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NEW AUSTRALIAN MEMBRACIDAE (HOMOPTERA).

By

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(Pl. xxvi.)

Through the courtesy of the Trustees of the Australian Museum the writer has had the privilege of studying a small collection of Membracidae from Australia and the neighbouring islands with the result that the following new species may be described.

EMPHUSIS BICORNIS, *sp. nov.*

(Pl. xxvi, figs. 1-2.)

Near *E. bakeri* Funkh. but differing particularly in the shape and position of the pronotal horns.

Large, rough, purplish-brown with yellowish pubescence; pronotum high and bearing at its summit a pair of horns which extend outward and curve downward; posterior process decurved and extending almost to apices of tegmina; tegmina purplish-brown with base narrowly punctate; undersurface brown with sides of thorax densely tomentose.

Head about as wide as long, very dark brown, finely punctate, sparingly pilose, roughly sculptured; base regularly arcuate; eyes large, brown; ocelli large, white, about equidistant from each other and from the eyes and situated on a line drawn through centres of eyes; clypeus twice as long as wide, extending for more than half its length below inferior margins of genae, tip acute and pubescent.

Pronotum purplish-brown; roughly punctate, sparingly pubescent; metopidium twice as high as broad, arising straight above the head; humeral angles large, prominent, acute; suprahumeral horns arising from top of metopidium, extending outward and curving downward, flattened dorso-ventrally, irregularly ridged above, tips sharp; median carina percurrent; a sordid yellow tomentose line on each side extending from front base of horn to behind eye and another from posterior base of horn to scutellum; scutellum narrowly exposed; posterior process long, slender, decurved, impinging on tegmina, tricarinate, tip sharp and extending almost to apices of tegmina.

Tegmina long, narrow, purplish-brown; base narrowly darker and punctate; veins prominent; five apical and two discoidal cells.

Undersurface, abdomen, and legs entirely brown; sides of thorax densely tomentose.

Length from front of head to tips of tegmina 10 mm.; width between tips of suprahumeral horns 9 mm.

Type.—Male.

Type locality.—Elenagora, British New Guinea.

Collector.—Dr. E. O. Pockley.

Described from one male and one female, the male labelled "Elenagora, Brit. N. Guinea. 18.10.'21. E. O. Pockley" and the female labelled "Koitaki, Brit. N. Guinea. 5-12. 5.'21. E. O. Pockley." Type and allotype in Australian Museum collection.

CENTROTYPUS NIGRIS, *sp. nov.*

(Pl. xxvi, figs. 3-4.)

Small, black, punctate, pubescent; eyes white with brown centers; suprahumeral horns short, broad, flat, extending outward and slightly upward; posterior process short, tectiform, reaching just to internal angles of tegmina; tegmina smoky-hyaline; sides of thorax pilose; undersurface and legs black.

Head subquadrate, convex, broader than long, black, finely punctate, sparingly pubescent; base sinuate; eyes white with brown centers; ocelli white, glassy, about equidistant from each other and from the eyes and situated somewhat above a line drawn through centres of eyes; clypeus longer than broad, deflexed, extending for more than half its length below inferior margins of genae, tip truncate and pilose.

Pronotum black, finely punctate, sparsely pubescent; metopidium broader than high, slightly convex; median carina strongly percurrent; humeral angles small, blunt, closer to the horns than to the eyes; suprahumeral horns short, not as long as the distance between their bases, flattened dorso-ventrally, extending outward and upward, anterior margin curved, posterior margin straight, tip acute; posterior process short, heavy, tectiform, tip sharp and reaching just to internal angles of tegmina; scutellum well exposed, about as broad as long.

Tegmina smoky-hyaline; base black, opaque and punctate; veins prominent, brown, spiny; apical limbus narrow; five apical and two discoidal cells.

Sides of thorax tomentose; undersurface, abdomen, and legs black.

Length from front of head to tips of tegmina 5.5 mm.; width between tips of suprahumeral horns 3.2 mm.

Type.—Female.

Type locality.—Broken Hill, New South Wales.

Collector.—F. W. Shepherd.

Described from a single specimen. Type in Australian Museum collection.

EUFIRMAIRIA LATICORNIS, *sp. nov.*

(Pl. xxvi, figs. 5-6.)

Dark brown, punctate, pubescent; suprahumeral horns broad, flat extending almost directly outward; posterior process long, slender, decurved, reaching almost to tips of tegmina; tegmina fuscous-hyaline, base and costal margin punctate; undersurface and legs brown.

Head subquadrate, broader than long, brown, punctate, densely pubescent; eyes large, brown; ocelli large, white, a little farther from each other than from the eyes and situated above a line drawn through centers of eyes; clypeus trilobate, longer than broad, deflexed, tip acute and pubescent.

Pronotum brown, roughly punctate, sparingly pubescent; metopidium nearly twice as high as broad, a smooth black spot over each eye; humeral angles large, prominent, blunt, much nearer to the eyes than to the horns; median carina strongly percurrent; suprahumeral horns long, flattened dorso-ventrally, more than twice as long as the distance between their bases, irregularly ridged above, extending almost directly outward, tips acuminate; posterior process heavy at base with a strong ridge on each side of median carina, posterior half slender, at first arcuate, then decurved, tip acuminate and reaching almost to tips of tegmina; scutellum narrowly exposed, tomentose.

Tegmina fuscous-hyaline; base and costal area reddish-brown, opaque and punctate; veins heavy, prominent, brown; tips clouded with reddish-brown.

Sides of thorax densely tomentose; undersurface, abdomen and legs uniformly brown.

Length from front of head to tips of tegmina 9 mm.; width between tips of suprahumeral horns 6.8 mm.

Type.—Male.

Type locality.—Fly River, Papua.

Described from a single specimen. Type in collection of Australian Museum.

LEPTOCENTRUS GRACILIS, *sp. nov.*

(Pl. xxvi, figs. 7-8.)

Long, slender, brown, punctate, pubescent; suprahumeral horns long, slender, extending outward and upward and curving backward; posterior process long, slender, elevated above tegmina; tegmina wrinkled hyaline; sides of thorax tomentose; undersurface, abdomen and legs brown.

Head subquadrate, wider than long, brown, punctate, pilose, roughly sculptured; base arcuate; eyes brown; ocelli large, white, sunken, somewhat farther from each other than from the eyes and situated slightly above a line drawn through centers of eyes; clypeus twice as long as

broad, densely pilose, extending for more than half its length below inferior margins of genae, tip narrow.

Pronotum brown, coarsely punctate, sparingly pilose; metopidium higher than wide, convex, polished, shining; humeral angles prominent, blunt, much nearer to the eyes than to the horns; median carina obsolete over metopidium but prominent behind the horns; suprahumeral horns long, slender, polished, tricarinate, extending upward and outward and curving backward, tips acuminate; scutellum entirely exposed, longer than broad, lightly tomentose, tip deeply notched; posterior process long, slender, deflexed, subarcuate, elevated above scutellum and tegmina, tip sharp, black, extending well beyond internal angles of tegmina, about to apex of abdomen.

Tegmina long, narrow, wrinkled, hyaline; base narrowly yellow, opaque and punctate; veins prominent, brown; faint brown cloud on internal apical margins; apical limbus narrow; five apical and two discoidal cells.

Sides of thorax white tomentose; undersurface, abdomen and legs entirely and uniformly brown.

Length from front of head to tips of tegmina 9 mm.; width between tips of suprahumeral horns 7 mm.

Type.—Female.

Type locality.—Broken Hill, New South Wales.

Collector.—F. W. Shepherd (1924).

Described from a single specimen. Type in Australian Museum collection.

TRICENTRUS PINGUIDORSIS, *sp. nov.*

(Pl. xxvi, figs. 9-10.)

Small, black, punctate, pubescent; suprahumeral horns small, triangular, extending outward and slightly upward; posterior process thick, heavy, short, swollen, somewhat arcuate; tegmina hyaline with base black; undersurface and legs black; hind trochanters armed with spines.

Head subquadrate, wider than long, black, finely punctate, densely pilose; base sinuate; eyes gray; ocelli small, prominent, white with black centres, equidistant from each other and from the eyes and situated on a line drawn through centres of eyes; clypeus longer than wide, extending for half its length below inferior margins of genae, tip truncate and pilose.

Pronotum black, finely punctate, densely pubescent; metopidium about as broad as high, straight above head; median carina faintly percurrent; humeral angles prominent, blunt, much nearer to the horns than to the eyes; suprahumeral horns small, triangular, blunt, as long as half the distance between their bases, tricarinate; posterior process short, heavy, swollen, dorsal line elevated in middle, tip blunt and extending just to internal angles of tegmina; scutellum broadly exposed.

Tegmina hyaline, somewhat smoky in apical region; base black, opaque and punctate; veins, heavy, brown and sparsely spined; five apical and two discoidal cells.

Sides of thorax pilose with long silvery hairs; undersurface, abdomen, and legs black; tarsi fuscous; hind trochanters bearing short spine-like teeth.

Length from front of head to tips of tegmina 4.5 mm.; width between tips of suprahumeral horns 2.7mm.

Type.—Male.

Type locality.—Broken Hill, New South Wales.

Collector.—F. W. Shepherd (1924).

Described from a single specimen. Type in Australian Museum collection.

OTINOTOIDES BRUNNEUS, *sp. nov.*

(Pl. xxvi, figs. 11-12.)

Uniformly dark brown, punctate, pubescent; suprahumeral horns extending directly outward; posterior process much decurved, reaching almost to tips of tegmina; tegmina brown and nearly opaque; sides of thorax brown tomentose; hind trochanters unarmed; clypeus strongly trilobate.

Head wider than long, roughly sculptured, dark brown, finely punctate, densely pubescent; base arcuate; eyes large, brown; ocelli large, prominent, brown, equidistant from each other and from the eyes and situated on a line drawn through centres of eyes; clypeus as wide as long, extending for about half its length below inferior margins of genae, tip strongly trilobate.

Pronotum dark brown, finely punctate, densely pubescent; metopidium about as high as broad, convex, an irregular black mark over each eye; median carina faintly percurrent; humeral angles large, prominent, blunt, a little closer to the horns than to the eyes; suprahumeral horns strong, heavy, tricarinate, about as long as the distance between their bases, extending directly outward, slightly curving backward, tips blunt; scutellum well exposed, tomentose; posterior process heavy at base with a faint ridge on each side of median line, apical two-thirds long, slender, much decurved, impinging on tegmina, tip sharp and reaching almost to apices of tegmina.

Tegmina mottled brown; basal and basal costal area dark brown, opaque and punctate; veins not prominent; apical limb very narrow, five apical and three discoidal cells.

Sides of thorax ferruginous-brown tomentose; undersurface abdomen and bases of femora dark brown; apices of femora and all of tibiae and tarsi light brown.

Length from front of head to tips of tegmina 6.8 mm. ; width between tips of suprahumeral horns 5 mm.

Type.—Female.

Type locality.—Lavoro Plantation, Guadalcanar Island, Solomon Group.

Collector.—Mr. C. E. Hart.

Described from two females, both labelled "Lavoro Pltn ; Guadalcanar I., Solomon Group. C. E. Hart. 1925." Type and paratype in Australian Museum collection.

ACANTHUCUS PYRAMIDATUS, sp. nov.

(Pl. xxvi, figs. 13-14.)

Large, yellow-brown, punctate, pubescent ; suprahumeral horns heavy, extending outward and upward and curving laterad ; dorsal crest high, triangular, blunt ; posterior process tectiform, extending to a point half-way between internal angles and tips of tegmina ; tegmina wrinkled hyaline, base brown and punctate ; sides of thorax white tomentose ; undersurface and legs yellow-brown.

Head as broad as long, brown mottled with black, roughly sculptured, densely pilose ; base irregularly arcuate ; eyes large, yellow ; ocelli large, reddish brown, elevated, farther from each other than from the eyes and situated slightly above a line drawn through centres of eyes ; clypeus longer than wide, lightly trilobate, extending for more than half its length below inferior margins of genae.

Pronotum yellow-brown, darker in front than behind, coarsely punctate, densely pilose with long white hairs ; metopidium about as broad as high, sloping above head, darker at base, a smooth brown spot above each eye ; humeral angles large, prominent, blunt, extending outward farther than the eyes ; median carina strongly percurrent ; suprahumeral horns thick, heavy, blunt, about as long as the distance between their bases, extending outward and upward and curving laterad ; tricarinate, roughly punctured ; dorsal crest arising from behind the horns, large, triangular, heavy, blunt, anterior half darker than posterior ; scutellum well exposed, white tomentose ; posterior process tectiform, gradually acute, tip reaching to a point about halfway between internal angles and tips of tegmina.

Tegmina wrinkled hyaline ; base brown, opaque and punctate ; veins prominent, yellow-brown and pilose ; apical limb narrow ; five apical and two discoidal cells.

Sides of thorax densely white tomentose ; undersurface and abdomen brown ; legs reddish-brown ; tarsi very dark brown.

Length from front of head to tips of tegmina 7 mm. ; width between tips of suprahumeral horns 4 mm.

Type.—Female.

Type locality.—Wedge Bay, Tasmania.

Collector.—G. H. Hardy.

Described from two females both collected by G. H. Hardy, the type from Wedge Bay, December 30, 1913 and the paratype from Hobart, March 25, 1916. Both specimens in Australian Museum collection.

ACANTHUCUS CARINATUS, *sp. nov.*

(Pl. xxvi, fig. 15.)

Greenish-brown, rugose, punctate, not pubescent; suprahumeral horns tricarinate, acute, extending outward, upward, and forward; median dorsal carina foliaceous, not projecting in a horn; posterior process decurved, reaching almost to apices of tegmina; tegmina yellowish-hyaline; undersurface and abdomen brown; legs yellow-brown.

Head broader than long, convex, roughly sculptured, very finely punctate, not pubescent, reddish yellow except median area which is dark brown; base arcuate and feebly sinuate; eyes yellow-brown; ocelli large, prominent, yellow with black borders, about equidistant from each other and from the eyes and situated above a line drawn through centres of eyes; clypeus longer than wide, trilobate, extending for about half its length below inferior margins of genae.

Pronotum yellow-brown, coarsely punctate, not pubescent; metopidium broader than high, a black spot on median line; humeral angles blunt, prominent, a little nearer to the eyes than to the horns and extending laterad slightly beyond the eyes; median carina strongly percurrent, foliaceous behind the horns and on the posterior process; suprahumeral horns stout, tricarinate, sharp, extending outward, upward and slightly forward; scutellum narrowly exposed; posterior process long, sinuate, tectiform, base thick, apical portion slender, tip acuminate and extending almost to apices of tegmina.

Tegmina yellowish-hyaline, wrinkled; base and basal costal margin yellow, opaque and punctate; veins light yellow, inconspicuous; apical limbus narrow; five apical and two discoidal cells; third apical cell slightly curved.

Sides of thorax yellow; undersurface and abdomen brown; legs yellow-brown.

Length from front of head to tips of tegmina 5.4 mm.; width between tips of suprahumeral horns 3 mm.

Type.—Male.

Type locality.—South Australia.

Described from two specimens, a male and a female, both with the same locality label and both bearing the Australian Museum collection number "K 53627." Type and allotype in the collection of the Australian Museum.

SEXTIUS PROJECTUS, *sp. nov.*

(Pl. xxvi, fig. 16.)

Brown, punctate, pubescent; suprahumeral horns projecting forward; posterior process reaching to tips of tegmina; tegmina milky-hyaline with brown veins and many small cells in apical area; sides of thorax white tomentose; undersurface and legs brown.

Head a little broader than long, black, finely punctate, densely pubescent with short, heavy, white hairs; base arcuate; eyes large, gray; ocelli small, gray, inconspicuous, farther from each other than from the eyes and situated above a line drawn through centres of eyes; clypeus longer than wide, weakly trilobed, extending for more than half its length below inferior margins of genae, tip rounded.

Pronotum brown, coarsely punctate, sparsely pubescent with short, thick, white hairs; metopidium wider than high; humeral angles prominent, blunt; median carina black, strongly percurrent; suprahumeral horns heavy, thick, truncate at tips, flattened laterally, arising close together near head and extending outward, upward, and strongly forward, internal and external sides deeply ridged; posterior process long, strong, impinging on tegmina, tectiform, gradually decurved, tip reaching just to apices of tegmina; scutellum narrowly exposed.

Tegmina long, narrow, milky-hyaline, translucent; base and basal costal area brown, opaque and punctate; veins prominent, brown; apical limbus very narrow; apical area broken up into many small cells.

Sides of thorax white tomentose; undersurface, abdomen and legs uniformly and entirely brown; tibiae somewhat foliaceous.

Length from front of head to tips of tegmina 6 mm.; width between tips of suprahumeral horns 3 mm.

Type.—Female.

Type locality.—King George's Sound, Western Australia.

Described from a single specimen now in the collection of the Australian Museum.

EXPLANATION OF PLATE XXVI.

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|------|-----|-------------------------------------------|-------------------|
| Fig. | 1. | <i>Emphusis bicornis</i> , sp. nov. | Lateral view. |
| " | 2. | " " " " | Cephalic outline. |
| " | 3. | <i>Centrotypus nigris</i> , sp. nov. | Lateral view. |
| " | 4. | " " " " | Cephalic outline. |
| " | 5. | <i>Eufairmairia laticornis</i> , sp. nov. | Cephalic view. |
| " | 6. | " " " " | Dorsal outline. |
| " | 7. | <i>Leptocentrus gracilis</i> , sp. nov. | Lateral view. |
| " | 8. | " " " " | Cephalic outline. |
| " | 9. | <i>Tricentrus pinguidorsis</i> , sp. nov. | Lateral view. |
| " | 10. | " " " " | Cephalic outline. |
| " | 11. | <i>Otinotoides brunneus</i> , sp. nov. | Lateral view. |
| " | 12. | " " " " | Cephalic outline. |
| " | 13. | <i>Acanthucus pyramidatus</i> , sp. nov. | Lateral view. |
| " | 14. | " " " " | Cephalic outline. |
| " | 15. | <i>Acanthucus carinatus</i> , sp. nov. | Lateral view. |
| " | 16. | <i>Sextius projectus</i> , sp. nov. | Lateral outline. |

