STUDIES IN NEOTROPICAL MALLOPHAGA. XA (PART 5): LICE OF THE TINAMOUS

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(With 14 text-figures)

This is the fifth of a series of papers which treats exclusively the nomenclature of the Mallophaga parasitic on the avian family Tinamidae, with critical notes and corrections on species previously described by me and others up to 1944. New forms acquired since 1944 are described in this paper.


New species are described from material collected by Lt. Col. K. C. Emerson from museum specimens in Western Germany during his three years of army service there. This German material has proved to be most interesting, but unfortunately the only data covering the source of the material is merely the country, with no name of collector or date of collection of the host.

The present paper treats the genera Trichodoxostus, Megapeostus, Discocorpus, Heterogoniodes, Lamprocorpus, Pseudophilopterus and Cuculocephalus. All measurements are in millimeters and all drawings were prepared by the author.

My sincere thanks are due to Dr. H. Lent for the publication of this paper in the Revista Brasileira de Biologia, and for his kindness in correcting the proof.

Trichodoxostus Carriker, 1936


The genus is parasitic only on the avian genus Notothecicus, and has now been recorded from all of the species of the genus except julius. Four specimens of this Tinamou were collected by the author in Santander, Colombia, but none yielded this parasite.

1 Received for publication May 2, 1961.
Trichodoceostus aculeatus (Piaget) has been discussed fully in a previous paper (1936: 141) and nothing new has since been discovered concerning it. If T. aculeatus actually was a straggler on Momotus lessoni the only species of Nothocercus from which it could have been taken was N. bonapartei frantzii of Costa Rica, but it was not present among lice taken on this host and sent me by Col. Emerson.

Trichodoceostus grandior sp. n.

(Figs. 1-3)

Types, ♂ and ♀ adults, from a skin of Nothocercus bonapartei frantzii Lawrence, collected in Costa Rica, now in a West Germany Museum (In coll. of K. C. Emerson) Carriker No. 655.

Diagnosis — Very much larger than T. spinosus in all measurements except the length of meso and metathorax, the mesothorax of the male being shorter and the metathorax the same, while in the female both are the same, but all of the body segments are much wider.

The basal plate is shorter and narrower than in either spinosus or praegracilis, but parameres are longer than in either of the above species, are even more slender than in praegracilis, but not tapering apically, being almost parallel-sided throughout their entire length.

The head of the male has the temples slightly convex, more divergent and shorter, not reaching to the posterolateral angle of the prothorax.

The incressations of the tergites are very different (see fig.), as well as the genital sternite of the female. The spines of the pleurites differ, with one less on the right side in segments I and II, as so frequently happens in this genus. Chaetotaxy of abdomen impossible to check, many setae being missing. The posterolateral angles of the abdominal sternites are more strongly elongated. There is less sexual dimorphism in this species than in the other two. Species know only from the ♂ holotype and ♀ allotype. The genitalia of the ♂ are partially obscured by extraneous matter, so that there may be slight errors in the figure of it. Measurements follow the next species.

Trichodoceostus crassus sp. n.

(Figs. 4-7)

Types, ♂ and ♀ adults, from Nothocercus bonapartei intercedens Salvadori, collected by the author near Frontino, Antioquia, Colombia, May 25, 1950, No. 656 in the Carriker coll.

Diagnosis — Very close to praegracilis, possibly conspecific with it. The measurements differ but slightly, the only differences worthy of note being a longer and wider head (at temples) in the male, but the same in the female; shorter and slightly wider meso and metathorax in both sexes; longer and much
wider outside (left) paramer, and much less sexual dimorphism in the shape of the head, as compared with *spinosus*.

The number and arrangement of the spines on the pleurites is about the same as in *spinosus*, as well as the incrasations of the tergites, but the posterolateral angles of the sternites are more lengthened, as in *grandior* (described above).

The females probably could not be distinguished from those of *praeaculis*, but the males are easily recognized by the longer parameres and with the left one being very much wider than in any other known species, the entire shape of the parameres being quite different.

The type series consists of the ♂ holotype, ♀ allotype and 2 ♂ ♂ and 3 ♀ ♀ paratypes.

Measurements of *T. grandior* and *T. crassus*:

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<thead>
<tr>
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<td>Length</td>
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<tr>
<td>Body</td>
<td>2.05</td>
<td>—</td>
<td>2.52</td>
<td>—</td>
</tr>
<tr>
<td>Head</td>
<td>0.66</td>
<td>0.955</td>
<td>0.705</td>
<td>1.07</td>
</tr>
<tr>
<td>Frons</td>
<td>0.54</td>
<td>—</td>
<td>0.57</td>
<td>—</td>
</tr>
<tr>
<td>Prothorax</td>
<td>0.24</td>
<td>0.44</td>
<td>0.23</td>
<td>0.52</td>
</tr>
<tr>
<td>Mesothorax</td>
<td>0.217</td>
<td>0.78</td>
<td>0.25</td>
<td>0.846</td>
</tr>
<tr>
<td>Metathorax</td>
<td>0.35</td>
<td>0.116</td>
<td>0.29</td>
<td>0.77</td>
</tr>
<tr>
<td>Abdomen</td>
<td>1.24</td>
<td>0.93</td>
<td>1.53</td>
<td>1.11</td>
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<tr>
<td>Basal plate</td>
<td>0.25</td>
<td>0.076</td>
<td>0.42</td>
<td>0.11</td>
</tr>
</tbody>
</table>

**Megapeostus** Carriker, 1936

*Proc. Acad. Nat. Sci. Phila.*, 88: 141 (Type species = *M. asymmetricus* Carriker)

The genus was originally erected for those species which have very heavy genitalia, with long, asymmetrical parameres, and contained but two species, the type species and *M. a. parvigenitalis* Carriker.

In 1937 Clay described three new species (*P. Z. S. London*, pp. 147-9), *alterus*, *fuscus* and *multiplex* and two new subspecies of *multiplex*, *secundus* and *ruficipitis*. In 1944 (*Proc. U. S. Nat. Mus.*, 95 (3180): 188) the author described a third race of *multiplex* (*idoneus*).

The typical species of the genus, those with large, asymmetrical genitalia, have been taken on the larger species of *Crypturellus*, with two exceptions, *alterus* and *ruficipitis*, from *Tinamus major ruficeps* and *T. m. peruvianus*.

Both species were described from single males (females unknown), and were, apparently taken from dry skins, and furthermore *ruficipitis* is a subspecies of *asymmetricus*, whose host is a large *Crypturellus* (*C. u. undulatus*). It is very desirable to secure more authentic material of this genus from the above two hosts (*Tinamus*). The author has never taken a *Megapeostus* on the genus *Tinamus*. 

I have never been entirely satisfied with the generic position of the *Hepptapsogaster platycephalus* group, as explained under the genus *Heptapsogaster* in a previous paper of this series, and have therefore transferred that group to the genus *Megapeostus*, to which it is very much more closely related. This group consists of four forms: *Heptapsogaster p. platycephalus* Carriker, *H. p. soui* Carriker, *H. p. asymmetricus* Carriker and *H. peterzi* Carriker.

*Trichodopeostus grandior* sp. n. — Fig. 1: Male, tip of abdomen; fig. 2: female, abdominal segments III to VII; fig. 3: male, genitalia. *Trichodopeostus crusus* sp. n. — Fig. 4: Male, head; fig. 5: female, head; fig. 6: female, abdominal segments IV to VII; fig. 7: male, genitalia.

The male genitalia are certainly very different from those of typical *Megapeostus*, but on the other hand the structure of the head, thorax and abdomen; the pleural incrasations and the structure and chaetotaxy of the apical segment of the abdomen in the female are all strikingly similar to those of *Megapeostus*, neither do the genitalia bear any close relationship with those of *Heptapsogaster*, as the genus is now restricted (see part 4 of this series). Thus it seem only logical to transfer the four above mentioned forms from *Heptapsogaster* to *Megapeostus*, in which case *H. platycephalus asymmetricus* Carriker will require a new subspecific name, and is here designated as *Megapeostus platycephalus inaequabilis* nom. n.

It will be necessary to add the following paragraph to the original generic description of the male genitalia: Certain forms of the genus found on the
races of Crypturellus soui and tataupa have the parameres symmetrical and equal in length and somewhat shorter than those of the typical Megapeostus group. The endomera is variable in shape, from almost obsolete to strongly developed in petersi, while inaequabilis presents a curiously asymmetrical endomera (see descr. and fig.).

Outside of the genitalia these four forms are typical in every way of Megapeostus with asymmetrical genitalia.

Megapeostus fuscus Clay, 1937

P. Z. S., London, 1937: 147 (Type host: Crypturellus v. variegatus)

This species, as stated by Clay, is very close to asymmetricus Carriker, differing chiefly in the genitalia, but not in shape of head.

I have 4 ♂♂ and 9 ♀♀ of a Megapeostus collected personally by me from a freshly killed specimen of C. v. variegatus, taken near Florencia, Dept. Caquetá, Colombia. These specimens are entirely different from Clay's description and figure of her specimens from this host, collected in British Guiana (5 ♂♂ and 4 ♀♀). There is no doubt as the identity of my hosts, the lice having been taken on two different individuals of C. v. variegatus, the birds from this region having been identified as the nominate subspecies. I have no alternative except to describe these colombian lice.

Megapeostus asymmetricus inexpectatus ssp. n.

(Figs. 8-10)

Types, ♂ and ♀ adults, from Crypturellus v. variegatus (Gmelin), collected by the author at Puerto Venecia, Dept. Coquetá, Colombia, June 2, 1952 (Carriker col. No. 657).

Diagnosis — Differs from M. fuscus Clay as follows: the proportions of the head and body segments very different; structure and chaetotaxy of the terminal abdominal segment of the female very different; the male genitalia, as far as can be ascertained from Clay's incomplete figure are not at all the same. These specimens are much closer to M. asymmetricus than is M. fuscus Clay and they are clearly conspecific with asymmetricus.

In fuscus the male is larger than the female, while in inexpectatus it is the reverse, although there is little difference in measurements between the sexes. This, I find is characteristic of the races of asymmetricus, in fact in all the species with asymmetrical genitalia.

M. a. inexpectatus differs from the nominate form as follows: The frons in the male is more flattened, in the female more broadly rounded; sides of head in male less concave, in female about the same; temples thicker in posterior portion in both sexes and more expanded latterly. The incassations of the pleurites are
narrower, less deeply colored and of different shape; shape and chaetotaxy of the two terminal abdominal segments in both sexes very similar to those of *asymmetricus*, differing only in the more slender chaetotaxy of the abdomen. There are numerous discrepancies in the measurements, as may be seen by the table below.

Note: The measurements of *asymmetricus*, as given in the appended table were taken from two pairs of paratypes in the author’s collection, the types being in the ANSP coll. in Philadelphia.

Measurements of *M. a. asymmetricus* and *M. a. inexpectatus:*

<table>
<thead>
<tr>
<th></th>
<th>Length</th>
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<th>Length</th>
<th>Width</th>
<th>Length</th>
<th>Width</th>
<th>Length</th>
<th>Width</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Body</strong></td>
<td>(3.33)</td>
<td>3.37</td>
<td>(3.19)</td>
<td>3.20</td>
<td>2.16</td>
<td>2.27</td>
<td>2.33</td>
<td>2.06</td>
</tr>
<tr>
<td><strong>Head (Temple)</strong></td>
<td>0.62</td>
<td>0.88</td>
<td>0.62</td>
<td>0.94</td>
<td>0.69</td>
<td>0.87</td>
<td>0.61</td>
<td>0.84</td>
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<tr>
<td><strong>Prothorax</strong></td>
<td>0.505</td>
<td>0.505</td>
<td>0.505</td>
<td>0.505</td>
<td>0.49</td>
<td>0.505</td>
<td>0.50</td>
<td>0.505</td>
</tr>
<tr>
<td><strong>Mesothorax</strong></td>
<td>0.26</td>
<td>0.555</td>
<td>0.26</td>
<td>0.465</td>
<td>0.25</td>
<td>0.50</td>
<td>0.25</td>
<td>0.456</td>
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<tr>
<td><strong>Metathorax</strong></td>
<td>0.502</td>
<td>0.77</td>
<td>0.502</td>
<td>0.78</td>
<td>0.27</td>
<td>0.74</td>
<td>0.22</td>
<td>0.71</td>
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<tr>
<td><strong>Abdomen</strong></td>
<td>1.40</td>
<td>0.91</td>
<td>1.46</td>
<td>0.90</td>
<td>1.30</td>
<td>0.84</td>
<td>1.30</td>
<td>0.84</td>
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<tr>
<td><strong>Basal plate</strong></td>
<td>0.453</td>
<td>0.39</td>
<td></td>
<td></td>
<td>0.41</td>
<td>0.27</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Parameres</strong></td>
<td>(0.500)</td>
<td>0.42</td>
<td>(at base)</td>
<td>0.45</td>
<td>0.326</td>
<td>0.10</td>
<td>(at base)</td>
<td></td>
</tr>
<tr>
<td><strong>Endomera</strong></td>
<td>0.22</td>
<td>0.09</td>
<td></td>
<td></td>
<td>0.14</td>
<td>0.10</td>
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<td></td>
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</table>

*Megapeostus p. platycephalus* (Carriker, 1936)


Since the publication of the 1944 report (*Proc. U. S. Nat. Mus.*, p. 163, figs. 16, h, i) numerous specimens of this species have been secured from *Crypturellus soui caucae*; *C. s. harteri* and *C. s. caquetae*. These have been carefully compared with paratypes of *platycephalus* and with specimens from Mexico and Peru and no appreciable differences have been found beyond the usual individual variations, which are small. A careful re-examination of the pair of types (a ♀ was found later) of *M. p. soui* (Carriker) shows that this race cannot be maintained. The shape of the posterior margin of the metathorax (one of the characters upon which the race was based) also varies greatly, some of the specimens from *C. s. caquetae* closely resembling the types of *sou* . Therefore: Apparently all races of *Crypturellus soui* are parasitized by a single form of *Megapeostus*, viz: *platycephalus* platycephalus Carriker.

*Megapeostus platycephalus inaequabilis* nom. n.

*Heptapsogaster platycephalus asymmetricus* Carriker, *Proc. U. S. Nat. Mus.*, 95 (3180): 164, fig. 17, a-c (Host: *Crypturellus obsoletus punensis* (Chubli))

This is a valid race, being based chiefly on the endomera of the male genitalia, and it is apparently confined to *C. obsoletus punensis*. There is nothing further to report regarding the species.
Megapeostus petersi (Carriker, 1936)

Heptapsogaster petersi Carriker, Proc. Acad. Nat. Sci. Phila. 88: 122, pl. 17, figs 3a, 3b. (Host: Crypturellus t. tatei (Temminck))

A distinct species with three well-developed projections on each side of inner margin of the frontal carina, with an obsolete fourth. In platycephalus

Megapeostus asymmetricus inexspectatus ssp. n. – Fig. 8: Male, head and tip of abdomen; fig. 9: female, head and tip of abdomen; fig. 10: male, genitailia. Discocorpus cephaloxus yucatanensis ssp. n. – Fig. 11: Male, body.

there are no inner projections on inner margin of this carina, merely a slight enlargement in median portion. The species is known only from the type host.
The only error in the original description are the measurements, which are all too small (as are all measurements in this paper). The types are in the USNM, but I have 1 ♂ paratype in my collection. Some time ago I received a slide from Dr. Hopkins containing a fine pair of what is undoubtedly *M. petersi*, although the host is given as *Crypturellus o. obsoletus*, collected at Nova Teutonia, Brazil, by F. Plaumann. Apparently there are no appreciable differences between this pair from *C. o. obsoletus* and typical *petersi*.

I am very doubtful of the correctness of the host given for this pair of lice from Brazil. I have had occasion to work with much of Plaumann's material and have found many glaring errors in the identity of his hosts. He also has the habit of giving the local portuguese name for the bird, and Dr. Werneck informs me that these are not to be relied upon, since they vary greatly in different parts of the country.

It is barely possible that the correct host for this pair of lice was *Crypturellus tataupa* and not *C. o. obsoletus*. The fact that the species of *Megapeostus* found on *C. obsoletus punensis* is *M. platycephala inaequabilis*, a very different type of insect, is further proof of my contention.

The following species all possess heavy, asymmetrical male genitalia and were originally described under the genus *Megapeostus*:

- *M. alterus* Clay, 1937
- *M. a. asymmetricus* Carriker, 1936
- *M. asymmetricus parvigenitalis* Carriker, 1936
- *M. asymmetricus ruficipitis* Clay, 1937
- *M. asymmetricus inexpectatus* Carriker sp. n.
- *M. fuscus* Clay, 1937
- *M. m. multiplex* Clay, 1937
- *M. multiplex secundus* Clay, 1937
- *M. multiplex idoneus* Carriker, 1944

(Host: *Tinamus major latifrons* Salvadori).
(Host: *Crypturellus u. undulatus* (Temminck).
(Host: *Crypturellus atrocapillus* error = *H. noctivagus* garleppi).
(Host: *Tinamus serratus ruficeps = T. major peruvianus* (Bonaparte).
(Host: *Crypturellus v. variegatus* (Gmelin)).
(Host: *Crypturellus v. variegatus* (Gmelin)) (?).
(Host: *Crypturellus b. boucardi* (Sclater).
(Host: *Crypturellus cinnamomeus mexicanus* (Salvadori)).
(Host: *Crypturellus idoneus* (Todd)).

**Discocorpus**, Carriker, 1936


A small genus, containing but five species and subspecies, including the new race described below. They are very minute, with head much wider than long and body almost circular. Few specimens are ever taken and they seem to be confined to the larger species of the genus *Crypturellus*.

Among the material sent by Col. Emerson is a single female which seems to be new, and is described below.
Discocorpus cephalosus yucatanensis ssp. n.
(Fig. 11)

Holotype, female adult, from Crypturellus cinnamomeus sallaei (Bonaparte) from a dried skin in a west-german museum, collected by Col. K. C. Emerson (in Emerson. coll. — Carriker No. 658).

Diagnosis — The shape of the head is nearest to that of D. c. furculus, with temples more rounded (less angulated laterally); there is a strong seta on posterior margin of temples, and a small one at the sides, anterior to angle, while in furculus both setae are long and strong. The prothorax is longer and more circular on posterior margin; the incrassations on the pleurites differ, there being a second transverse bar across the pleurites in posterior portion, actually the darkened anterior margin of the following pleurite, which extends some distance under the next segment anteriorly.

The male is unknown, thus eliminating one of the best characters for separating the subspecies (the genitalia). The present race, together with furculus and intermedius, form a closely knit group, with small differences separating them and it is unfortunate that the male of yucatanensis is unknown. The close resemblance between the three races mentioned above is logical, since all of the species of the other genera of lice found on these three hosts are very closely related, as I have previously mentioned.

Measurements of the female of D. cephalosus yucatanensis:

<table>
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<tr>
<th></th>
<th>Length</th>
<th>Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body</td>
<td>1.06</td>
<td>—</td>
</tr>
<tr>
<td>Head</td>
<td>0.293</td>
<td>0.532</td>
</tr>
<tr>
<td>Pterothorax</td>
<td>0.098</td>
<td>0.314</td>
</tr>
<tr>
<td>Pterothorax</td>
<td>0.24</td>
<td>0.50</td>
</tr>
<tr>
<td>Abdomen</td>
<td>0.65</td>
<td>0.716</td>
</tr>
</tbody>
</table>

Heteronodiodes Carriker, 1936


Heteronodiodes clypeiceps (Giebel, 1866)


Redescribed in 1936: 144, from material taken of the type host, collected on the Rio Bení, Bolivia. A series of 8 ♂♂ and 9 ♀♀ from the type host, collected by the author at Puerto Venecia, Caquetá, Colombia in 1952, agrees perfectly with the bolivian material.

There are two other known species of the genus: H. heterurus Carriker, 1936 and H. araceiceps Clay, 1937. The former was described from two females, male unknown. In Feb., 1951, two males of heterurus were taken on the type host on the Rio Nuquí, Chocó, Colombia, and are described below.
**Heterogoniodes heterurus** Carriker, 1936  
(Figs. 12 and 13)

*Proc. Acad. Nat. Sci. Phila.*, 88: 146, pl. 22, fig. 2 (♀) (Host: Crypturellus b. berlepschi = Crypturellus cinereus berlepschi (Rothschild)).

The ♀ allotype, here described, from the type host, collected by the author on the Rio Nuqui, Chocó, Colombia, Feb. 17, 1951 (in Carriker coll. No. 119).

*Diagnosis of male allotype* — Very close to *H. clypeiceps* in size, but slightly smaller in all measurements except length of metathorax which is longer (0.274 x 0.679 against 0.23 x 0.69).

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*Heterogoniodes heterurus* Carr., 1936 — Fig. 12: Male, body; fig. 13: male, genitalia. *Pseudophilopterus hirsutus adspersus* sp. n. — Fig. 14: Male, head, thorax, portion of abdomen and genitalia.

The basal plate is narrower, parameres shorter and endomera wider; the sides of the head, posterior to eye, undulating, not uniformly concave; metathorax with much longer sides and posterior margin more flattened.

The apical segment of abdomen and the incrasations of the pleurites differ from the nominate form; these sclerites being almost uniformly blackish, with
two large pale median areas, the outer the larger and the inner one containing the spiracle. No difference in chaetotaxy or in the tergites; the parameres are wider basally and endomerla differs decidedly in structure.

Note: Peters calls the host C. b. berlepschi, while Hellmayr and Conover make berlepschi a subspecies of cinereus, with reservations, that with more material it may prove to be a distinct species.

Measurements of the males of H. heterurus and H. clypeiceps:

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<th>Length</th>
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<tbody>
<tr>
<td>Body</td>
<td>2.20</td>
<td>—</td>
<td>2.29</td>
<td>—</td>
</tr>
<tr>
<td>Head occiput</td>
<td>0.59</td>
<td>1.00</td>
<td>0.648</td>
<td>—</td>
</tr>
<tr>
<td>Prothorax</td>
<td>0.65</td>
<td>—</td>
<td>0.578</td>
<td>—</td>
</tr>
<tr>
<td>Mesothorax</td>
<td>0.374</td>
<td>0.505</td>
<td>0.30</td>
<td>0.55</td>
</tr>
<tr>
<td>Metathorax</td>
<td>0.13</td>
<td>0.72</td>
<td>0.23</td>
<td>0.734</td>
</tr>
<tr>
<td>Abdomen</td>
<td>0.374</td>
<td>0.677</td>
<td>0.23</td>
<td>0.59</td>
</tr>
<tr>
<td>Basal plate</td>
<td>1.32</td>
<td>0.95</td>
<td>1.36</td>
<td>1.0</td>
</tr>
<tr>
<td>Parameres</td>
<td>0.48</td>
<td>0.17</td>
<td>0.46</td>
<td>0.20</td>
</tr>
<tr>
<td>Endomera</td>
<td>0.23</td>
<td>0.12</td>
<td>0.26</td>
<td>0.115</td>
</tr>
</tbody>
</table>

Lamprocorpus Carricker, 1936


The genus contains but two species, the type species and L. spinosus, described at the same time from Notoprocta p. pentlandi (G. R. Gray).

There is nothing new to add to what has already been published.

Pseudophilopterus Carricker, 1936


Pseudophilopterus hirsutus adspersus ssp. n.

(Fig. 14)

Type, male adult, from Crypturellus undulatus adspersus (Temminck), removed by Col. Emerson from a dry skin in a West German museum, and labelled “Amazon Valley” (in Emerson coll.) Carricker No. 659.

Diagnosis — Very much larger than any other known species or subspecies of the genus (1.51 against 1.35, average); the head is also wider than long, thus being the only known form in which the head is not longer than wide. The frons is similar to that of P. grandior but is slightly narrower (0.13 against 0.152); both have the large hyaline lobes on frons, formed by an extension of the ventral portion of the premarginal carinae. The anterior plate is partly obscured by foreign matter, also much of the head and thorax, but the outline of the anterior plate may be clearly seen and is deeply emarginate medially on