

REVISION OF THE GENUS *NOTUCHUS* FENNAH (HOMOPTERA: FULGOROIDEA: DELPHACIDAE)

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Abstract

The genus *Notuchus* is redescribed. A key to all species of *Notuchus* and illustrated descriptions of *N. rotundifacies* sp. n., *N. kurandae* sp. n. and *N. palmerstonensis* sp. n. are given. These are the first species of the genus recorded from the Australian mainland.

Introduction

Fennah (1969) erected the genus *Notuchus* for a remarkable asiracine delphacid collected in New Caledonia at an altitude of 450-550 m which he described as *N. risioides*. A second species, *N. monticola* Fennah, 1973, was collected in moss from the summit of Mt Gower, Lord Howe Island. In describing this species, Fennah broadened the genus to accommodate both species.

Notuchus Fennah

Notuchus Fennah, 1969:32. Type-species *Notuchus risioides* Fennah, 1969:32-33.

Form ovate, nearly twice as long as broad. Head in profile acutely angulate. Vertex broader than long, widest adjacent to anterior margins of eyes, a pair of anterolateral carinae leaving lateral margins adjacent to eyes meeting at apex, Y-shaped carina present, anterior part sometimes faint, marginal carinae terminating near apex below level of anterolateral carinae, posterior margin transverse and carinate. Frons with length in midline equal to or slightly longer than greatest width, widest adjacent to lower level of antennal bases, a pair of sublateral carinae closely approximated to lateral margins uniting with marginal carinae near base, median carina absent, a pair of mediolateral carinae uniting at base with anterolateral carinae of vertex, area between mediolateral carinae raised above lateral areas; clypeus tricarinate; rostrum long, much surpassing hind trochanters; ocelli absent; antennae attaining level of middle of clypeus with segments subequal, segment 1 at least twice as long as greatest width with a dorsal longitudinal ridge, segment 2 subequal to or slightly longer than segment 1. Pronotum much wider than head, anterior margin between eyes transverse or nearly so, posterior margin shallowly concave, lateral lobes extending laterad almost horizontally, disc tricarinate, lateral carinae curved laterad not attaining hind margin, each compartment of median disc and each lateral lobe with an impression. Mesonotum tricarinate, about twice as broad as long, lateral carinae straight, diverging posteriorly, attaining hind margin. Hind tibia laterally trispinose with four large apical spines and a small central apical spine, spur subulate; basal metatarsal segment longer than remaining segments with four apical spines and a subapical spine. Tegmina brachypterous not attaining posterior margin of tergite 4, coriaceous, subquadrate, apical margin transverse or nearly so, costal margin strongly inflected, venation coarse, reticulate, hind wings absent. Abdomen with terga medially carinate, terga 4-7 with a pair of mediolateral carinae.

Notes

This genus is most clearly distinguished from other asiracine genera by the brachypterous tegmina, the sublateral carinae of the frons, the horizontally extending lateral lobes of the pronotum and the presence of an impression in each lateral lobe and in each compartment of the median disc of the pronotum.

Key to species of *Notuchus*

1. Length of vertex anterior to eyes more than twice the length of an eye **monticola** Fennah
 Length of vertex anterior to eyes less than the length of an eye (Fig. 4) 2
2. Length of frons about one and a half times the greatest width of median area between mediolateral carinae (Fig. 3) . . . **rotundifacies** sp. n.
 Length of frons about twice the greatest width of median area between the mediolateral carinae (Fig. 7) 3
3. Median area of frons oval in shape; mediolateral carinae curved inwards to meet apical margin of frons near midpoint (Fig. 7) **kurandae** sp. n.
 Median area of frons triangular in shape; mediolateral carinae only slightly curved at apex, meeting apical margin of frons about midway between midpoint and outer end (Fig. 13) 4

4. Lateral carinae of frons forming a continuous even curve in apical half **palmerstonensis** sp. n.
 Lateral carinae of frons angulate adjacent to lower edge of antennal bases, not forming a smooth curve **risioides** Fennah

Notuchus risioides Fennah

Notuchus risioides Fennah, 1969:32-33.

Type.—*Holotype* ♂, labelled "New Caledonia, Col des Roussettes, 450-550 m, 4-6.ii.1963, J. L. Gressitt", in B. P. Bishop Museum, Honolulu. Type examined.

Notes

N. risioides is the only species of the genus found outside Australia.

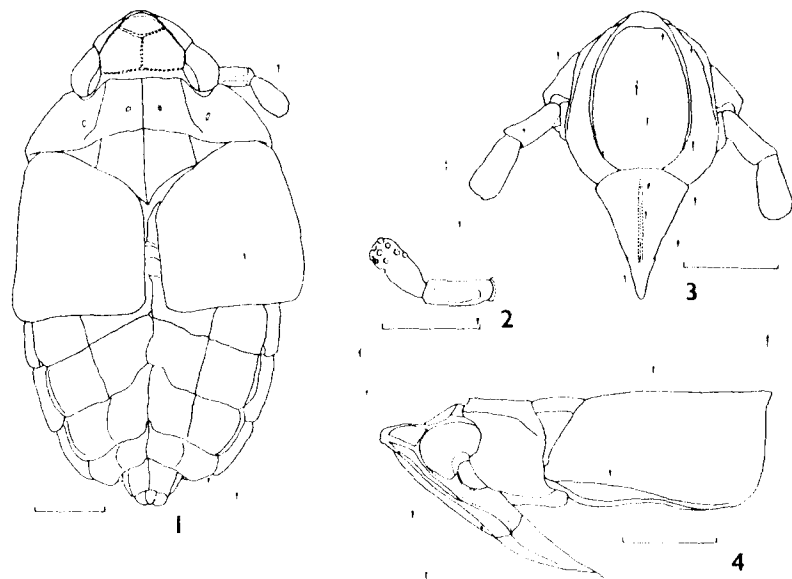
Notuchus monticola Fennah

Notuchus monticola Fennah, 1973:266.

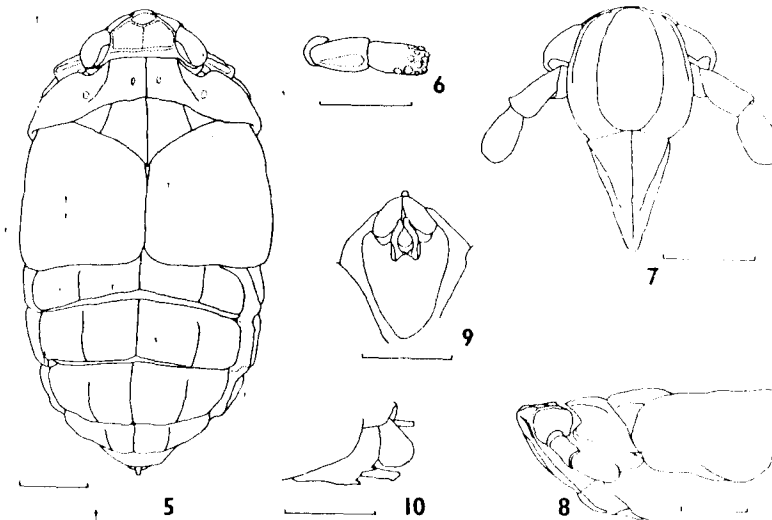
Type.—*Holotype* ♂, labelled "Summit of Mt. Gower, Lord Howe Island, in moss, July 1971, J. Disney", in Australian Museum, Sydney. Type examined.

Notes

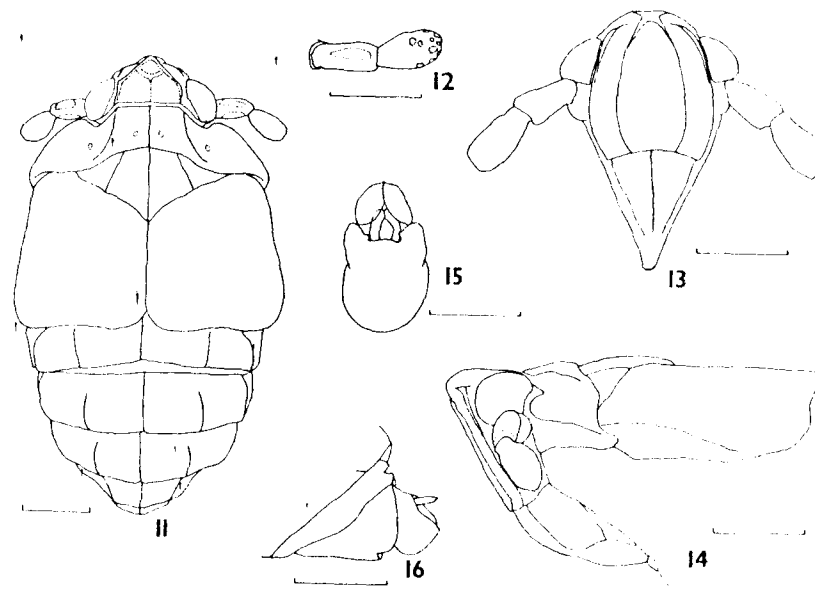
Although this species appears to lack the anterolateral carinae of the vertex, a careful examination revealed that the apparent marginal carina is actually the anterolateral carinae. This arises from what could have been an elongation of the vertex posterior to the anterolateral carinae. This elongation has moved the anterolateral carinae forward into an apparent marginal position. A corresponding elongation of the median area of the frons has resulted. The true marginal carinae can still be seen below the anterolateral carinae as the apparent incurved ends of the lateral carinae of the frons, terminating below the anterolateral carinae near the apex.



FIGS 1-4 *Notuchus rotundifacies* sp. n.: (1) dorsal view of body; (2) antenna; (3) frons and clypeus; (4) head, pronotum, mesonotum and tegmen, lateral view (scale = 0.5 mm).



FIGS 5-10 *Notuchus kurandae* sp. n.: (5) dorsal view of body; (6) antenna; (7) frons and clypeus; (8) head, pronotum, mesonotum and tegmen, lateral view; (9) male genitalia, ventral view; (10) male genitalia, lateral view (scale = 0.5 mm).



FIGS 11-16 *Notuchus palmerstonensis* sp. n.: (11) dorsal view of body; (12) antenna; (13) frons and clypeus; (14) head, pronotum, mesonotum and tegmen, lateral view; (15) male genitalia, ventral view; (16) male genitalia, lateral view (scale = 0.5 mm).

***Notuchus rotundifacies* sp. n.** (Figs 1-4)

Type.—*Holotype* ♂, labelled "Leo Creek Road, ca. 500 m, Mellraith Range, 30 km N.E. of Coen, N. Qld., June 29-July 4, 1976, G. B. & S. R. Monteith", in Queensland Museum, Brisbane (T7889).

Vertex broader than long (1.3:1), widest just anterior to eyes, lateral margins adjacent to eyes elevated, posterior margin transverse, anterolateral carinae present from middle of lateral margins to apex, marginal carinae terminating near apex slightly below anterolateral carinae, disc with broad carinae adjacent to posterior margin, Y-shaped carina faintly present. Frons only very slightly longer in midline than broad, broadest about one-fifth from apex just below antennal bases, sublateral carinae present joining marginal carinae of vertex, a pair of medio-lateral carinae positioned about one third of distance from lateral margin to midline, length of frons in midline about 1.5 times greatest width between mediolateral carinae; antennae with segment 1 longer than broad (2.6:1), longitudinal ridge on dorsal surface; segment 2 slightly longer than segment 1 (1.15:1), slightly expanded apically. Pronotum with inner pair of impressions more distinct than outer pair. Hind legs with tibia 1.5 times length of femur, tibia about 2.5 times as long as tarsal segment 1. Tegmen subquadrate, not attaining posterior margin of abdominal tergite 4, apical and anal angles broadly rounded, venation irregular, coarsely reticulate, no longitudinal veins or claval suture discernible. Abdominal tergites strongly carinate along midline, tergites 4-7 with mediolateral carinae, ovipositor not surpassing tip of abdomen. Length 3.4 mm, length of tegmen 1.2 mm.

Frons almost black; clypeus except for small longitudinal median area, genae, dorsal flattened areas of antennal segment 1, coxae, femora, ovipositor and abdomen ventrally except for pale areas along lateral margins, dark brown; tibiae, tarsi and dorsal surfaces pale brown except for darker patches on and along lateral and posterior margins of abdominal tergites.

***Notuchus kurandae* sp. n.** (Figs 5-10)

Type.—*Holotype* ♂, labelled "Qld., Kuranda, Black Mt. Rd., 390 m, 22/6/71, Taylor & Feehan, Berlesate ANIC 329, rainforest 14.46 × 145.36", in Australian National Insect Collection, CSIRO, Canberra.

Vertex broader than long (1.6:1), widest adjacent to anterior margins of eyes, apex broadly rounded, lateral margins adjacent to eyes elevated, posterior margin transverse and carinate, anterolateral carinae present from slightly anterior of midpoint of lateral margins to apex, marginal carinae terminating near apex slightly anterior to and below anterolateral carinae, disc with Y-shaped carinae strong. Length of frons in midline equal to greatest width, broadest adjacent to lower edges of antennal bases, sublateral carinae present from just below antennal bases and meeting marginal carinae about one third from inner ends, a pair of medio-lateral carinae positioned about halfway between lateral margin and midline, apical ends curving inwards to meet apical margin close to midpoint, length of raised median area about twice greatest width; antennae with segment 1 longer than broad (2.1:1), longitudinal ridge on dorsal surface; segment 2 subequal in length to segment 1, expanded apically. Pronotum with inner pair of impressions much more distinct than outer pair. Hind legs with length of tibia about one and a third times length of femur. Tegmen subquadrate, reaching about halfway across abdominal tergite 4, posterior margin very slightly concave, venation coarsely reticulate with some apparent longitudinal veins discernible, claval suture not discernible. Abdominal tergites 4-7 strongly carinate medially with a pair of mediolateral carinae, tergite 8 only weakly carinate.

Anal segment of male about as long as broad, collar-like. Pygofer with lateral angles acute and produced, ventral margin broadly and roundly produced. Genital styles in ventral view widest at base, smoothly curving outwards in basal half and smoothly curving inwards in apical half meeting just basal of apex with apices recurved outwardly, outer margin concave near base and apex. Length 3.3 mm, length of tegmen 1.0 mm.

Frons dark brown, slightly lighter towards base, lateral areas with diffused pale areas; antennal segment 1 with ventral surface and dorsal flattened areas dark brown, rest light; segment 2 lighter brown with pale sensoria and a pale oblique stripe in basal third; basal part of clypeus, ventral surface of pronotum, pro- and mesothorax, bases of coxae dark brown; legs light brown; ventral surface of abdomen except for sublateral pale areas dark reddish brown; vertex, pronotum and mesonotum light with a few dark patches; tegmen dark with lighter veins; abdominal tergites dark with light areas around carinae and along posterior margin; pygofer pale.

***Notuchus palmerstonensis* sp. n.** (Figs 11-16)

Type.—*Holotype* ♂, labelled "Qld. 320 m, Crawford's Lookout, 5/vii/1971, Berlesate ANIC 361, rainforest, Taylor & Feehan", in Australian National Insect Collection, CSIRO, Canberra.

Vertex broader than long (1.5:1), widest at anterior edges of eyes, apex acutely rounded, lateral margins posterior to anterolateral carinae raised, posterior margin transverse and slightly carinate, anterolateral carinae strong with anterior third angled slightly downwards in lateral view, marginal carinae slightly curved terminating below anterolateral carinae near apex, Y-shaped carinae strong, area between upper arms of carina deeply concave. Frons slightly longer in midline than broad, broadest about lower level of antennal bases, sublateral carinae present from level of upper edges of antennal bases to midpoint of marginal carinae of vertex, medio-lateral carinae situated approximately halfway between lateral margins and midline, apical ends curving inwards slightly to meet apical margin about halfway from midpoint to outer end, length of frons in midline about twice greatest width of raised median area; antennae with segment 1 longer than wide (1.9:1), upper surface with longitudinal ridge, segment 2 slightly expanded apically. Pronotum with both pairs of impressions equally distinct. Hind legs with tibia about one and a half times length of femur, tibia about 2.6 times as long as tarsal segment 1. Tegmen subquadrate, reaching to about halfway across

abdominal tergite 4, apical and anal angles rounded, posterior margin concave, venation irregular, coarsely reticulate, no longitudinal veins or claval suture discernible. Abdominal tergites 4-8 strongly carinate in midline, mediolateral carinae strong on tergites 4-7, weak on tergite 8.

Anal segment of male about as broad as long, collar-like. Pygofer with lateral angles slightly produced, ventral margin with a median shallowly rounded lobe. Genital styles in ventral view evenly curved from base to apex, apex evenly rounded. Length 3.4 mm, length of tegmen 1.0 mm.

Uniformly light brown except for darker frons with a few indistinct spots, a few dark patches on pro- and mesothorax, basal part of fore coxae, small longitudinal dark areas near lateral edges of abdominal sternites and a dark band adjacent to posterior margin of mesonotum.

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References

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