

THE GENUS *KELERIMENOPON* CONCI WITH THE DESCRIPTION OF A NEW SUBGENUS AND SIX NEW SPECIES (Mallophaga: Menoponidae)¹

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Abstract: Two subgenera are recognized—*Kelerimenopon* for 7 species of lice from hosts in the Passeriformes and Galliformes, and *Lorimenopon*, n. subgen., for 4 species of lice from the Psittaciformes. These subgenera and the included species are described and illustrated. The new species include *K. (K.) aepyropodi* and *K. (K.) clayae* (both from *Aepyropodius arsakianus*), *K. (K.) fuscirostris* (from *Talegalla fuscirostris*), *K. (L.) galeritae* (from *Kakatoe galerita*), *K. (L.) geoffroyi* (from *Geoffroyus geoffroyi*), and *K. (L.) psittaculae* (from *Psittacula alexandri fasciata*). There is 1 new synonymy, *K. (K.) minus* (Piaget) (= *Menopon griseum* Piaget). A key is given to the subgenera and species.

At the present time there are 6 species recognized within *Kelerimenopon s. lat.* and there is some conjecture as to whether these actually represent a congeneric group (see Emerson & Stojanovich 1965). Two of these species—*Colpocephalum minus* Piaget and *C. ciliatum* Piaget—are recorded from hosts within the Galliformes; 3 species—*Menopon griseum* Piaget, *K. sanfilippoi* Conci, and *K. thompsoni* Emerson & Stojanovich—are supposedly from hosts within the Passeriformes; and 1 species—*C. longipes* Piaget—is referable to the Psittaciformes. With the exception of the recently described *K. thompsoni*, the type material of all of the above was composed of very short series collected from skins. This left some doubt as to which host group or groups represented the true hosts of these lice, a question that could not be answered without additional specimens from authenticated hosts.

Recent extensive collections for Bernice P. Bishop Museum (BBM)⁴ of bird lice from the New Guinea and Solomon Is. areas have included several good series of *Kelerimenopon*. These lice, in conjunction with additional specimens now available from other sources, have enabled us to survey the species in *Kelerimenopon* and to postulate on the true hosts of the genus. It is our purpose here to report these findings, which include not only a redescription of the known species, but also the description of 6 new species, the listing of a new synonymy, and the grouping of the 11 recognized species into 2 subgenera, 1 of which is newly described. For making this study possible through the loan of specimens, we thank Dr J. L. Gressitt and Dr Nixon Wilson, Bishop Museum; Dr The-

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In the following descriptions, a value in parentheses following the statement of range represents the mean. All measurements are given in millimeters. Unless stated to the contrary, all references to tergites, pleura, or sternites refer to the abdomen, and illustrations are based on specimens from the type host. The nomenclature of the galliform and psittaciform hosts is that of Peters (1934, 1937).

Genus *Kelerimenopon* Conci

Kelerimenopon Conci, 1942, Ann. Mus. Civ. Stor. Nat. Genova **61**: 262. Type-species: *Kelerimenopon sanfilippoi* Conci.

This genus was established by Conci (1942) to include the single species, *K. sanfilippoi*. The generic diagnosis included the following features: (1) head ventrally with a short spinous process near each maxillary palpal base and a much larger spinous process near each antennal base; (2) cephalic index (width: length) less than typical *Menacanthus*, temple not much expanded, ocular incurvature fairly deep; (3) hypopharynx well pigmented; (4) mesothorax separated from metathorax by a light suture; (5) abdomen large, rounded; (6) pleurite I [actually pleurite II] having a sclerotized process at the inner posterior angle; and (7) perianal corona present.

In addition to the 2 pairs of ventral head spines and other general characters cited by Conci (1942), members of this genus share the following features: Each side of head with 4 very long marginal temple setae and 2 long occipital setae; 2nd antennal segment somewhat widened distally; terminal segment of antenna oval to suboval, undivided, and extending beyond head margin; sitophore sclerite of hypopharynx as in fig 28; row of numerous close-set subocular setae, of increasing length anteriorly; gula typically with 4+4 (less often 3 or 5) setae.

Pronotum with 5-6 long, 3 short setae marginally on each side; dorsally with only a minute inner and short outer pair of setae; prosternal plate (fig 29) well developed, but without setae. Metanotum with only 2 short to minute medioanterior setae; metasternal plate trapezoidal, with up to 13 or so medium setae. Femur III with sparse scattered setae or patch of short setae, never comb-like.

Abdomen with all tergites undivided, I-VIII essentially of same length; postspiracular setae very long on I-VIII, outermost on II-VIII, but with short lateral seta on I; without anterior tergal setae. Pleura with row of marginal setae, without anterior setae. No sternites with comb of short spiniform setae.

Little sexual dimorphism, other than differences in ventral terminalia and ♀ of larger size. Each side of tergite IX of ♀ with at least 1 very long and several shorter marginal setae. Sternites VII-VIII fused; sparse anterior and marginal vulval setae. Anus essentially oval, both ventral and dorsal fringes of evenly-spaced setae of varying length, and without inner setae. No discernible inner structure of ♀ genital chamber.

♂ terminalia close to that of figs 16, 30; genitalia (figs 6-12) rather small, varying according to species.

The known species within *Kelerimenopon* fall into 2 distinct, but closely related, groups on the basis of head shape and pleural development. Other than these differences, the

individuals in the groups have so many features in common that they appear to show a much greater phylogenetic affinity to each other than they do to any other known menoponid lice. In order to preserve this relationship within the current generally accepted Mallophaga classification, we here place the 5 names of the *sanfilippoi*-group along with 3 new species (hosts: Passeriformes and Galliformes) in the subgenus *Kelerimenopon*, and place *K. longipes* and 3 new species (hosts: Psittaciformes) in the new subgenus *Lorimenopon*.

Subgenus *Kelerimenopon* Conci

The individuals in this subgenus are characterized as having the head (figs 1, 3-5) with a narrow preocular slit, at least abdominal pleura II-IV with a process at the ventroposterior corner, and ♂ genitalia variously shaped (figs 6-11).

The hosts of known species within this subgenus lie in the genus *Pitta* of the Passeriformes and in the family Megapodiidae of the Galliformes, with recent collections from both of these host orders having verified the authenticity of these groups as natural hosts for these lice.

***Kelerimenopon* (*Kelerimenopon*) *thompsoni* Emerson and Stojanovich** Figs. 1, 9, 18.

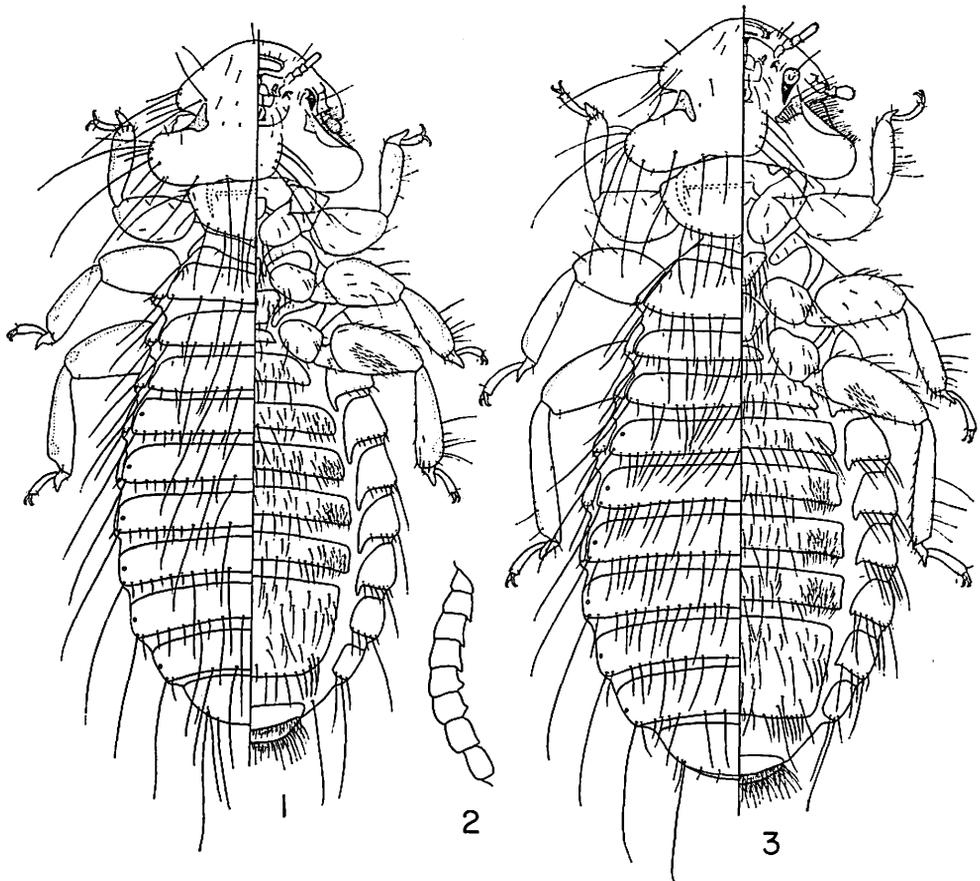
Kelerimenopon thompsoni Emerson & Stojanovich, 1965, Florida Ent. 48: 117. Type-host: *Pitta sordida* (P. L. S. Müller).

♀. As in fig 1. Also described and illustrated by Emerson & Stojanovich (1965). Preocular expansion with 2 fairly long setae of equal length (fig 18). Pronotum with 5 long, 3 short marginal setae on each side. Metanotum with 9-10 marginal setae. Femur III with ventral brush of over 25 short to medium setae. Tergites I-VII each with from 16-23 marginal setae, including series of short setae between very long postspiracular seta and long median setae; tergite VIII with 8-10 setae. Sternal setae especially numerous on III, 51-52; IV, 82-86; V, 75-80; and VI, 67-72; with those of IV-VI clustered into lateral brushes of 15-25 short setae each and remainder of setae longer and more widely separated between brushes. Vulval margin with 12-14 evenly spaced rather long setae. Ventral and dorsal anal fringes each with about 50 setae. Pleura II-VI each with inner posteriorly directed projection at ventroposterior corner; pleura I and VII-VIII without projections.

♂. Described and illustrated by Emerson & Stojanovich (1965). Much as for ♀, smaller, but with similar lengths and distribution of setae. Fewer tergal setae, with only 13-18 on I-VII. Likewise, fewer sternal setae (e. g., III, 37; IV, 53; V, 58; VI, 50), but those on IV-VI in lateral brushes as for ♀. Only pleura II-IV with inner posteriorly directed projections as for ♀; V with smaller such projection; I and VI-VIII without projections. Genitalia as in fig 9, without evident penis or median sclerotized plate.

Dimensions: preocular width, ♀ 0.42-0.43, ♂ 0.39; temple width, ♀ 0.53-0.55, ♂ 0.48; head length, ♀ 0.34, ♂ 0.32; prothorax width, ♀ 0.36-0.38, ♂ 0.32; metathorax width, ♀ 0.51-0.53, ♂ 0.41; total length, ♀ 1.70-1.72, ♂ 1.28.

SPECIMENS EXAMINED: 2♀, 1♂ paratypes of *K. thompsoni*, *Pitta sordida*, Philippine Is.



Figs. 1-3. 1, *Kelerimenopon thompsoni* Emerson & Stojanovich, ♀ (×55); 2, *K. ciliatum* (Piaget), ♂ ventral pleura I-VIII (×55); 3, *K. aepyropodi* n. sp., ♀ (×55).

***Kelerimenopon* (*Kelerimenopon*) *sanfilippoi* Conci**

Kelerimenopon Sanfilippoi Conci, 1942, Ann. Mus. Civ. Stor. Nat. Genova 61: 263. Type-host: *Pitta rufiventris* (Cabanis & Heine).

This species is extremely close to *K. thompsoni*. It is stated by Emerson & Stojanovich (1965) to be separable from *K. thompsoni* by its smaller size (total length ♀ 1.44, ♂ 1.00), possession of only 1 long seta on each lateral margin of the preocular region of the forehead (vs. at least 3 for *K. thompsoni*), presence of 3 long gular setae (vs. 4 for *K. thompsoni*), and parameres of ♂ genitalia thick basally, slender distally (vs. slender entire length for *K. thompsoni*). Since neither we nor Emerson & Stojanovich (1965) have been able to observe any *Kelerimenopon* from *P. rufiventris*, the above differences must be based on a comparison with the original description; further descriptive details are not possible until authenticated *P. rufiventris* material is available. We should like, however, to correct a statement by Emerson & Stojanovich (1965) in that the illustration of *K. sanfilippoi*

by Conci (1942) indicates the lateral preocular margin to be essentially identical to *K. thompsoni* (fig 18).

Conci (1942) had initially intended to base *K. sanfilippoi* on 1♀ from the passeriform host *Tropidorhynchus novae guineae* S. Müll. However, he subsequently came into possession of 1♀ and 1♂ from a skin of *Pitta rufiventris* and decided to designate the *Pitta* as the type-host. The wisdom of this action has been reinforced by the recent description of *K. thompsoni* for a collection from *P. sordida*.

***Kelerimenopon* (*Kelerimenopon*) *aepyodi* Price and Emerson, n. sp. Figs. 3, 10, 19.**

Type-host: *Aepyodius arfakianus* (Salvadori).

♀. As in fig 3. In general, shows remarkable similarities to *Kelerimenopon* from *Pitta*. Inner seta of preocular expansion fine, about half length of outer seta (fig 19). Pronotal margin with 6 long, 3 short setae on each side. Metanotal margin with 16-18 setae. Tergal setae: I, 25-26; II-III, 22-28; IV-V, 27-30; VI, 23-26; VII, 18-22; VIII, 15. Ventral brush of setae on femur III and laterally on sternites IV-VI. Sternal setae: I, 7-8; II, 22-26; III, 39-47; IV-VI, 66-86 (74.3); VII, 34-37. Vulval margin with 7-8 longer setae on each side, 4-7 shorter medial setae; anteriorly, with 10-12 setae. Prolongations of inner ventroposterior pleural corners on II-VII pointing posteriorly, but those on VI-VII smaller. Each anal fringe with 51-61 setae.

♂. Much as for ♀, except for reduced metathoracic and abdominal chaetotaxy, differences in ventral terminalia, and smaller size. Metanotal margin with 13 setae. Tergites I-VIII with 18, 19, 24, 25, 23, 19, 16, and 14 setae, respectively. Sternites I-VIII with 7, 17, 28, 49, 62, 57, 21, and 9 setae, respectively. Prolongations of inner ventroposterior pleural corners as in fig 2, with only II-IV being posteriorly directed, and with V-VII directed medially. Genitalia as in fig 10, with definite constriction of endomeral plate.

Dimensions: preocular width, ♀ 0.43-0.44, ♂ 0.41; temple width, ♀ 0.59-0.61, ♂ 0.53; head length, ♀ 0.32-0.34, ♂ 0.33; prothorax width, ♀ 0.43-0.45, ♂ 0.36; metathorax width, ♀ 0.53-0.56, ♂ 0.45; total length, ♀ 1.76-1.90, ♂ 1.56.

Holotype ♂ (BISHOP 6786), *Aepyodius arfakianus* (BBM-NG 20641), Mt Missim, New Guinea, 6.X.1962, H. Clissold.

Paratopotypes: 3 ♀♀, same data as holotype.

Both sexes of *K. aepyodi* are close to *K. ciliatum* (Piaget), with the only discernible difference of note being the larger number of marginal abdominal setae for *K. aepyodi*. The ♂ genitalia of the single specimen available, with the inward curving of the lateral portion and the distinct constriction of the endomeral plate, were at first believed to reflect an artifact of mounting. However, reclearing and remounting did not alter this arrangement, bringing us to conclude that we should consider this, at least on the basis of present material, a distinct species close to but apparently separable from *K. ciliatum*.

***Kelerimenopon* (*Kelerimenopon*) *ciliatum* (Piaget) Figs. 2, 6.**

Colpocephalum ciliatum Piaget, 1890, Tijdschr. Entom. 33: 256. Type-host: *Tetraogallus Cuvieri* (Novae Guineae) = *Talegalla cuvieri* Lesson,

♀. Specimen available in poor condition, with many missing dorsal setae and with part of the terminal portion of abdomen torn off. In general, all features are in agreement with *K. aepyodi*, except metanotal margin with 19 setae and tergites I-VIII with 21, 20, 24, 24, 23, 20, 18, and 12 setae, respectively.

♂. Specimen available likewise with many missing dorsal setae. However, much as for ♀, smaller, but with similar lengths and distribution of setae present. Very close to ♂ of *K. aepyodi*, but with fewer tergal setae on I-VIII, with 16, 15, 17, 16, 16, 16, 16, and 11, respectively. Genitalia as in fig 6, without any evidence of a constriction of endomeral plate, as found with *K. aepyodi*.

SPECIMENS EXAMINED: ♂ lectotype, ♀ paratype of *C. ciliatum* Piaget, *Tallegallus novae guineae*.

Kelerimenopon (Kelerimenopon) minus (Piaget) Figs. 4, 11, 20.

Colpocephalum minus Piaget, 1880, Pediculines: 539. Type-hosts: *Megapodius rubripes* var. *Gilberti* = *M. nicobariensis gilbertii* G. R. Gray and *M. rubripes* var. *Freycinetti* = *M. freycinet* Gaimard.

Menopon griseum Piaget, 1885, Pediculines Suppl.: 102. Type-host: *Paradisea papuana* = *Paradisea minor* Shaw—probably error. **New Synonymy.**

♀. As in fig 4. Specimens from *M. nicobariensis* as follows. Preocular expansion with short fine inner seta about half length of outer rather stout corner seta (fig 20, based on specimen from *M. freycinet*). Margin of pronotum with 6 long, 3 short setae on each side. Metanotal margin with 23-26 setae. Marginal tergal setae: I-V, 26-32; VI, 24-28; VII, 20-23; VIII, 14-17. Ventrally, no setal brushes on femur III or any sternites. Sternal setae: I, 5-7; II, 15-18; III, 28-32; IV, 38-45; V, 44-51; VI, 39-43; VII, 19-22. Margin of vulva with 12-17 evenly distributed medium setae; anteriorly, with 11-15 setae. Prolongations of inner ventroposterior pleural corners on II-IV directed posteriorly, those on V-VII smaller, inwardly pointing. Anal fringes ventrally of 55-64 setae, dorsally of 42-48, with longer among shorter setae.

♂. Following data for specimens from *Megapodius freycinet*. Close to ♀, but with fewer metathoracic and abdominal setae, differences in ventral terminalia, and smaller size. Margin of metanotum with 17-19 setae. Marginal tergal setae: I, 18-22; II-VI, 21-26; VII, 19-23; VIII, 15-17. Sternal setae: I, 3-6; II, 12-15; III, 16-21; IV, 22-29; V, 25-32; VI, 23-32; VII, 9-17; VIII, 6-7. Genitalia (fig 11) most distinctive, differing grossly from all other known species.

Dimensions: preocular width, ♀ 0.39-0.40, ♂ 0.35-0.36; temple width, ♀ 0.50-0.52, ♂ 0.45-0.47; head length, ♀ 0.30-0.32, ♂ 0.27-0.28; prothorax width, ♀ 0.37-0.39, ♂ 0.32-0.33; metathorax width, ♀ 0.45-0.50, ♂ 0.36-0.37; total length, ♀ 1.56-1.60, ♂ 1.27-1.34.

SPECIMENS EXAMINED: ♀ lectotype, ♀ paratype of *C. minus* Piaget, *Megapodium rubripes* var. *Gilberti*; ♂ lectotype, ♀ paratype of *M. griseum* Piaget, *Paradisea papuana*—host probably in error; 1♀, *Megapodius nicobariensis pusillus* Tweeddale, Philippine Is.; 1♀, *M. nicobariensis sanghirensis* Schlegel, Sangi Is.; 1♀, *M. reinwardt reinwardt* Dumont, Romah Is.; 12♀♀, 13♂♂, *M. freycinet*, Halmahera, Philippine Is., and Papua, New Guinea (BBM-NG 28811, 28842, 29236); 3♀♀, 4♂♂, *M. e. eremita* Hartlaub, Bismarck Is.

Although *K. minus* was described from specimens from 2 species of *Megapodius*, the

subsequent designation of a lectotype from the *M. nicobariensis gilberti* series by Clay (1953) fixed that as the type-host. All aspects of morphology of the ♀♀ from 4 species of *Megapodius* fall within the description given above, enabling us to postulate that *K. minus* may be the only species of *Kelerimenopon* common to birds of this host genus. The ♂♂ from *M. freycinet* and *M. eremita* are inseparable from the ♂ lectotype of *M. griseum*; this leaves little doubt that the type-series collected from *Paradisea papuana* represents stragglers from some *Megapodius* host and that *M. griseum* is a junior synonym of *K. minus*.

***Kelerimenopon* (*Kelerimenopon*) *clayae* Price and Emerson, n. sp. Figs. 5, 7, 25.**

Type-host: *Aepyodius arfakianus* (Salvadori).

♀. As in fig 5. Preocular expansion with short fine inner seta approximately one-third length of rather long corner seta (fig 25). Pronotal margin with 6 long (rarely 7 on 1 side), 3 short setae on each side. Metanotal margin with 17-19 setae. Marginal tergal setae: I-III, 21-23; IV, 19; V, 16-20; VI, 13-16; VII, 11-14; VIII, 10. Ventrally without setal brushes on femur III or any sternites. Sternal setae: I, 4-7; II, 24-27; III, 29-33; IV, 34-37; V, 37-38; VI, 32-33; VII, 22-24. Margin of vulva with 13-17 medium evenly spaced setae; anteriorly with 10 setae in single row. Prolongations of inner ventroposterior pleural corners of II-IV posteriorly directed and V-VII well developed, anteriorly directed on V-VI, medially directed on VII. Anal fringes both ventrally and dorsally of 47-52 setae, with longer among shorter setae.

♂. Much as for ♀, except for reduced metathoracic and abdominal chaetotaxy, differences in ventral terminalia, and smaller size. Metanotal margin with only 12 setae. Marginal tergal setae: I-III, 11-13; IV-V, 13-15; VI-VII, 12-13; VIII, 10. Sternal setae: I, 5; II, 16; III, 17-19; IV, 18-19; V, 20-23; VI, 19-20; VII, 8-10; VIII, 6. Genitalia as in fig 7, with fragile parameres, tapered endomeral plate, and of small size, 0.28 long and 0.09 wide.

Dimensions: preocular width, ♀ 0.41-0.42, ♂ 0.36; temple width, ♀ 0.53-0.56, ♂ 0.46-0.47; head length, ♀ 0.32-0.33, ♂ 0.28-0.31; prothorax width, ♀ 0.37-0.40, ♂ 0.32-0.34; metathorax width, ♀ 0.43-0.45, ♂ 0.36; total length, ♀ 1.60-1.73, ♂ 1.37-1.39.

Holotype ♀ (BISHOP 6787), *Aepyodius arfakianus* (BBM-NG 20641), Mt Missim, New Guinea, 6.X.1962, H. Clissold.

Paratopotypes: 2 ♀♀, 2 ♂♂, same data as holotype.

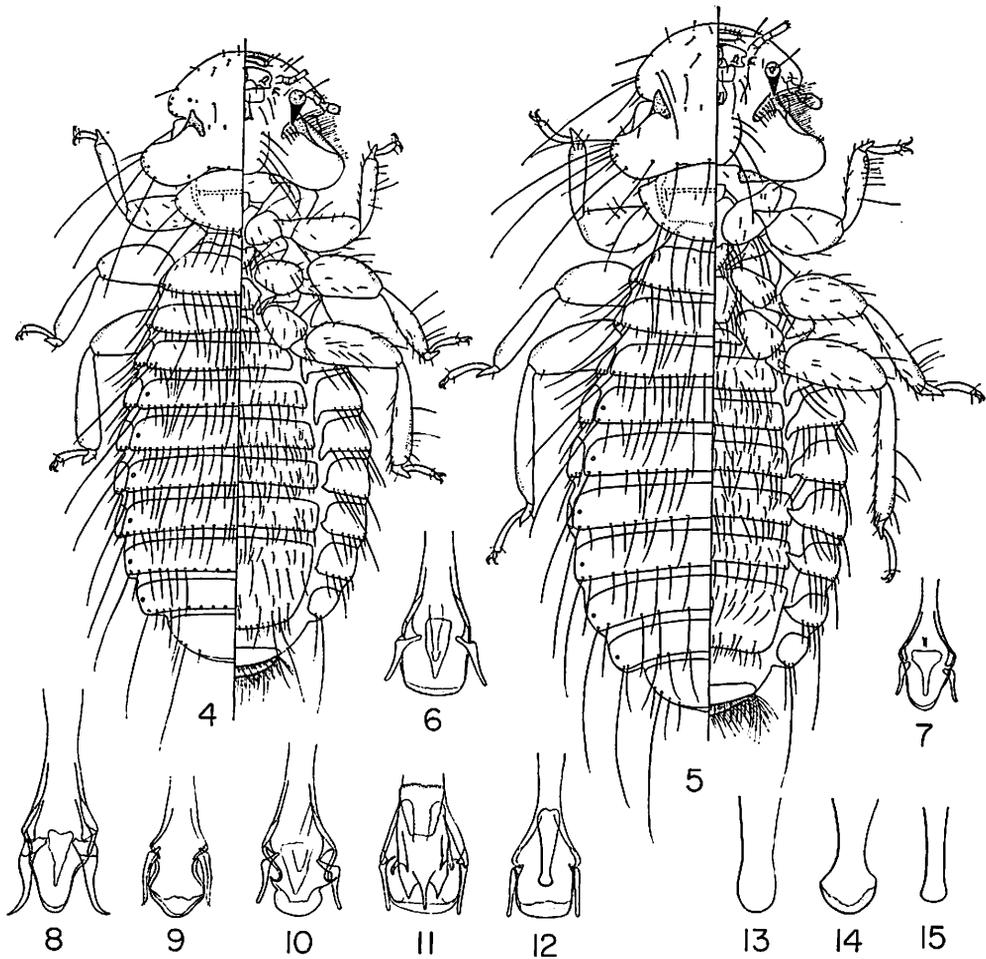
OTHER SPECIMENS: 1 ♀, *Talegalla fuscirostris* Salvadori (BBM-NG 50201), Papua.

This species is closest to *K. minus* in that both lack any evidence of setal brushes on femur III or abdominal sternites. The 2 species are easily separable in that *K. clayae* has fewer abdominal and marginal metanotal setae, inner ventroposterior pleural corners of V-VII better developed and those of V-VI directed anteriorly, and grossly different ♂ genitalia. The single ♀ from *Talegalla* has 63-65 setae in each anal fringe, but, being otherwise similar, is not separated at this time from *K. clayae*.

***Kelerimenopon* (*Kelerimenopon*) *fuscirostris* Price and Emerson, n. sp. Figs. 8, 16, 17, 21, 22.**

Type-host: *Talegalla fuscirostris* Salvadori.

♀. Head and thorax close to *K. clayae*, but with inner seta on preocular expansion



Figs. 4-15. 4, *Kelerimenopon minus* (Piaget), ♀ (×55); 5, *K. clayae* n. sp., ♀ (×55). 6-12, ♂ genitalia (×90): 6, *K. ciliatum* (Piaget); 7, *K. clayae* n. sp.; 8, *K. fuscirostris* n. sp.; 9, *K. thompsoni* Emerson & Stojanovich; 10, *K. aepyodi* n. sp.; 11, *K. minus* (Piaget) (ex *Megapodius freycinet*); 12, *K. longipes* (Piaget). 13-15, Distal portion of penis (×240): 13, *K. longipes* (Piaget); 14, *K. galeritae* n. sp.; 15, *K. geoffroyi* n. sp.

about half length of outer (fig 21) and with more marginal metanotal setae, 25-26. Abdomen as in fig 17. Marginal tergal setae: I, 26-32; II, 21-24; III, 20-22; IV, 18-21; V, 16-17; VI-VII, 14-16; VIII, 10-11. Sternal setae: I, 5-7; II, 19-25; III, 24-30; IV-V, 24-34; VI, 24-29; VII, 16-22. Setae on sternite VII grouped laterally and directed forward toward midline, without setae medially. Vulva marginally with 28-34 medium setae, anteriorly with 10. Prolongations of inner ventroposterior pleural corners as in fig 17, with those on II-IV longer than those on V-VII and with tendency for all to be directed medially, but direction on II-IV variable. Anal fringes each of 55-65 setae, with longer among shorter setae.

♂. Much as for ♀, except for shorter somewhat stouter corner seta on preocular expansion (fig 22), for reduced metathoracic and abdominal chaetotaxy, differences in ventral terminalia, and smaller size. Metanotal margin with only 12-13 setae. Abdomen as in fig 16. Marginal tergal setae: I, 17-18; II, 14; III, 15-16; IV-V, 16-18; VI-VII, 14-16; VIII, 10-11. Sternal setae: I, 3-4; II, 19-20; III-VI, 19-24; VII, 9-10; VIII, 6. Development of prolongations of inner ventroposterior pleural corners much as for ♀. Genitalia (fig 8) different from all other known species, especially by prominent outcurved pointed parameres, tapered endomerale plate, and large size, approximately 0.36 long and 0.12 wide.

Dimensions: preocular width, ♀ 0.44-0.45, ♂ 0.41; temple width, ♀ 0.57-0.58, ♂ 0.51-0.53; head length, ♀ 0.39-0.40, ♂ 0.32-0.33; prothorax width, ♀ 0.39-0.42, ♂ 0.36; metathorax width, ♀ 0.52-0.57, ♂ 0.42-0.43; total length, ♀ 1.75-1.88, ♂ 1.54-1.55.

Holotype ♀ (BISHOP 6788) *Talegalla fuscirostris* (BBM-NG 50201), Balimo, Papua, 14. III.1964, H. Clissold.

Paratypes: 3♀♀, 2♂♂, *T. fuscirostris* (BBM-NG 29614, 50201), Papua, New Guinea.

OTHER SPECIMENS: 1♂, *Talegalla jobiensis longicaudus*, E. New Guinea.

This species, with the absence of ventral femoral or sternal brushes of setae, is closest to *K. minus* and *K. clayae*. However, the ♀ is easily separable by the chaetotaxy of the preocular expansion, the large number of marginal vulval setae, the distribution of the setae on sternite VII, and the prolongations of the pleural corners. The ♂ of *K. fuscirostris* has distinctively different genitalia, as mentioned above. In addition, both sexes are larger in all dimensions than either of the other species.

Subgenus *Lorimenopon* Price and Emerson, n. subgen.

Type-species: *Colpocephalum longipes* Piaget.

The individuals in this subgenus are characterized as having the head (fig 27) with a broad deep preocular notch, all abdominal pleura I-VIII without any indication of a prolongation of the inner ventroposterior corner, and ♂ genitalia much as in fig 12, with well-developed penis (figs 13-15).

The host range of known members of *Lorimenopon* is restricted to several species of Psittaciformes within the genera *Lorius*, *Alisterus*, *Kakatoe*, *Probosciger*, *Geoffroyus*, and *Psittacula*.

Kelerimenopon (*Lorimenopon*) *longipes* (Piaget) Figs. 12, 13, 24, 27-30.

Colpocephalum longipes Piaget, 1880, Pediculines: 524. Type-host: *Ectectus puniceus*=*Lorius roratus* (Müller).

♀. As in fig 27. Preocular expansion with short fine seta mediad to long corner seta (fig 24). Pronotum marginally with 6 long (occasionally 7 on 1 side), 3 short (occasionally 2 on 1 side) setae. Metanotum with 10-12 marginal setae. Marginal tergal setae: I, 8-11; II, 10-12; III-VI, 11-13; VII, 10-12; VIII, 8-10. Total sternal setae: I, 3-5; II, 10-13; III, 20-26 (22.3); IV, 25-34 (30.1); V, 31-38 (33.7); VI, 27-37 (31.3); VII, 13-21 (16.2). Vulval margin with 8-13 (10.2) long evenly spaced setae, anteriorly with 9-13 (10.7). Anus with ventral fringe of 36-45 (40.0) setae, dorsal fringe of 33-42 (36.6).

♂. Head and thorax as for ♀. Abdomen with tendency for fewer marginal tergal setae on I, 8-10; II, 10; III, 9-10; IV-VI, 10-12; more setae on VII, 10-12, and VIII, 9-12. Fewer sternal setae: I, 2-5; II, 9-11; III, 11-16 (14.3); IV, 15-26 (21.8); V, 18-31 (23.9); VI, 18-27 (21.7); VII, 8-15 (10.4); genital plate, 5-9 (6.9). Genitalia as in fig 12, with end of penis 0.020-0.022 wide, only slightly expanded at the tip (fig 13).

Dimensions: preocular width, ♀ 0.48-0.51, ♂ 0.43-0.46; temple width, ♀ 0.53-0.58, ♂ 0.48-0.52; head length, ♀ 0.36-0.38, ♂ 0.32-0.35; prothorax width, ♀ 0.42-0.47, ♂ 0.35-0.41; metathorax width, ♀ 0.50-0.55, ♂ 0.40-0.47; total length, ♀ 1.56-1.66, ♂ 1.26-1.42.

SPECIMENS EXAMINED: ♀ lectotype, 2♀ paratypes of *C. longipes* Piaget, *Eclectus puniceus*; 10 ♀♀, 10 ♂♂, *Lorius roratus* (BBM-NG 20681, 20682, 29571, 29695, 50481), New Guinea, New Britain; 1♂, *Alisterus chloropterus* (Ramsay) (BBM-NG 27537), New Guinea.

Even though Piaget (1880) described *C. longipes* from 4 ♀♀ taken from a specimen of *L. roratus* from the Zoological Garden of Rotterdam, an examination of the type-series specimens of this material shows excellent agreement with all details given above for the ♀♀ taken from *L. roratus* from New Guinea and verifies the authenticity of the host. ♂♂, unknown until now, are described here for the first time.

Kelerimenopon (Lorimenopon) galeritae Price and Emerson, n. sp. Figs. 14, 23.

Type-host: *Kakatoe galerita* (Latham).

♀. Close to *K. longipes*, but differs as follows. Preocular expansion with much longer heavier seta mediad to long corner seta (fig 23). Pronotum marginally with only 5 long, 3 short setae on each side. Marginal tergal setae: I, 7-8; II, 10-12; III-VI, 10-13; VII, 11-13; VIII, 9-12. Tendency for few more sternal setae: I, 4-7; II, 12-15; III, 25-29 (26.9); IV, 26-36 (31.2); V, 33-41 (36.8); VI, 30-40 (35.5); VII, 21-29 (24.7). Vulval margin with 10-17 (13.4) setae, anteriorly with 13-19 (16.7). Larger specimens in all dimensions.

♂. Head, thorax and marginal tergal setae much as for ♀. Sternal setae: I, 3-5; II, 9-12; III, 11-16 (13.1); IV, 16-24 (20.6); V, 24-29 (26.7); VI, 21-31 (25.4); VII, 14-20 (17.1); genital plate, 9-13 (9.8). Genitalia much as in fig 12, but end of penis distinctly expanded (fig 14), 0.028-0.036 wide. Specimens smaller than ♀, but larger than ♂♂ of *K. longipes*.

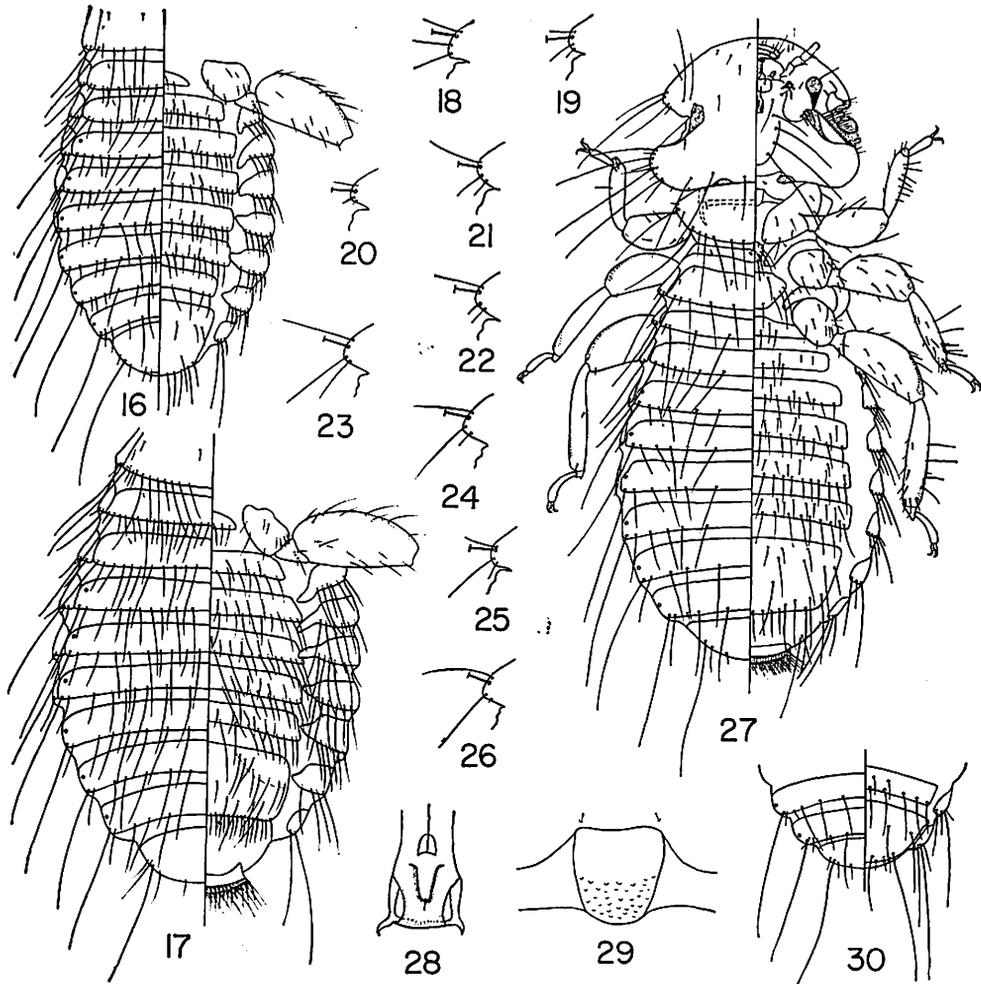
Dimensions: preocular width, ♀ 0.53-0.58, ♂ 0.49-0.52; temple width, ♀ 0.62-0.67, ♂ 0.55-0.59; head length, ♀ 0.40-0.44, ♂ 0.36-0.41; prothorax width, ♀ 0.45-0.50, ♂ 0.40-0.44; metathorax width, ♀ 0.52-0.61, ♂ 0.44-0.48; total length, ♀ 1.77-1.98, ♂ 1.44-1.52.

Holotype ♀ (BISHOP 6789), *Cacatua galerita* (BBM-NG 50498), Tegona, NE New Guinea, 7.IV.1964, H. Clissold.

Paratypes: 14 ♀♀, 9 ♂♂, *C. galerita* (BBM-NG 21560, 22671, 29318, 29678, 50181, 50262, 50404, 50405, 50469, 50473, 50496, 50497, 50500, 50501, HC 174), New Guinea.

OTHER SPECIMENS: 1♀, *Probosciger aterrimus* (Gmelin) (BBM-NG 50471), New Guinea.

This species is best separable from *K. longipes* by the much longer inner seta on the preocular expansion, by having 1 fewer long marginal pronotal seta on each side, by being consistently larger, and by the distinctive apical expansion of the penis,



Figs. 16-30. 16-17, *Kelerimenopon fuscirostris* n. sp. ($\times 55$): 16, ♂ abdomen; 17, ♀ abdomen. 18-26, Lateral preocular expansion ($\times 60$): 18, *K. thompsoni* Emerson & Stojanovich; 19, *K. aepyropodi* n. sp.; 20, *K. minus* (Piaget); 21, *K. fuscirostris* n. sp., ♀; 22, *K. fuscirostris*, ♂; 23, *K. galeritae* n. sp.; 24, *K. longipes* (Piaget); 25, *K. clayae* n. sp.; 26, *K. geoffroyi* n. sp. 27-30, *K. longipes* (Piaget): 27, ♀ ($\times 55$); 28, sitophore sclerite of hypopharynx ($\times 210$); 29, prosternal plate ($\times 210$); 30, ♂ terminalia ($\times 55$).

***Kelerimenopon* (*Lorimenopon*) *geoffroyi* Price and Emerson, n. sp.**

Figs. 15, 26.

Type-host: *Geoffroyus geoffroyi* (Bechstein).

♀. Preocular expansion with minute seta mediad to longer corner seta (fig 26). Pronotal margin as for *K. galeritae*, with only 5 long, 3 short setae on each side. Otherwise, dorsal chaetotaxy essentially as for *K. longipes*, except for 13 marginal tergal setae on II and 10 on VI. Sternites I-VII also as for *K. longipes*. Vulval margin with only 7 setae. Anus with ventral fringe of 30 setae, dorsal fringe of 32. Smaller than other species of

Lorimenopon.

♂. Head and thorax as for ♀. Smallest number of marginal tergal setae: I, 7-8; II, 10; III-V, 7-8; VI, 8-9; VII-VIII, 8. Sternal chaetotaxy within ranges for *K. longipes*. Genitalia close to *K. longipes* (fig 12), but with narrower apical portion of penis (fig 15), 0.016-0.020 wide. Smaller than ♀ of *K. geoffroyi* and ♂♂ of other species of *Lorimenopon*.

Dimensions: preocular width, ♀ 0.44, ♂ 0.37-0.40; temple width, ♀ 0.50, ♂ 0.44-0.45; head length, ♀ 0.32, ♂ 0.28-0.32; prothorax width, ♀ 0.39, ♂ 0.32-0.33; metathorax width, ♀ 0.45, ♂ 0.38; total length, ♀ 1.45, ♂ 1.16-1.22.

Holotype ♂ (BISHOP 6790), *Geoffroyus geoffroyi* (BBM-NG 29588), Oriomo, Western Distr., SE New Guinea, 19.II.1964, H. Clissold.

Paratypes: 1 ♀, 2 ♂♂, *G. geoffroyi* (BBM-NG 50007, 50064), New Guinea.

This species is separable from *K. longipes* and *K. galeritae* by the minute inner seta on the preocular expansion and by the consistently smaller dimensions. Additionally, ♀ and ♂ separable from *K. longipes* by having only 5 long, 3 short marginal pronotal setae on each side; and ♂ by reduced number of marginal tergal setae. ♀ *K. geoffroyi*, in having only 23, 28, 30, 26, and 17 sternal setae on III-VII, respectively, and 7 marginal vulval setae, may separate from *K. galeritae*, but number of specimens insufficient to confirm this. ♂ easily distinguished from *K. galeritae* by genitalic features and reduced marginal tergal chaetotaxy.

Kelerimenopon (*Lorimenopon*) *psittaculae* Price and Emerson, n. sp.

Type-host: *Psittacula alexandri fasciata* (P. L. S. Müller).

♀. Chaetotaxy of preocular expansion as for *K. galeritae*, with longer seta mediad to long corner seta (fig 23). Pronotal margin with 6 long (2 of 7 specimens with 5 on 1 side), 3 short (rarely 4) setae on each side. Marginal metanotal setae, 10-12. Marginal tergal setae: I, 11-13; II-VI, 12-15; VII, 11-13; VIII, 9-11. Sternal setae: I, 5-8; II, 14-18 (15.7); III, 22-32 (28.4); IV, 33-41 (36.7); V, 36-45 (42.3); VI, 33-43 (38.6); VII, 22-30 (24.6). Vulva with 6-10 (8.1) marginal setae, anteriorly with 12-18 (14.9). Ventral anal fringe with 39-48 (42.9) setae, dorsal fringe, 42-49 (44.6). Dimensions as for *K. longipes*.

♂. Head and thorax as for ♀. All specimens with 6 long, 3 short marginal setae on each side of pronotum. Marginal tergal setae: I, 8-10; II-IV, 10-11; V-VII, 11-13; VIII, 10-11. Sternal setae: I, 4-6; II, 10-12; III, 13-16 (15.0); IV, 22-25 (23.7); V, 25-30 (27.3); VI, 26-27 (26.7); VII, 13-15 (14.0); genital plate, 12-14 (12.7). Genitalia (fig 12) and dimensions as for *K. longipes*.

Holotype ♀, *Psittacula alexandri fasciata* (RE 7046-7), Thailand: Ranog, Kapoe, Thungkha, 30.I.1963, Wanit Songprakob. At the U. S. National Museum.

Paratypes: 3 ♀♀, 1 ♂, same data as holotype; 3 ♀♀, 2 ♂♂, *P. a. fasciata* (RE 6966, RE 6899-902), Thailand.

OTHER SPECIMENS: 1 ♀, *P. krameri manillensis* (Bechstein), Lucknow Zoo (India); 1 ♀, *P. k. borealis* (Neumann), Rajputana (India).

This species is separable from both *K. longipes* and *K. geoffroyi* by the presence of a longer seta mediad to the long corner seta on the preocular expansion. Although of es-

essentially the same dimensions as *K. longipes*, there is a tendency for *K. psittaculæ* to have more abdominal setae. Chaetotaxy of preocular expansions as for *K. galeritæ*, but separable by pronotal chaetotaxy, more marginal tergal setae on anterior segments of ♀ abdomen, consistently smaller dimensions for both sexes, and differences in the ♂ genitalia.

KEY TO SUBGENERA AND SPECIES OF *KELERIMENOPON*

1. All pleura I-VIII without indication of prolongation of inner ventroposterior corner; head with broad deep preocular notch (subgenus *Lorimenopon*)..... 2
 - At least pleura II-IV with prolongation of inner ventroposterior corner; head with narrow preocular slit (subgenus *Kelerimenopon*)..... 5
- 2 (1). Preocular expansion with inner seta well developed, at least half length of corner seta (fig 23).....3
 - Preocular expansion with inner seta minute (fig 26) to short (fig 24), always less than a third length of corner seta 4
- 3 (2). Pronotal margin with 5 long, 3 short setae on each side. ♀: Tergite I with 7-8 marginal setae. ♂: Tip of penis widely expanded (fig 14) *galeritæ**
 - Pronotal margin with 6 long, 3 short setae on each side (less often only 5 long on 1 side). ♀: Tergite I with 11-13 marginal setae. ♂: Tip of penis not pronouncedly expanded (fig 13).....*psittaculæ**
- 4 (2). Preocular expansion with inner seta minute (fig 26); pronotal margin with 5 long, 3 short setae on each side.....*geoffroyi**
 - Preocular expansion with inner seta short and fine (fig 24), but not minute; pronotal margin with 6 long (less often 7), 3 short (less often 2) setae on each side..... *longipes* (Piaget)
- 5 (1). Venter of femur III and lateral portions of sternites IV-VI with brush of setae (fig 1).....6
 - Without brush of setae on venter of femur III or on any sternites (fig 5).....9
- 6 (5). Preocular expansion with 2 fine long setae of about equal length (fig 18); outer ventral spinous head process smaller, shaped as in fig 1. ♀: Prolongations of inner ventroposterior pleural corners as in fig 1. ♂: Genitalia close to fig 9 7
 - Preocular expansion with inner seta about half length of outer (fig 19); outer ventral spinous head process larger, shaped as in fig 3. ♀: Prolongations of inner ventroposterior pleural corners as in fig 3. ♂: Genitalia close to figs 6 or 10 8
- 7 (6). Gular setae 3+3. Smaller specimens, with total length, ♀ 1.44, ♂ 1.00
 - *sanfilippoï* Conci
 - Gular setae 4+4. Larger specimens, with total length, ♀ 1.70-1.72, ♂, 1.28 ...
 - *thompsoni* Emerson & Stoj.
- 8 (6). ♀: Metanotal margin with 19 setae; tergites IV-V each with fewer than 25 marginal setae. ♂: All tergites with fewer than 20 marginal setae; genitalia as in fig 6 *ciliatum* (Piaget)
 - ♀: Metanotal margin with up to 18 setae; tergites IV-V each with over 25 marginal setae. ♂: At least tergites III-V with over 20 marginal setae;

* Described as new

- genitalia as in fig 10 **aepyptodi***
- 9 (5). ♀: Over 25 marginal vulval setae (fig 17). ♂: Genitalia with prominent outwardly curved, pointed parameres (fig 8)..... **fuscirostris***
 ♀: Fewer than 20 marginal vulval setae. ♂: Genitalia with smaller, blunt parameres, not so outwardly curved.....10
- 10 (9). Preocular expansion with very short fine seta mediad to only slightly longer thicker seta (fig 20). ♀: Metanotal margin with over 20 setae. ♂: Genitalia as in fig 11 **minus (Piaget)**
 Preocular expansion with long fine corner seta and inner seta about third length of outer (fig 25). ♀: Metanotal margin with fewer than 20 setae.
 ♂: Genitalia as in fig 7.....**clayae***

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