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The Occurrence of *Acantholybas brunneus* Breddin in New Zealand

(Heteroptera: Coreidae)

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THE local occurrence of this Coreid is probably well known to Auckland entomologists, but, as there is no reference in the literature to its presence in New Zealand, it was thought desirable to have the species identified and placed on record for the benefit of workers both in this country and overseas.

New Zealand has no undoubtedly indigenous species of the family Coreidae and there are previous records of only two other species. The detailed records of these species were made in an English publication; in this paper are included comments on them from a letter of Dr. W. E. China. It would seem likely that *Acantholybas brunneus* Breddin was introduced fairly recently, within the last fifteen to twenty years. It was not mentioned by Myers (1926, *Trans. N.Z. Inst.*, 56: 449-511) or by Myers and China (1928, *Ann. Mag. Nat. Hist.*, (10) 1: 377-394), and it seems unlikely that such a large and anomalous member of the Heteropteran fauna should have escaped observation if well established at that time. The earliest record in the author's collection is of one late instar nymph (♂), found on 18.iii.39. Other records are for 31.i.40, ii.40, xii.41 (when large numbers of both adults and nymphs were found beneath stones among weeds in shaded localities in a garden), 23.x.44, 21.xii.44, 31.xii.48, and ii.49. All these records are from Auckland. Mr. E. T. Giles recently caught eight adults (12.xi.49) among sedges in a damp and shaded position under a lemon-tree at Remuera, Auckland, where the species appeared to be abundant. This seems to be a characteristic type of habitat for the bug, nearly all the specimens taken by the author being found in shaded places in gardens, on and under mixed weeds and beneath stones. Both adults and nymphs were also on several occasions found between the leaves of lettuces taken straight from the garden. The species seems now to be well established and quite common in Auckland. The writer is unaware of any records from outside this district.

Thanks are due to Dr. W. E. China, of the British Museum (*Nat. Hist.*), who kindly identified the material, and from whose letter the following quotation is taken:

"The Coreids sent for determination are *Acantholybas brunneus* Breddin described under the generic name of *Acanthocolpura* (a synonym) in *Ent. Nachr.* 26, p. 40, 1900. The genus *Acantholybas* was described by Breddin in 1899 (*Jahrb. Hamburg. Wissenschaftl. Anstalten* 16, p. 155) for a single species, *A. longulus* Breddin, from Lombok. There is one other known species of the genus, *Acantholybas kirkaldyi*

Bergr., described from Tasmania by Bergroth (1909, *Ann. Soc. Ent. Belg.* 53: 185). This is the third Coreid to be recorded from New Zealand.

“The three New Zealand Coreids may be listed as follows:—

“1. Subfamily Corizinae, tribe Leptocorini: *Leptocoris* sp. undetermined (most likely the Australian *Leptocoris mitellatus* Bergr.), North Island, Taihape, collected by G. Howes (no date). Recorded by Bergroth in a letter to Myers, 1924, and published by J. W. Evans in 1928 (*Ann. Mag. Nat. Hist.* (10) 2: 463). The genus *Leptocoris* is holotropical and is rather difficult nomenclatorially, which probably explains why the species was not determined by Bergroth. It may be possible that the New Zealand Lygaeid *Arocatus rusticus* Stal was mistaken by Bergroth for a *Leptocoris*, as there is a general resemblance in colouring and shape.

“2. Subfamily Alydinae, tribe Alydini: *Melanacanthus margineguttatus* Distant, South Island, Tahuna, on the North Coast. Numerous specimens of *Psamma arenaria* on sand dunes near the sea in March, 1928, collected by J. W. Evans and E. S. Gourlay. Recorded by J. W. Evans in 1928 (*Ann. Mag. Nat. Hist.* (10) 2: 463). The genus *Melanacanthus* is restricted to Australia and *M. margineguttatus* occurs throughout Queensland. The above mentioned colony was thought to have been destroyed by the burning of the grass.

“3. Subfamily Coreinae, tribe Hygiini: *Acantholybas brunneus* Breddin. Numerous specimens in Auckland, T. E. Woodward, 1949. The genus *Acantholybas* (= *Acanthocolpura*) is recorded only from Lombok Island, Queensland, New South Wales and Tasmania. *A. brunneus* Breddin was described from New South Wales, but we have a specimen from the Bunya Mts. west of Brisbane, Queensland. It was probably introduced into New Zealand from Australia.”

Acantholybas brunneus is readily distinguishable from all other recorded species of the New Zealand Heteroptera, except the two species of Coreids listed above, by the following combination of features characteristic of its family:

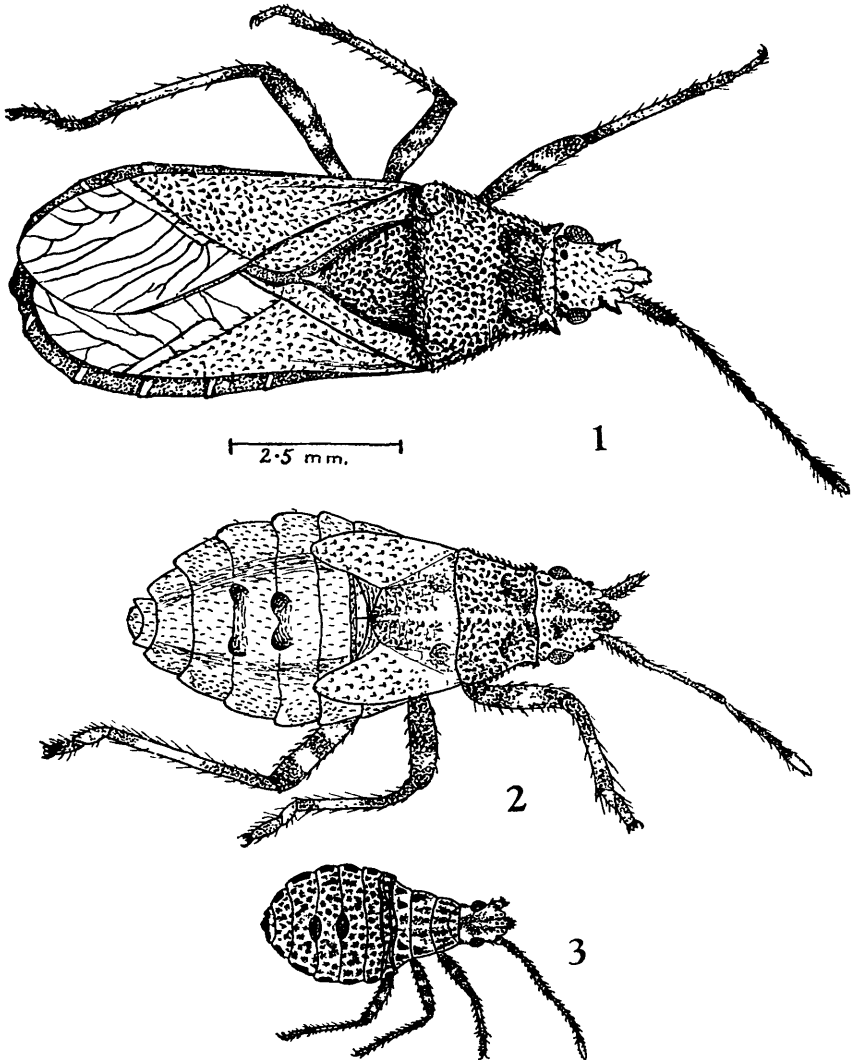
Antennae 4-segmented, inserted on or above the line between the centre of the eye and the apex of the central lobe of the face (tylus); two ocelli; scutellum not reaching apex of clavus; membrane of hemelytron with numerous (more than five) longitudinal veins, which branch from a common vein paralleling the distal margin of the corium; rostrum not strongly curved at base; tarsi 3-segmented.

From the other two species of Coreids it is separated respectively by the following subfamily characters:

From the Corizinae (*Leptocoris*), in having the odoriferous apertures distinct and auricular and not concealed between the middle and hind coxae; from the Alydinae (*Melanacanthus*), in having the distal antennal segment stout and not greatly elongated and curved.

The following account is given as a further aid in determination. The adult is brown, with more or less of apex of distal antennal segment, apex of scutellum, the tibiae, except at apex and sometimes near base, and mottling or banding on femora, with bands most distinct on posterior pair, lighter in colour; length, ♀ 9.5–11 mm, ♂ 8.5–9 mm.;

antenniferous tubercles externally and anterior angles of prothorax produced into short, broad, spinous process; sides of head behind eyes dilated as knob-like protuberance; rostrum reaching anterior end of third abdominal sternite in ♀, posterior end in ♂; pronotal calli well developed, dark marginally; pronotum shortly collared in front, anterior margin nearly straight, sides slightly sinuate near middle, posterior angles rounded and somewhat raised, though not prominently shouldered, posterior margin nearly straight, declivous, width (♂ 2.6 mm., ♀ 3.1 mm.) twice that of anterior, length (♂ 1.9 mm., ♀ 2.3 mm.) nearly $1\frac{1}{2}$ times anterior width; head, pro-



Acantholybas brunneus Breddin

FIG. 1—Adult, female. FIG. 2—Nymph, late instar. FIG. 3—Nymph, early instar.

notum, and scutellum finely tuberculate, with short, recumbent, spine-like hairs; corium and clavus finely punctate, with similar hairs; dorsal surface of abdomen ferruginous, hairless, rather coarsely punctate; ventral surface of body more finely punctate, with dark stippling and fine, pale, recumbent, spinelike hairs; connexivum clothed with very short, fine hairs, a narrow pale posterior band in each segment; abdominal sternites II–IV mesially sulcate, shallowly so in ♀.

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The late instar nymphs are similar in general appearance to adults except in wing development. The following description applies to both sexes of such a nymph (probably fifth instar): Length, 7.5 mm.; colour brown, with pale apex of antenna very clearly marked; all tibiae with pale middle region, dark at base and apex; mottling and banding of femora, tubercles and spinous hairs on head, pronotum, and scutellum, processes of antenniferous tubercles, and protuberances behind eyes, as in adult; anterior angles of pronotum less strongly produced than in adult; pale connexival areas less pronounced; wing-pads, ventral surface of head and thorax, femora, and basal segment of antennae impunctate but with fine tubercles and short spinous hairs as on pronotum; dorsal surface of abdomen, including connexivum, and ventral surface of abdomen impunctate, with short, fine, pale, recumbent hairs; ventral surface of connexivum very finely tuberculate; pronotum with all margins nearly straight, posterior angles rounded and scarcely raised, posterior margin not declivous; a narrow, very slightly raised, pale median line on head, pronotum, and scutellum; wing-pads extending to posterior margin of second visible abdominal segment; dorsal lips of odoriferous apertures prominently raised, very dark, transversely wrinkled.

An earlier instar (probably second) shows the following characteristics: Length, 3.5 mm.; both surfaces of body a very pale straw-yellow ground-colour with distinctly reddish-brown mottling; antennae dark brown, except for the reddish-brown base of the third segment and the pale apical two-thirds of the fourth; darker brown markings on tylus, on each side of median line of vertex, and submarginally on thoracic tergites; epicranial suture well marked as a fine red line; connexivum with in each segment a dark brown patch and an anterior and a posterior pale area; lips of odoriferous apertures as described for later instar, but the members of each pair forming a completely united raised dark area; colour pattern of femora and tibiae as for later instar; antenniferous tubercles and anterior pronotal angles not produced; lateral margins of head behind eyes somewhat dilated, but not knob-like as in later stages; pronotum short, with anterior and lateral margins nearly straight, posterior margin convex; first 3 segments of antennae finely tuberculate, with short, spine-like, semi-recumbent hairs arising from tubercles, fourth segment more densely clothed with longer hairs; a few small scattered tubercles on head and pronotum; dorsal surface of head, thorax, and abdomen with very short, scattered hairs; punctation completely absent.