

REDESCRIPTIONS OF THREE ORIENTAL SPECIES OF
BRACHYMERIA WESTWOOD (HYMENOPTERA: CHALCIDIDAE)

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This paper contains the redescrptions of three oriental species of *Brachymeria* Westwood from the collections of the British Museum (Natural History), London, and the Faculty of Entomology, Tamil Nadu Agricultural University, Coimbatore. The available descriptions of these species have been found to be inadequate. *B. fulvitarsis* Cameron and *B. semirufa* Walk have been returned to the British Museum (Natural History), London, and *B. nursei* Cameron is deposited in the Faculty of Entomology, Tamil Nadu Agricultural University, Coimbatore.

1. *Brachymeria fulvitarsis* Cameron (Figs. 1-5)

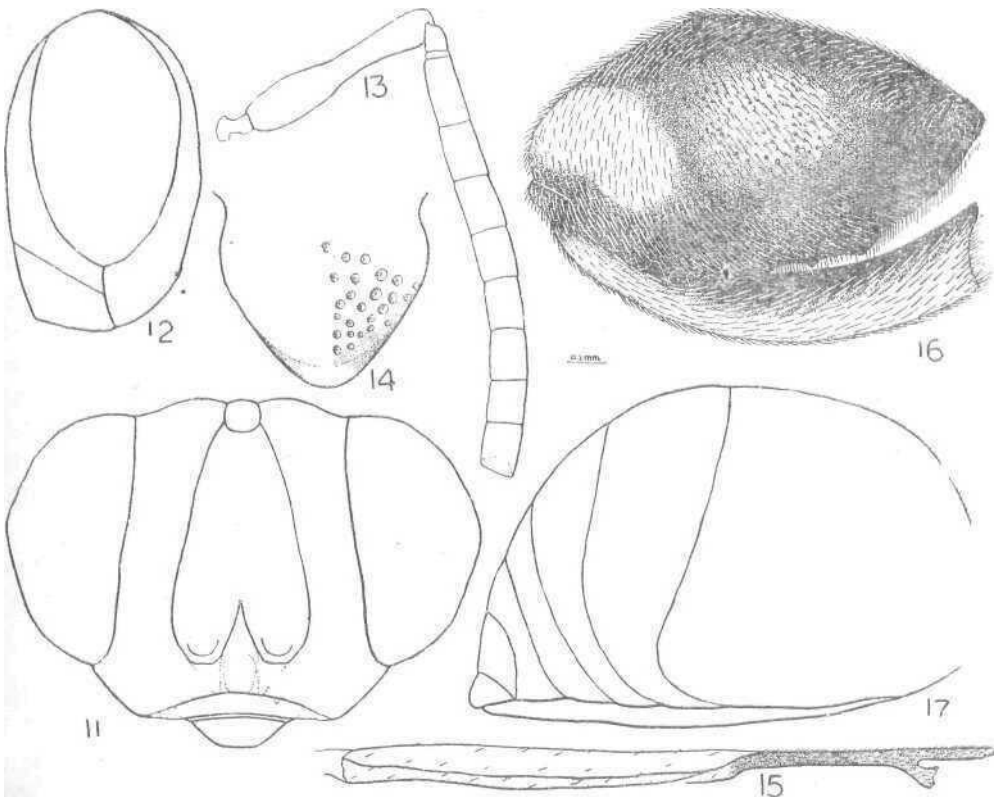
Male. Length: 3.7 mm. black; tegulae yellow; coxae, trochanters and femora black except the apices of femora which are rufo-fulvous. Fore and mid tibiae rufo-fulvous at the base and apex and brownish-black in the middle; tarsi rufo-fulvous. Hind tibia with a sub basal yellow spot and an apical yellow patch; rest of the portions brownish black; tarsi brownish-yellow; pubescence sparse and white.

Head (Fig. 1) a little wider than thorax, hardly a little less than one and one-third as wide as long; surface of head deeply pitted with the interspaces rugose. Scrobe deep, slightly rugose; the maximum width of scrobe a little less than two-thirds the interocular distance at the level of the lateral ocelli, attaining the front ocellus. Length of scrobe a little less than one and two-thirds its maximum width; parascrobal space a little more than one-third the width of scrobe. Length of eye (Fig 1) a little more than two and a half times its width; median ocellus slightly larger than lateral; the distance between median and lateral ocelli a little more than one-third the interocellar distance; interocular space a little more than two and a half times the interocellar distance; interocellar distance a little less than three times the ocellular distance. Width of clypeus a little less than five times its median length; width of labrum a little less than two and a half times its median length; width of ocellar area about three-fourths that of the interocular distance; interocellar distance two and one-fifth the maximum diameter of the lateral ocellus. Pre-orbital carina present, which becomes abbreviated near the malar ridge; postorbital carina well developed and reaches the genotemporal margin. Frons with distinct, deep punctures;

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Fore wing a little less than three times as long as wide; pubescence sparse in the basal one-fourth and close in the rest of the wing membrane; marginal vein (Fig. 15) a little less than half the submarginal, a little less than three times the stigmal. Hind coxa on outer side with punctures and pubescence; interspaces of punctures broad, smooth and shiny. Inner side of hind coxa with fewer punctures and pubescence. Hind femur (Fig. 16) about one and three-fourths as long as wide, with distinct shallow punctures and pubescence on its outer side; inner side with fewer punctures and pubescence and without an inner tooth. Outer ventral margin with a row of 10 to 11 black teeth (Fig. 16).

Abdomen (Fig. 17) a little longer than the combined length of pronotum, mesoscutum and scutellum, a little over one and a half times its own height; first tergite smooth and shiny except on the sides where three



Figs. 11-17. *Brachymeria nursei* Cameron. 11. head 12. head: lateral view 13. antenna 14. scutellum dorsal view 15. fore wing venation 16. hind femur and tibia 17. abdomen: lateral view

the dorsal region. Tarsus dark-brownish. The temples, sides of face, apex of scutellum and the metapleurae densely covered with long silvery pubescence. Flagellum opaque, covered with white pubescence.

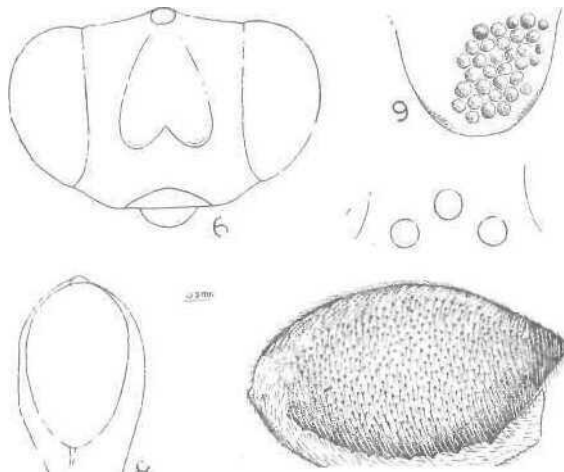
Head (Fig. 11) wider than thorax, more than one and one-fourth its length; surface of head with distinct rounded pits and interspaces of pits rugose. Scrobe deep, smooth and shiny; the maximum width of scrobe about three-fourths the interocular space at the level of lateral ocelli, attaining the front ocellus; length of scrobe about one and three-fourths its maximum width; parascrobal space a little less than half the width of scrobe. Length of eye hardly a little over two times its median length (Fig. 11). Median ocellus larger than lateral; the distance, between median and lateral ocelli a little over one-third the interocellar distance; interocular space a little less than two and three-fourths the interocellar distance; interocular distance a little less than four times the ocellocular distance. Width of clypeus a little more than six times its median length; width of labrum three times its median length; width of ocellar area about three-fourths the interocular space; interocellar distance a little over two times the maximum diameter of the lateral ocellus. Frons without pre-orbital carina; postorbital carina present and reaching the genotemporal margin (Fig. 12) area below scrobe with a broad, shiny, raised, smooth plate; lateral ridges of scrobe not produced in front of the antennal toruli; small, smooth, glabrous areas present below the antennal sclerites; basal half of mandibles closely punctured, apical part smooth and brown; inter-antennal projection moderately long; height of malar space (Fig. 11) about one-third the height of eye; front genal angle slightly acute; hind genal angle slightly obtuse and almost rectangular. Antenna (Fig. 13) not stout; scape not exceeding the front ocellus, longer than the combined length of segments four to six, well dilated before base; pedicel a little longer than wide; ring-segment three times as wide as long; fourth segment a little over two times as long as wide; fifth and sixth segments sub-equal and shorter than fourth; seventh shorter than sixth; eighth shorter than seventh and equal in length to ninth; tenth shorter than ninth, a little more than half the club: width slightly increasing from segment four to seven; seven to ten almost of equal width.

Thorax with small, round pits (Fig. 14). On the pronotum and on the anterior part of the mesoscutum the pits are close; in rest of the portions of the mesoscutum, scapulae and scutellum, the interspaces are broad, sometimes broader than the diameter of the pits; interspaces of pits smooth and shiny on the mesoscutum, scapulae and scutellum, rugose on pronotum. Mesoscutum a little over one and a half times as wide as long; scutellum (Fig. 14) wider than long, moderately high in lateral view, gently declined posteriorly, apical margin explanate and rounded off (Fig. 14).

REDESCRIPTION OF THREE SPECIES OF BRCHYMERIA

Trang, Coll. C. M. Yoshimoto on 30.XI-5.XII. 60. Det: by K. J. Joseph *et al* on 1-2-71 from the collections of Bishop Museum, Honolulu,

Affinites: *Brachymeriasemirufa* Walk. shows resemblance to *B croceogastralis* Joseph *et al* in the following characters: (i) preorbital carina absent (ii) punctures on the thorax close and interspaces between the punctures narrow (iii) colour of the body almost similar. But *B croceogastralis* can be distinguished by the presence of: (i) emarginate apex of scutellum (ii) postorbital carina more strongly developed and not branched as in *B semirufa* Walk (iii) basal tooth of hind femur comparatively longer than that of *B semirufa* (iv) width of head a little more than the width of thorax in *B croceogastralis*.



Figs. 6-10. *Brachymeria semirufa* Walk. 6. head 7. vertex: dorsal view 8. head: lateral view 9. scutellum: dorsal view 10. hind femur and tibia

3 *Brachymeria nursei* Cameron (Figs. 11-17)

Female: Length 4.26-5.11 mm. Black; tegalae whitish-yellow. Fore and midcoxae black; trochanters and femora brownish black except the distal ends of femora which are whitish-yellow; tibiae whitish-yellow with pale brownish colouration medially on the inner side; tarsi brownish-yellow with the tip brownish. Hind coxa, trochanter and femur black, except the distal end of femur which is whitish-yellow; tibia yellow with the base brownish-black. This brownish-black colouration extends to the distal region on the ventral margin and slightly to the middle region towards

shagreened, sixth tergite with three transverse rows of almost rounded pits; the basal row with about sixteen pits, the middle row with about twelve pits and the apical row with about nine pits.

Specimen examined. 1- male Coll. No. B. M. 1957-24 on pin, Pakistan: Karachi, Coll. S. Mahdihassan in 1955 from Lac insect. Determined by Z Boucek 1970.

Affinities: *Brachymeria fulvitaris* (Cameron) shows close resemblance to *B. tachardiae* (Cameron) in the following characters: (i) in the presence of pre and postorbital carinae (ii) in having almost similar colouration. But *Brachymeria tachardiae* differs from *B. fulvitaris* in the following characters: (i) *B. tachardiae* has dense pubescence (ii) the apex of the femora, base and apex of the tibiae and the tarsi are yellowish-white in *B. tachardiae* (iii) abdomen not quite as long as the thorax in *B. tachardiae* (iv) postorbital carinae more strongly developed in *B. fulvitaris*.

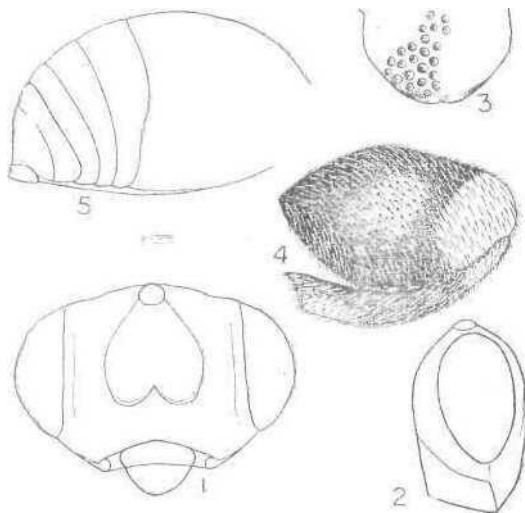
2. *Brachymeria semirufa* Walk. (Figs. 6-10).

Female: Length 3.7 mm. Black: tegulae pale yellowish with yellowish-brown basal region. Fore coxa and trochanter brownish-black; femur blackish-brown except the tip which is pale yellow; tibia pale yellow with a pale brown colouration on the inner middle region; tarsus pale yellow. Mid coxa brownish-black. femur blackish-brown except the tip which is pale yellowish; tibia pale yellowish with a pale brownish colouration on the inner middle portion; tarsus pale yellow. Hind coxa blackish-liver brown; trochanter brownish-black; femur hepaticolour or sometimes blackish except the tip which is pale yellow; tibia pale brownish-yellow with the base blackish-brown which extends on the ventral aspect to the distal end with a slight extension in the middle to the dorsal region; tarsus pale yellowish. Abdomen reddish. Pubescence dirty white, dense on face and moderate in other regions.

Head (Fig. 6) width a little less than that of thorax, a little more than one and one-third its length; surface of head mostly with rounded close pits, interspaces of the pits rugose and carinate. Scrobe deep, smooth; the maximum width of scrobe about three fifths the interocular space at the level of hind ocelli; its distal end separated from front ocellus by narrow rugose area. Length of scrobe one and one-third its maximum width; parascrobal space one-third the width of scrobe. Length of eye (Fig. 6) a little more than twice its width; median ocellus (Fig. 7) slightly larger than lateral; the distance between median and lateral ocelli a little less than half the interocellar distance; interocular space

region below scrobe with punctures and a small smooth area in the middle; inter-antennal projection moderate; lateral ridges of scrobe slightly produced in front of the antennal toruli (Fig. 1); height of malar space more than one-third the height of eye; front genal angle slightly acute; hind genal angle almost rectangular (Fig. 2). Antenna with minute dirty-white pubescence; scape not exceeding the front ocellus.

Thorax with rounded, umbilicate pits (Fig. 3) with the interspaces between the pits in some cases as broad as the diameter of the pits and in others half as broad as the diameter of pits. Mesoscutum two-thirds as wide as long; width of scutellum a little more than its length, gently declined posteriorly, apical margin explanate, slightly emarginate with sparse pubescence. Fore wing a little less than thrice as long as wide; pubescence sparse in the basal one-fourth and close in the rest of the wing membrane; marginal vein a little less than half the submarginal; postmarginal hardly a little less than one-third the marginal, about twice the stigmal. Hind coxa on outer side with punctures and with smooth inner side. Hind femur (Fig. 4) a little less than twice as long as wide, outer side with faint sparse punctures, and interspaces between the punctures wide. Inner side of hind femur with less sparse punctures and without a tooth; outer ventral margin with a row of eleven teeth (Fig. 4).



Figs. 1-5. *Brachymeria fulvitorsis* Cameron. 1. head 2. head: lateral view 3. scutellum, dorsal

Abdomen (Fig. 5) distinctly longer than the combined length of pronotum, mesoscutum and scutellum, highest in the middle, one and three-fourths as long as wide. First tergite smooth, second tergite faintly

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are punctures and pubescence; second tergite with distinct punctures on the baso dorsal and lateral areas; lateral sides with pubescence: rest of the dorso-median and distal portions with fine microsculptures; sixth tergite with about 9 transverse rows of pits, each row with several pits, the pits often being indistinct because of pubescence. Ovipositor sheath slightly or not visible from above.

Male: Length 4.32 mm. Resembles the female in all respects except that the length of the abdomen is equal to the length of the thorax in the male; sixth tergite with about seven or eight transverse rows of pits, each row with several pits.

Specimens examined. 1 female, Coll. No. G. U. 1013 on pin, its antenna and fore wing on slide No. 1013a and hind leg on slide No. 1013b India, Coimbatore, Coll. C. K. S. (Full Name unknown) on 15-12-1939 from, *Simplica robustalis*; 1 male, Coll. No. C. U. 1018 0,1 pin, India, Tindivanam, Coll. M. Basheer on 4-3-1941 from pupa on Groundnut; 5 female on pins, Coll. No. C. U. 1014, 1016, 1017 India, Tindivanam on pupa on Groundnut, Coll. M. Basheer. Coll. No. 1015 India, Coimbatore, Coll. C. K. S. from *Simplica robustalis*.

Affinities: *Brachymeria euploae* West seems to be allied to *B. nursei* Cameron on account of the following features: (i) pre-orbital carina absent; (ii) colouration almost similar; (iii) apex of scutellum not bidentate; (iv) pubescence dense and silvery; (v) area below scrobe with median raised smooth portion. But *B. euploae* West can be distinguished from *B. nursei* Cameron in having the following characters: (i) there is a tooth on the hind coxa of female in *B. euploae* West.; (ii) pits on the thorax are close and interspaces of pits narrow in *B. euploae* West.; (iii) lateral ridges of scrobe not produced in front of the antennal toruli in *B. nursei* Cameron; (iv) ovipositor sheath well visible from above in *B. euploae*,

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