

A NEW GENUS AND SPECIES OF APHALARIDAE (PSYLLOIDEA, HEMIPTERA) FROM MOUNT MAKILING, LUZON ISLAND, PHILIPPINES

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ABSTRACT

A new paurocephaline genus, *Marpsylla* and its type-species, *M. baltazarae*, n. sp. are described and illustrated. Additional information on host plants, habits and key to Philippine species of *Marpsylla* are provided. The male genitalia are described and illustrated for the first time for the other two member species, namely *M. brevicephala*, n. comb. and *M. minuta*, n. comb.

Key words: Aphalaridae, Psylloidea, *Marpsylla*, *M. baltazarae*, *M. brevicephala*, *M. minuta*, *Paurocephala*

INTRODUCTION

The genera under the family Aphalaridae can be separated into two distinct groups. One is the aphalarine group consisting of genera with flat and horizontal vertex, more or less thickened forewings, and apex of proximal hind tarsal segment bearing a pair of claw-like spines. The other is the paurocephaline group, to where the genera *Paurocephala* Crawford, *Anomoterga* Klyver and the new genus herein described belong, and which is characterized by the rounded downward vertex, membranous forewing and the absence of claw-like spines on the apex of hind tarsal segment.

Crawford (1919) had greatly expanded the scope of the genus *Paurocephala*, allowing the inclusion of distantly related species. In the most recent review of the genus by Loginova (1972) only 10 of the 21 species included were retained. Of the 10, 7 occur in the Philippines. The rest were either transferred to different genera or became the type-species of newly established genera. Among the Philippine species retained by Loginova, *P. kleinhofiae* Uichanco is now with the genus *Anomoterga* (Navasero & Calilung, 1998) while *P. brevicephala* Crawford and *P. minuta* Crawford together with a new species are herein grouped under the new genus *Marpsylla* described below.

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MARPSYLLA, new genus

Type-Species: *Marpsylla baltazarae*, n. sp.

Description. Body robust. Head slightly narrower than thorax. Vertex convex in front, not much concave on occipital margin; posterior ocelli not much elevated. Genae slightly swollen beneath antennal insertions. Antennae knotty and short, much shorter than width of head, apparently 8-segmented, terminal setae long. Thorax slightly arched, broader than thick, width and length subequal; dorsal epiphysis of metascutum broad and large, subconical. Forewings somewhat thickened, semi-opaque or fumate, elongate oval, width subequal from near base to apex, rounded apically; pterostigma long and narrow. Legs short and stout, first and second hind tarsal segments subequal in length; meracanthi thick and short. Female genitalia short; dorsal valve humped near middle, apex acutely pointed and deflected outward; ventral valve much shorter than dorsal; ovipositor serrate.

Remarks. The similarity of *Marpsylla* with *Paurocephala* was evident when Crawford included *M. brevicephala* (Crawford) and *M. minuta* (Crawford) under the latter. In a revision of *Paurocephala*, Loginova (1972) retained the two species under the said genus. However, *Marpsylla* differs from *Paurocephala* as follows: antenna much shorter than width of head and apparently 8-segmented; body broader than thick and not much arched; dorsal epiphysis of pronotum large and broad, forewings not narrowed at base but thickened and fumate, pterostigma long and narrow; legs short and stout with tarsal segments of hind legs subequal, dorsal valve of female genitalia humped with tip deflected outward; ovipositor serrate; and dorsal valve very small.

The features of the female genitalia separate this genus from the rest of the Aphalaridae. The host plants of member-species are all from the plant order Malvales. *M. minuta* and *M. baltazarae* are associated with *Diplodiscus* (Tiliaceae) while *M. brevicephala* feeds on *Pterospermum* (Sterculiaceae). The Indian species referred to by Mathur (1975) as *Paurocephala* near *minuta* is obviously a *Marpsylla* and feeds on *Kydia* (Malvaceae). On the other hand, host plants of *Paurocephala* species are restricted to Ulmaceae and Moraceae of the order Urticales (Navasero, 2001).

Etymology. *Marpsylla* n. gen. is named after Ms. Marcela C. Mendoza-Navasero in deep appreciation of her invaluable assistance to this series of studies on Philippine jumping plant lice. The generic name is formed by combining the stem *Mar* from her first name and *psylla*, a common suffix among psyllid genera, both for euphony and for easy recognition as a psyllid name.

KEY TO PHILIPPINE SPECIES OF MARPSYLLA

1. Forewings fumately dark brown, with strong spinules at costal margin
..... *baltazarae*, n. sp.
Forewings fumately yellowish brown, without spinules on costal margin 2
2. R shorter than M+Cu; Rs and M smoothly curved; M_{1+2} one and one-half as long as M_{3+4} *brevicephala* (Crawford), n. comb.
R longer than M+Cu; Rs and M sinuate; M_{1+2} two times as long as M_{3+4}
..... *minuta* (Crawford), n. comb.

1. *MARPSYLLA BREVICEPHALA* (Crawford), new combination **Figure 1**

Pauropsylla brevicephala Crawford, 1917: 163 (Type: host unknown, Davao, USNM).

Paurocephala brevicephala Crawford, 1919: 150; Miyatake, 1971: 26; Loginova, 1972: 499; Hodkinson, 1983: 355.

Description. General color brown with orange or yellow markings on dorsum and pleuron of thorax. Antennae light brown, apex black. Forewings fumate with five black marginal spots, one on each apex of veins.

Head short, adpressed to thorax. Vertex twice as broad as long, rounded downward. Eyes slightly less than half the width of vertex. Anterior ocellus large; posterior pair smaller, not much elevated.

Thorax not much arched. Forewings moderately thick, R and M+Cu subequal, Rs and M smoothly curved.

Abdomen short, broader than thick. Female genitalia as follows: dorsal valve not much humped, tip deflected outward, almost perpendicular to its base; ventral valve small; ovipositor serrate. Male genitalia as follows: proctiger wedge-shaped, pointed at base, outer margin straight inner margin produced dorsocaudally, apical margin parallel to basal half of inner margin; forceps slender, slightly broader at base, curved caudally near apex; anterior and dorsal margin of subgenital plate nearly straight, caudoventral margin rounded.

Material examined. 3 males and 3 females on *Pterospermum obliquium*, University of the Philippines Los Baños (UPLB) Campus, Laguna, 02 October 1984 (M.V. Navasero, P-032).

Host plant. *Pterospermum obliquium* Blanco; *P. niveum* Vidal (Sterculiaceae).

Distribution. Endemic to the Philippines (College, Laguna; Quezon, Palawan; Davao).

Biological notes. Nymphs are free-living, They feed on the undersurface of young leaves and young stems of the host, usually attended by black ants. They are generally brown, flat and semi-circular.

Remarks. The male genitalia is here described and illustrated for the first time.

2. *MARPSYLLA MINUTA* (Crawford), new combination **Figure 2**

Paurocephala minuta Crawford, 1919: 150 (Type: host undetermined, Los Baños, USNM); Loginova, 1972: 499; Hodkinson, 1983: 355.

Diagnosis. Body light brown, legs, venter and antennae lighter. Vertex with foveal impression. Antennae short, 8-segmented, longer than width of vertex. Forewings thick, smokey light yellowish brown, with brown spots on apices of veins, R-stem longer than M+Cu-stem, Rs and M sinuate, M_{1+2} twice as long as M_{3+4} . Tip of dorsal valve of female genitalia upturned, acutely pointed and directed diagonally in relation to its base. Male proctiger sinuate at outer margin, basal and inner margin rounded; forceps slender, longer than proctiger.

Material examined. 1 male and 2 females swept from *Diplodiscus paniculatus*, UPLB Campus, Laguna, 16 November 1984 (M.V. Navasero, P-038).

Host plant. *Diplodiscus paniculatus* Turcz. (Tiliaceae), first host record.

Distribution. Endemic to the Philippines (College, Laguna).

Remarks. The male genitalia is here described for the first time. *D. paniculatus* is the first host plant recorded for this species. An Indian species referred to by Mathur (1975) as *Paurocephala* near *minuta* is indeed very similar to this species in all respects except for the shape of the female genitalia and the host plant.

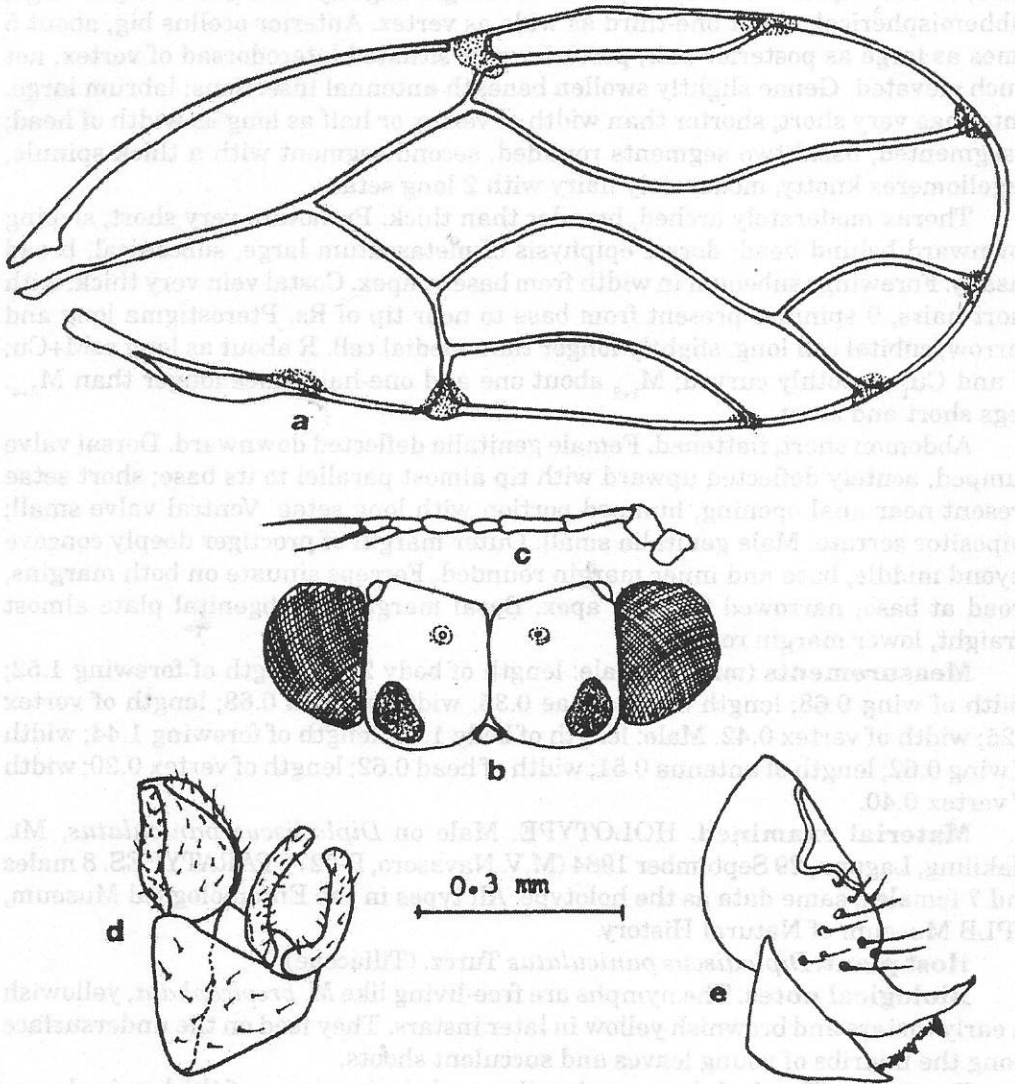


Figure 2. *Marpsylla minuta* (Crawford), n. comb.: a) forewing; b) head; c) antenna; d) male genitalia; e) female genitalia.

3. *MARPSYLLA BALTAZARAE*, new species

Figure 3

Description. General color dark brown. Forewings fumately dark brown. Head slightly narrower than thorax. Vertex about twice as long as wide, rounded downward, foveal impression absent, posterior margin slightly emarginate. Eyes large, subhemispherical, about one-third as wide as vertex. Anterior ocellus big, about 5 times as large as posterior pair, posterior pair situated laterodorsad of vertex, not much elevated. Genae slightly swollen beneath antennal insertions; labrum large. Antennae very short, shorter than width of vertex or half as long as width of head; 8-segmented, basal two segments rounded, second segment with a thick spinule, flagellomeres knotty, moderately hairy with 2 long setae.

Thorax moderately arched, broader than thick. Pronotum very short, sloping downward behind head; dorsal epiphysis of metascutum large, subconical, broad basally. Forewings subequal in width from base to apex. Costal vein very thick, with short hairs, 9 spinules present from base to near tip of Rs. Pterostigma long and narrow; cubital cell long, slightly longer than medial cell. R about as long as M+Cu; M and Cu₁ smoothly curved; M₁₊₂ about one and one-half times longer than M₃₊₄. Legs short and stout.

Abdomen short, flattened. Female genitalia deflected downward. Dorsal valve humped, acutely deflected upward with tip almost parallel to its base; short setae present near anal opening, humped portion with long setae. Ventral valve small; ovipositor serrate. Male genitalia small. Outer margin of proctiger deeply concave beyond middle, base and inner margin rounded. Forceps sinuate on both margins, broad at base, narrowed towards apex. Basal margin of subgenital plate almost straight, lower margin rounded.

Measurements (mm). Female: length of body 2.00; length of forewing 1.52; width of wing 0.68; length of antennae 0.35; width of head 0.68; length of vertex 0.25; width of vertex 0.42. Male: length of body 1.90; length of forewing 1.44; width of wing 0.62; length of antenna 0.51; width of head 0.62; length of vertex 0.20; width of vertex 0.40.

Material examined. HOLOTYPE. Male on *Diplodiscus paniculatus*, Mt. Makiling, Laguna, 29 September 1984 (M.V. Navasero, P-027). PARATYPES. 8 males and 7 females, same data as the holotype. All types in the Entomological Museum, UPLB Museum of Natural History.

Host plant. *Diplodiscus paniculatus* Turcz. (Tiliaceae).

Biological notes. The nymphs are free-living like *M. brevicephala*, yellowish in early instars and brownish yellow in later instars. They feed on the undersurface along the midribs of young leaves and succulent shoots.

Remarks. The dark brown coloration and the presence of thick spinules on antennae and costal margins of forewings separate this new species from the other two members of the genus.

Etymology. The species is named for Dr. Clare R. Baltazar, National Scientist and retired University Professor at the Department of Entomology, College of Agriculture, University of the Philippines Los Baños.

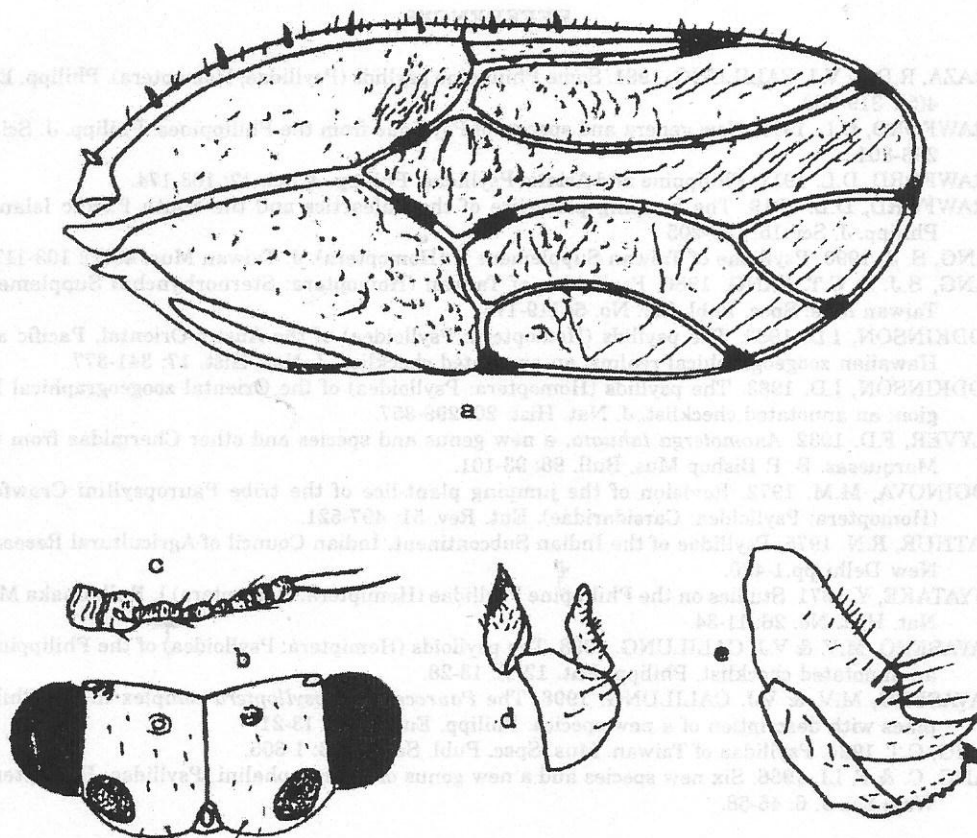


Figure 3. *Marpsylla baltazarae*, n. sp.: a) forewing; b) head; c) antenna; d) male genitalia; e) female genitalia

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