 4, 1911, by Biological Survey; male (straggler) from a quail, Canal Zone, Panama, by Biological Survey. An unusual species, particularly on account of the reduction in size of the first segment of the abdomen, and in the shape of last abdominal segment.

***Trichodectes brachycephalus*, new species.**

Head much flattened, being almost twice as broad as long. Forehead reduced, triangular, sides about straight; trabeculae fixed, medium, tuberclelike; ventral cephalic groove deep, narrow, flanked by a pair of recurved, hooklike tubercles. Fronto-clypeal apodomes situated about midway between the trabeculae and apex of head, each continued dorsally and posteriorly into a free, projecting spinelike tubercle. True eyes wanting, each eye being represented by a corrugated tubercle; ocular seta wanting. Antennae of male large; first segment much enlarged, about as long as other two taken together; last segment somewhat uncinat and terminating in two short, stout, sharp spines.

Thorax broad and short; prothorax about twice as broad as long but not as broad as head; mesothorax completely fused with metathorax; pterothorax about four times as broad as long, expanded laterally into winglike lobes, and bearing a posterior, submarginal row of about six, subequal, dorsal setae; sternal plates wanting.

Abdomen short and broad, being the broadest part of the body. Pleural plates well developed and all present. Spiracles subequal, very large, situated in pleural plates. Segments VIII and IX fused in male; sternite of VIII forming the large genital plate which is about half as long as abdomen and three-fourths as broad as long.

Genital plate of male genital armature represented by two divergent rods; parameres large, flat, somewhat platelike, slightly curved and each terminating in a small knob; endomeral plate represented by two large semi-circular strips of chitin that unite to produce the pseudopenis; pseudopenis extending almost to tips of parameres and ending in a trefoil.

Legs short; coxae close together, third pair contiguous; trochanters and tarsi very short.

Length of male, 1.15 mm.; width, 0.76 mm.

Type host and type locality.—*Nycticebus coucang*, from Johor Lama, Malay Peninsula.

Type.—Cat. No. 42856, U. S. N. M.

Described from a male specimen taken from a skin (U. S. N. M. 114151) of the type host, a flying lemur. This species is unusual in having such a large genital plate and in the extreme width relative to length of the pterothorax.

***Trichodectes abnormis*, new species.**

Head somewhat asymmetrical, the right lateral margin of forehead being very broadly rounded, almost straight; while the left lateral margin is produced into more or less of an angle at the base of the marginal thickening of ventral cephalic groove. Temporal lobes rounded, not protruding; eyes reduced, without pigment, ocular seta about twice as long as diameter of eye; trabeculae very large, as broad as long, not reaching the end of first antennal segment; fronto-clypeal apodeme at the base of trabeculae, not showing line of closure.

Thorax much shorter than the head but equal in width to the latter; prothorax about three times as broad as long, but not as broad as the pterothorax; prothoracic spiracles very large, in diameter equal to about one-half the length of prothorax, situated ventrally in pleural regions. Pterothorax with very short, strongly divergent sides and broadly rounded, outwardly curved posterior margin.

Abdomen stout, broadest at third segment; pleurites all present but poorly sclerotized; spiracles wanting; eighth abdominal segment almost as broad as long, subcylindrical; ninth segment very small, broader than long, cone-shape.

Basal plate of male genital armature with lateral margins thickened; parameres very unusual, each being a straight rodlike structure arising proximal to endomeral plate and extending along side of its fellow to tip of eighth abdominal segment; endomeral plate represented by a crescent of chitin, hinged at each end to the thickened margin of the basal plate.

Coxae ventral, anterior pair almost contiguous, second pair farthest apart; leg I short, with tibia bearing a stout distal spine functioning as a thumb.

Length of male, 1.10 mm.; width, 0.50 mm.

Type host and type locality.—*Lemur rufus* from east coast of Madagascar.

Type (holotype).—Cat. No. 42879, U. S. N. M.

A single male from skin (U. S. N. M. 63338) of type host, taken at type locality, June 12, 1895. An unusual species in several respects. The asymmetry of the head is not pronounced and possibly may be due to individual variation.