

NEW GENERA AND SPECIES OF PSYLLIDÆ FROM THE PHILIPPINE ISLANDS¹

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One plate and 1 text figure

Professor C. F. Baker of the College of Agriculture, Los Baños, P. I., recently sent me some specimens of a very interesting psyllid which he had collected on leaves of *Ficus ulmifolia* Lam.

This species of Psyllidæ bears some resemblance to the members of the genus *Pauropsylla*, which are more or less tropical in distribution; and most, if not all, of them produce malformations on the leaves of various trees—*Ficus* among others. Several Psyllid larvæ have been mentioned as making galls on leaves of various species of *Ficus* in Java, and it is possible that the specimens before me are the adults of one of these species. However, none of these forms has been named, so that no confusion will result from assigning a name to the Philippine species.

A second collection of Psyllidæ from the Philippine Islands, sent by Professor Baker, contains some very interesting forms. There is represented in the collection one new and very interesting genus, as well as a new species of a genus described from Formosa, an interesting new species of *Pauropsylla*, and one new species of another genus, *Euphalerus*. The new species of *Pauropsylla* is especially interesting because of the light it throws upon the value of certain venational characters.

Genus **PAUROCEPHALA** novum

Body robust, surface shagreened; thorax strongly arched; head very strongly deflexed, not quite as broad as thorax; vertex convex in front, coarsely shagreened; front globosely swollen beneath antennal insertions, lobes or cones wanting; labrum large. Eyes large, globose; ocelli large, prominent, posterior pair elevated, anterior in front; antennæ longer than width of head; rostrum very long, prominent. Thorax broad; propleurites similar to those of *Pauropsylla*; metascutum with a prominent, erect, conical, tubercle dorsad. Wings hyaline, more or

¹ Proof read by C. F. Baker.

less oval in shape, rounded apically; pterostigma present. Genitalia of male simple; anal valve and claspers without processes.

Type of genus: *Paurocephala psyloptera* sp. nov.

Paurocephala psyloptera sp. nov.

Length of body, 1.7 mm.; length of forewing, 2.1 mm. Male much darker than female, almost uniformly dark reddish brown, with anterior femora and a spot above forewings yellowish; abdomen lighter; female orange to light reddish brown; antennæ, tibiæ, and eyes brown. Body sparsely and briefly pubescent.

Head greatly deflexed, almost perpendicular; vertex broader than long, surface irregular, deeply concave on occipital margin, with posterior ocelli greatly elevated, roundly convex in front; anterior ocellus large, between antennal bases; frons swollen beneath antennal insertions; labrum very large, globose from in front. Antennæ nearly twice as long as width of head, slender.

Thorax broad, strongly arched; pronotum long, ascending,

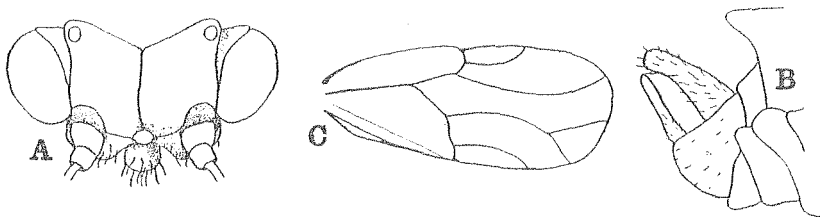


FIG. 1. *Paurocephala psyloptera* Crawford. A, head, front view; B, male genitalia; C, forewing.

longest at center; dorsulum long. Metascutum with a prominent, acute, erect, conical process dorsad. Mesosternum very large, extending far ventrad, rostrum projecting forward beneath head. Legs slender; hind legs very long; hind tibiæ very spinose. Forewings hyaline, narrowed basally, broadest subapically, broadly rounded or slightly angular on apical margin, more than two and a half times as long as broad; cubital petiole and discoidal subcosta equal in length; first marginal cell elongate, narrow, a little longer than pterostigma; second broad and large.

Abdomen long. Male: fifth tergite produced caudad over genital plate; anal valve simple, longer than claspers which are slender, arched, pubescent within. Female genitalia flexed sharply downward, rather long; both plates acute at tip, dorsal longer than ventral.

Described from 3 males and 3 females from Los Baños, P. I. (Baker, August, 1912). Collected on *Ficus ulmifolia*.

Genus *DYNOPSYLLA* novum

Body large, robust, pubescent. Head very deeply cleft in front between antennæ; vertex very deeply depressed between posterior ocelli, with a horn-like process in front of each posterior ocellus directed forward and upward; genal cones wanting; frons small, elliptical. Eyes and ocelli large. Antennæ very long, longer than body or at least as long, slender; basal segment very elongate and large, much longer than II. Thorax broad; pronotum short, much depressed below dorsulum. Legs stout and large; hind tibiæ unarmed at base, but with several very large spines at apex. Forewings membranous, very large, powerful, angulate at apex, veins heavy; venation atypical; hind wings much smaller, frenulum conspicuous.

Type of genus: *Dynopsylla cornuta* sp. nov.

This genus belongs to the subfamily Carsidarinae, being related rather closely to several genera therein, including *Carsidara*. The absence of the basal spur on the hind tibiæ, I believe, is of minor importance.

Dynopsylla cornuta sp. nov. (Plate I, figs. A, E, H, I, M.)

Length of body, 3.8 mm.; length of forewing, 4.9 mm.; width of head with eyes, 1.2 mm.; length of basal segment of antennæ, 0.5 mm.; flagellum, 5.8 mm. General color dark reddish brown; genæ, pleura, femora, tibiæ, and basal half of flagellum light brown; notum with lighter stripes. Body very large and robust; head, basal antennal segment, thorax, venter of abdomen, genital segment, legs, and wing veins with long pubescence.

Head much narrower than thorax, short, relatively small, very deeply cleft in front and above, with anterior ocellus in front at base of cleft and posterior ocelli much elevated; vertex produced into a large horn-like process in front of each posterior ocellus and closely behind antennal insertions. Frons small, elliptical, covered by genæ except around front ocellus; genæ very large, long, produced forward on inner margin of antennal insertions; clypeus small, situated far back. Eyes large. Antennæ as long as body to tip of wings, one-half longer than body alone, slender; basal segment unusually long and large, more than three times as long as II; III-VI subequal in length; VII-VIII a little shorter than preceding ones; IX-X short; terminal setæ very short.

Thorax large, stout, strongly arched; pronotum short, greatly depressed below dorsulum; metascutellum large, with 2 short cariniform processes above for supporting the wings. Legs

large, stout, relatively short, hairy; femora deeply grooved for reception of tibiae; fore and second tibiae with a fringe of stiff spines at apex; hind tibiae with 4 very large spur-like spines at apex within; tarsi very large and long.

Wings large, membranous, about two and a half times as long as broad, acute at apex, veins large, setigerous; first marginal cell very large; first cubital very short; radius touching second cubital, and latter touching second furcal; with dark bands, as shown in the figure.

Abdomen large. Male genital segment relatively small; claspers short, broader at apex than at base, rather flat; apical margin rather square; anal valve longer than claspers, constricted near apex. Female genital segment about half as long as rest of abdomen, subacute at apex, dorsal plate slightly longer than ventral.

Described from 2 males and 1 female collected at Los Baños, P. I. (Baker, December, 1912).

Pauropsylla triopectera sp. nov. (Plate I, figs. B, C, J, N.)

Length of body, 2.5 mm.; length of forewing, 3.6 mm.; width of vertex with eyes, 0.95 mm. General color dark reddish brown, vertex lighter; metapleurum, metasternum, legs, and basal half of antennae yellowish brown. Body robust, surface smooth, sparsely pubescent.

Head nearly as broad as thorax, short, deeply concavely depressed between posterior ocelli, front margin convex; vertex much broader than long; frons visible from ocellus to clypeus, narrow. Genal cones wanting. Eyes and ocelli large, prominent; antennae about as long as head and thorax combined, slender; segment IX broadened at tip, bearing a long seta apically without.

Thorax very thick dorsoventrally; mesosternum extending far down and forward; pronotum much depressed below dorsulum. Legs moderately long. Forewings large, membranous, hyaline, rhomboidal, rather square at apex, about one and two-thirds times as long as broad; venation similar to that of congeners except that the cubital petiole is wanting, as in *Trioza*.

Female genital segment nearly as long as rest of abdomen, deflexed, acute at apex, plates subequal in length.

Described from 1 female from Los Baños, P. I. (Baker).

Although this species differs from others of the genus *Pauropsylla* in one venational character which has been considered of great diagnostic importance, nevertheless I do not hesitate to in-

clude it in this genus because of the unquestionably close relationship in all other respects. In *P. depressa* Crawford the cubital petiole is very short, approaching the condition found in the present species. This is only another bit of evidence showing that too much importance has been ascribed to such venational characters.

Pauropsylla triopectera setifera var. nov.

Corresponds very closely with the species in nearly every respect except the following. Veins of forewing set with conspicuous setæ; often all of the veins setigerous, but sometimes only a part of them. Dorsum of thorax more pubescent than in the species. Claspers of male stouter and larger. Male in some cases very light colored and the female sometimes dark.

There seems to be more or less gradation in the number of setæ on the wing veins. In some specimens of the species there may be seen a very few widely scattered hairs, but usually the veins are entirely without them. However, in some specimens of the variety the number is reduced, but never to such an extent as in the species.

Described from 3 males and 4 females collected on the leaves of *Columbia serratifolia* DC.,² Los Baños, P. I. (*Baker*).

Epipsylla pulchra sp. nov. (Plate I, figs. D, G, K, O.)

Length of body, 2.3 mm.; length of forewing, 3.1 mm.; width of head with eyes, 0.93 mm. General color light reddish brown, with 2 conspicuous white stripes bordered narrowly by black extending from the tip of genal cones along vertex and notum and uniting on metascutellum; another similar short stripe from each posterior ocellus to antennal insertion; a third pair on under and outer side of cone beneath antennal insertion. Body surface covered sparsely with stiff black hairs.

Head about as broad as thorax, moderately long, somewhat deflexed; vertex fully half as long as broad between eyes, slightly depressed along each white stripe; cones only slightly longer than vertex, divergent, subacute, porrect, pubescent. Antennæ about twice as long as body without wings, very slender, segment VIII longest.

Thorax arched; propleurites very narrow, as in *Psylla*. Legs slender, wings membranous, rounded at apex, two and a third times as long as broad, light brown throughout; veins slightly setigerous; pterostigma wanting.

² Determined by Mr. E. D. Merrill.

Male genital segment moderately large; claspers slender, flattened a little distad, with a second smaller pair between them; latter more slender, shorter, flattened at apex; anal valve broad, large, somewhat longer than claspers.

Described from 1 male from Los Baños, P. I. (*Baker*).

This is apparently very closely related to *Epipsylla albolineata* Kuwayama³ from Formosa. The chief differences between the two species are: the two additional pairs of stripes in *pulchra*, size of vertex and cones, color of wings and male genitalia; only one pair of claspers is mentioned for *E. albolineata*.

Euphalerus nigrivittatus sp. nov. (Plate I, figs. F, L.)

Length of body, 2.8 mm.; length of forewing, 3 mm.; width of head with eyes, 1.1 mm. General color whitish, with a black vitta on each side of body extending from tip of cone along side of same over eye and side of thorax, the two vittæ uniting on mesonotum and extending on dorsum of abdomen; vitta continued along posterior margin of forewing around apical margin; anterior and mid tarsi black. Surface of body finely reticulated.

Head about as broad as thorax, continuing descending plane of notum, with cones about as long as broad between eyes, with a small foveal impression on each side of median line near center; cones broader than long, not deflexed nor depressed below plane of vertex, almost contiguous on inner margin, rather square on apical margin, pubescent. Antennæ about as long as body, slender.

Thorax broad, robust, somewhat arched. Propleurites rather narrow, partially concealed by the large eyes. Forewings large, hyaline, about half as broad as long, slightly rhomboidal, veins setigerous; marginal cells long; pterostigma very small; black stripe narrow on posterior margin, broader on apical and extending into radial cell.

Abdomen large. Female genital segment about half as long as rest of abdomen, rather thick, ventral plate slightly shorter than dorsal.

Described from 1 female from Los Baños, P. I. (*Baker*).

This bears some resemblance to an Indian species of this same genus, *E. vittatus* Crawford,⁴ but is much larger and differs in several characters, such as shape of forewing, antennæ, and sculpturing of vertex.

³ *Trans. Sapporo Nat. Hist. Soc.* (1907), 2, 178.

⁴ *Records Indian Mus.* (1912), 7, 423, 431.

Euphalerus citri (Kuwayama).

Diaphorina citri KUWAYAMA, Trans. Sapporo Nat. Hist. Soc. (1907),
2, 160.

Euphalerus citri (KUWAYAMA) CRAWFORD, Records Indian Mus. (1912),
7, 424.

This species is mentioned here because of its occurrence in the Philippine Islands. Many specimens were collected several years ago on *Citrus* in Luzon by Mr. George Compere. This fact is mentioned in the second article cited above. The species is probably of general distribution throughout the Orient.

ILLUSTRATIONS

PLATE I

- FIG. A. *Dynopsylla cornuta* Crawford. Forewing.
B. *Pauropsylla triozyptera* Crawford. Forewing.
C. *Pauropsylla triozyptera* Crawford. Apex of left antenna.
D. *Epipsylla pulchra* Crawford. Male claspers, rear view.
E. *Dynopsylla cornuta* Crawford. Head and prothorax, lateral view.
F. *Euphalerus nigrivittatus* Crawford. Forewing.
G. *Epipsylla pulchra* Crawford. Forewing.
H. *Dynopsylla cornuta* Crawford. Head, front view.
I. *Dynopsylla cornuta* Crawford. Tip of hind tibia and basal tarsal segment.
J. *Pauropsylla triozyptera* Crawford. Head, front view.
K. *Epipsylla pulchra* Crawford. Male genitalia, lateral view.
L. *Euphalerus nigrivittatus* Crawford. Head, dorsal view.
M. *Dynopsylla cornuta* Crawford. Male genitalia, lateral view.
N. *Pauropsylla triozyptera* Crawford. Head and prothorax, lateral view.
O. *Epipsylla pulchra* Crawford. Head, lateral view.

TEXT FIGURE

- FIG. 1. *Paurocephala psylloptera* Crawford. A, head, front view; B, male genitalia; C, forewing.



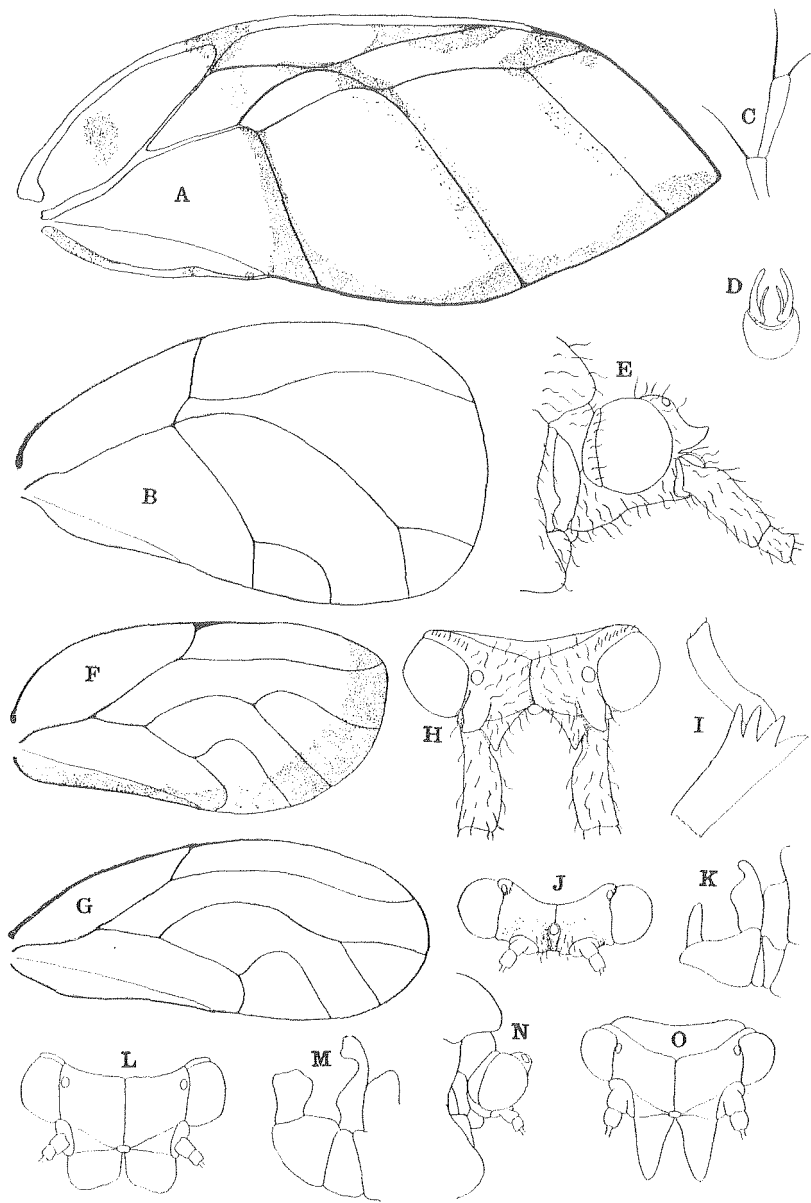
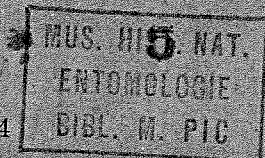


PLATE I. DETAILS OF NEW PHILIPPINE PSYLLIDÆ.

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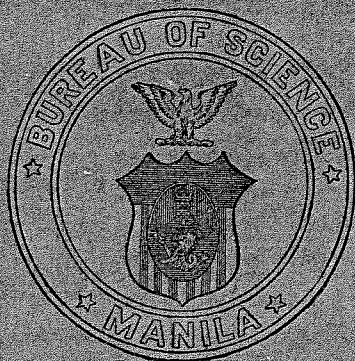
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