

MALLOPHAGAN RECORDS AND DESCRIPTIONS.

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I. THREE NEW PARASITES OF THE TURKEY BUZZARD.

Menopon alternatum n. sp. (Plate II, Fig. 1.)

Broad, distinctly banded on the thorax and abdomen with fuscous. Female—Length, 1.97 to 2.09 mm.; head, length .32, width .288; thorax, length .448, width .40; abdomen, length 1.34, width 1.312; hind femur, .28, .29; tibia, .25; antenna, .112.

Head very broadly cordate, anterior border semi-circular, posterior border concave; a few bristles along anterior margin and several short strong spines, and about three or four bristles at posterior angles. Antennal pits deep, antennæ not or scarcely projecting beyond margin. Prothorax with prominent lateral angles and obtuse postero-lateral angles, posterior border slightly curved, bearing about eight bristles. Lateral angles of the mesothorax sharp, a row of bristles across mesal portion same as metathorax, each having also diffuse fuscous band. Abdomen broadly ovate, lateral angles with several bristles of moderate length; a broad transverse band on segments one to seven inclusive, the eighth having a rather broad diffuse fuscous area; the bands are about equal in width to the interspaces, each segment has marginal series of bristles and about two irregular series anterior to the marginal, terminal segment with ciliate margin.

Male:—Similar in form to the female, but abdomen apparently a little broader in proportion. The genital apparatus consists of a Y-shaped penis, behind which is a broad heavy U-shaped structure, bordered at sides with slender lateral appendages, with almost thread like processes anteriorly and slightly curved processes posteriorly.

Length, 1.82 to 1.84 mm. Head, length .272, width .416; thorax, length .43, width .27; abdomen, 1.04, 1.15; hind femur, .27, .24; hind tibia, .24; antenna, .112, .09.

This species approaches the *Menopon zonatum* Piag. occurring on the condor, *Sarcorhamphus gryphus*, but it is to be distinguished from it by the wider head, the very uniform bands, the smaller size and by the genital apparatus. It was taken in considerable numbers from a turkey buzzard at Ames, Iowa, April 21, 1890, and I have also received specimens from Prof. Lawrence Bruner, which were collected from the same species of bird at Lincoln, Nebraska.

Colpoccephalum kelloggi n. sp. (Plate II, Fig. 2.)

Slender, light yellow, with conspicuous black and fuscous or dark fuscous markings on head and borders of femora and tibiae, and lateral margins of segments one to seven of abdomen. Length, female, 1.84 mm.; male, 1.42 mm.

Head of usual form, lateral sinus deep, ocular and occipital spots very dark, partly black and connected by red brown bands. Antennæ passin

margin of head by full length of distal joint. Palpi conspicuous, outer joint passing anterior border of head; mandibles sharp; anterior border of head obtusely rounded; postero-lateral lobes broad; a few short spines and two or three long bristles. Prothorax lenticular, lateral angles acute, bearing one or two bristles; hind margin evenly convex, with about five or six bristles near middle; meso-metathorax widening abruptly and passing insensibly into abdomen, and like segments of abdomen, with marginal bristles; Abdomen widening to third segment; elongate oval attenuated apically; segments 1 to 7, with lateral fuscous patches confined closely to border, and including at extreme border a black spot or marginal border. Eighth segment with a comb of curved hairs at lateral margin in female, and inner row of about ten parallel to border on ventral side. Legs nearly uniform, becoming a little longer posteriorly, outer border black, with row of short spines.

Males with marginal spots wider and a little more diffuse.

Taken from the turkey buzzard, *Cathartes aura*, at Ames, Iowa, April 21, 1890, and also received from Prof. Lawrence Bruner from same host, Lincoln, Nebraska. Closely related to the *Colpocephalum osborni* Kellogg, and agrees with that species in the curved brush of hairs on eighth segment in female. Differs from it in the fuscous bands being confined more narrowly to the margin, the more slender body, more attenuate terminal segments and the larger size.

Lipeurus marginalis n. sp.

Elongate, the margins of metathorax and abdominal segments with slender dark lines. Length, female, 2.5 mm.

Head long, rounded in front, slightly narrowing apically, contracted toward occiput, posterior margin slightly emarginate. There are six inflated pockets in border of head anterior to the antennæ, three on each side. Antennæ tapering to the tips, the joints decreasing in length as well as in size to fourth, fifth about as long as third. Metathorax with narrow black marginal lines; abdominal segments one to seven with narrow black border; the disk of abdominal segments with long bristles and one or two shorter bristles at lateral angles. Legs with narrow black borders on outer margin of femur and tibia.

This species belongs to Piaget's group of *quadriguttata*, and approaches *assessor* from the condor, but is smaller and the markings confined to the narrow marginal lines.

Two specimens, females, taken from the turkey buzzard, *Cathartes aura*, at Ames, Iowa, April 21, 1890.

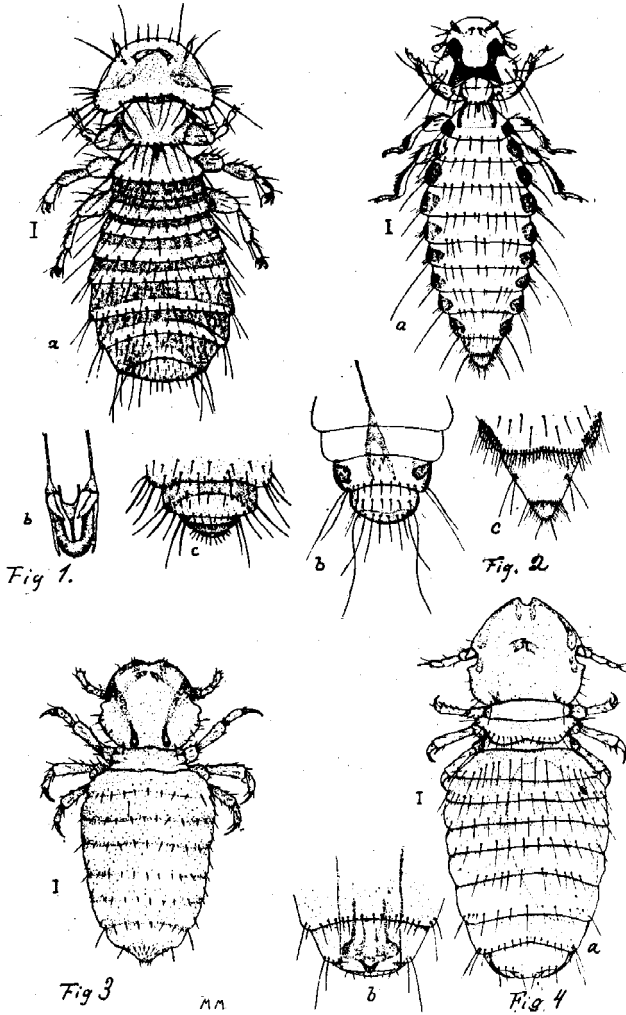
DESCRIPTION OF PLATE. FIG. 1. *Menopon alternatum* n. sp.; a, female; b, male genitalia; c, ventral view, tip of abdomen, female. The figure is from a specimen which shows rather too much contraction at base of abdomen.

FIG. 2. *Colpocephalum kelloggi* n. sp.; a, female dorsal view; b, male tip of abdomen; c, female ventral view, tip of abdomen.

FIG. 3. *Trichodectes nasuatis* n. sp. Female.

FIG. 4. *Trichodectes thoracicus* n. sp. a, female; b, tip of abdomen of male.

Figures drawn by Max W. Morse.



II. TRICHODECTES OF THE CENTRAL AMERICAN COATI AND THE RING-TAIL FOX.

Trichodectes nasuatis n. sp. (Plate II, Fig. 3.)

Broad, light yellowish, abdomen ovate. Length, female, 1.60 mm.

Head slightly wider than long, semi-circular in front with shallow emargination at apex and a shallow furrow running from apex to mandibles. Antennal pits rather deep, antennal lobes extending back in obtuse rounded angle, and behind the antennal pit is a rather prominent lobe, behind which the border curves toward the occiput, the postero-lateral angle being very obtuse. Antennæ [rather slender, joints of about equal length, second shorter than first and third. Thorax short; legs nearly uniform in size; anterior tarsal claws short, middle and posterior longer and more slender. Abdomen ovate, broadest about second segment, tapering uniformly to sixth segment. Scattering bristles on posterior border of each segment inconspicuous, longer on ventral side than dorsal; lateral appendages of seventh segment not conspicuously separate from the border.

This species differs from *crassus* in having the postero-lateral lobes rounded and head narrower. As compared with *T. pallidus* described from *Nasua rufa* of South America the head is less emarginate in front, not so wide as compared with length, and not near so broad or angular for posterior angle, and also varies in size.

Described from three mature females and one immature individual sent me by Mr. George K. Cherrie from Costa Rica, taken from the coati, *Nasua narica*.

Trichodectes thoracicus n. sp. (Plate II, Fig. 4.)

Short and broad. Head rounded in front, with deep semi-circular emargination and with very strong chitinous borders to the mandibular furrow. A strong projection on anterior border of antennal pit extending over base of antenna. Thorax short, prothorax narrow, short, metathorax with a strong process or inflation on antero-lateral border, the posterior margin of which bears a row of spines, which is continued across hinder border of the segment. The abdomen is ovate, widest at the second and third segments; strong bristles on one to six; no transverse dusky bands; lateral appendages on seventh segment, conspicuous and strongly curved.

Male, antenna with large swollen basal joint and the head is somewhat more pointed in outline. The genitalia are strongly developed, the lateral pieces wide apart, connected by median bow with a sharp process at tip, and the posterior end of penis with strong bidentate process.

This species resembles *retusus* in size and shape and depth of the frontal emargination, but has no transverse bands, and differs particularly in the large lateral processes of the thorax and in details of genitalia. On *Bassaris astuta*, Lake county, Cal., from Prof. W. G. Johnson.