

REVISION OF THE TRIBE ARCHIMANTINI
(MANTODEA: MANTIDAE: MANTINAE)

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Abstract

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The Australo-Papuan tribe Archimantini is redefined. The genera *Pseudomantis* Saussure and *Rhodomantis* Giglio-Tos are excluded. The genus *Austromantis* Sjöstedt is recognised as valid and included. One new genus, *Corthylomantis*, and four new species, *Archimantis gracilis*, *A.vittata*, *Austrovates papua* and *Corthylomantis baldersoni*, are described. *Archimantis minor* Giglio-Tos is a new synonym of *A.sobrina* Saussure. *Austromantis gracilis* Sjöstedt a new synonym of *A.albomarginata* Sjöstedt and *Coenomantis melanoptera* (Tindale) a new synonym of *C.kraussiana* (Saussure). *Archimantis inermis* Werner is transferred to the neotropical genus *Angela* Serville. The subspecies *Archimantis latistyla gigantea* Beier is rejected as invalid. Keys to genera and species are provided. Information on biology is recorded, distributions given and relationships discussed.

Introduction

The Archimantini includes medium to large, elongate mantids restricted to Australia (14 species) and Papua New Guinea (1 species). All inhabit shrubs and/or tall grasses where they are well camouflaged. They do not appear to be abundant in nature but many species can be encountered without much difficulty by searching in appropriate habitats. Species diversity is greatest in the tropical north of Australia, however several species occur in Victoria where the southern limit of the group is reached. There are no records of the Archimantini from Tasmania.

Giglio-Tos (1917) proposed the Archimantinae to include several Australian genera of the Mantidae, characterised by the first and fourth discoidal spines being not shorter than the second, wings reduced in the female and the facial shield wider than high. He divided the Archimantinae into two groups: the Archimantes, having the cerci compressed and the first discoidal spine longer than the second, containing the genera *Archimantis*, *Coenomantis* and *Rheomantis* (= *Archimantis*); and the Pseudomantes, having the cerci cylindrical and the first discoidal spine of equal length to the second, containing *Pseudomantis* and *Rhodomantis*. Beier (1935) rejected this, including the Archimantinae within the Mantinae. However Beier (1964) later created the tribe Archimantini which was essentially equivalent to Giglio-Tos' Archimantinae and included the genera *Archimantis*,

Austrovates, *Coenomantis*, *Nullabora*, *Pseudomantis* and *Rhodomantis*. In this work the Archimantini is considered as equivalent to Giglio-Tos' Archimantes, characterised by the first discoidal spine being longer than the second (fig. 6) and including the genera *Archimantis*, *Austromantis*, *Austrovates*, *Coenomantis*, *Corthylomantis*, and *Nullabora*. The genus *Austromantis* was synonymised with *Pseudomantis* by Beier (1935) but is here considered a valid genus. *Pseudomantis* and *Rhodomantis*, which have the second discoidal spine as long or longer than the first, are removed to Beier's Mantini.

The tribe Archimantini thus contains six genera, one of which is new, and 15 species of which four are new. The largest genus is *Archimantis*, containing nine species of which two are new. Of the nine species and one subspecies listed for this genus by Balderson (1984) seven species are recognised as valid. *A.minor* Giglio-Tos is synonymised with *A.sobrina* and *A.latistyla gigantea* Beier is considered a variant and accorded no taxonomic status. The holotype male of *A.inermis* Werner has been examined and determined to belong to the neotropical genus *Angela* Serville. It was probably ascribed to Australia in error. Five of the remaining six genera are considered monotypic, while the sixth, *Austrovates*, contains two species of which one is new.

Methods and terminology follow those of Milledge (1990) except that the following abbreviations are used in the descriptions of male genitalia: aa — anterior apodeme of right

phallomere; apr — apical process of left phallomere; dl — dorsal lamina of left phallomere; dpr — distal process of ventral phallomere; lph — left phallomere; ml — membranous lobe of left phallomere; pa — phalloid apophysis; rph — right phallomere; vl — ventral lamina of left phallomere; vpl — ventral plate; vspr — ventral sclerotized process (figs 7 — 8). Abbreviations used for institutions where material is held are as follows: AM — Australian Museum, Sydney; ANIC — Australian National Insect Collection, Canberra; BMNH — Natural History Museum, London; NMV — Museum of Victoria, Melbourne; NHRM — Naturhistoriska Riksmuseet, Stockholm; QM — Queensland Museum, Brisbane; RNHL — Rijksmuseum van Natuurlijke Historie, Leiden; SAM — South Australian Museum, Adelaide; UQ — University of Queensland, Brisbane; WAM — Western Australian Museum, Perth; ZMH — Zoologisches Museum, Hamburg; ZSIC — Zoological Survey of India, Calcutta.

Relationships

Two major groups can be recognized within the Australian Mantodean fauna. The first, smaller and probably more recent element contains genera which reach their greatest diversity outside the Australian region, in most cases the East Asian region. The Australian representatives of the genus *Acromantis* (1 sp.) (Hymenopodidae) and the genera *Hierodula* (4–5 spp.), *Mantis* (1 sp.), *Tenodera* (2 spp.) and *Statilia* (1 sp.) (Mantidae-Mantinae) fall into this category. It is notable that all have macropterous females and thus are probably capable of dispersal across water barriers.

The second, larger and probably older element consists of genera which are endemic to Australia or to Australia and nearby islands (including Papua New Guinea). Many of the species in this group have brachypterous females. The relationships of this older element are not entirely clear. For example the nearest relatives of the Australasian endemic subfamily Paraoxyphilinae are the Amorphoseclinae (both Amorphoseclidae) which appear to be essentially African. An Australasian endemic subfamily of the Mantidae, the Orthoderinae, is most closely related to the Choreododinae, which occurs in southern India and Sri Lanka, and in South and Central America. This would imply a Gondwanan origin for the older element.

However, further work is required on the faunas of other regions before the relationships

of the Australian representatives of the large subfamily Mantinae, including the Archimantini, can be clarified. Within the Australian fauna a possible candidate for sister group status of the Archimantini is the genus *Pseudomantis*, in which the 2nd discoidal spine is of similar length to the 1st, possibly representing a stage in the progressive reduction of this spine.

Relationships within the Archimantini are also obscure but perhaps less so. *Austromantis* appears closest in form to a presumed ancestor of the tribe, displaying several plesiomorphic characters including only moderate elongation of the body, macropterous females and cylindrical cerci. *Nullabora* appears closely related to *Austromantis*, sharing the aforesaid characters as well as a bifurcate dpr in the male genitalia, which is not found in other members of the Archimantini. *Corthylomantis* also possesses cylindrical cerci, however, the colour pattern of the wing in the female may be a synapomorphy linking this genus with *Coenomantis*. *Austrovates variegata* displays a finely striped eye pattern and median projections between the abdominal tergites of juveniles, characters shared by *Coenomantis*. Juvenile *Archimantis quinquelobata* have abdominal projections and also display subapical lobes on the mid and hind femora similar to though less well developed, than those found in *Austrovates*, possibly indicating some relationship. The shallow U-shaped arrangement of the egg cells in the ootheca of *Archimantis quinquelobata* is shared with *Coenomantis*, however the form of oothecae within the Archimantini is not well enough known to interpret the significance of this.

Within the genus *Archimantis* several species groupings are apparent. Probable synapomorphies linking *A. latistyla*, *A. armata*, *A. monstrosa* and *A. sobrina* are robust build, ventral colour pattern of costal area of tegmen and broad based uncinate dpr of the male genitalia. Within this group the latter three species are also linked by the compact, strongly shagreened pa of the male genitalia. *A. brunneriana* and *A. straminea* share probable synapomorphies of very compressed head, angular eyes and mottled colour pattern on ventral surface of forecoxa. Males of *A. gracilis* and *A. vittata* are quite similar in appearance but the form of their genitalia is dissimilar. As the female of the latter species is unknown, the relationship between them remains uncertain. Further work may lead to the splitting of this genus, however, to do so now would be premature.

Archimantini

Diagnosis. Head antero-posteriorly compressed, frontal shield transverse, first discoidal spine longer than second, margin of fore femur between outer spines smooth.

Notes. Members of the Archimantini can be collected by searching in shrubs and tall grasses, preferably at night with a spotlight. They tend to prefer denser growth, probably because it provides more cover from predators. Males are readily attracted to light traps at night. Specimens can be successfully reared to maturity in

flywire cages on a diet of live insects. The height of the cages should be at least three times the length of the mantis to provide adequate room for moulting and temperatures should be kept warm (25–30°C). Individuals should be housed separately to avoid cannibalism and not in visual contact with one another to avoid stress.

Dry pinning is the preferred method of preservation for late instar nymphs and adults. Early instar nymphs are better preserved in alcohol. Specimens to be pinned should be gutted and stuffed as per the method of Rentz (1985: 9) to preserve body colour.

Key to genera of Archimantini (adults)

- | | | |
|-------|--|-----------------------|
| 1. | Distal segments of cercus laterally compressed | 4 |
| — | Distal segments of cercus cylindrical | 2 |
| 2(1). | Costal area of tegmen with white marginal band, females macropterous | 3 |
| — | Costal area of tegmen without white marginal band, females brachypterous | <i>Corthylomantis</i> |
| 3(2). | Eye tapering to blunt point, cerci stout | <i>Nullabora</i> |
| — | Eye not tapering to blunt point, cerci slender ... | <i>Austromantis</i> |
| 4(1). | Hindwings smokey black | <i>Coenomantis</i> |
| — | Hindwings mostly hyaline | 5 |
| 5(4). | Mid and hind femora with distinct subapical lobe on posterior margin | <i>Austrovates</i> |
| — | Mid and hind femora without distinct subapical lobe on posterior margin | <i>Archimantis</i> |

***Austromantis* Sjöstedt**

Austromantis Sjöstedt, 1918: 28. Type species *Austromantis albomarginata* Sjöstedt, here designated.

Diagnosis. Head moderately antero-posteriorly compressed, eye margin rounded angular; macropterous in both sexes; cerci cylindrical; dpr of male genitalia bifurcate.

Description. Body of moderate size and build. Head about 1.5 times as wide as high, moderately compressed antero-posteriorly, slightly concave anteriorly (more so in male), apical margin slightly curved, more strongly in paracocular regions; eyes forming broadly rounded angle at dorsolateral margin; frontal shield with dorsal margin broadly arched with indentations below antennae and ventral ocellus, lateral margins gently curved, with distinct subantennal ridge; antennae longer than prothorax in male, shorter and finer in female.

Pronotum moderately elongate, more slender in male, supracoxal expansion distinct; lateral margins slightly lamellate, virtually smooth in

male, finely denticulate in female; prozona dorsally with very fine scattered tubercles or smooth in some males, few more distinct tubercles ventrally; metazona smooth with faint mid-dorsal keel.

Fore coxa elongate, shorter than femur, anterior margin distinctly toothed; fore femur with 4 discoidal spines, the 2nd very short, the 3rd quite long, with 4 outer spines, the proximal pair closer together, and 15 inner spines, claw groove centrally located, ventral surface with scattered tubercles and slight depression anterior to the 4th discoidal spine; fore tibia with 8–9 outer and 13–14 inner spines. Mid and hind legs slender; femora without genicular spine or subapical lobe.

Macropterous in both sexes, wings as long as or longer than abdomen; tegmen with costal area and costal margin of discoidal area opaque, remainder hyaline; hind wing with costal area semi opaque, remainder hyaline.

Abdomen elongate, slender in male, broader in female; cerci of medium length, cylindrical,

distal segments slightly bead like. Male genitalia with dpr a strongly sclerotized bifurcate hook curved dextrad, medial lobe small but distinct; apr curved sinistral and tapering to rounded tip, pa separated from vl by membranous area, ml elongate and finely hirsute; rph with dorsal arm partially sclerotized, aa elongate becoming squamiform sinistrally, vpl continuous with main body of phallomere, vspr compact u shaped.

Austromantis albomarginata Sjöstedt

Figures 1–8, 166

Austromantis albomarginata Sjöstedt 1918: 28.

Austromantis gracilis Sjöstedt 1918: 30. Syn. nov.

Material examined. Syntype male of *A. albomarginata*, "Kimberley district, N.V.Austr., Mjöberg, Febr., (221 89)". Syntype female of *A. albomarginata*, "Kimberley district, N.V.Austr., Mjöberg, Febr., (222 89)". Holotype male of *A. gracilis*, "Broome, V.Austr., Mjöberg, (223 89)" (All NHRM).

Other specimens examined (57♂, 8♀, 2 juv). Qld. 1♂, Barcaldine, 10 Feb 1981, ♂, 24 km N of Einasleigh, 31 Dec 1989, ♂, ♀, Mareeba, 7 Dec 1952, (All AM). ♂, Armstrong Ck Crossing, 13 km NNW of Guthalungra, 26 Jan 1982, ♂, 3 km SW of Barduthulla, 26 Dec 1961, ♂, 200 km SSW of Normanton, 14 Oct 1965, ♀, 5 km W of Maggieville HS, N of Normanton, 10 Apr 1962 (All ANIC). 2♀, Burke and Wills Junction 19°14'S, 140°21'E, 16 Jan 1993, 2♂, Dajarra Rd., 19 km SW of Cloncurry, 20°50'S, 140°23'E, 2 Jan 1993, ♂, Glenore Pumping Station, Norman River (17°51'S, 141°08'E), 13 Jan 1993, ♂, 16 km SE of Hann River Crossing, NW of Laura, 12 Jan 1990, ♂, Karumba, 7 May 1989 (all NMV). ♂, Normanton, 6 May 1963 (SAM). 2♂, Cloncurry, 8, 17 Apr 1947, ♂, Flinders River, 42 km SW of Normanton, 26 May 1972 (All UQ).

NT, ♂, 15 km SW of Aloy Downs HS 19°24'S, 135°58'E, 10 Apr 1976, ♂, 28 km SE of Anthony Lagoon 18°09'S, 135°44'E, 11 Apr 1976♂, Baroalba Ck Springs 12°47'S, 132°51'E, 19 km ENE of Mt Cahill, 28 Oct 1972, 2♂, 36 km SW of Borroloola 16°19'S, 136°05'E, 4 Nov 1975, 1juv, Bukalara Range, 46 km SSW of Borroloola 16°28'S, 136°10'E, 22 Apr 1976, ♂, 1 km N of Cahills Crossing, East Alligator River 12°25'S, 132°58'E, 31 Oct 1972, ♂, Caranbirini Waterhole, 33 km SW of Borroloola 16°16'S, 136°05'E, 21 Apr 1976, ♀, 17°29'S, 133°30'E, 8 km NNW of Elliot, 14 Oct 1972, ♂, McArthur River HS, 80 km SW of Borroloola, 13 May 1953, 2♂, 16°47'S, 135°45'E, McArthur River, 14 km SW of Cape Crawford, 25 Oct 1975, ♂, 12°50'S, 132°51'E, 16 km NE of Mt Cahill, 23 May 1973, ♂, 12°31'S, 132°54'E, 9 km NE of Mudginberri HS, 30 Oct 1972, (All ANIC). ♂, Darwin, May 1977 (NMV). ♀, Groote Eylandt, Feb 1922, ♂, Lake Woods, 15 km SW of Elliot, 15 Oct 1977 (Both SAM). 2♂, Horn Islet, Sir Edward Pellew Group, 1–7 Feb 1968 (UQ).

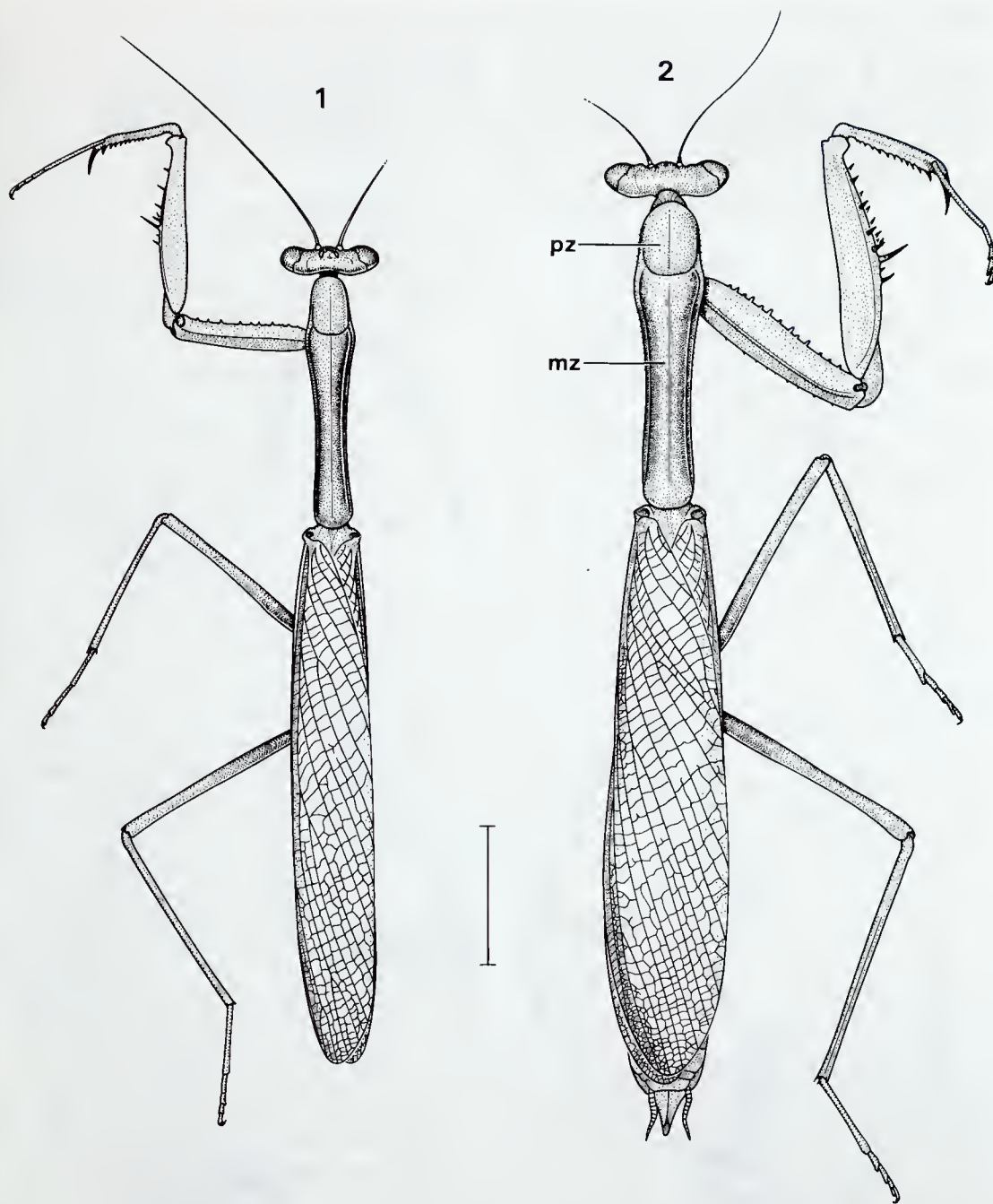
WA, ♂, Margaret River, 110 km WSW of Halls Creek, 8 Feb 1977 (AM). ♂, 1juv, 15°47'S, 128°40'E, Bandicoot Range, 7 km W of Kununurra, 7 May 1983, 2♂, 17°19'S, 122°10'E, 8 km S of Cape Bertholet, West Kimberley distr., 16, 17 Apr 1977, ♂, 17°17'S, 122°10'E, 5 km SSW of Cape Bertholet, West Kimberley distr., 21 Apr 1977, 3♂, Fitzroy River Crossing, Derby-Broome Rd, 3 Nov 1978, ♂, 15°46'S, 128°44'E, Kununurra, 11 Apr 1985, ♂, 16°34'S, 122°49'E, 4 km WNW of Martins Well, West Kimberley distr., 20 Apr 1977, ♂, 21°34'S, 117°03'E, 3 km NW of Millstream HS, 5 Apr 1971 ♂, 21°35'S, 117°04'E, 1 km NNE of Millstream HS, 16 Apr 1971, ♂, 21°36'S, 117°07'E, 4 km ESE of Millstream HS, 31 Oct 1970, 2♂, 21°37'S, 117°06'E, 5 km SE of Millstream HS, 12 Apr 1971, 4♂, 21°35'S, 117°04'E, 2 km ENE of Millstream HS, 22, 30 Oct, 4 Nov 1970, 2♂, 21°35'S, 117°04'E, 1 km N of Millstream HS, 23, 28 Oct 1970, ♂, 21°35'S, 117°04'E, 0.5 km WNW of Millstream HS, 7 Apr 1971, ♀, 14°49'S, 125°42'E, Mitchell River Falls, Kimberley distr., 12 May 1983, ♂, 40 km ENE of Pardoo HS, Great Northern Hwy, 23 Nov 1973, ♀, 50 km SW of Sandfire Flat, Broome-Port Hedland Rd, 29 Oct 1978, (All ANIC). ♂, Kununurra, 7 Jul 1969 (NMV). ♂, Fortescue River, Hammersley Range (SAM). 2♂, Derby, 7 May 1964 (WAM).

Description. Body green; metazona of prothorax with margins and ventral surface purplish (reddish brown in dry specimens); inner face of fore coxa mauve posteriorly, yellow anteriorly (not apparent in dry specimens); femoral spines blackish brown, tibial spines tipped in blackish brown; proximal half of mid and hind femora yellow; costal area of tegmen with marginal white band and submarginal mauve and green bands, costal margin of discoidal area greenish; costal area of wing greenish; abdominal tergites 2–5 with central yellow patches, sternites 2–6 with black anterior margin.

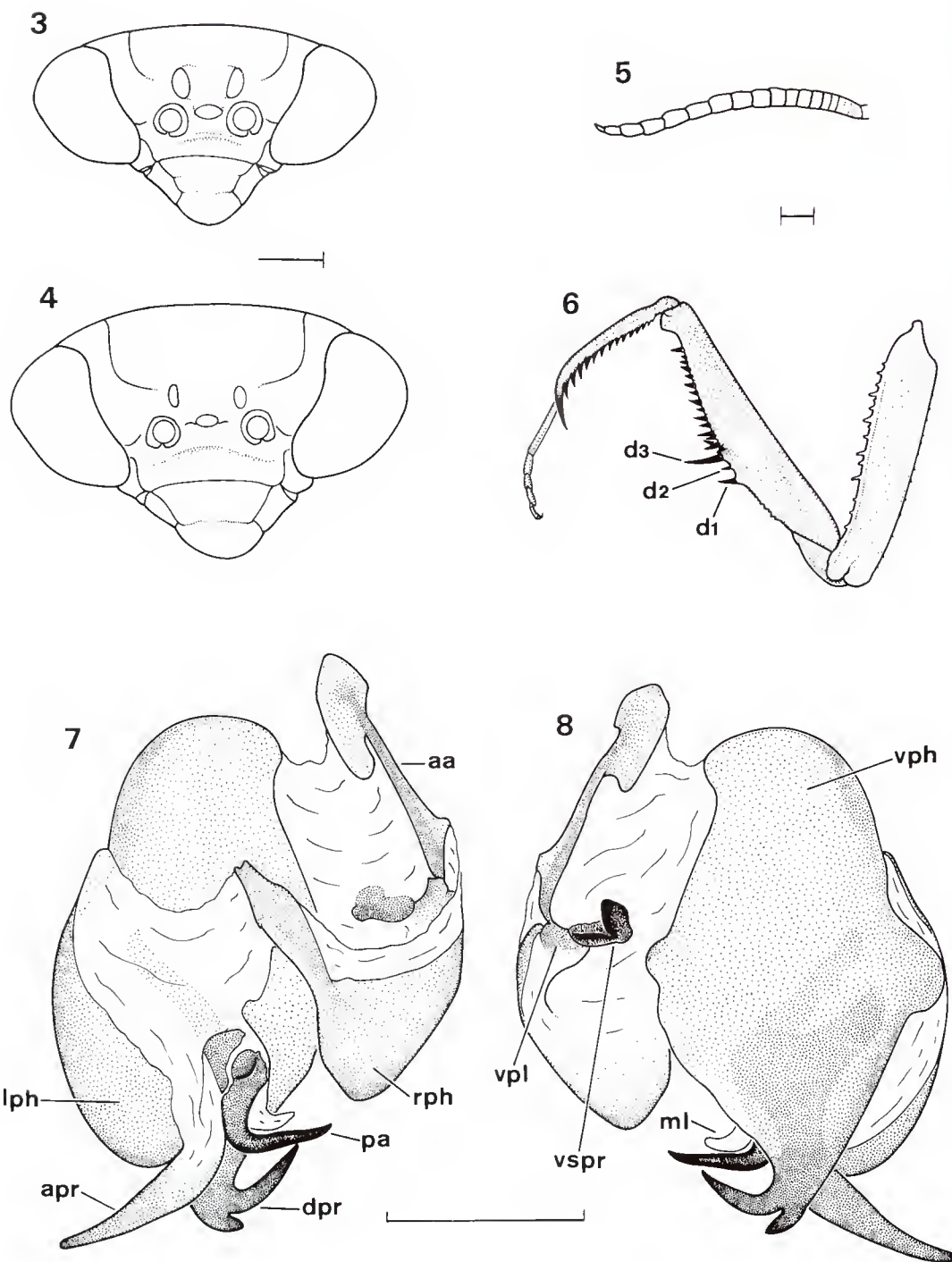
Male genitalia (figs 6, 7) with posterior arm of bifurcate dpr much shorter than anterior arm; apr elongate gently curved; pa rather smooth with elongate, narrow, pointed posterior process, sharply curved dextrad and small knob like anterior process, directed dorsad.

Measurements(mm). Body length, ♂ 50–62, ♀ 66–68. Head width, ♂ 6.5–7.7, ♀ 9.5. Head depth, ♂ 3.5–4.6, ♀ 6.8. Pronotum width, ♂ 3.0–4.4, ♀ 5.5. Pronotum length, ♂ 15.0–20.2, ♀ 23.1. Fore coxa length, ♂ 9.2–12.7, ♀ 17.1. Fore femur length, ♂ 11.0–15.4, ♀ 18.7. Tegmen length, ♂ 31.9–39.6, ♀ 40.7. Cercus length, ♂ 4.0–4.6, ♀ 6.1.

Immature stages. Nymphs similar in appearance to adults, ootheca unknown.



Figures 1-2. *Austromantis albomarginata*. 1, male; 2, female (pz = prozona, mz = metazona).
Scale = 10 mm.



Figures 3–8. *Austromantis albomarginata*. 3, male head; 4, female head; 5, female cercus; 6, female foreleg, inside (d1–3 = discoidal spines 1–3); 7, male genitalia, dorsal (aa = anterior apodeme, apr = apical process, dpr = distal process, lph = left phallomere, pa = phaloid apophysis, rph = right phallomere); 8, male genitalia, ventral (ml = membranous lobe, vph = ventral phallomere, vpl = ventral plate, vspr = ventral sclerotized process). Scales = 2 mm.

Distribution and habits. Known from the northern parts of Western Australia, Northern Territory and Queensland (fig. 166). I have collected this species from shrubs in northern Queensland. The large proportion of males in collections probably indicates that most specimens were collected at light traps.

Remarks. This species shows some variation in size. Sjostedt's type male of *A. gracilis* is at the small end of the range, however its genitalia are virtually identical to those of the male syntype of *A. albomarginata* examined.

Nullabora Tindale

Nullabora Tindale, 1923: 442. Type species *Nullabora flavoguttata* Tindale by monotypy.

Diagnosis. Head strongly antero-posteriorly compressed, eyes tapering to blunt point, both sexes macropterous, eerei cylindrical and stout, dpr of male genitalia bifurcate.

Description. Body of medium size, rather slender, female more robust than male. Head at least twice as wide as high, strongly antero-posteriorly compressed, slightly concave anteriorly, apical margin horizontal but curving downward little toward eyes; eyes tapering to blunt point at dorso-lateral margin; frontal shield transverse, about 3.5 times as wide as high, surface flat, dorsal margin broadly curved with indentations below antennae and ventral ocellus, lateral margins slightly curved; antennae of male slightly longer than prothorax, those of female finer and about half length of prothorax.

Pronotum elongate, slender, supracoxal expansion moderate; margins slightly lamellate, almost smooth in male, finely denticulate in female; prozona slightly constricted in both sexes, moderately tuberculate beneath; metazona with very faint mid dorsal keel.

Fore coxa slender, shorter than femur, anterior margin with 6–7 small blunt teeth interspersed by smaller denticles; fore femur slender, claw groove at or slightly distal of midpoint, with 4 discoidal spines, the 2nd shortest, the 3rd longest, with 4 outer spines and 16 inner spines, ventral surface with scattered tubercles and shallow depression anterior to 4th discoidal spine; fore tibia with 11 outer and 16 inner spines. Mid and hind legs slender, femora without genicular spine.

Macropterous in both sexes, wings as long as abdomen in female, slightly shorter in male, tegmen with costal area and costal margin of discoidal area opaque, remainder hyaline;

hindwing with costal area semi opaque, remainder hyaline.

Abdomen elongate; cercus of moderate length, cylindrical and rather stout, terminal segment pointed. Male genitalia with dpr a sharply curved bifurcate hook; apr tapering to blunt point, slightly sinuate; dl of lph reduced; vsph small, stoutly u-shaped.

Nullabora flavoguttata Tindale

Figures 9–17, 166

Nullabora flavoguttata Tindale, 1923: 443.

Material examined. Holotype female. Kingoonya, S.Aust., R. Harvey, 1.14070. Paratype nymph, Northern Territory, Capt. S.A. White (both SAM).

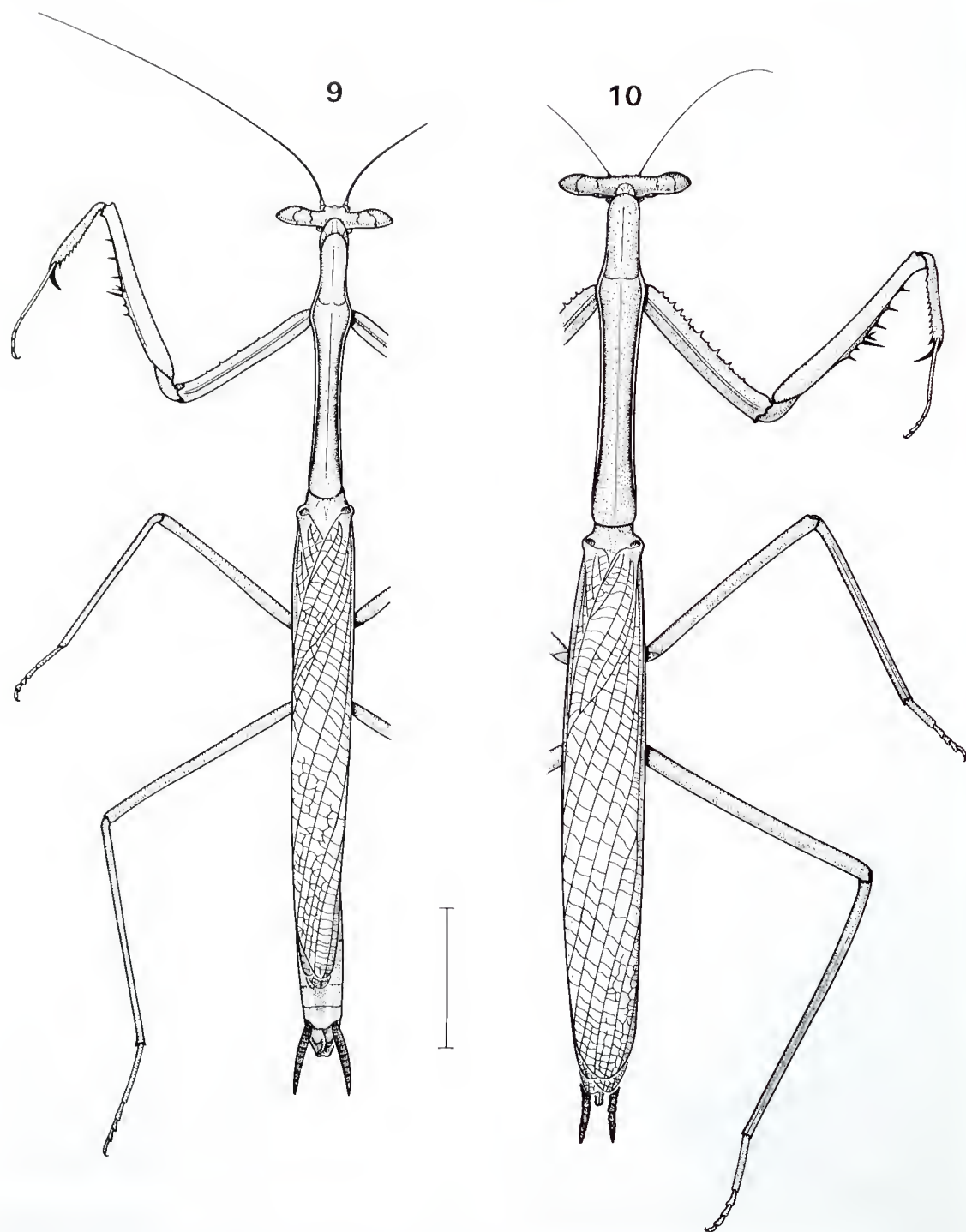
Other specimens examined (9♂, 14♀, 11 juv.). Qld. 2♂, ♀, Butcher Creek, 20 km W of Cloncurry, 21 Jan 1977 (AM). 1 juv., 48 km E of Camooweal, 24 Aug 1960. ♂, 21°41'S, 140°30'E, Selwyn Mine, 160 km SE of Mt Isa, 28 Dec 1991. ♀, 21°41'S, 140°30'E, Selwyn Mine, 160 km SE of Mt Isa, 17 Oct 1990. 1 juv., 17°24'S, 138°18'E, 9 km SSE of Westmoreland HS, 29 May 1975 (all ANIC). 2♂, ♂, 20°43'S, 140°21'E, Butcher Ck., 16 km W of Cloncurry, 1 Jan 1993. ♀, 19°17'S, 140°29'E, 16 km ESE of Burke and Wills Junction, 15 Jan 1993. ♀, 19°17'S, 140°27'E, Crocodile Ck., 14 km ESE of Burke and Wills Junction, 14 Jan 1993. ♂, 2♂, 1 juv., 20°50'S, 140°23'E, Dajarra Rd., 19 km SW of Cloncurry, 2 Jan 1993 (all NMV).

NT. ♀, 16°16'S, 136°05'E, Carabirini Waterhole, 33 km SW of Borroloola, 21 Apr 1976. 1 juv., 19°51'S, 136°02'E, 14 km SSE of Dalmore Downs HS, 25 Apr 1976. ♀, 1 juv., 20 km S of Elliot, 19 Nov 1966. 1 juv., 20 km NNW of Renner Springs, 15 Oct 1969. 1 juv., 30 km E of Vaughan Springs HS, 25 Jul 1968 (all ANIC).

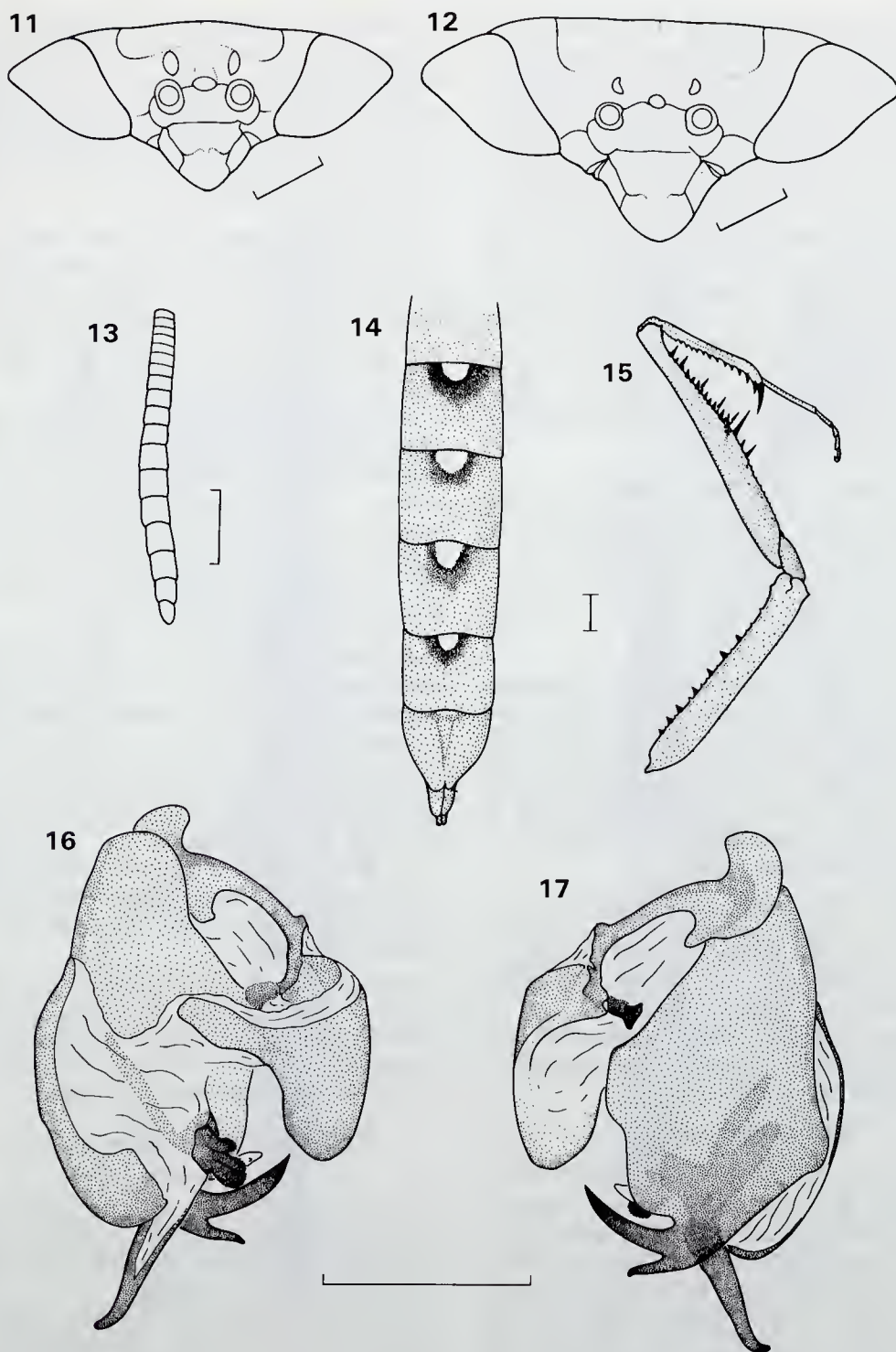
South Australia. ♂, 26°09'S, 130°35'E, 56 km W of Amata, Musgrave Ranges, 20–21 Jan 1982 (ANIC). ♂, Anna Creek HS, 6 Dec 1974 (SAM).

WA. ♀, 18°49'S, 123°17'E, 163 km ESE of Broome, 4 Aug 1976. ♀, 11 km ESE of Dandaraga HS, nr Sandstone, 23 Jan 1974. ♀, 9 km NW of Leonora, 19 Jan 1974. 1 juv., McSpeery Gap, Napier Range, SE of Kimberley Downs HS, 27 Oct 1969. ♀, 10 km E of Mt Thorlan, NW of Christmas Creek HS, 22 Oct 1969. 1 juv., 10 km E of Mt Thorlan, NW of Christmas Creek HS, 28 Oct 1969. 1 juv., 28°30'S, 115°45'E, 25 km NE of Mullewa, 17 Oct 1984 (all ANIC). 1 juv., Hogarth Well, Jul 1956 (SAM). ♂, 24°39'S, 128°45'E, Bungabiddy Rockhole, Walter James Range, 15–16 Jan 1990. ♀, 23°59'S, 117°32'E, Pingandy Station, 13 Mar. 1980 (all WAM).

Description. Dry specimens yellowish green. Face with broad whitish horizontal band; metazona of pronotum edged dorsally in reddish brown, white along mid dorsal line, almost completely reddish brown to black ventrally; inner face of fore coxa yellowish with anterior



Figures 9-10, *Nullahora flavoguttata*. 9, male; 10, female. Scale = 10 mm.



Figures 11-17, *Nullabora flavoguttata*. 11, male head; 12, female head; 13, female cercus; 14, female abdomen; 15, female foreleg, inside; 16, male genitalia, dorsal; 17, male genitalia, ventral. Scales = 2 mm.

marginal teeth black; inner face of fore femur yellowish in ventral half, femoral spines dark brown; fore tibia with spines tipped dark brown; meso and meta sternum reddish brown to black; costal area of tegmen with white outer band and green to purplish inner band, outer margin of costal area greenish, remainder of tegmen hyaline; costal area of hindwing yellow-green, remainder hyaline; abdomen with broad mid dorsal longitudinal band, purplish centrally and white to either side, ventrally (fig. 14) with large yellow patch bordered by reddish brown on mid anterior margin of sternites 2–6 (♂) or 2–5 (♀). Male genitalia (figs 16–17) with compact, strongly shagreened pa, consisting of smaller anterior and larger posterior knobs, the larger one with transverse furrow.

Measurements (mm). Body length, ♂ 60, ♀ 66–70. Head width, ♂ 8.6, ♀ 10.5. Head depth, ♂ 3.8, ♀ 4.6–4.8. Pronotum width, ♂ 2.6, ♀ 3.5. Pronotum length, ♂ 19.2, ♀ 25.2–25.9. Tegmen length, ♂ 34.1, ♀ 41.8. Fore coxa length, ♂ 12.1, ♀ 15.4. Fore femur length, ♂ 14.3, ♀ 16.5–17.6. Cercus length, ♂ 3.3, ♀ 5.0–7.2.

Immature stages. Nymphs similar in appearance to adults. Ootheca unknown for certain, however, I have collected oothecae from shrubs in which adults and nymphs were also taken and which probably belong to this species. The oothecae are small, globular and whitish in colour with an unusual flap-like structure overlaying the dorsal exit region.

Distribution and habits. Known from the drier parts of Queensland, Northern Territory, Western Australia and South Australia (Fig. 166). I have collected this species from acacia shrubs in the Gulf country of Queensland.

Remarks. Despite being widespread this species is poorly represented in collections, perhaps indicating scarcity in nature.

Corthylomantis gen. nov.

Type species. *Corthylomantis baldersoni* sp. nov.

Diagnosis. Body of moderate size, elongate. Head about as wide as high, moderately compressed antero-posteriorly, slightly concave anteriorly, apical margin curved toward paracocular regions; dorso-lateral margin of eyes rounded; frontal shield with dorsal margin broadly arched, indentations below antennae and ventral ocellus, lateral margins slightly curved, with distinct subantennal ridge; antennae of male about as long as prothorax, of female about half the length of prothorax.

Pronotum elongate, more slender in male, supracoxal expansion distinct; lateral margins slightly lamellete, particularly around prozona and supracoxal expansion, only lightly denticuled in anterior half; prozona smooth dorsally in male, few scattered tubercles in female, lightly tubercled ventrally; metazona with distinct mid dorsal carina.

Fore coxa shorter than femur, with 6 or 7 small blunt teeth on anterior margin; Fore femur with 4 discoidal spines, the 2nd shortest, the 3rd longest, with 4 outer spines and 15 inner spines, claw groove centrally situated; Fore tibia with 14–15 inner and 8–10 outer spines. Mid and hind femora with small genicular spine.

Male macropterous, wings just surpassing 6th abdominal segment, tegmen with proximal third of costal area and costal margin of discoidal area opaque to subopaque, remainder hyaline, hindwing with costal area opaque, remainder hyaline. Female brachypterous, wings covering first 2 abdominal segments, tegmen completely opaque, hindwing subopaque.

Abdomen elongate, more slender in male; cerci short, distal segments only very slightly compressed laterally, tip of apical segment a rounded point. Male genitalia with dpr a strongly sclerotized hook curved dextrad, sometimes with small secondary spine near tip; medial lobe not prominent. Apr curved sinistrad and tapering to rounded tip; pa separated from vl of lph by membranous area; ml elongate, finely hirsute. Rph with dorsal arm partially sclerotized; aa elongate, squamiform sinistrad; vpl continuous with main body of rph; vspr compact, u-shaped.

Etymology. The first component of the generic epithet is derived from the Greek *korthylos* meaning little king or chieftain and relates to the derivation of the first component of *Archimantis* i.e. from *archon* meaning chief, ruler.

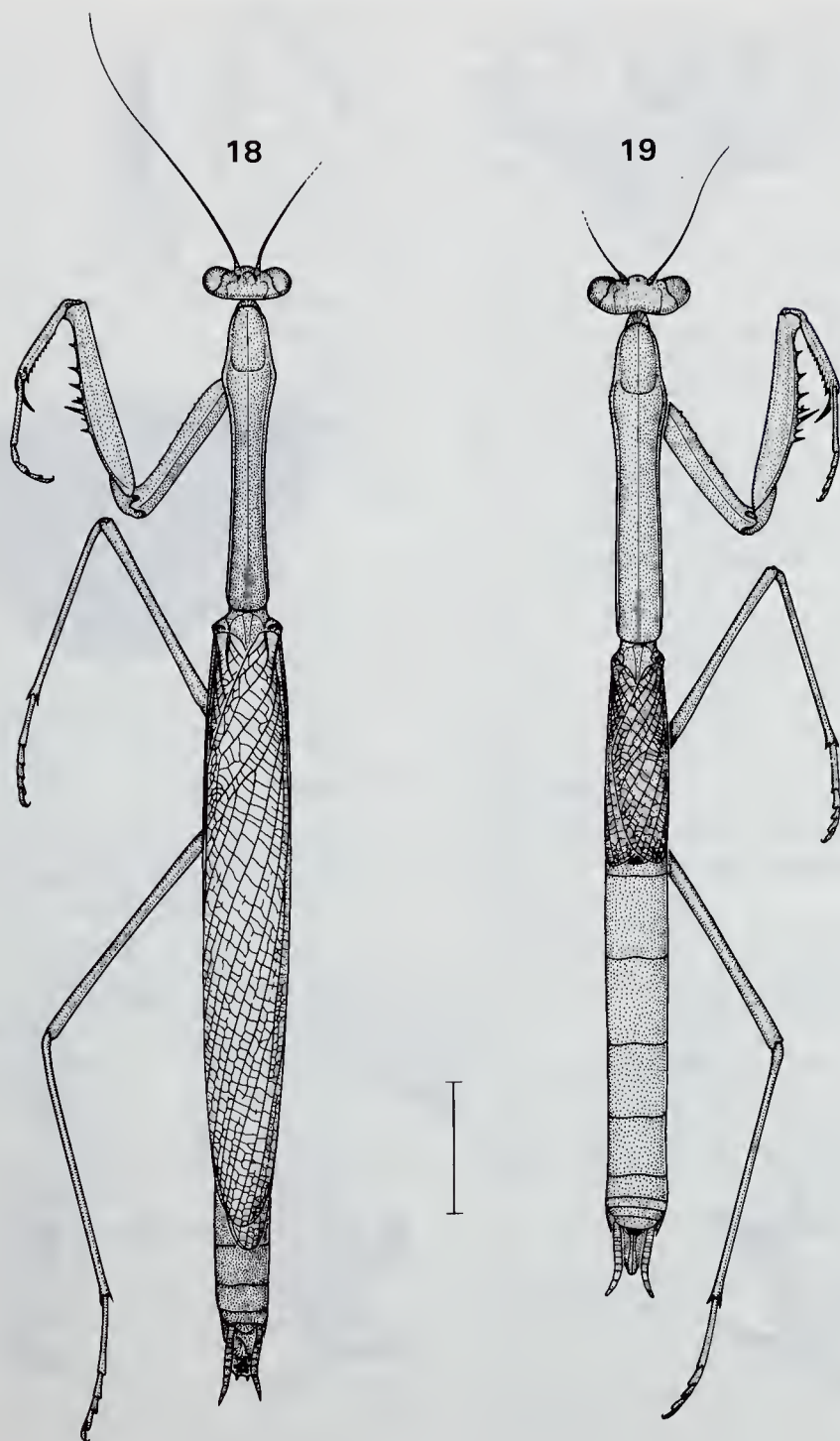
Corthylomantis baldersoni sp. nov.

Figures 18–28, 167

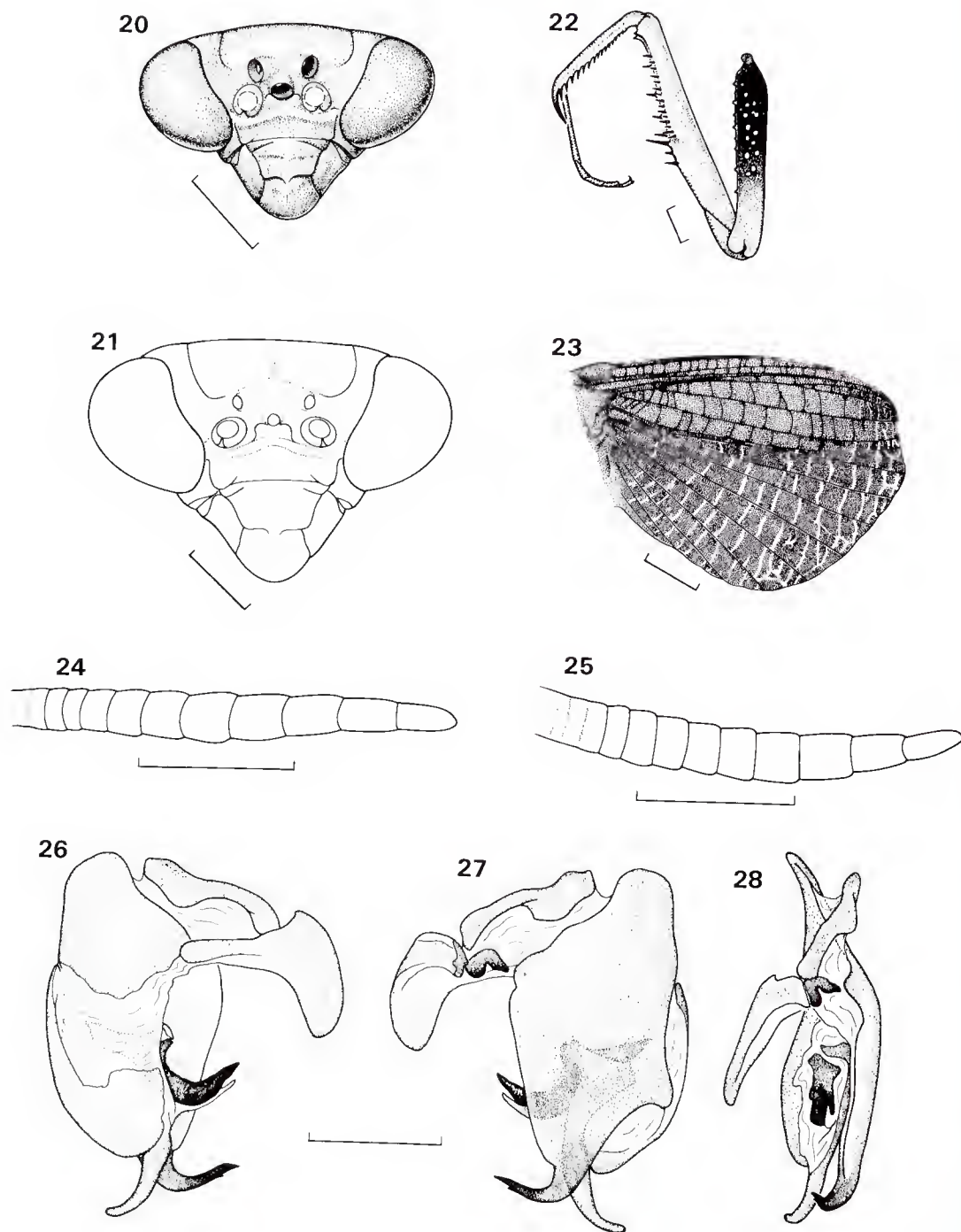
Material examined (2♂, ♀). Holotype: ♂, 15°43'S, 128°39'E, Valentine Rockhole, 12 km WNW of Kununurra, Western Australia, 8 May 1983, D.C.F. Rentz and J. Balderson, Stop 4 (ANIC).

Paratypes: ♂, 8.3 km SSW of Canobie HS, Queensland, 13 Apr 1962, K.H.L. Key and E.L. Corby (ANIC, 13565). ♀, 17°23'S, 124°44'E, Lennard River Crossing, Gibb River Road, Kimberley, Western Australia, Apr 1988, T.F. Houston 678–9 (WAM, 90/489).

Description. Body colour yellowish brown. Prosternum with dark colouration between bases of



Figures 18-19, *Corthylomantis baldersoni*. 18, male; 19, female. Scale = 10 mm.



Figures 20-28, *Corthylomantis baldersoni*. 20, male head; 21, female head; 22, male foreleg, inside; 23, female hindwing; 24, male cercus; 25, female cercus; 26, male genitalia, dorsal; 27, male genitalia, ventral; 28, male genitalia, right lateral. Scale = 2 mm.

fore coxae; inner face of fore coxa (fig. 22) pale distally, becoming darker with pale spots proximally; fore femur with inner face pale, 1st and 3rd discoidal and large inner spines entirely blackish brown, 2nd and 3rd discoidal, outer and small inner spines more or less tipped with blackish brown; inner face of tarsal segments some times blackish. Opaque areas of tegmen similar to body colour above, intense reddish brown beneath; hindwing of male with costal area brownish, remainder hyaline, hindwing of female (fig. 23) smokey black in colour, cross-veins of discoidal area flushed white. Male genitalia (figs 126–128) with dpr rather narrow basally, apr only slightly swollen medially, anterior section of ventral lamina of lph small in area with short projection at junction with pa, pa a single uncinate dextrad projection, surface lightly ridged and shagreened.

Measurements (mm). Body length, ♂ 75–78, ♀ 70. Head width, ♂ 6.2, ♀ 7.5. Head depth, ♂ 5.4, ♀ 6.3. Pronotum length, ♂ 22.2–22.5, ♀ 24.5. Pronotum width, ♂ 3.6–3.7, ♀ 5.0. Fore coxa length, ♂ 11.6–11.8, ♀ 13.5. Fore femur length, ♂ 13.5–13.9, ♀ 15.5. Tegmen length, ♂ 40.5–43.5, ♀ 15.5. Cercus length, ♂ 5.7, ♀ 5.8.

Immature stages. Nymphs and ootheca unknown.

Etymology. This species is named for John Balderston for his contributions to the collection and study of Australian praying mantids.

Distribution and habits. Known only from 3 localities, 2 in north Western Australia and 1 from northwestern Queensland (fig. 167). The habits of this species are unknown, however, the female paratype has a small label attached stating the following, 'active in grass tussocks at night'.

Remarks. This appears to be a widespread but uncommon species.

Coenomantis Giglio-Tos

Coenomantis Giglio-Tos, 1917: 45. Type species *Pseudomantis kraussiana* Saussure, by monotypy.

Thorodia Tindale, 1923: 452. Type species *Thorodia melanoptera* Tindale, by monotypy.

Diagnosis. Male macropterous, female brachypterous, prothorax covered with scattered tubercles, discoidal area of hindwing pigmented, cerci short and stout.

Description. Body of medium size, moderately elongate. Head slightly wider than high, moderately antero-posteriorly compressed, apical

margin broadly arched, paraocular regions distinctly lower; eyes prominent, margins rounded; upper margin of frontal shield curved, with indentations below antennae and median ocellus, with distinct subantennal ridge, ventral margin broadly arched; antennae about the same length as pronotum in male, distinctly shorter in female.

Pronotum moderately elongate, with distinct supra coxal expansion; lateral margins distinctly tuberculate in prozona, moderately tuberculate in metazona of female, almost smooth in metazona of male, lamellate, especially around supra-coxal expansion; dorsal surface with scattered tubercles, more distinct in female, metazona with distinct median keel; ventral surface with scattered tubercles, more distinct in female.

Fore coxa with small scattered tubercles on all surfaces, anterior margin with 4–5 teeth and number of smaller tubercles; fore femur with few small tubercles on all surfaces, 4 discoidal spines, 2nd very short, 3rd very long, with 4 outer and 13–14 inner spines, ventral surface with slight depression anterior to 4th discoidal spine; fore tibia with 7–9 inner and 13–14 outer spines; hind legs slender, with or without genicular spine, coxae with small lobe at vento-lateral corner.

Male macropterous, female brachypterous, tegmen with costal area opaque, discoidal area opaque in female but only partially so in male, hindwing pigmented.

Abdomen moderately elongate, cerci short and stout with distal segments laterally compressed. Male genitalia with dpr of vph uncinate, apr elongate and tapering to blunt point, vspr u-shaped.

Coenomantis kraussiana (Saussure)

Figures 29–51, 167

Coenomantis kraussiana (Saussure), 1873: 25.

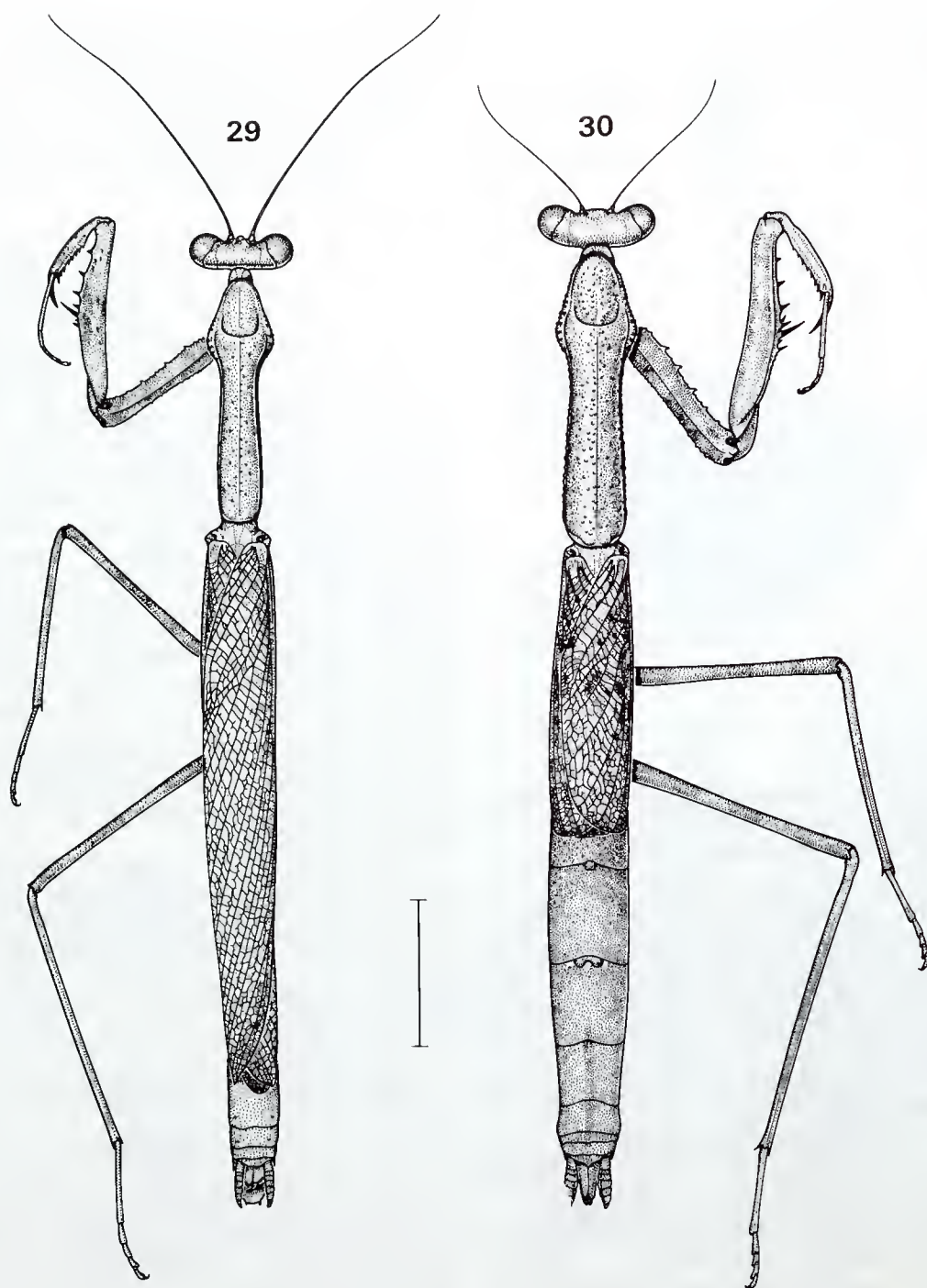
Thorodia melanoptera Tindale, 1923: 453. Syn. nov.

Thorodia melanoptera major Tindale, 1923: 453.

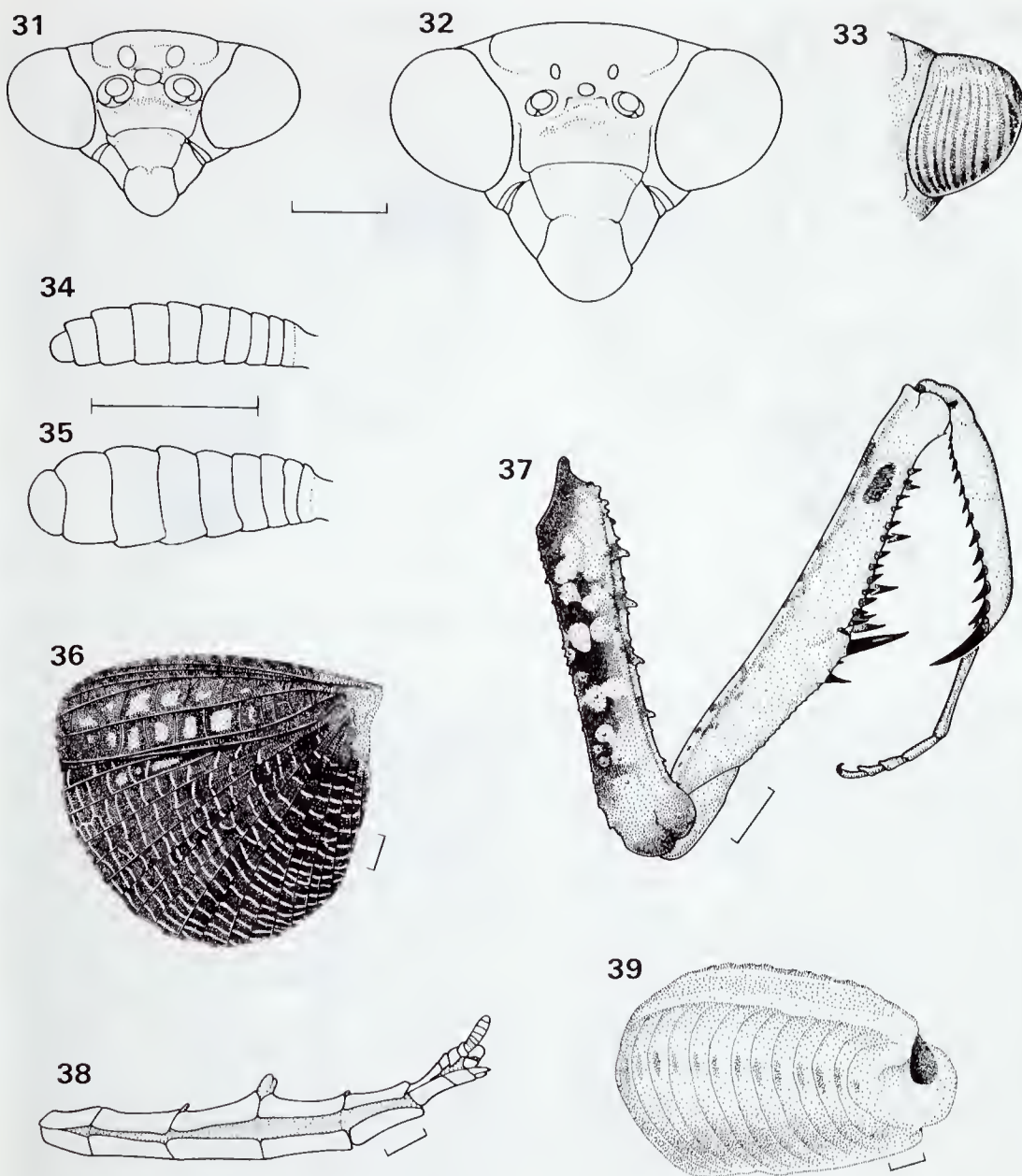
Material examined. Syntype male of *T. melanoptera*, Murray River, SA, H.S. Cope, 1.14064. Syntype female of *T. melanoptera*, Mindarie, SA, 1.14064. Syntype male and syntype female of *T. melanoptera major*, Kingoonya, SA, R. Harvey, 1.14065. (All SAM).

Other specimens examined (163♂, 49♀, 27 juv.). Qld, ♂, 4 km SSW of Birdsville, 4 Dec 1974, 2♂, 28°13'S, 150°17'E, 37 km N of Goondiwindi, 14 Apr 1982, 1 juv., 18 km N of Tara, 22 Mar 1962 (all ANIC), ♂, 10 km W of Etjabuka Stn, 3 Jun 1975 (NMV).

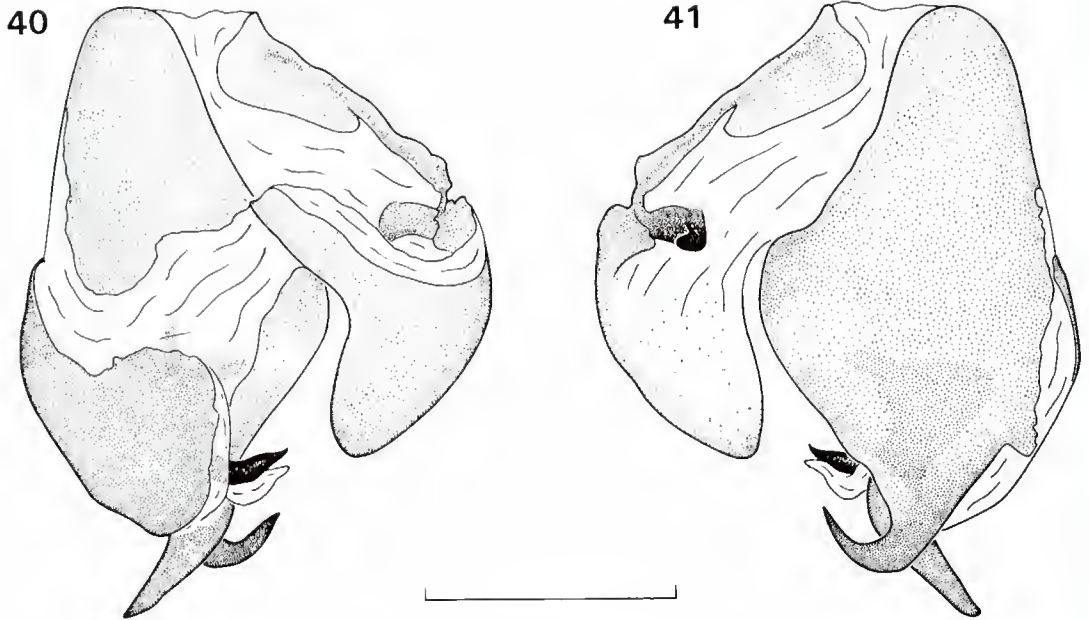
NSW, ♀, Brewarrina, May 1962, ♂, 33 km WSW of Coolabah, 2 Nov 1963, ♂, Round Hill Nature Reserve, 28 Dec 1976, ♂, Stephens Creek, 24 km ENE of Broken



Figures 29-30, *Coenomantis kraussiana*. 29, male; 30, female. Scale = 10 mm.



Figures 31–39, *Coenomantis kraussiana*. 31, male head; 32, female head; 33, female eye, colour pattern; 34, male cercus; 35, female cercus; 36, female wing; 37, female foreleg, inside; 38, mid instar nymph, lateral abdomen; 39, ootheca, dorso-lateral. Scale = 2 mm.



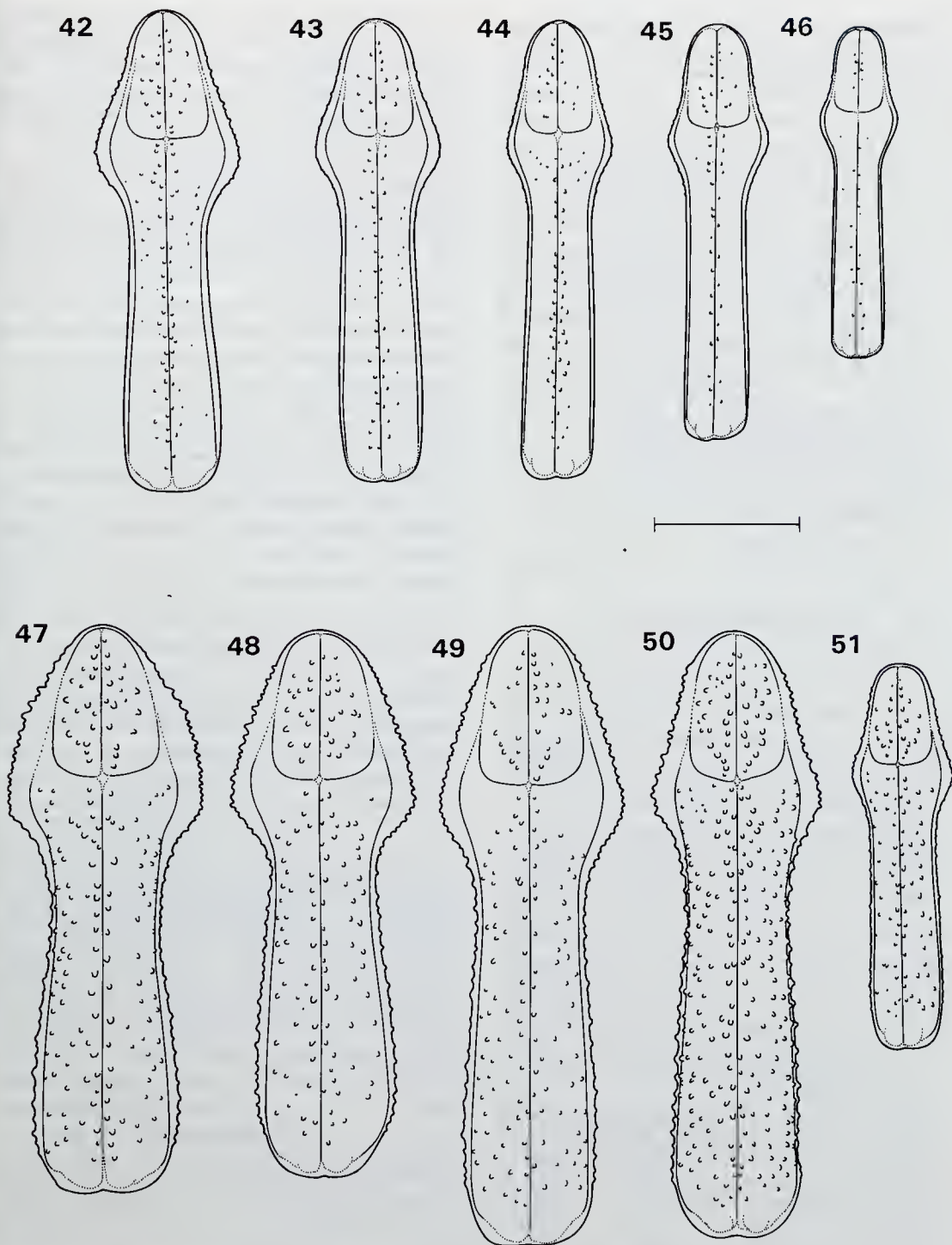
Figures 40–41, *Coenomantis kraussiana*. 40, male genitalia, dorsal; 41, male genitalia, ventral. Scale = 2 mm.

Hill, 28 Jan 1976 (all AM). ♂, 32°08'S, 149°00'E, 4 km WSW of Elong Elong, nr Mendooran, 2 Jan 1971. ♂, 31°05'S, 14°142'E, Fowlers Gap Research Stn, N of Broken Hill, 1979–1981. ♂, Gilgandra, 17 Nov 1984. ♀, Lightning Ridge, 8 Jul 1977. ♀, 32°30'S, 140°20'E, Kinchega Nat Pk, Jan 1986. 2♂, Trangie Exp Stn, 6 km NW of Trangie, 13–21 Sep 1978. ♂, Wittabrenna Creek, 20 km N of Tibooburra, 2 Nov 1971. 4♂, Wittabrenna Creek, 20 km N of Tibooburra, 25 Mar 1972 (all ANIC). 2♂, ♀, 1 juv., 25 km S of Bourke, 21 Feb 1989. ♀, 5 km NNW of Silverton, 30 Jan 1990. ♀, 86 km N of Wentworth, 29 Jan 1990 (all NMV). ♂, Broken Hill, 10 Nov 1976. ♂, 25 km NE of Broken Hill, 10 Jan 1963. ♂, Broken Hill, 1 Dec 1906. ♂, Broken Hill, 10 Mar 1900. ♂, 16 km SW of Silverton, 16 Dec 1963 (all SAM).

NT. ♂, Alice Springs, 20–25 Apr 1955. ♂, 23°42'S, 133°53'E, Alice Springs, 1 Nov 1980. 10♂, 23°41'S, 133°52'E, Alice Springs, 6–8 Nov 1988. 2♂, 23°41'S, 133°52'E, Alice Springs, 3–4 Nov 1988. 3♂, 24°11'S, 133°31'E, Stuart Hwy, 65 km SSW of Alice Springs, 27 Oct 1988. ♂, Alice Springs, 17 Nov 1966. ♂, Alice Springs, 29 Sep 1955. 6♂, 23°41', 134°15'E, 39 km E of Alice Springs, 25–26 Sep 1978. ♂, 25°39'S, 134°38'E, 10 km SE of Finke, 30 Sep 1972. ♂, Gosses Bluff, 13 Apr 1969. ♂, 24°10'S, 135°24'E, Hale River Crossing, 7–8 Sep 1955. ♂, 24°36'S, 133°12'E, 7 km SW of Henbury HS, 2 Oct 1972. 3♂, 26°00'S, 131°25'E, 26 km WSW of Mulga Park HS, 18 Jan 1982. 2♂, 22°47'S, 136°18'E, Plenty Hwy, 268 km ENE of Alice Springs, 14 Oct 1978. 2♀, 60 km NW of Tanami, 13 Apr 1963. ♂, 25°21'S, 131°03'E, Uluru Motel, Ayers Rock, 4 Nov 1980, (all ANIC). ♂, Alice Springs, 27 Nov 1954. ♀, Kings Canyon Rd, 31 km W of Stuart Hwy, 1 Oct 1987

(all NMV). ♂, Anthony Well, 8 Aug 1930. 4♀, 1 juv., Double Punch Bowl, Henbury, 15 Oct 1985. ♀, Heavitree Gap, MacDonnell Ranges. ♂, Mulga Park HS, Oct 1960. ♂, Mount Liebig, Aug 1932. ♂, West tip Peterman Range 3 Oct 1963 (all SAM).

South Australia. ♂, Innamincka, Coopers Creek, 24 Jan 1976. ♂, 27 km S of Innamincka, 28 May 1967 (both AM). 1 juv., Blinman, 16 Oct 1966. 1 juv., 40 km ESE of Burra, 28 Jul 1956. 1 juv., 20 km SE of Burra, 15 Aug 1961. ♂, Coopers Creek, 19 Oct 1949. ♂, Corny Point, ♂, 78 km W of Ernabella Mission, 30 Sep 1960. ♀, 33°30'S, 135°54'E, Hambidge Nat Pk, Eyre Peninsula, 16–17 Dec 1970. 1 juv., 47 km NNE of Kingoonya, 16 Jul 1956. ♂, Lowan Station, 7 km S of Sherlock, 27 Dec 1954. ♂, 26°20'S, 134°56'E, 2 km SW of Mount Barr, SSE of Abminga, 25 Sep 1972. ♂, 32°17'S, 140°19'E, 25 km WNW of Olary, 20 Dec 1970. 1 juv., 26°07'S, 138°56'E, Old Alton Downs HS, WSW of Birdsville, 19 Sep 1972. 1 juv., 1.5 km E of Pimba, 13 Jul 1956. 2♂, Slippery Dip Camp, Brachina Creek, 4, 9 Nov 1987. 1 juv., Tintinara, 17 Oct 1977. 4♂, 31°20'S, 138°37'E, Trezona Camp, Brachina Creek, 7 Nov 1987. ♂, 31°20'S, 138°37'E, Trezona Camp, Brachina Creek, 8 Nov 1987. 1 juv., 60 km NNW of The Twins HS, 17 Jul 1956. ♂, Watson, 22 Oct 1960. 2♂, 50 km SW of Whyalla, 20 Nov 1985 (all ANIC). 1 juv., Abminga Railway Stn, 22 Sep 1987. 5 juv., 5.5 km NNW of Alberrie Creek Railway Stn, 18 Sep 1987. 1 juv., 9 km SE of Bloods Creek Bore, 22 Sep 1987. 1 juv., Eringa HS, 190 km N of Oodnadatta, 21 Sep 1987. ♂, Halidon, ♂, Hesso, 3 Nov 1987. 2♀, 22 km W of Merna Morna HS, 16 Sep 1987. 1 juv., Morolana HS, 16 Sep 1987. 1 juv., Neales Creek, 3 km N of



Figures 42-51, *Coenomantis kraussiana*, dorsal prothorax. 42, male, Kingoonya, S.A. (syntype, *Thorodia melanoptera major*); 43, male, Alice Springs, N.T.; 44, male, 6 km NW of Trangie, N.S.W.; 45, male, Murray River, S.A. (syntype, *T. melanoptera*); 46, male, 2 km SW of Mt. Barr, S.A.; 47, female, Kingoonya, S.A. (syntype, *T. m. major*); 48, female, 20 km NE of Carnarvon, W.A.; 49, female, Kings Canyon Rd., 31 km W of Stuart Hwy., N.T.; 50, female, 13.6 km NW of Lascelles, Vic.; 51, female, 133 km NW of Oodnadatta, S.A. Scale = 5 mm.

Oodnadatta, 20 Sep 1987. ♀, 133 km NNW of Oodnadatta, 20 Sep 1987 (all NMV). ♂, Adelaide. ♀, Alford, 13 Jan 1892. ♂, Callimurra Waterhole, 11.3 km ENE of Innaminka HS, 31 May 1976. ♂, Cameron Corner, 16 May 1976. ♂, Coopers Creek, May 1925. ♂, Coopers Creek Ferry Crossing, 30 Nov 1977. ♂, Dalhousie Springs, 4 May 1976. ♂, Farina Creek, 30 May 1976. 2♂, Fowlers Bay, ♂, Henley Beach, Adelaide, 3♂, 2♀, Kingoonya. ♂, Koonalda Stn, Nullabor Plain, Jan 1955. ♂, Koonalda, 5 Jan 1960. ♂, Lake Eyre, 13 May 1963. 2♂, Lucindale. 7♂, Madigan Gulf, Lake Eyre, Nov 1966. 5♂, Madigan Gulf, Lake Eyre, 16 Feb 1956. ♂, Lamerio. 5♂, Marree Picnic Ground, 2 Nov 1955. ♀, Mercene Bluff, 2♂, 32°57'S, 137°24'E, Middleback Stn, 1 Oct, 25 Nov 1983. ♀, Mindarie. ♀, Mermerna HS, 1949. 2♂, Mudla Bore, 38 km NE of Billa Kalina HS, 4 Dec 1974. ♂, ♀, Murray River. ♂, New Kalamurina Stn, Warburton Range, 10 Mar 1972. ♂, Nth Prescott Point, Madigan Gulf, Lake Eyre, 2 Nov 1965. 1 juv., Old Billa Kalina Ruins, 4 Dec 1974. ♂, Olympic Dam Site, 2–5 Nov 1987. ♀, Ooldea. ♂, Owicandana, N Flinders Range, Nov 1924. ♀, Pimba. ♂, Poole Creek, 42 km W of Marree, 29 Sep 1989. 1 juv., Port Arthur, 22 Apr 1968. ♂, Port Augusta. ♀, Purple Downs, 267 km NW of Port Augusta. 2♂, 18 km S of Radium Hill, 30 Oct 1962. 2♂, Salt Creek, Coorong, 16 Nov 1967. 2♂, Simpson Desert, Jul–Aug 1972. ♂, Strezlecki Creek Crossing, 15 km SW of Tinga Tingana, 8 May 1976. ♂, Talaculanna Waterhole, 2 Dec 1964. ♂, West of Welbourne Hill, 24 Oct 1953. ♂, White Wells Reserve, 12 Jan 1960. ♂, Wirreandah Creek Crossing, 30 km S of Hawker, 26 Nov 1975. ♂, Woomera Village, 2 Dec 1961. ♂, ♀, Yurga, Dec 1955 (all SAM). ♂, Ettaduna Stn, Birdsville Track, 3 Oct 1972. ♂, 5 km NE of Kitto Kitloulloo Foreshore, 5 Aug 1971. ♀, western mid shore of Lake Palankarinna, Aug 1971 (all WAM).

Western Australia. ♀, 20 km SSW of Booloogooro HS, NE of Carnarvon, 16 Sep 1961. 1 juv., 29°49'S, 114°59'E, 27 km W of Encabba, 9 Sep 1981. ♂, 11 km N of Geraldton, 13 Dec 1972. ♂, 30°45'S, 121°28'E, Kalgoorlie, 17 Jan 1978. 2♂, Learmonth, Exmouth Gulf, 17 Sep 1961. 1 juv., 31°57'S, 126°42'E, 32 km SW of Madura, 8 Oct 1968. ♂, 57 km ENE of Pardoo HS, ENE of Port Hedland, 18 Apr 1963. 1 juv., 33°24'S, 120°12'E, 27 km NNE of Ravensthorpe, 16 Nov 1969 (all ANIC). ♀, Norseman, Oct 1906 (NMV). 2♂, 31°26'S, 123°33'E, Bunyongia Springs, 18–25 Nov 1978. ♂, 1.5 km E of Lake Ngapakaldi, 2 Jul–2 Aug 1971 (all WAM).

Victoria. ♀, Camel Pad Lake, Hattah Lakes Nat Pk, 24 Jan 1986. ♀, 35°56'S, 141°40'E, Chinamans Well, Big Desert, 11–14 Dec 1984. ♂, 34°12'S, 141°35'E, 8.8 km N of Cullulerraine, 17 Nov 1985. ♂, 34°12'S, 141°36'E, 8.2 km N of Cullulerraine, 14 Nov 1985. 2♂, ♀, Hattah Lakes Nat Pk, 21 Oct 1982. 2♀, 34°48'S, 142°07'E, 15.5 km WSW of Hattah, Jan 1986. ♀, 34°50'S, 142°07'E, 17 km SW of Hattah, 21 Jan 1987. ♂, Irymple, 12 Dec 1955. ♂, Kewell, Western District, April 1888. ♀, 3 km ENE of Lake Wallawalla, 20 Feb 1986. ♀, 34°09'S, 141°08'E, 5 km NW of Lake Wallawalla, 20 Nov 1985. ♀, 35°33'S, 142°26'E, 15.2 km NW of Lascelles, 21 Jan 1987. ♀, 35°31'S, 142°28'E, 14.9

km NW of Lascelles, 23 Jan 1987. ♀, 13.6 km NW of Lascelles, 20 Jan 1987. ♂, ♀, 34°48'S, 142°22'E, Lendrook Plain, 9 km SE of Hattah, 23 Oct 1985. 1 juv., 34°45'S, 141°04'E, 3.7 km N of Millewa South Bore, Feb 1986. 2♂, 34°36'S, 141°03'E, 19.4 km N of Millewa South Bore, 13, 14 Nov 1985. ♀, 34°50'S, 142°33'E, 7.8 km SW of junction of Murray Valley Hwy and Annuello Rd, Jan 1987. ♀, 35°25'S, 141°10'E, 16.8 km SSW of Murrayville, 23 Feb 1987. ♂, Ouyen, Nov 1914. ♂, 35°13'S, 143°19'E, 21.3 km NE of Patchewollock, 29 Jan 1987. ♀, 5.7 km N of Round Swamp, Big Desert, Mar 1985. ♀, 21.3 km W of Sunset Tank, 19 Nov 1987 (all NMV).

Description. Body grey-brown with numerous paler and darker blotches and spots giving the appearance of woody material. Inner face of fore coxa (fig. 37) and ventral surface of metazona of pronotum with large pale spots, femoral spines blackish, eyes finely striped (fig. 33). Tubercles on ventral surface of metazona elongate in some specimens, lamellate margins of pronotum of variable width anteriorly. Tegmina of male extend to just short of tip of abdomen, costal area and anterior part of discoidal area opaque brown above, black and reddish brown below, remainder virtually hyaline. Tegmina of female reaching posterior margin of 2nd abdominal segment, colour similar to male but discoidal area completely opaque and anal area smokey grey with pale cross veins. Wings (fig. 36) with costal, discoidal and anal area smokey brown to black with bluish sheen; discoidal area with extensive to almost absent transparent patches between cross veins; anal area with whitish cross veins. Abdomen with distinct to not obvious bilobate intersegmental projections along mid dorsal line between abdominal segments 2–6; anterior margin of sternites 2–6 blackish. Male genitalia (figs 40–41) with pa a single caudally directed uncinate projection, curving ventro-laterally toward distal end, margins rather uneven, occasionally with small ventral projection about mid point.

Measurements (mm). Body length, ♂ 45–69, ♀ 45–62. Head width, ♂ 4.2–6.5, ♀ 5.8–7.4. Head depth, ♂ 3.3–4.3, ♀ 3.8–5.4. Pronotum length, ♂ 11–17, ♀ 12–19. Pronotum width, ♂ 2.4–4.8, ♀ 3.4–6.4. Fore coxa length, ♂ 7.0–10.5, ♀ 7.6–11.0. Fore femur length, ♂ 7.5–12.7, ♀ 9.0–14.0. Tegmen length, ♂ 29–42, ♀ 13–23. Cercus length, ♂ 2.5–3.9, ♀ 3.0–4.0.

Immature stages. Nymphs similar in appearance to adults, dorsal abdominal projections more distinct (fig. 38); ootheca (fig. 39) of moderate size, dirty cream in colour, outer spongy layer very thin to moderate in depth, eggs arranged in u-shape.

Distribution and habits. Found in the drier regions of all mainland states of Australia (fig. 167). Individuals are most commonly found close to the ground in small woody shrubs where they are excellently camouflaged. Oothecae can be found attached to the stems of these shrubs and are often parasitised by wasps of the genus *Podagrion*. Adults are usually collected from spring to early summer. Occasional runt sized adults are found, probably resulting from growth under conditions of food shortage.

Remarks. The holotype of this species cannot be found (Balderson, 1984). Tindale (1923) described two subspecies of *Thorodia melanoptera* which Beier (1935) later elevated to species level without giving reasons. After examination of a large number of specimens I find that the pronotal variation used by Tindale as the basis for distinguishing the subspecies shows a gradual range of variation (figs 42–51), also the male genitalia of the type specimens of *T. melanoptera* and *T. m. major* show no significant difference. Therefore I consider these taxa synonymous.

Austrovates Sjöstedt

Austrovates Sjöstedt, 1918: 35. Type species *Austrovates variegata* Sjöstedt, by monotypy.

Heterarchimantis Werner, 1922: 121. Type species *Heterarchimantis lobata* Werner, by monotypy.

Diagnosis. Body elongate, male macropterous, female brachypterous, mid and hind legs with small subapical lobe, cerci with distal segments laterally compressed.

Description. Large, elongate and stick-like in form; male macropterous, female brachypterous. Head wider than high, antero-posteriorly compressed, concave anteriorly, apical margin slightly arched; eyes prominent, margins rounded; frontal shield transverse, apical margin slightly arched and strongly indented below antennae and ventral ocellus, lateral margins sinuate, with distinct subantennal ridge; antennae little shorter than pronotum in male, distinctly shorter in female.

Pronotum elongate and slender, supracoxal expansion small but distinct; lateral margins slightly lamellate, finely tuberculate in prozona, same to almost smooth in metazona; prozona slightly constricted laterally in centre, few scat-

tered tubercles dorsally, more distinctly tuberculate below; metazona with distinct mid dorsal keel and few scattered tubercles dorsally.

Fore coxa elongate, slender, anterior margin with 4–5 small teeth, inner face finely tuberculate; fore femur elongate, slender, slightly sinuous, 2nd discoidal spine shortest, 3rd longest, 4 outer and 14–16 inner spines, ventral face with slight depression anterior to 4th discoidal spine; tibia with 10 outer and 14–15 inner spines; mid and hind legs slender with small subapical lobe on inner margin of femur, genicular spine present or absent, genicular lobes produced into point; mid and hind coxae with small subapical lobe at ventro-lateral corner.

Abdomen elongate, slender; cerci slightly to markedly elongate, distal segments laterally compressed. Male genitalia with 2 semicircular membranous areas on right lateral margin of vph, dpr a sharply curved hook; dl of lph extensive, apr elongate and tapering to blunt point; vspr u-shaped.

Austrovates variegata Sjöstedt

Figures 52–53, 56–58, 60–66, 168

Austrovates variegata Sjöstedt, 1918: 36.

Heterarchimantis lobata Werner, 1922: 121.

Material examined. Syntype female of *A. variegata*. "Noonkanbah, N.V.Austr., Mjöberg, Dec., 22 89" (NHRM). Holotype female of *H. lobata*, Port Darwin (N. Territory), N.Holl. (Australia), V.Bemm (RL).

Other specimens examined (26♂, 16♀, 23 juv.). Qld. ♂, Almaden, Chillagoe dist., Jan 1932. ♂, Bee Creek, 25 km SW of Nebo, 6 Feb 1981. ♂, Capella, 8 Feb 1981 (all AM). 1 juv., 8 km E of Dunbar HS, 10 Oct 1975. ♂, Longreach, Jan–Mar 1972. ♂, ♂, Longreach, 20–31 Jan 1972. 1 juv., Normanton, 13 Aug 1984. ♂, 21°41'S, 140°30'E. Selwyn Mine, 160 km SE of Mt Isa, 23 Jan 1990 (all ANIC). ♂, 2♀, 19°14'S, 140°21'E. Burke and Wills Junction, 16 Jan 1993. 1 juv., 20°43'S, 140°21'E. Butcher Ck., 16 km W of Cloncurry, 1 Jan 1993. ♂, 20°51'S, 140°23'E. Dajarra Rd., 19 km SW of Cloncurry, 2 Jan 1993. 2 juv., 12 km E of Georgetown, 11 Apr 1991. ♀, 4.5 km N of Georgetown, 12 Apr 1991. 1 juv., 6 km N of Georgetown, 11 Apr 1991. ♀, 17°51'S, 141°08'E. Glenore Pumping Station, Norman River, 13 Jan 1993. 2♀, 17°44'S, 141°05'E. 6 km S of Normanton, 10 Jan 1993 (all NMV). ♂, Eidsvold (QM). ♂, Barcardine, 6 Jan 1974. ♂, Cunnumulla, 26 Dec 1973 (all SAM).

Key to species of *Austrovates* (males)

1. Tegmen with distinct white marginal band, cerci about same length as subgenital plate *A. papua*
- Tegmen without white marginal band, cerci about twice as long as subgenital plate *A. variegata*

NT. ♂, Nhulunbuy, Feb 1973, ♀, Oenpelli, East Alligator River, 16 Oct 1948 (both AM). ♂, 11°09'S, 132°09'E, Black Point, Cobourg Peninsula, 30 Jan 1977. ♂, 12°25'S, 132°58'E, 1 km N of Cahills Crossing, East Alligator River, 29 May 1973. 1 juv., 19°51'S, 136°02'E, 14 km SSE of Dalmore Downs HS, 25 Apr 1976. ♀, Daly River Mission, 13–23 Jan 1974. 1 juv., 14°13'S, 130°55'E, 57 km WNW of Dorisvale HS, 11 Sep 1968. 1 juv., Katherine River Gorge, 18 Aug 1960. ♂, Koongarra, 15 km E of Mount Cahill, 26 Apr 1974. 2 juv., 16°39'S, 135°51'E, McArthur River HS, 80 km SW of Borrooloola, 13 May 1973. 1 juv., 12°40'S, 132°54'E, Magela Creek, 9 km SSE of Mudginberri HS, 25 May 1973. ♂, 11°07'S, 132°08'E, Smith Point, Cobourg Peninsula, 14 Nov 1977. ♂, 14°31'S, 132°22'E, Tindal, 13 km ESE of Katherine, 6 Dec 1967. ♂, Victoria River Roadhouse, 21 Apr 1982 (all ANIC). 1 juv., nr Adelaide River, Jul 1963. ♂, 2 juv., Darwin, 1 juv., 4♀, Roper River, 1 juv., Stapleton, 2♀, Tennant Creek (all SAM).

WA, 2♂, Broome, 5 and 9 Nov 1978. ♂, Broome, 21 Sept 1973, 2♂, 42 km ESE of Broome, 16 Apr 1969. 1 juv., 14°49'S, 126°49'E, Carson Escarpment, Kimberley dist., 9–15 Aug 1975. 1 juv., 15°02'S, 126°55'E, Drysdale River, Kimberley dist., 3–8 Aug 1975. 1 juv., 14°53'S, 126°09'E, 5 km NW of King Edward River Crossing, Kimberley dist., 19 May 1983. 1 juv., 14°45'S, 125°47'E, 10 km NNW of Mining Plateau 17 May 1983. 1 juv., 14°49'S, 125°42'E, Mitchell River Falls, Kimberley dist., 12 May 1983. ♂, Mount Tom Price, Jan–Feb, 1967. ♀, Wyndham, 21 Jan 1930 (all ANIC). ♀, Crab Creek, E of Broome (SAM). 1 juv., Burma Rd. Reserve, 30 km E of Walkaway, Sep 1986. 1 juv., Hancock Gorge, 15 km S of Wittenoom, 15 May 1980. ♂, Town Point, Barrow Island, 9 Sep 1973. 1 juv., Wotjulum, Sep 1955 (all WAM).

Diagnosis. Cerci much longer than subgenital plate; male without white marginal band on tegmen, with wings covering first 5½ abdominal segments and dpr narrow and strongly recurved.

Description. Body brown with darker spots and blotches; eye with fine striped pattern; inner face of fore coxa rather darker proximally with pale tubercles and darkish apical band; tegmen of male with ventral portion of costal area blackish proximally and whitish distally with black veins, costal margin of discoidal area flushed brown except for transparent stigma bounded at either end by a dark patch, remainder hyaline; tegmen of female similar but opaque portion of discoidal area more extensive; hindwing with costal area dark brown, more so apically, remainder hyaline. Wings reaching or just surpassing posterior margin of abdominal segment 5 in male, segment 4 in female; cerci elongate (fig. 60–61), distal segments broadened and laterally compressed, apical segment with margin rounded

and sometimes with slight notch below apex; anterior margin of abdominal sternites 2–5 blackish; antennae of male about two thirds the length of pronotum. Male genitalia (fig. 65–66) with dpr of vph a strongly curved elongate hook, slightly sinuous distally; pa smooth with single elongate pointed projection curving latero-ventrally.

Measurements (mm). Body length, ♂ 92–94, ♀ 96–100. Head width, ♂ 6.5–8.3, ♀ 8.5–9.2. Head depth, ♂ 3.7–4.2, ♀ 5.0–5.5. Pronotum width, ♂ 3.1–3.6, ♀ 4.4–4.6. Pronotum length, ♂ 25.5–31.5, ♀ 34.3–36.9. Fore coxa length, ♂ 10.8–14.9, ♀ 17.2–17.8. Fore femur length, ♂ 13.0–16.7, ♀ 20.0–20.7. Tegmen length, ♂, 38.5–44.4, ♀, 38.1–44.0. Cereus length, ♂ 4.6–7.0, ♀ 6.2–7.9.

Immature stages. Nymphs similar in appearance to adults but possessing mid dorsal intersegmental abdominal nodes (fig. 63). Ootheca (fig. 64) elongate, brown and whitish, with insubstantial outer foamy layer and sometimes thin projection at posterior tip of dorsal exit line. The ootheca is dissimilar to those presently known for other Archimantini.

Distribution and habits. Found in the northern parts of Queensland, Northern Territory and Western Australia (fig. 168). I have collected this species from shrubs and small trees in open woodland country in central north Queensland. Although females have reduced wings they are capable of at least short flights.

Austrovates papua sp. nov.

Figures 54–55, 59, 67–68, 168

Material examined. Holotype male, Doveta, Amazon Bay area, New Guinea, 2400 ft, 24 Jul 1962, W.W.Brandt (ANIC).

Diagnosis (male only). Cerei about same length as subgenital plate, tegmen with white marginal band, wings covering first 6½ abdominal segments, genitalia with dpr broad and weakly recurved.

Description (male only). Body of dry specimen dark brown with darker and paler blotches and spots, inner face of fore coxa dark with numerous pale tubercles; costal area of tegmen with outer white band, which diminishes distally and inner blackish band, costal margin of discoidal area cream in proximal quarter with dark spot at proximal end of stigma and dark brown distally, remainder of tegmen hyaline; hindwing with costal margin blackish brown, remainder hyaline; wings surpassing caudal margin of sixth

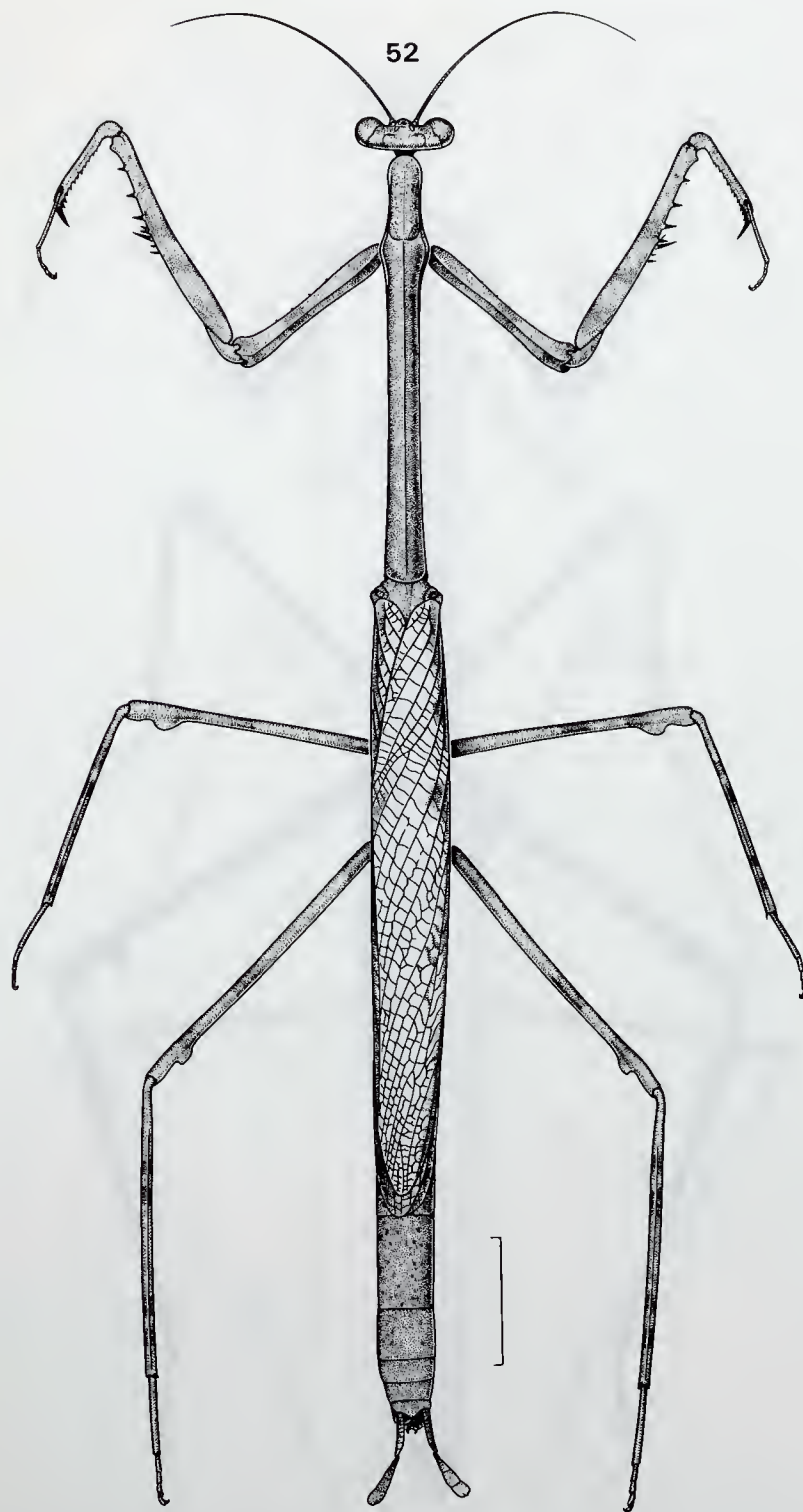


Figure 52. *Austrovates variegata*, male. Scale = 10 mm.

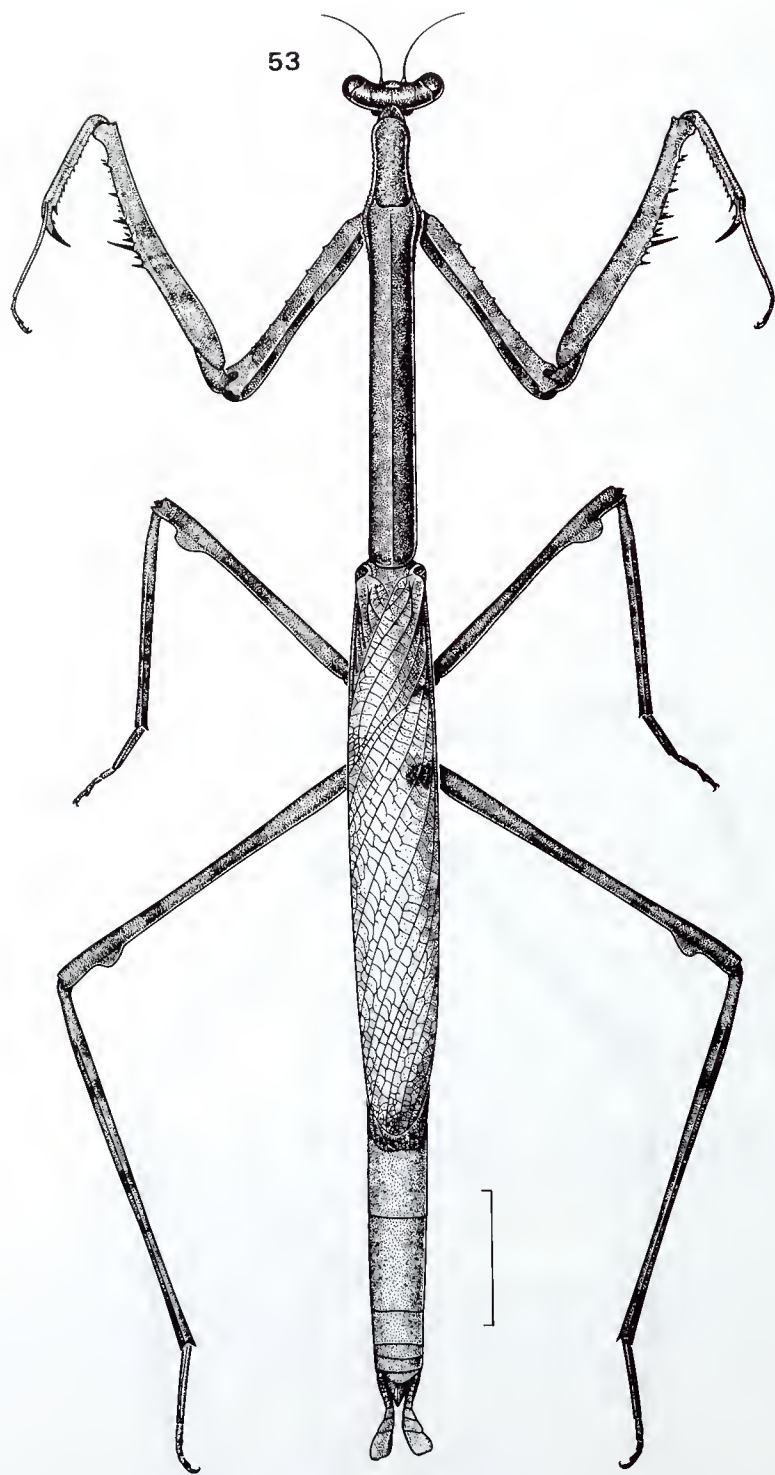


Figure 53. *Austrovates variegata*, female. Scale = 10 mm

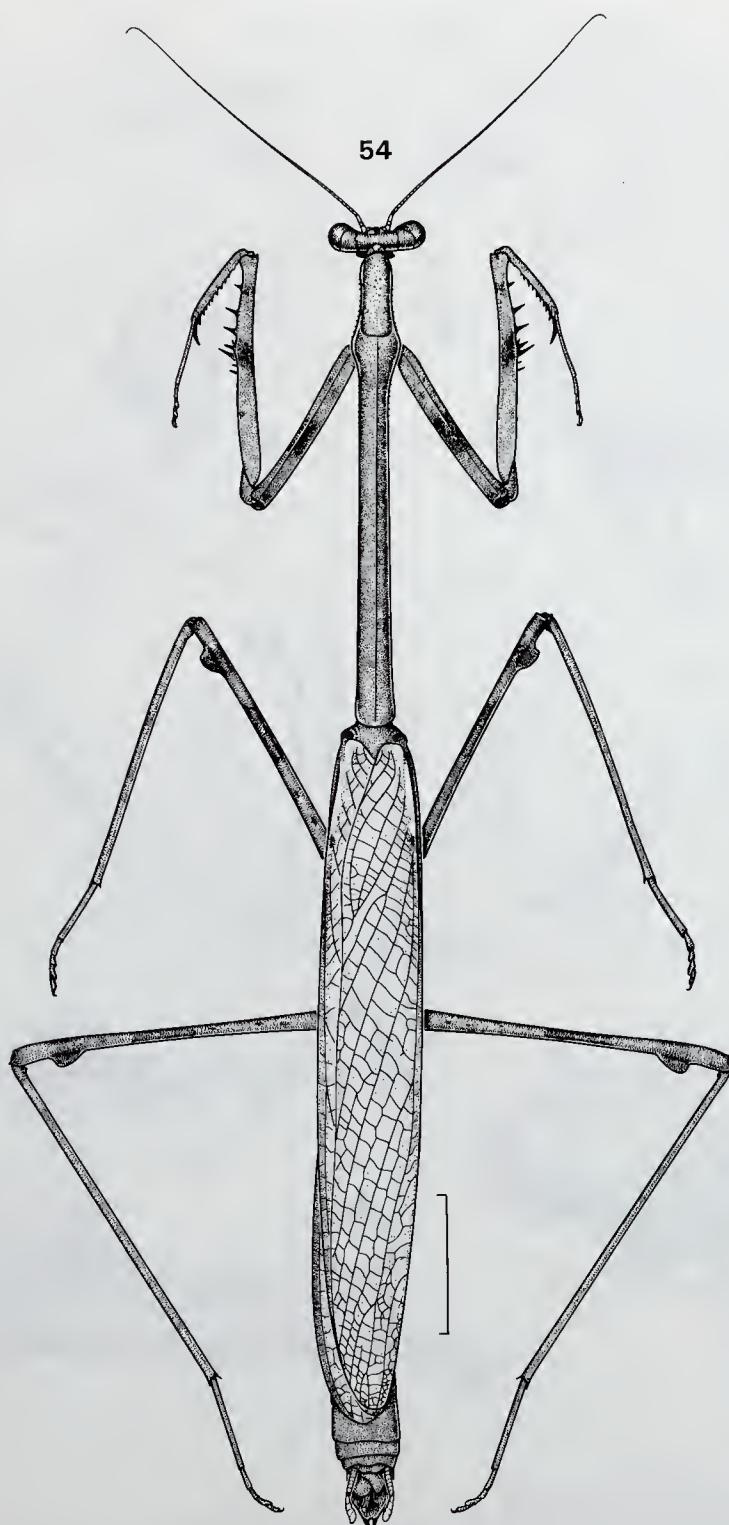
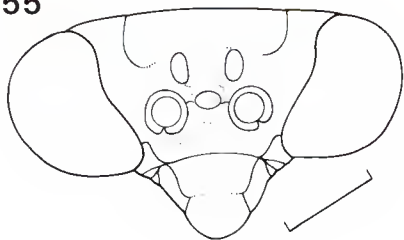
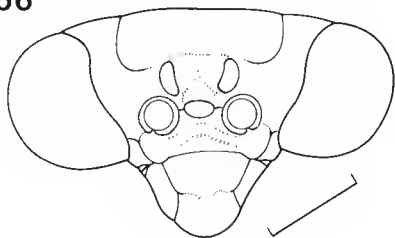


Figure 54, *Austovates papua*, male. Scale = 10 mm.

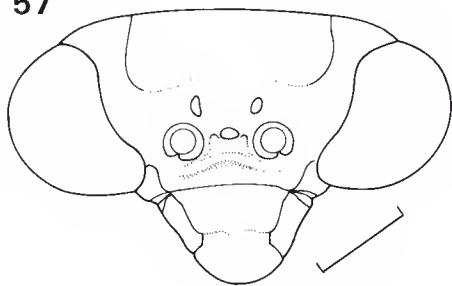
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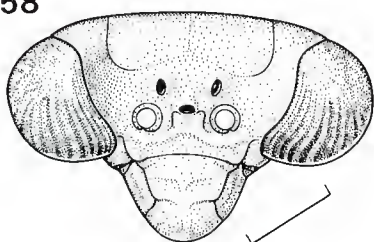
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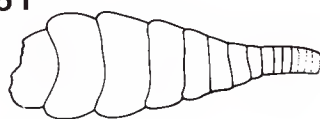
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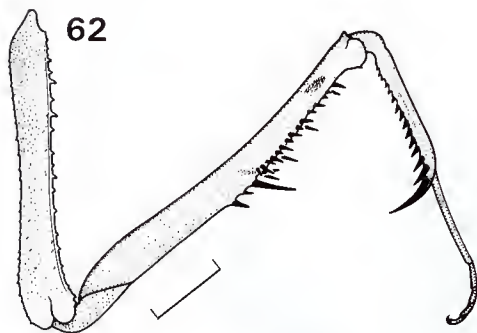
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63



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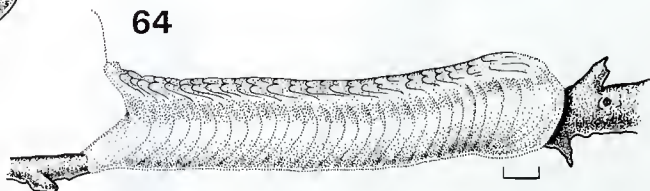
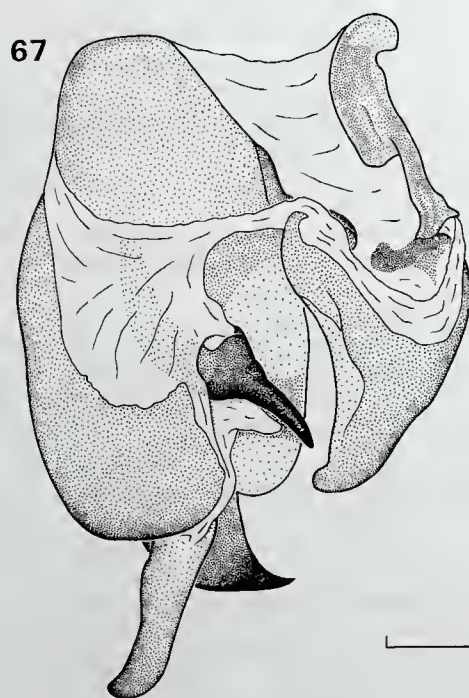
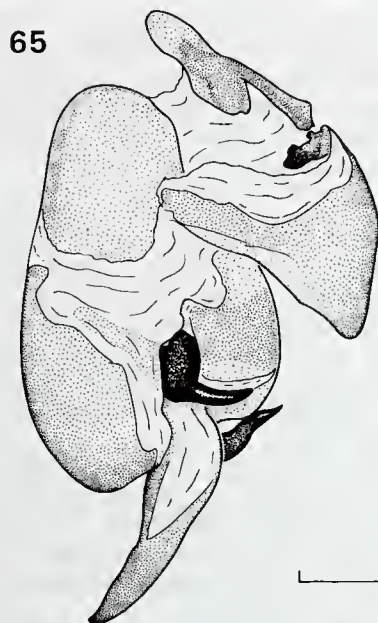


Figure 55. *Austrovates papua*, male head.

Figures 56–58. *A. variegata*. 56, male head; 57, female head; 58, female head, eye pattern.

Figure 59. *A. papua*, male cercus.

Figures 60–64. *A. variegata*. 60, male cercus; 61, female cercus; 62, female foreleg, inside; 63, mid instar nymph, lateral abdomen; 64, ootheca, dorso-lateral. Scale = 2 mm.



Figures 65-66. *Austrovates variegata*, male genitalia. 65, dorsal; 66, ventral.
Figures 67-68. *A. papua*, male genitalia. 67, dorsal; 68, ventral. Scale = 2 mm.

abdominal segment; eerei (fig. 59) quite short, distal segments broadened and laterally compressed, whitish in colour, apical segment with rounded margin. Genitalia (fig. 67–68) with dpr a rather broad short hook, pa smooth with single pointed projection directed postero-laterally and slightly curved ventrally.

Measurements (mm). Body length, 95. Head width, 7.7. Head depth, 4.3. Pronotum length, 35.4. Pronotum width, 3.7. Fore coxa length, 15.2. Fore femur length, 17.4. Tegmen length, 49.5. Cercus length, 3.9.

Immature stages. Unknown.

Etymology. Specific epithet refers to the country in which the holotype was collected. It is a noun in apposition with feminine gender.

Distribution and habits. Known only from the holotype locality in southeastern Papua New Guinea (fig. 168). Habits are unknown but is likely to be a shrub dweller. The vegetation of the type locality is a mixture of grassland and woodland (Paijmans, 1975).

Archimantis Saussure

Archimantis Saussure, 1869: 56. Type species *Manitis latistylus* Serville, by monotypy.

Rheomantis Giglio-Tos, 1917: 44. Type species *Fischeria quinquelobata* Tepper, by monotypy.

Diagnosis. Body elongate, eyes with rounded to distinctly angular lateral margins, males macropterous, females brachypterous, mid and hind femora of adults without preapical lobes, eerei with distal segments broadened and laterally compressed.

Description. Body large, elongate, slender to rather robust. Head wider than high, anteriorly compressed, apical margin straight to slightly arched; frontal shield strongly transverse, usually with subantennal ridge; eyes with rounded to distinctly angular lateral margins; antennae as long or longer than pronotum in male, less than half the length of pronotum in female.

Prothorax long and slender with slight to pronounced supracoxal expansion; prozona smooth to lightly tuberculate above, strongly tuberculate beneath; metazona with more or less distinct median carina; pronotal margins smooth to strongly toothed.

Male macropterous but wings not entirely covering abdomen, female brachypterous; tegmen of male with costal area and costal margin of discoidal area opaque, remainder hyaline, tegmen of female similar to male or completely opaque, opaque areas strongly coloured beneath in both sexes; hindwing hyaline except for costal margin. Fore coxa shorter than metazone of

Key to the species of *Archimantis*

1. Fore margin of anterior coxa with 3 to 5 mostly large teeth, black beneath *A. quinquelobata*
- Fore margin of anterior coxa without such teeth 2
- 2(1). Lateral margins of pronotum strongly toothed 3
- Lateral margins of pronotum finely dentate or smooth 4
- 3(2). Supracoxal expansion of pronotum broad (figs 102, 103) *A. monstrosa*
- Supracoxal expansion of pronotum narrow (figs 93, 94) *A. armata*
- 4(2). Lateral margin of eye distinctly angular, terminal segment of cercus distinctly pointed. 5
- Terminal segment of cercus rounded or if pointed then eye margin rounded 6
- 5(4). Cerci extremely elongate, pattern on inner face of fore coxa with large pale areas distally *A. straminea*
- Cerci moderately elongate, pattern on inner face of fore coxa dark distally *A. brunneriana*
- 6(4). Robust species, inner face of fore coxa pale proximally 7
- Slender species, inner face of fore coxa dark proximally 8
- 7(6). Tegmina of female short, covering only the first two abdominal terga, pa of male compact *A. sobrina*
- Tegmina of female medium, covering almost the first four abdominal terga, pa of male elongate spiniform ... *A. latistyla*
- 8(6). Tegmina of male distinctly banded *A. vittata*
- Tegmina of male not banded *A. gracilis*

pronotum, anterior margin lightly to strongly armed; fore femur slender with 15 inner and four outer spines, 1st discoidal spine much longer than second, claw groove centrally situated; fore tibia with 8–11 outer spines and 13–17 inner spines; mid and hind legs long and slender, femora of adults without preapical lobes.

Abdomen elongate, slender and dorso-ventrally compressed, more so in male; anterior margins of abdominal sternites distinctly coloured; supraanal plate transverse, cerci slightly to distinctly elongate with distal segments strongly laterally compressed. Vph of male genitalia with medial lobe prominent and more or less curved dorsally; dpr more or less produced into single, strongly sclerotised hook curving dextrad; lph with apr curved sinistral with rounded tip; pa separated from vl of lph by membranous area; ml elongate and finely hirsute; rph with medial arm partially sclerotised, aa elongate but squamiform sinistral; vpl continuous with main body of rph; vspr small, heavily sclerotised and more or less u-shaped.

Archimantis latistyla (Serville)

Figures 69–80, 170

Mantis latistylus Serville, 1838: 179

Archimantis latistylus (Serville).-Saussure, 1869: 65

Archimantis latistyla (Serville).-Giglio-Tos, 1912: 164

Mantis fusciclytris McCoy, 1886: 118.

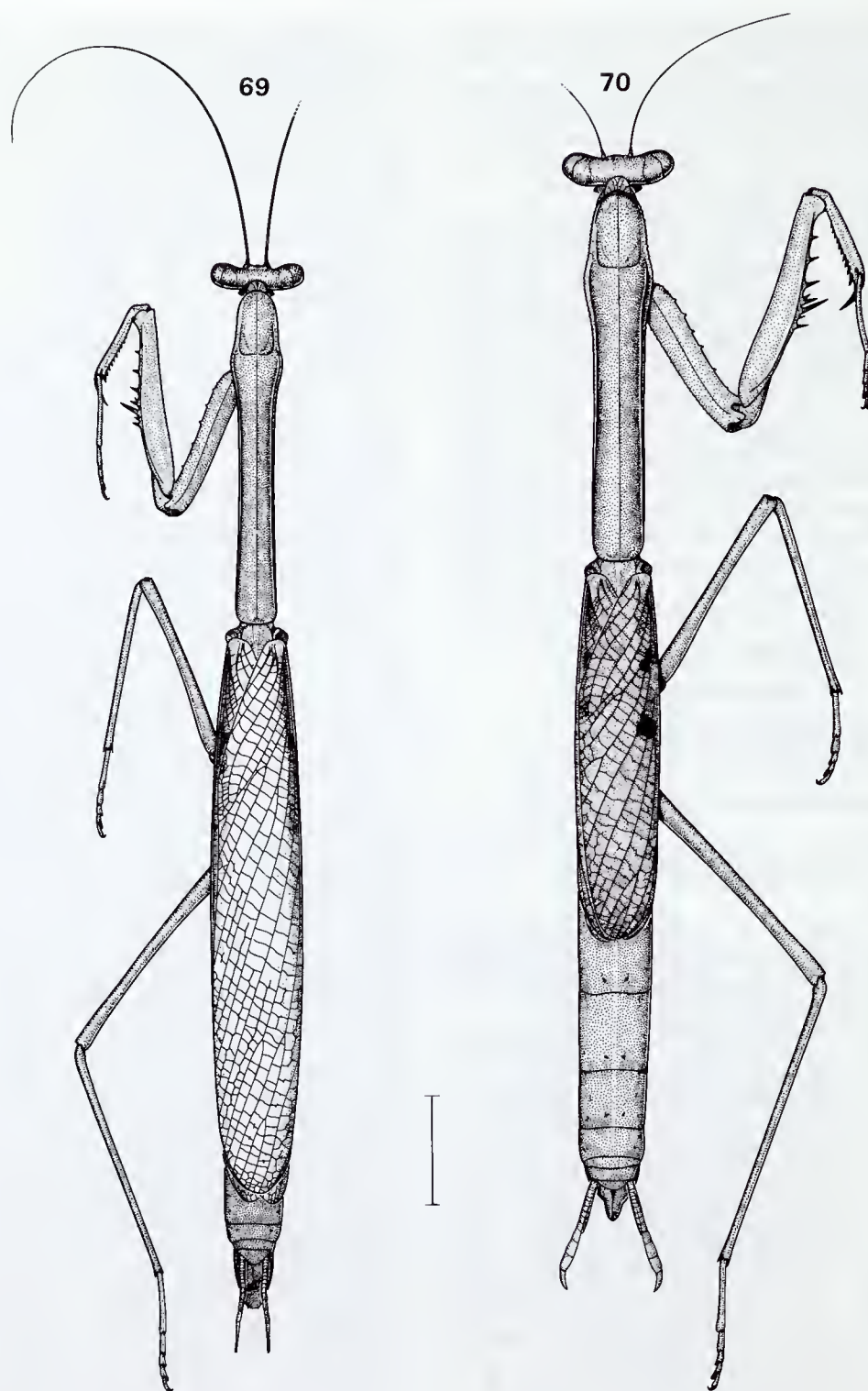
Archimantis latistylus gigantea Beier, 1963: 9. Syn. nov.

Material examined. Two syntype females of *Mantis fusciclytris*, Victoria (both NMV). Holotype female of *Archimantis latistylus gigantea*, Rockhampton (Qld), ex Museum Godeffroy, 2677 0.273 (ZMH).

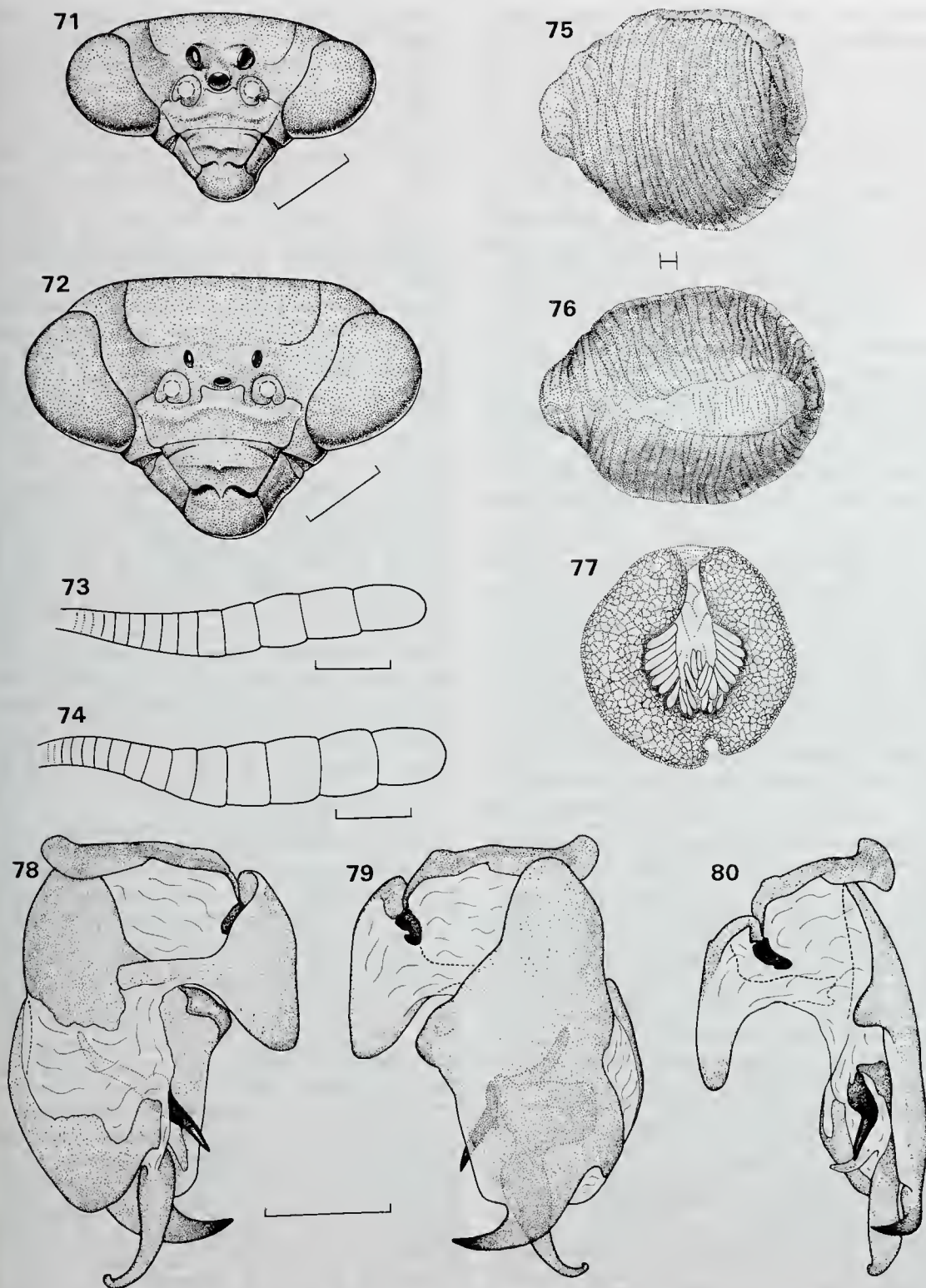
Other specimens examined (104♂, 159♀, 110 juv.). ACT. 1 juv., Black Mt, 30 Dec 1929. ♀, Black Mt, 15 Dec 1964. ♂, Black Mt, 13 Jan 1965. ♂, Black Mt, 22 Dec 1964. ♂, Black Mt, 10 Jan 1966. ♂, Black Mt, 23 Dec 1969. 1m, Black Mt, 22 Jan 1967. ♂, Black Mt, 24 Dec 1965. ♂, Black Mt, 23 Jan 1964. ♂, Black Mt, 16 Dec 1982. 2♂, Black Mt, Jan 1969. 6♂, ♀, Black Mt, Dec 1961. ♂, Black Mt, Oct 1961. ♂, Black Mt, Jan 1969. 3♂, Black Mt, Jan 1963. ♂, Black Mt, Dec 1963. ♀, Canberra, 15 Jan 1978. ♀, Canberra, 21 Jan 1962. ♀, Canberra, 19 Jan 1987. ♀, 35°18'S, 148°58'E, 1 km E of Mt McDonald, 11 Dec 1980. ♂, 35°22'S, 148°57'E, Murrays Comer, Paddys River, nr Canberra, 29 Dec 1985. ♀, Uriarra, 28 Jan 1984 (all ANIC). ♀, Black Mt Reserve, Canberra, 26 Jan 1982 (NMV).

Qld. ♂, Cathu State Forest, N of Eungella Nat Pk, 21 Jan 1990. ♀, Clermont, 7 Feb 1981. ♀, Clermont, Jan 1929. 2♂, Coomingleh Range, 24 km N of Monto, 6 Jan 1975. 4♂, 8 km E of Emuford, 30 Dec 1989. 2♂, Forty Mile Scrub, 65 km W of Mt Garnet, 19 Dec

1974. ♀, Millstream Falls, nr Ravenshoe, 5 Jan 1967. ♀, Mount Tamborine, Dec 1925 (all AM). ♂, ♀, 2 juv., 20 km W of Arcadia HS, 24 Oct 1967. ♂, 2♀, 1 juv., 2526'S, 15123'E, Binjour Plateau, 31 km N of Gayndah, 19 Apr 1982. ♀, Bluff Range, nr Biggenden, 2–12 May 1971. ♂, Bodumba Creek, nr Kenilworth, 12 Jan 1986. 2♂, 3♀, 11 juv., 22°31'S, 148°43'E, 9 km ESE of Bombandy HS, 24 Apr 1981. ♂, Bribie I., 18–26 Dec 1972. ♀, 28°02'S, 153°26'E, Broadbeach, 28 Dec 1970. 1 juv., 20 km NE of Bundaberg, Apr 1971. 2 juv., Bundaberg, Apr 1971. 1 juv., Bundaberg, Mar 1971. 2♀, 1 juv., Bundaberg, May 1971. 1 juv., 3 km N of Bundaberg, 19–21 Apr 1971. ♂, ♀, 4 juv., 26°00'S, 153°05'E, Camp Milo, Cooloola Nat Pk, 16 Apr 1982. ♀, Castle Hill, Townsville, 3 Apr 1962. ♂, Ceratodus, 31 Dec 1955. ♂, 8 km S of Clermont, 18 Mar 1982. 1 juv., 13°56'S, 143°12'E, Coen, 18 Jul 1986. ♂, 18°35'S, 144°44'E, 12 km N of Conjuboy HS, 12 Nov 1981. ♂, Cunninghams Gap, MacPherson Range, 3–4 Dec 1982. ♀, 25°21'S, 151°13'E, 9 km NE of Eidsvold, 20 Apr 1982. ♀, 18°03'S, 144°52'E, Forty Mile Scrub Nat Pk, 52 km SSW of Mt Garnet, 22 Jul 1986. ♀, Gordonvale, 19 Jan 1962. ♂, ♀, 11°41'S, 142°28'E, 3 km NE of Gunshot Creek, 17 Mar 1992. ♂, 11°49'S, 142°30'E, 6–10 km SSE of Heathlands HS, 14 Mar 1992. 2♀, 11°49'S, 142°30'E, 6–10 km SSE of Heathlands HS, 28 Mar 1992. ♂, 11°45'S, 142°35'E, Heathlands HS, 10 Mar 1992. ♀, 11°46'S, 142°41'E, 11 km E of Heathlands HS, 11 Mar 1992. ♂, 17 km NNW of Hivesville, 3 Jan 1965. 1 juv., 1514'S, 14507'E, 7 km N of Hope Vale Mission, 4 Oct 1980. ♂, ♀, 4 juv., 23°46'S, 149°06'E, 2 km S of Horshoe Lookout, Blackdown Tableland, SW of Dingo, 1–2 Feb 1981. 1 juv., 18°27'S, 146°08'E, 22 km N of Ingham, 28 Sep 1979. ♂, Innot Hot Springs, 11 Jan 1962. ♂, 17°25'S, 145°04'E, 15 km W of Irvinebank, 27–28 Nov 1981. 3 juv., 18 km SW of Lake Nuga Nuga, Carnarvon Range, 25 Oct 1967. ♂, 150 km N of Marlborough, 9 May 1955. ♀, 28°04'S, 153°27'E, Miami, 31 Dec 1970. 2♀, 2 juv., 27°51'S, 150°21'E, 15 km S of Moonie, 22 Apr 1982. 2♂, 3♀, 7 juv., 15°10'S, 145°07'E, 3.5 km SSW of Mt Baird, nr Cooktown, 3–5 May 1982. ♀, Mt Cook Nat Pk, 11 Oct 1980. ♀, 26°54'S, 152°54'E, Mt Coonowrin, Glasshouse Mts, 9 Aug 1985. 3 juv., 26°54'S, 152°38'E, Mt Ngungun, Glasshouse Mts, 9 Aug 1985. ♂, 2♀, 4 juv., 25°26'S, 152°56'E, Mt Tibrogargan, Glasshouse Mts, 15 Aug 1985. ♀, 6 juv., 12°44'S, 143°13'E, 2 km NNE of Mt Tozer, Iron Range Nat Pk, 3 Jul 1986. 7 juv., 12°42'S, 143°20'E, 13 km ENE of Mt Tozer, nr Iron Range Nat Pk, 10 Jul 1986. 2♂, ♀, 15°03'S, 145°09'E, 3 km NE of Mt Webb, nr Cooktown, 30 Apr–3 May 1981. 3 juv., 15°03'S, 145°09'E, 3 km NE of Mt Webb, 2 Oct 1980. ♀, 12 km W of Moura, nr Banana, 30 Dec 1955. ♂, 23°41'S, 149°51'E, Mourangee Stn, NW of Edungalba, nr Duaringa, 2 Jul 1980. 2 juv., 3 km SE of Planet Downs HS, E of Rolleston, 25 Oct 1967. 1 juv., 17°38'S, 145°26'E, 7 km WSW of Ravenshoe, 12 Nov 1981. ♂, 23°43'S, 150°42'E, 50 km S of Rockhampton, 13 Dec 1968. 3 juv., 18 km N of Roma, 24 Oct 1967. ♂, ♀, 15°17'S, 145°13'E, 1 km N of Rounded Hill, nr Cooktown, 5–7 May 1981. 2♂, ♀, 15°17'S, 145°14'E, 3 km ENE of Rounded Hill, nr Cooktown, 5–7 May



Figures 69–70, *Archimantis latistyla*. 69, male; 70, female. Scale = 10 mm.



Figures 71–80, *Archimantis latistyla*. 71, male head; 72, female head; 73, male cercus; 74, female cercus; 75, ootheca, lateral; 76, ootheca, dorsal; 77, ootheca, transverse; 78, male genitalia, dorsal; 79, male genitalia, ventral; 80, male genitalia, right lateral. Scale = 2 mm.

1981. 1 juv., 15 km NE of St. George, 8 Nov 1974. ♀, Stanthorpe, 11 Jan 1982. ♀, Taroom, 3 Jul 1974. ♂, 28°56'S, 151°08'E, 9 km SSW of Texas, 24 Nov 1983. ♀, 1 juv., 25°46'S, 152°38'E, 8 km SE of Tiaro, 14 Aug 1985. 2 juv., Watalgan Range, nr Bundaberg, 6 Nov 1971. 1 juv., 130°6'S, 142°56'E, Wenlock River Crossing, Portland Roads Rd, 30 June 1986. ♂, ♀, 26°07'S, 152°47'E, Wilsons Pocket, 14 km ENE of Gympie, 18 Apr 1982 (all ANIC). ♀, 15°19'S, 145°01'E, 2.5 km S of Bald Hills Stn, 4 Apr 1991. ♂, Brisbane, 3 Dec 1965. ♀, Bowen, 1 juv., Bruce Hwy, 4 km S of Bowen, 1 Apr 1991. ♂, 140 km S of Charters Towers, 19 Feb 1989. ♂, Chillagoe, 27 Mar 1989. ♀, 17°13'S, 145°47'E, 5.5 km N of Collins Weir, W of Atherton, 10 Apr 1991. ♀, 17°15'S, 145°17'E, 1 km NNE of Collins Weir, W of Atherton, 10 Feb 1989. ♀, Cooktown, Jul 1970. ♂, Cooktown, 7 Apr 1991. ♂, Cooktown, 8 Apr 1991. ♂, 16°59'S, 145°33'E, Davies Creek Rd, 2 km E of Kennedy Hwy, 8 Feb 1989. ♂, 16°43'S, 145°38'E, Ellis Beach, 28 Nov, 1983. ♀, Forty Mile Scrub Nat Pk, 22 Feb 1989. ♀, Georgetown, 15 Apr 1991. 1 juv., 15°32'S, 145°12'E, Hardwicke Creek, 0.5 km S of Annan River, 6 Apr 1991. ♀, Hodzoic Rd, 0.7 km E of Peninsular Development Rd, N of Mareeba, 15 Feb 1989. 2♂, Julago, 13 km SE of Townsville, 3 Feb 1989. ♀, 1843'S, 14438'E, Kennedy Development Rd, Spring Creek HS turnoff, 17 Apr 1991. 2♀, Mt Molloy, 10 Mar 1990. 2♀, 10 km S of Mt Ossa, 3 Feb 1989. ♂, 15°31'S, 145°08'E, Oak Creek Rd, 15 km SW of Cooktown, 9 Apr 1991 (all NMV). ♂, Brisbane, 25 Jan 1916. ♂, Brisbane, 22 Dec 1917. ♂, Brisbane, 13 Oct 1914. ♀, Brisbane, 14 Mar 1918. ♀, Brisbane, 22 Oct 1917. ♀, Emerald. ♀, Moreton Island, Apr 1916. ♀, Stanthorpe, 30 Jan 1941. 2♀, Stradbroke Island, 5 Dec 1913. (all QM). ♂, Cairns. ♀, Endeavour River, Cooktown. 3♀, Maryborough. ♂, Somerset. ♂, Stanthorpe (all SAM). ♂, Biloela, 11 Feb 1947. ♀, Brisbane, 3 Nov 1952. ♂, Brisbane, 1 Apr 1961. ♀, Brisbane, 16 Sep 1962. ♂, Brymaroo, 30 Jan 1948. ♀, Mackay, 3 Feb 1934. ♂, Murarrie, 4 Jun 1964. ♀, Nambour, Jan 1962. ♀, Yuleba, Jan 1964 (all UQ).

New South Wales. 2♀, Beacon Hill, nr Sydney, 7 Dec 1978. ♀, Clark Island, 22 Jan 1930. 1 juv., Dobroyd Head, Sydney Harbour, 14 Feb 1978. ♂, Eccleston, 15 Dec 1922. ♂, French's Forest, Sydney, 7 Nov 1922. ♂, Hornsby, Mar 1911. ♀, Jannali, 26 Nov 1933. 1 juv., Kurnell, 3 May 1931. ♂, Matraville, Nov 1925. 1 juv., North Head, Sydney, 14 Feb 1978. ♀, St. Ives, nr Sydney, Dec 1967. 2♂, Sydney. ♀, Vaucluse, Sydney, Apr 1927. ♀, Wallaby Creek, Tooloorn, 5–13 Dec 1962. ♀, Willoughby, Dec 1922. ♂, Woronora River, Engadine, 16 Dec 1976 (all AM). ♂, Bankstown, Sydney, Oct 1964. ♀, 33°03'S, 151°40'E, Belmont Golf Club, nr Newcastle, 19 Nov 1982. 2 juv., 34°44'S, 147°54'E, 5 km NE of Bethunga, 13 Sep 1968. ♀, Bomaderry, 25 Dec 1967. 1 juv., Bonville, 25 Aug 1977. ♂, 6 km W of Bonville, 12 Dec 1969. ♂, Broulee, 9 Jan 1962. ♀, 33°08'S, 151°38'E, 3 km NNE of Catherine Hill Bay, nr Newcastle, 19 Nov 1982. ♀, Cheltenham, 12 Mar 1967. ♂, 35°58'S, 150°09'E, Congo, 8 km ESE of Moruya, 17 Dec 1983. 1 juv., 3501'S, 15049'E, Currarong, 17 Aug 1977. 2 juv., Enmore Falls, 19 Mar 1961. 1 juv.,

29°06'S, 153°24'E, 3.7 km NW of Evans Head, 14 Dec 1971. ♀, 29°07'S, 153°25'E, 2.3 km WNW of Evans Head, 14 Dec 1971. ♀, 5 km N of Evans Head, 13 Dec 1955. ♂, 2♀, 1 juv., 28°24'S, 152°53'E, Findon Creek, 27 km E of Woodenbong, 20 Nov 1983. ♀, Forster, 2 Feb 1967. 1 juv., Forster, 11 Dec 1947. ♂, 33°12'S, 151°36'E, Geebung Camp, Lake Munmorah, 15 Nov 1983. 1 juv., 32°53'S, 151°32'E, Great Sugarloaf Mountain, nr West Wallsend, 16 Nov 1983. ♀, 3502'S, 15035'E, Huskisson, 26 Sep 1984. ♀, Killarney Heights, 11 Oct 1969. ♀, Kincumber, Dec 1949. 2♀, Kogarah, May 1925. 1 juv., Korora Bay, nr Coffs Harbour, 22 May 1966. ♂, 28°35'S, 153°08'E, 13 km ENE of Kyogle, 20 Nov 1983. ♀, Lake George, 29 Jan 1972. ♀, Lake George, 2 Feb 1972. ♀, 6 juv., Lake George, 1974. 3 juv., Lake George, 1971. 1 juv., Lawrence, 22 Jun 1985. 1 juv., Lindfield, 23 Apr 1927. ♀, 4 km S of Mogriguy, 1 Jan 1971. ♂, 34°46'S, 150°37'E, Mt Tapitales, 7 km NW of Berry, 30 Dec 1975. ♀, Mt Wilson, 11 Jan 1929. ♀, 8 km S of Murwillumbah, 31 Jan 1963. ♀, Narrabeen, 28 Sep 1951. 2♀, Nelligen, 4 Dec 1950. ♀, 35°36'S, 150°04'E, 8 km NW of Nelligen, 15 Feb 1984. 1 juv., 1.5 km SSW of Nerriga, 14 Nov 1962. 1 juv., Northbridge, 26 Oct 1927. ♂, Northbridge, Nov 1928. ♀, Point Perpendicular, Jervis Bay, 27 Dec 1966. ♀, 31°26'S, 152°56'E, Port Macquarie, 31 Dec 1968. ♀, Queanbeyan, Feb 1985. ♂, Sans Souci, Georges River, 19 Jan 1955. 2♀, South Turramurra, 26 Mar 1967. ♂, ♀, 1.5 km SE of Southwest Rocks, NE of Kempsey, 3 Jan 1970. 1 juv., Sydney, 28 May 1951. ♂, Teachers College, Wagga, 1968. ♀, 2 km NNW of Teagardens, Port Stephens, 15 Jan 1971. ♀, Tea Tree Creek, Armidale, 7 Jan 1960. ♀, 28°58'S, 151°43'E, 31 km WNW of Tenterfield, 23 Nov 1983. ♂, 3 km S of Tooraweenah, 6 Jan 1956. 1 juv., 3 km S of Ulladulla, 15 Oct 1966 (all ANIC). ♂, 25 km ENE of Goulburn, 30 Dec 1990 (NMV). ♀, Sydney (SAM).

Vic. 2♀, Rosebud, Mornington Peninsula, 16 Jan 1970. ♀, 37°59'S, 147°43'E, Rotamah Island, 20 km SSE of Bairnsdale, 30 Nov–1 Dec 1984. ♀, 20 km ENE of Stratford, 2 Dec 1956. 1 juv., 39°01'S, 146°18'E, Tidal River, Wilsons Promontory, 5–6 Nov 1985 (all ANIC). 1 juv., Balwyn, 27 Aug 1908. ♀, Bullbeef Creek, 2 km W of Mt Tanjil, 19 Apr 1982. ♂, 34°43'S, 142°26'E, Chalka Creek, Hattah Lakes Nat Pk, 21 Jan 1987. ♀, Croydon, 4 Dec 1904. 1 juv., Fernshaw. 2♂, 2 juv., Frankston. ♀, Gippsland. ♀, Kow Plains, Dec 1910. ♀, Launching Place, 9 Nov 1983. ♂, ♀, Mooroolbark, Mar 1977. ♀, Murrayville Track, 13 km S of Murrayville, 26 Feb 1987. 3♀, 35°25'S, 141°10'E, 16.8 km SSW of Murrayville, 18 Feb 1987. ♀, Rhyll, Phillip Island, 8 Mar 1948. 2 juv., Rotamah Island, Gippsland Lakes, 9 Mar 1986. ♀, Trafalgar, Gippsland, 9 Dec 1892. ♀, 35°32'S, 142°32'E, Waithe Fauna Reserve, 24 Jan 1986. ♂, ♀, 35°32'S, 142°25'E, Waithe Fauna Reserve, 21 Jan 1987. ♂, 35°32'S, 142°29'E, Waithe Fauna Reserve, Feb 1987 (all NMV). 2♂, Healesville district. 1 juv., Healesville, 20 Oct 1910. ♀, Mt Yule, Healesville, 14 Nov 1911 (all QM).

SA. 1 juv., 33°53'S, 136°36'E, 5 km NE of Arno Bay, 21 Oct 1982. ♂, 34°08'S, 135°22'E, 3 km SSE of Mt Hope, 20 Oct 1982. 1 juv., 8 km SSE of Mt Hope, 29

Oet 1969. ♂, ♀, 1 juv., 35°59'S, 137°11'E, Vivonne Bay, Kangaroo Island, 8 Dec 1977 (all ANIC). ♀, Adelaide, 3 Jan 1887. ♂, Kangaroo Island. ♀, Lucindale, 29 Jan 1892. ♂, Murat Bay. ♂, Murray River. ♀, Peake, 23 Mar 1909. ♂, Scorpion Springs Conservation Pk, 5 km SW of Nanams Well, 17 Dec 1983 (all SAM). Western Australia. ♂, 29°35'S, 115°09'E, 27 km NNW of Encabba, 24 Oct 1984. ♂, 33°18'S, 123°22'E, 18 km NNW of Mt Ragged, 12 Nov 1969 (both ANIC).

Diagnosis. Eyes with lateral margins rounded, margins of pronotum without distinct teeth, anterior margin of fore coxa without large teeth, inner face of fore coxa pale proximally, tegmina of female covering first 3–4 abdominal segments, apical segment of cercus with rounded margin, pa of male genitalia produced into single spine.

Description. Body rather robust, brown, greyish brown or greenish brown. Apical margin of head broadly arched, eyes slightly protuberant anteriorly with rounded lateral margins, frontal shield with distinct subantennal ridge. Prothorax moderately to very elongate, slight but distinct supracoxal expansion, lateral margins smooth except in prozona of female where they are finely tuberculate, metazona smooth dorsally with distinct mid dorsal keel, prozona with few small scattered tubercles dorsally but with denser and more pronounced tubercles beneath. Fore coxa with 5 small sharply pointed teeth on anterior edge, females often with few smaller ones between, inner face not distinctly patterned. Fore femur with all spines blackish. Fore tibia with 14–15 inner and 8–11 outer spines, all tipped blackish brown. Mid and hind femora sometimes with genicular spine. Wings of male covering first seven abdominal segments; tegmen hyaline except for costal area and costal margin of discoidal area which are opaque brown above, costal area beneath glossy black in proximal fifth with remainder whitish with black cross veins, costal margin of discoidal area intense orange-brown beneath; discoidal area usually with dark spot at proximal and distal end of stigma though distal spot sometimes absent, venation slightly to distinctly darkly pigmented. Wings of female just surpassing caudal margin of third abdominal segment to just short of caudal margin of fourth; tegmen similar in colour to that of male except discoidal area completely opaque. Hindwings of both sexes with costal area orange-brown, remainder hyaline with veins slightly to distinctly pigmented particularly toward apex.

Abdomen without distinct white mid dorsal stripe, anterior margin of sternites 3–5 coloured black and red but only visible when abdomen flexed. Cerci (fig. 73–74) as long as to about twice as long as subgenital plate, apical segment with margin rounded. Male genitalia (figs 78–80) with dpr of vph strongly curved, broad at base, narrow toward tip; anterior portion of vl of lph broadly rectangular, slightly produced at junction with pa; apr swollen medially, tip slightly mucronate; pa produced into single spine directed laterally to postero-laterally, surface finely shagreened except at tip.

Measurements (mm). Body length, ♂ 78–97, ♀ 87–127. Head width, ♂ 7.8–8.8, ♀ 9.0–11.6. Head depth, ♂ 4.6–7.4, ♀ 6.0–9.6. Pronotum width, ♂ 3.8–4.6, ♀ 5.4–7.2. Pronotum length, ♂ 25–32, ♀ 28–45. Fore coxa length, ♂ 12–16, ♀ 16–21. Fore femur length, ♂ 14–18, ♀ 18–24. Tegmen length, ♂ 48–53, ♀ 32–42. Cercus length, ♂ 6.4–9.8, ♀ 8.0–9.0.

Immature stages. Nymphs have a broken white mid dorsal abdominal stripe and are often more mottled in colour than adults. There is also a green colour variant in nymphs however this appears to become brownish in the final instar. The ootheca (figs 75–77) is large and globular with a thick spongy outer layer, eggs arranged in a w-shaped formation and is pale brown or green in colour. It is deposited on the stems of shrubs and tall grasses, and is often parasitised by wasps of the genus *Podagrion*.

Distribution and habits. Known from eastern Australia, essentially along the Great Dividing Range, from Cape York south through Victoria to the south eastern corner of South Australia (fig. 170). There are also two doubtful records from Western Australia. Predominantly a shrub dweller although nymphs may sometimes be found in grasses. Adults are most commonly encountered from December to April. The distinctive colours on the ventral costal margins of the wings and on the anterior margins of the abdominal sternites are seen during the defensive display.

Remarks. Serville's syntypes of this species cannot be located (Balderson, 1984). This is a widely distributed and somewhat variable species. Specimens become progressively larger and the prothorax more elongate toward the north. The cerci also become reduced in size at the northern end of the range. Beier's *A.l.gigantea* falls within this range of variation.

Archimantis sobrina Saussure

Figures 81–92, 174

Archimantis sobrina Saussure, 1873: 26.*Archimantis minor* Giglio-Tos, 1917: 43. Syn. nov.

Material examined. Syntype female of *Archimantis minor*, King George's Sound (Western Australia). Captain Grey, 40 12–16 17b. Syntype female of *Archimantis minor*, Swan River (Western Australia), 43 14 (both BMNH).

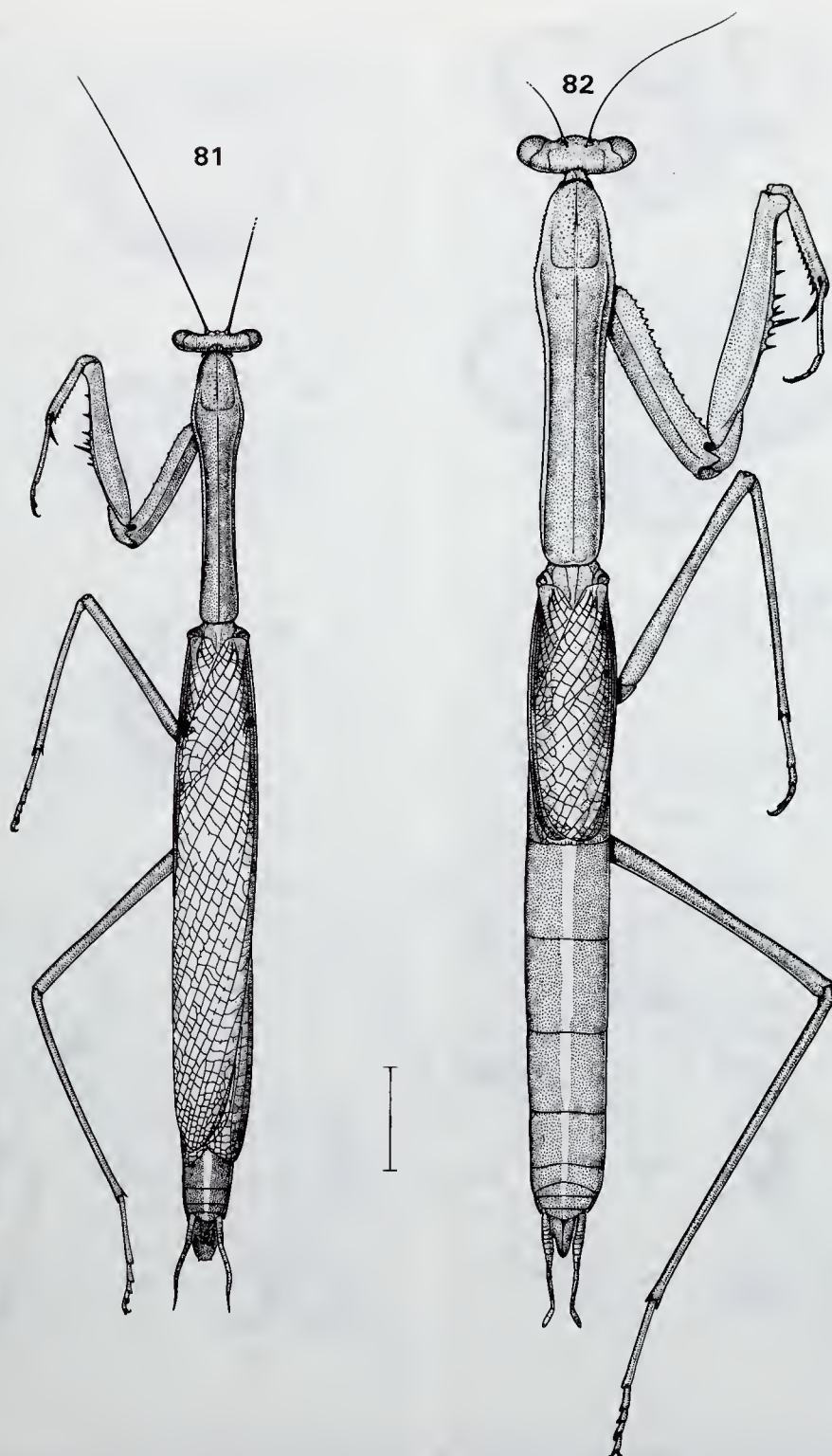
Other specimens examined (252♂, 150♀, 94 juv.). ACT, 3♂, Black Mt, 29 Dec 1965, ♂, Black Mt, 16 Jan 1961, 3♂, Black Mt, 22 Dec 1964, ♂, Black Mt, 25 Jan 1965, 14♂, Black Mt, 29 Dec 1961, 3♂, Black Mt, 3 Jan 1962, 2♂, Black Mt, 4 Jan 1962, 4♂, Black Mt, 24 Dec 1962, ♂, Black Mt, 14 Jan 1963, 3♂, Black Mt, 2 Jan 1963, ♂, Black Mt, 5 Jan 1962, 3♂, Black Mt, 15 Jan 1962, ♂, Black Mt, 26–28 Jan 1963, ♂, Black Mt, 29 Jan 1963, ♂, Black Mt, 20 Jan 1950, 2♀, Black Mt, 13 Jan 1950, ♂, Black Mt, 30 Dec 1951, ♂, Black Mt, 1 Jan 1950, 2♂, Black Mt, 5 Jan 1952, ♂, Black Mt, 20 Jan 1953, ♂, Black Mt, 26 Dec 1961, ♂, Black Mt, 4 Jan 1952, 2♂, Black Mt, 22 Dec 1952, ♂, Black Mt, 19 Jan 1953, ♂, Black Mt, 24 Dec 1952, ♂, Black Mt, 31 Jan 1968, 3♂, Black Mt, 12 Dec 1967, 3♂, Black Mt, 21 Dec 1969, ♂, Canberra, 18 Dec 1959, ♂, Canberra, 12 Jan 1965, ♂, Canberra, 6 Jan 1964, ♂, Canberra, 30 Dec 1950, ♂, Canberra, 5 Dec 1961, 2♂, Canberra, 20 Dec 1950, 2♂, Canberra, Dec 1949, ♂, Canberra, 26 Dec 1978, ♀, Canberra, 1 Jan 1950, ♀, Canberra, 4 Mar 1966, 2♂, Canberra, 11 Jan 1972, 1 juv., Canberra, 1 May 1983, ♂, Cotter Dam, Dec 1930, ♀, Pierces Creek, 21 Jan 1950, ♀, 8 km NNE of Tharwa, 17 Dec 1956 (all ANIC).

Qld, ♂, Hughenden, 21 Mar 1930, ♂, Windorah, 5 Nov 1963 (both AM), 3♂, 4 km SW of Birdsville, 4 Dec 1974, ♂, Blackall, 10 Apr 1972, 1 juv., 48 km N of Blackall, 27 Dec 1961, ♂, 23°02'S, 139°18'E, 62 km SW of Boulia, 16 Oct 1978, ♂, 7 km N of Cunnamulla, 29 Jan 1971, 2 juv., 23 km W of Cunnamulla, 13 Jan 1965, ♂, Gilruth Plains Stn, E of Cunnamulla, 8 Jan 1964, ♂, Longreach, 20–31 Jan 1972, ♂, 2141'S, 14030'E, Selwyn Mine, 160 km SE of Mt Isa, 7 Oct 1991, ♂, St George, 19 Jan 1969, 1 juv., 50 km NNE of Wyandra, 25 Dec 1961, ♀, 20°18'S, 139°03'E, 20 km ESE of Yelvertoft HS, nr Camooweal, 9 Apr 1976 (all ANIC), ♀, 25°48'S, 146°35'E, Augathella, 18 Jan 1993 (NMV), 1 juv., 17 km N of Ardmore Stn, 105 km SW of Mt Isa, 27 Sep 1977, ♀, Blackburn, 18 Sep 1905, 2♀, Cunnamulla (all SAM).

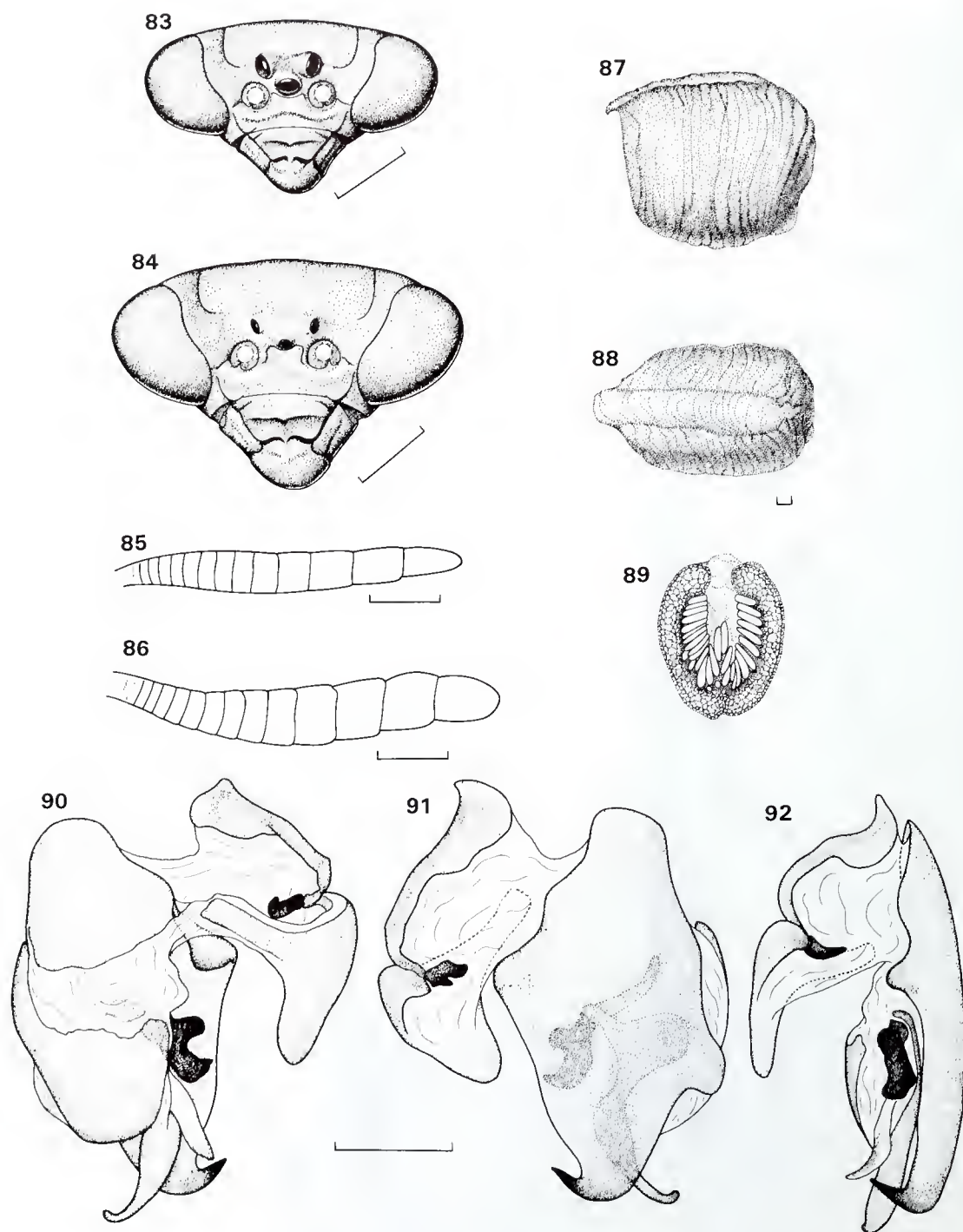
NSW, ♀, Broken Hill, Mar 1943, ♂, Calumet, 43 km NE of Binnaway, 23 Dec 1932, 1 juv., Mootwingie, 142 km NE of Broken Hill, 15 Sep 1955, ♂, Stephens Ck, 24 km ENE of Broken Hill, 29 Jan 1976, 2♂, Warumbungle Nat Pk, 13–18 Dec 1977 (all AM), ♀, Barrington Tops, 1945–6, 3♂, 18 km WNW of Bourke, 9 Feb 1972, ♂, Brewarrina, 1914, ♂, 6 km W of Cobar, 10 Dec 1971, 1 juv., 42 km S of Condobolin, 11 Dec 1962, ♂, Cowra, 15 Feb 1967, ♀, Deniliquin, ♂, Deniliquin, 1

Aug 1961, 1 juv., 22 km SW of Dubbo, 21 Dec 1961, ♀, 15 km W of Dubbo, 22 Dec 1961, ♂, Forbes, 14–15 Nov 1979, ♀, Henty, 18 Jan 1962, 1 juv., 32°30'S, 140°20'E, Kinchega Nat Pk, Jan 1986, ♂, Lake Cowal, 15 Dec 1970, ♂, 30 km S of Lightning Ridge, 27 Dec 1978, 1 juv., 14 km WNW of Monia Gap, nr Hillston, 23 Mar 1972, ♀, Mountain Gap, nr Hillston, 25 Oct 1971, ♂, 12 km NNE of Parkes, 21 Dec 1961, 1 juv., Peak Hill, 14 Sep 1954, ♂, 4♀, 1 juv., 5 km SSE of Reelfoot, 20 Dec 1961, ♂, Tibooburra, 16 Nov 1949, ♀, 7 km NW of Trangie, 14 Jan 1962, 2♂, Trangie Exp. Stn., 6 km NW of Trangie, 13–21 Sep 1978, 1 juv., 87 km NE of Wentworth, 6 Nov 1962, ♂, Yass, 28 Dec 1928, ♂, 30 km WNW of Wentworth, 1 Jan 1989, ♂, Wittabrenna Ck, N of Tibooburra, 11 Nov 1971 (all ANIC), ♀, Angora Stn, via Booligal, 20 Mar 1965, 1 juv., Broken Hill, Feb 1927, ♂, Broken Hill, 11 Jul 1904, ♂, Menindee Lakes Caravan Park, 26 Dec 1973, (all SAM).

NT, ♀, nr Tobermorey, Sep 1930 (AM), ♂, Alice Springs, 5 Oct 1955, ♂, Alice Springs, 23 Oct 1955, 7♂, 3♂, 23°41'S, 133°52'E, Alice Springs, 3–8 Nov 1988, ♂, 23°41'S, 133°52'E, Alice Springs, 27–28 Oct 1988, 4♂, 23°41'S, 134°15'E, 39 km E of Alice Springs, 25–26 Sep 1978, ♂, 23°41'S, 134°15'E, 39 km E of Alice Springs, 5 Oct 1978, 4♂, 19°24'S, 135°58'E, 15 km SW of Alroy Downs HS, 10 Apr 1976, 1 juv., 25°07'S, 135°30'E, 38 km NNE of Andado HS, 28 Sep 1972, ♂, ♀, 25°17'S, 130°57'E, 10 km WNW of Ayers Rock, 6 Nov 1980, ♂, 21°40'S, 133°45'E, 21 km SW of Barrow Creek, 12 Oct 1972, ♂, Barrow Creek Telegraph Stn, 20 Mar 1955, ♂, 24°36'S, 133°12'E, 7 km SW of Henbury HS, 2 Oct 1972, 4♂, 22°18'S, 137°52'E, Illugnarra Waterhole, 90 km SSW of Uradangi, 15 Oct 1978, ♂, Junction Waterhole, Todd River, 10 Oct 1978, ♂, 25°50'S, 133°18'E, Kulgera, 17 Jan 1982, ♀, Mt Everard, Jindalee Site, 45 km NW of Alice Springs, 27 Feb 1987, 6♂, 26°00'S, 131°25'E, 26 km WNW of Mulga Park HS, 18 Jan 1982, ♂, 1 juv., 24°11'S, 134°01'E, Ooraminna Camp, 56 km SE of Alice Springs, 23 Sep 1987, ♂, 23°00'S, 136°08'E, Plenty River, 245 km ENE of Alice Springs, 14 Oct 1978, ♂, 23°42'S, 134°12'E, Ross River Rd, 33 km E of Alice Springs, 3 Nov 1988, 3♂, 20°53'S, 130°25'E, Sangsters Lake, 38 km SE of The Granites Mine, Tanami Desert, 31 Oct 1988, ♂, 24°11'S, 133°31'E, Stuart Hwy, 65 km SSW of Alice Springs, 4 Nov 1988, ♂, ♀, 1 juv., 19°59'S, 129°42'E, Tanami Borehole, Jul-Sep 1971, 1 juv., Tennant Creek, 5 Nov 1965, ♂, ♀, 20°51'S, 130°16'E, 35 km S of The Granites Mine, Tanami Desert, 29 Oct–2 Nov 1988, 2♂, 25°21'S, 131°03'E, Uluru Motel, Ayers Rock, 4, 6 Nov 1980 (all ANIC), 1 juv., 4 km W of Alice Springs, 24 Sep 1987, ♂, 31 km S of Alice Springs, 29 Sep 1987, 2 juv., Ayers Rock, Sep 1948, 1 juv., Glen Helen Gorge, Finke River, 14 Oct 1987, ♀, Kings Canyon Rd, 30 km W of Stuart Hwy, 1 Oct 1987, 1 juv., 20°52'S, 130°16'E, SE of The Granites, Tanami Desert, 27–31 Oct 1987 (all NMV), ♂, Alice Springs, Horn Expd., 1894, ♂, Alice Springs, June 1894, ♀, Petermann Range, ♂, Tennant Creek (all SAM), ♂, Prouse Gap, 150 km N of Alice Springs, 4 Oct 1969 (WAM).



Figures 81-82, *Archimantis sobrina*. 81, male; 82, female. Scale = 10 mm.



Figures 83-92, *Archimantis sobrina*. 83, male head; 84, female head; 85, male cercus; 86, female cercus; 87, ootheca, lateral; 88, ootheca, dorsal; 89, ootheca, transverse; 90, male genitalia, dorsal; 91, male genitalia, ventral; 92, male genitalia, right lateral. Scale = 2 mm.

SA. ♀, Alarinna, Musgrave Ranges. ♂, Arkaroola, Flinders Ranges, 22 Jan 1976. ♂, Innamincka, Coopers Creek, 24 Jan 1976 (all AM). 2♂, 26°08'S, 130°54'E, 25 km NW of Amata, Musgrave Ranges, 19 Jan 1982. 1 juv., 5 km SE of Goolwa, 19 Jun 1951. ♀, 23 km NE of Hawker, 24 Jan 1959. ♂, 33°07'S, 136°38'E, 20 km NE of Kimba, 5 Oct 1982. ♂, 12 km S of Kimpton, 7 Jan 1989. 1 juv., 38 km SSE of Marree, 24 Jul 1956. 1 juv., 27 km NNW of Padthaway, 13 Mar 1953. ♀, 10 km E of Penong, 6 Jan 1972. ♀, 1 juv., 35°24'S, 140°48'E, 18 km SSW of Pinnaroo, 25 Oct 1983. 1 juv., 16 km ESE of Poochera, 30 Oct 1969. 1 juv., 27 km NW of Port Augusta, 12 Jul 1956. 2 juv., 13 km SW of Quorn, 27 Jul 1956. ♂, Roseworthy Agricultural College, nr Gawler, Dec 1972. ♂, 32°20'S, 138°36'E, Slippery Dip Camp, Brachina Creek, 9 Nov 1987. 1 juv., Urrbrae, Aug 1946. ♂, Urrbrae, Jun 1956. ♂, 6 km S of Wintinna HS, 5 Feb 1984 (all ANIC). 1 juv., Abminga RS, 22 Sep 1987. 1 juv., Alberrie Creek RS, 40 km W of Marree, 17 Sep 1987. ♀, edge of Lake Frome, 16 May 1977. 1 juv., 31 km NW of William Creek, 18 Sep 1987. 2 juv., 0.5 km W of Yappala HS, N of Hawker, 16 Sep 1987 (all NMV). 12♀, 4 juv., Adclaide. ♀, Adelaide, 21 Dec 1892. ♀, Adelaide, 23 Feb 1896. 1 juv., Adelaide, 26 Jul 1886. ♂, Adelaide, 6 Nov 1959. ♂, nr Agnes Creek Stn, 11 Oct 1977. ♀, 30°22'S, 137°08'E, Andamooka Stn, Apr 1981. 4♂, Anna Creek HS, 6 Dec 1974. 1 juv., Arcoona Creek, Gammon Ranges, 17 Sep 1956. 1 juv., Birkinhead. ♂, Black Swamp, 5 Dec 1952. ♂, Brachina Gorge, Flinders Ranges, 13 Dec 1974. ♂, Brighton, 12 Nov 1901. ♂, Brinkworth. 1 juv., Buckleboo. ♂, Carapsee Hill, Eyre Pinninsula, 8 Nov 1964. ♂, Ceduna. ♀, Ceduna, Jan 1924. 1 juv., Clayton Crossing, 29 Jul 1955. ♀, Coomandook. ♂, Coopers Creek Ferry Crossing, 30 Nov 1974. 1 juv., Cortina Stn, Jan 1968. ♂, Eden Hills, 28 Jan 1956. ♀, nr Frasers Hut, Carriewerloo Stn, March 1956. ♂, Dalhousie Springs, 6 Oct 1980. ♂, Finnis Springs HS, 7 Dec 1964. ♂, Frome River, nr Marree, 25 Oct 1956. 1 juv., Gammon Range Nat Pk, Arcoona Creek, 5 May 1989. ♂, Glenunga HS, 4 Dec 1932. 4 juv., Glenunga, 9 Sep 1932. ♀, Goodwood, 14 Jan 1964. ♀, Goodwood Park, 19 Nov 1888. ♂, Grange. ♂, Hilton, 30 Dec 1956. ♀, Islington, 15 Nov 1886. ♂, Kensington Park, 10 Nov 1980. 1 juv., Lake Arcoona, 3 Jan 1900. ♂, Lake Callabonna, 1893. ♀, Lake Mulligan, 1893. ♀, Lake Palankarinna, 3 Mar 1972. 2♂, Leigh Creek, 18 Nov 1890. ♂, 28°19'S, 136°16'E, Levi Creek, 8 km NW of Ely Perry Spring, 7 Dec 1974. ♀, Loxton, 30 Dec 1955. ♂, Loxton, 26 Nov 1956. ♀, Loxton, 26 Dec 1955. ♂, Lucindale. 1 juv., 29°11'S, 134°19'E, 2 km SW of Mabel Creek HS, 28 Oct 1984. ♀, Marree. ♂, Marree Racecourse, 1 Dec 1974. ♂, 32°57'S, 137°24'E, Middleback Stn, 12 Nov 1983. ♀, 32°57'S, 137°24'E, Middleback Stn, 12 Feb 1984. ♂, Mitcham, 16 Nov 1978. 1 juv., Mitcham, 23 Mar 1979. ♀, Mitcham, 30 Nov 1979. ♂, Mt Davies, 18 Nov 1966. ♀, Mt Lofty Range. ♀, Murat Bay. ♀, Murray River. ♀, Normanville, Nov 1933. ♀, Ooldea, 30 Apr 1898. 2♀, Ooldea. ♂, ♀, 2 juv., Orreroo, 1942-44. ♂, Paddington, Outer Harbour, Nov 1933. ♂, Parkside. 1 juv., Poochera, 13 Jun 1956. ♂, 2 juv., Purple Downs, Pimba, 12 Dec 1937. ♂, Port Lincoln district, 16 Oct 1957. ♂,

Quorn, Dec 1893. ♀, Thebarton, 2 Jan 1960. ♂, Unley, Jan 1883. ♀, Warradale. 1 juv., Wilpena Nat Pk, 10 May 1989. 1 juv., 7 km W of Wilson, 9 May 1956. 2♀, Yeelana. ♂, Yurgo (all SAM).

Vic. 1 juv., 12 km NNW of Annuello, 5 Nov 1962. ♂, Kyabram, 26 Oct 1946. ♀, Melbourne, 1966. ♂, 35°04'S, 143°11'E, 11 km W of Piangil, 27 Oct 1973 (all ANIC). ♀, 34°46'S, 142°31'E, 30 km WNW of Annuello, 20 Oct 1985. ♀, Chelsea, 23 Jan 1918. ♂, Cheltenham, 13 Dec 1905. ♀, 2.8 km NNW of Chinamans Well, Big Desert, 12 Oct 1982. ♀, Downshore Rd, Elsternwick, 5 Jan 1908. ♀, Falls Creek Village, 15 Mar 1984. ♂, Frankston. ♂, Gippsland. ♂, Glenelg River, 7 km NNE of Nelson, 25 Nov 1966. ♂, Hattah Lakes, Feb 1983. 3♂, ♀, Hattah Lakes Nat Pk, 21 Oct 1982. ♂, 34°54'S, 142°08'E, 19 km SW of Hattah, 17 Oct 1985. 1 juv., 3446'S, 14220'E, 5 km E of Hattah, 22 Oct 1985. ♂, Laverton, Sep 1977. ♂, 5♀, Lurg, E of Benalla, Mar 1977. ♂, ♀, 3 juv., 0.2 km N of Milmead Rock, Big Desert, 20 Mar 1987. ♀, Mordialloc. ♀, 35°24'S, 141°09'E, 15.9 km SSW of Murrayville, 19 Feb 1987. ♂, Oakleigh, 1902. ♀, Redcliffs, 19 Mar 1928. ♀, 8.1 km N of Round Swamp, Big Desert, 28 Mar 1985. ♀, Sandringham, 1892. ♂, Tallangatta, 24 May 1904. 1 juv., Whipstick, 11 Apr 1948. ♀, Old Tom Rd, Whipstick Forest, N of Bendigo, 17 Feb 1985 (all NMV).

WA. ♂, Bornholme, 8 Dec 1921. 2♂, Karratha, 25 Oct 1978. ♂, 50 km SW of Sanfire Flat, bn Broome and Port Hedland, 29 Oct 1978 (all AM). ♂, Balgo Hills, 16 Oct 1985. 1 juv., Bohemia Ridge, E of Christmas Creek HS, 22 Oct 1969. ♀, Broge Hill, 160 km S of Halls Creek, 25 Sep 1985. 1 juv., 15 km SW of Cocklebidy, 3 Nov 1969. 1 juv., 32°08'S, 126°18'E, 23 km ESE of Cocklebidy, 25 Oct 1977. ♂, 30°09'S, 115°07'E, Cockleshell Gully, 19 km NNE of Jurien, 25 Oct 1984. 1 juv., 31°28'S, 120°50'E, 67 km SSW of Coolgardie, 6 Nov 1969. ♀, Cutler Rd, Jandakot, Mar-Apr 1982. ♂, 26°01'S, 113°35'E, 12 km SSE of Denham, 22 Oct 1984. 1 juv., 29°20'S, 115°01'E, 12 km SE of Dongara, 11 Sep 1981. ♂, 29°16'S, 114°55'E, 3 km SSW of Dongara, 15 Oct 1970. ♂, Encabba, 7 Oct 1981. ♂, ♀, 1 juv., 32°08'S, 126°17'E, Eyre Tower, Microwave Stn, 22 km ESE of Cocklebidy, 7 Oct 1982. ♂, 2♀, 33°42'S, 123°26'E, Fisheries Rd, 2 km ESE of Price Hill, Cape Arid Nat Pk, 15 Oct 1982. 2♀, 27°50'S, 114°43'E, Four Mile Pool, Murchison River, 23 Oct 1984. 1 juv., Fremantle, 12 Aug 1934. 1 juv., 28°47'S, 114°34'E, Geraldton, 1 May 1971. 2 juv., 27°49'S, 114°11'E, nr Grandstand Rock, 12 km SE of Kalbarri, Kalbarri Nat Pk, 19 Oct 1984. ♀, 31°53'S, 116°05'E, John Forrest Nat Pk, Darling Ranges, 28 Oct 1985. ♂, 33°23'S, 123°24'E, Junana Rock, 9 km NW of Mt Ragged, 26 Oct 1977. ♂, 30°13'S, 115°18'E, 28 km ENE of Jurien, 26 Oct 1984. ♀, 30°54'S, 121°32'E, 21 km SSE of Kalgoorlie, 17 Feb 1978. ♀, 14 km W of Kitchener, 15 Jan 1974. ♂, Lake Douglas, 12 km SW of Kalgoorlie, 13 Jan 1989. ♀, 27°34'S, 114°26'E, Loop Rd, 30 km ENE of Kalbarri, Kalbarri Nat Pk, 17 Oct 1984. 2♀, 2 juv., 27°39'S, 114°17'E, Loop Rd, 14 km ENE of Kalbarri, Kalbarri Nat Pk, 20 Oct 1984. ♀, 21°34'S, 117°03'E, 3 km WNW of Millstream HS, 23 Apr 1971. ♂, 21°35'S, 117°12'E, 15 km E of Millstream HS, 20 Oct 1970. ♂,

2210'S, 11502'E, 20 km S of Minderoo HS, 17 Oct 1970, 1 juv., 33°41'S, 123°10'E, 8 km NW of Mt Baring, SW of Mt Ragged, 16 Oct 1982, ♀, 35°01'S, 117°54'E, Mt Clarence, Albany, 13 Feb 1980, ♀, Mt Hawthorn, 10 Nov 1953, ♂, 3♀, 1 juv., 33°59'S, 122°08'E, 1 km NNW of Mt Le Grand, Cape Le Grand Nat Pk, 11 Oct 1982, 4♂, 5 km SW of Mt Ragged, 12 Nov 1969, ♀, 1 juv., 33°56'S, 119°59'E, Mylics Beach, Fitzgerald Nat Pk, 31 Oct 1984, ♂, 25°11'S, 113°50'E, nr New Beach, 40 km SSE of Carnarvon, 21 Oct 1984, 1 juv., Ninghan Stn, 20 Jul 1963, 1 juv., 32°09'S, 121°43'E, 7 km WNW of Norseman, 13 Oct 1984, 1 juv., 34°14'S, 115°12'E, Pinnacles/Cervantes, 2–5 Mar 1982, 1 juv., 33°37'S, 120°24'E, 33 km E of Ravenshorpe, 10 Feb 1980, ♂, 58 km N of Reid, Nullarbor, 4 Feb 1968, 1 juv., Rottnest Island, 22 Jun 1975, ♂, Seadon, 21 Oct 1977, ♂, ♀, 34°26'S, 117°56'E, Stirling Range Nat Pk, 50 km SSW of Borden, 12 Jan 1980, ♀, 33°51'S, 123°01'E, Thomas River, 23 km WNW of Mt Arid, Cape Arid Nat Pk, 13 Oct 1982, ♂, 1 juv., 32°35'S, 117°19'E, Tutanning Nature Reserve, 22 km SE of Pingelly, 16–17 Sep 1981, ♀, 23°13'S, 114°26'E, 13 km WSW of Winning HS, 29 Apr 1971, ♂, 43 km NW of Wittenoom, 22 Apr 1963 (all ANIC), ♀, Midalya, 17 Aug 1904, ♂, ♀, Wembley, 18 Nov 1948 (all NMV), ♀, 1 juv., Beverley, ♀, Mt Giles Weather Station, Nov 1966, ♀, Mullewa, 2♂, Nanga, neck of Peron Peninsula, 3 Aug 1972, ♀, Roebourne, 1 Mar 1899, ♂, 17 km SW of Three Springs, 7 Nov 1968 (all SAM), ♂, Applecross, 28 Nov 1963, 1 juv., Bickley, 2 Sep 1965, ♂, Deepdene, Karridale, 10 Aug 1962, 1 juv., Dumbleyung, 31 Mar 1963, ♀, Dumbleyung, 19 Dec 1963, 1 juv., Kalamunda, 7 Dec 1962, 1 juv., Kelmescott, 14 Apr 1971, 1 juv., Lake Brown, ♀, Laverton, 26 Nov 1964, 1 juv., 33°01'S, 120°44'E, McDermid Rock, 27 Sep–3 Oct 1978, ♂, 28 km NE of Millstream, 26 May 1965, ♂, Mt Hawthorn, 2 juv., 30°59'S, 119°07'E, 13.6 km SSW of Mt Jackson, 5–11 Sep 1979, ♀, Mt Pleasant, 26 Oct 1963, ♀, Mt Pleasant, 1 Dec 1963, ♂, Mt Tom Price, Mar 1966, 2♂, Mullewa, 1914, ♀, Murchison district, ♀, Murdock, 27 Jan 1978, ♀, Nedlands, Nov 1969, ♀, Peringillup, Dec 1913, ♂, Perth, ♂, Perth, Oct 1914, ♂, South Perth, 26 Dec 1972, ♀, Walyhomoning Rock, May 1972, ♂, Warburton Ranges, Dec 1962, ♂, Wembley Downs, 1 Nov 1969, ♀, West Perth, ♀, West Subiaco, ♀, Yandil (all WAM).

Diagnosis. Eyes with lateral margins rounded, lateral margins of pronotum not strongly toothed, fore coxa without large teeth on anterior margin or distinctly patterned inner face, tegmina of female covering first two abdominal tergites, apical segment of cercus with pointed to rounded margin, pa of male genitalia compact.

Description. Body of moderate to large size, colour brown, yellow brown or green. Apical margin of head broadly arched, eyes slightly protuberant anteriorly with lateral margins rounded, frontal shield with distinct subanten-

nal ridge. Prothorax elongate, rather broad in larger specimens, supracoxal expansion slight but distinct; lateral margins finely denticulate in prozona and smooth in metazona of male, similar in female except anterior third of metazona finely denticulate; prozona with small scattered tubercles dorsally, denser more pronounced tubercles ventrally; metazona smooth with distinct mid dorsal keel. Fore coxa with 6–7 very small teeth on anterior margin, females with smaller tubercles between teeth particularly proximally; inner face without distinct patterning, pale proximally. Fore femur with all spines tipped blackish brown. Fore tibia with 13–16 inner and 10–11 outer spines, all tipped blackish brown. Mid and hind femora without genicular spine. Tegmina and hindwings of male reaching to caudal margin of eighth abdominal segment to just beyond supraanal plate; tegmen hyaline except for costal area and costal margin of discoidal area which are opaque and of similar colour to body above; beneath costal margin of discoidal area intense orange-brown, costal area glossy black in proximal fifth, remainder whitish with black cross veins; discoidal area occasionally with dark spot proximal of stigma dorsally, venation unpigmented to slightly pigmented. Tegmina and hind wings of female just reaching caudal margin of second abdominal tergite; tegmen of similar colour to male except that opaque portion of discoidal area more extensive, occasionally with blackish spot at distal end of stigma and veins of discoidal area sometimes darkly pigmented. Hindwings of both sexes with costal margin orange-brown, remainder hyaline. Abdomen usually with narrow, whitish mid dorsal stripe; anterior margin of abdominal sternites 3–6 coloured black and red, only visible when abdomen flexed dorsally; cerci (figs 85–86) elongate, apical segment with pointed to rounded margin. Male genitalia (figs 90–92) with dpr of vp strongly curved, broad at base, narrowing toward tip; anterior part of vl of lph broadly rectangular, narrowly produced at junction with pa; apr swollen medially, tip slightly mucronate; pa compact and strongly shagreened, with two lateral projections, anterior one knob like, posterior one similar but slightly longer and more pointed with small tooth at apex.

Measurements (mm). Body length, ♂ 70–100, ♀ 70–110. Head width, ♂ 6.5–10.2, ♀ 9.0–11.4. Head depth, ♂ 3.8–5.1, ♀ 5.7–7.4. Pronotum width, ♂ 3.5–5.7, ♀ 5.0–7.9. Pronotum length, ♂ 22–31, ♀ 22–38. Fore coxa length, ♂ 12–17,

♀ 13–21. Fore femur length, ♂ 14–20, ♀ 16–25. Tegmen length, ♂ 48–60, ♀ 16–24. Cercus length, ♂ 7.4–9.5, ♀ 7.0–11.2.

Immature stages. Nymphs occasionally with more mottled colour pattern than adults. Ootheca (figs 87–89) roughly globular oblong, emergence area often protruding somewhat posteriorly, spongy layer rather narrow so that ootheca appears smaller than that of *A. latistyla*, eggs arranged in W formation, colour whitish or pale greenish; deposited on the stems of shrubs and tall grasses, often parasitized by wasps of the genus *Podagrion*.

Distribution and habits. Occurs over the drier regions of mainland Australia, absent from the monsoonal north and the eastern side of the Great Dividing Range but extends into wetter regions in the south east and south west (fig. 171). Found on shrubs and tall grasses, rests with underside uppermost, adults most commonly collected from October to January.

Remarks. Saussure's types for this species cannot be located (Balderson, 1984). This is a widely distributed and variable species. Northern specimens become larger and the prothorax becomes broader, in contrast to that of *A. latistyla* which becomes more elongate. Specimens from the southwest are rather small, brown in colouration, lack the dorsal abdominal stripe and have the apical segment of the cercus with a rounded margin. These are probably adaptations to a more shrub dominated habitat, similar though less pronounced characters are found in specimens from the Big Desert region of Victoria, a predominately shrubby region. The southwestern form was described as a separate species, *A. minor*, by Giglio-Tos (1917) however this form grades gradually into the more typical form to the north and west and is considered a mere variant.

Archimantis armata Wood-Mason

Figures 93–101, 172

Archimantis armatus Wood-Mason, 1877: 76.
A. armata Wood-Mason, 1878: 584.

Material examined. Holotype female of *A. armatus*, North Australia, C. French, 587/1 (ZSIC, in alcohol).

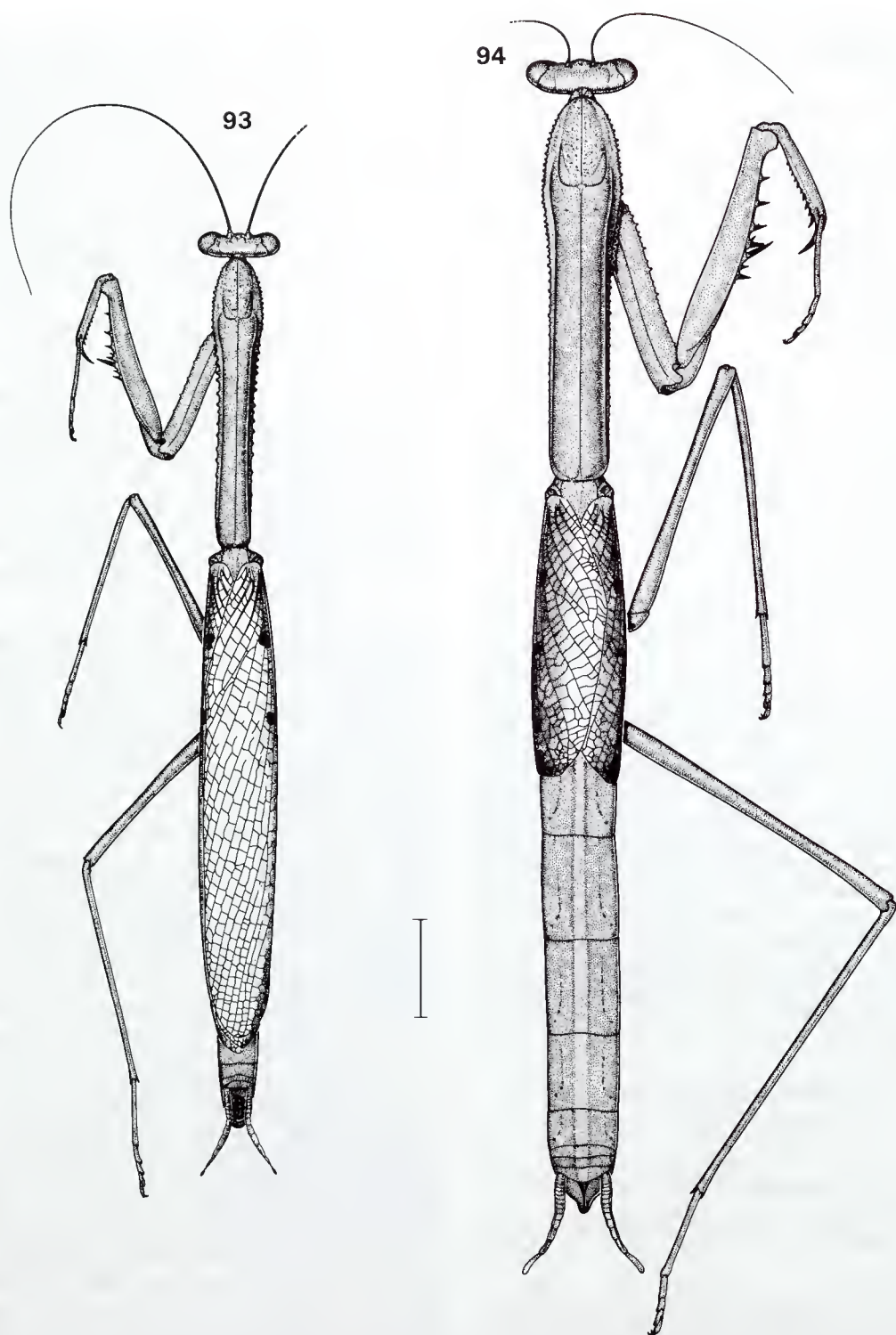
Other specimens examined (15♂, 10♀, 5 juv.). Qld. ♂, Clermont, Apr 1921. ♂, Clermont, 7 Feb 1981 (both AM). 1 juv., 20 km W of Areadia HS, 24 Oct 1967. 1 juv., 25 km N of Bell, 27 Oct 1967. ♀, Blackall, 22 Apr 1972. ♂, Black River, 20 km N of Townsville, 20 Jul 1990. 1 juv., Bundaberg, Apr 1971. ♂, Electra, nr

Bundaberg, 25 Apr 1978. ♂, Issacs River Crossing, Dingo-Mt Flora Rd, 24 Jan 1982. ♂, Mackay, 4 May 1971. 1 juv., 25°36'S, 151°44'E, Oaky Creek, 14 km N of Gayndah, 19 Apr 1982. 2 juv., Wild Horse Swamp, 25 km SW of Rolleston, 25 Oct 1967 (all ANIC). ♀, Emerald (QM). 2♀, Brisbane, 12 Oct 1915. ♂, 19°38'S, 146°50'E, 6.5 km N of Calcium, 18 Feb 1989. ♂, Roma, 9 Jan 1984. ♂, Townsville, 6 May 1975. ♀, Townsville, 1 Jul 1934 (all NMV). ♀, Childers. 2♂, Mitchell, 3–4 Jan 1974. ♂, Somerset (all SAM). ♀, Banana, 10 Dec 1961. ♀, Banana, 10 Feb 1964. ♂, Coalstoun Lakes, Feb 1961. ♂, Dalby, 25 May 1951. ♀, Yuleba, Jan 1964 (all UQ).

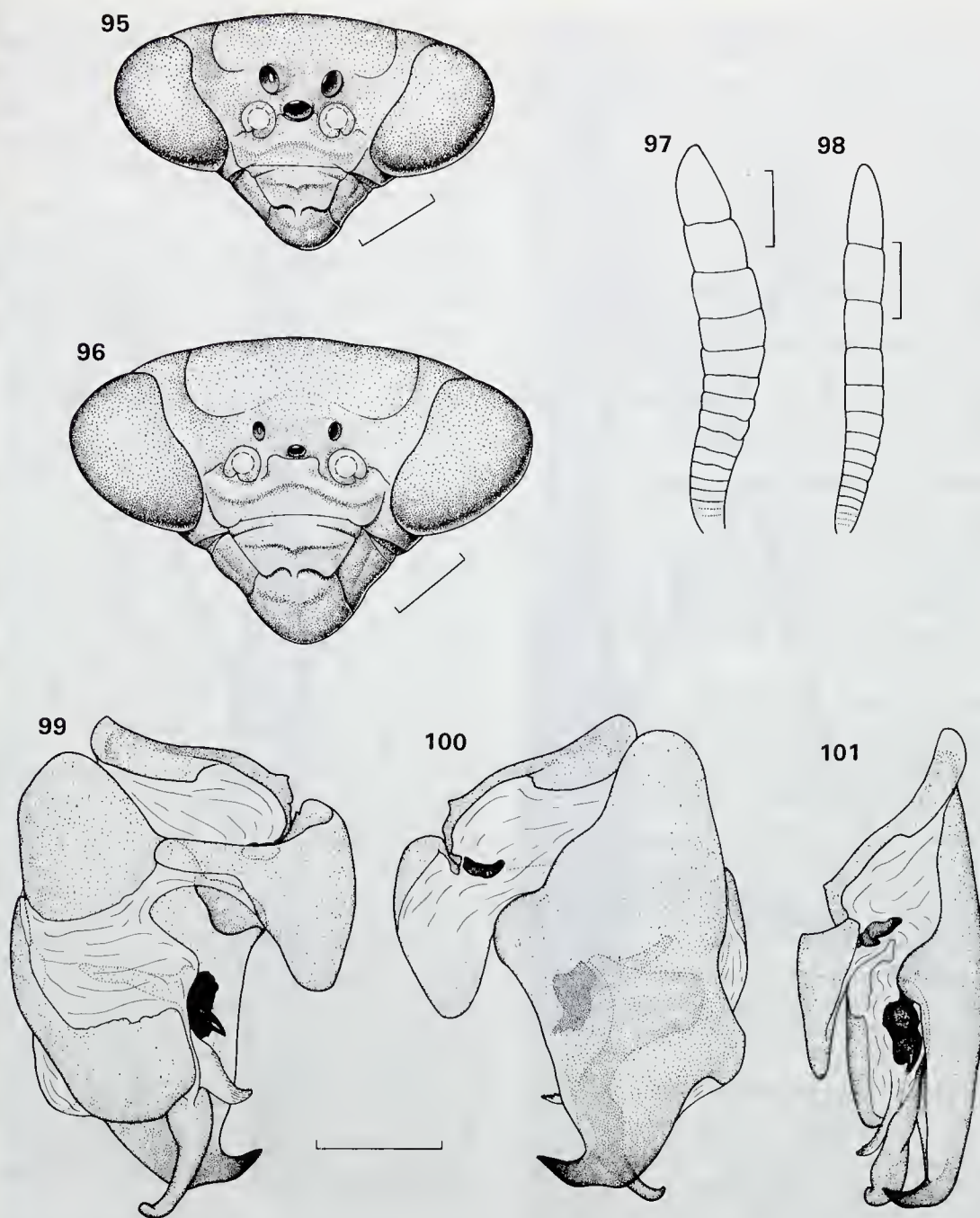
NSW. ♀, Moree, 26 Dec 1951. ♂, Pallal Ck., 17 km Sw of Bingara, 5–6 Jan 1956 (both ANIC).

Diagnosis. Eyes with lateral margins rounded, pronotum with distinctly toothed lateral margins which are slightly lamellate anterior to coxal insertion, fore coxae without large teeth on anterior margin or distinctive pattern on inner face, tegmina of female covering first 2½ abdominal tergites, apical segment of cerci with rounded margin, pa of male genitalia compact with single pointed projection.

Description. Body large, elongate and rather robust, brown in colour. Apical margin of head broadly arched, eyes slightly protuberant anteriorly with lateral margins rounded, frontal shield with distinct subantennal ridge. Prothorax elongate, slight but distinct supra coxal expansion, lateral margins distinctly though rather finely toothed and slightly lamellate anterior to coxal insertion; prozona with few scattered tubercles above, more numerous and much more pronounced tubercles beneath which are often paler than surrounding area; ventral area between coxal insertion creamish surrounded by mauvish grey; metazona with distinct mid dorsal keel. Fore coxa with 6–8 small teeth on anterior edge, inner face not distinctly patterned. Fore femur with all spines tipped blackish brown, shallow pit on ventral face near fourth discoidal spine for reception of terminal outer tibial spine. Fore tibia with 15–17 inner spines and 10–13 outer spines, all tipped blackish brown. Mid and hind femora without genicular spine. Wings of male reaching to about caudal margin of abdominal segment seven. Tegmen hyaline except for costal area and costal margin of discoidal area which are opaque brown above; below costal area black in proximal fifth, remainder whitish with black cross veins, costal margin of discoidal area orange brown; stigma bounded proximally and distally by dark spot on dorsal surface. Hindwing with costal area orange brown, remainder hyaline.



Figures 93-94, *Archimantis armata*. 93, male; 94, female. Scale = 10 mm.



Figures 95–101, *Archimantis armata*. 95, male head; 96, female head; 97, female cercus; 98, male cercus; 99, male genitalia, dorsal; 100, male genitalia, ventral; 101, male genitalia, right lateral. Scale = 2 mm.

Wings of female covering first $2\frac{1}{2}$ abdominal tergites. Tegmen similar to male except discoidal area completely opaque brown with veins rather darker brown. Hindwing with marginal coloured area slightly more extensive and veins darker coloured, particularly apically. Abdomen without distinct pale mid dorsal abdominal band, anterior margin of abdominal sternites 3–6 blackish, apical segment of cercus (figs 97–98) with rounded margin. Male genitalia (figs 99–101) with dpr of vp very broad at base, strongly curved, narrow toward tip; anterior section of vl of lph broadly rectangular, narrowly produced at junction with pa; spr swollen medially, tip slightly mucronate; pa compact, surface folded and strongly shagreened with single large glabrous tooth projecting postero-laterally.

Measurements (mm). Body length, ♂ 85–94, ♀ 103–112. Head width, ♂ 5.4–8.2, ♀ 9.2–10.2. Head depth, ♂ 4.5–4.6, ♀ 6.0–7.4. Pronotum width, ♂ 4.3–5.0, ♀ 6.0–7.3. Pronotum length, ♂ 28–29, ♀ 36–37. Fore coxa length, ♂ 14–15, ♀ 19–21. Fore femur Length, ♂ 16–17, ♀ 21–24. Tegmen length, ♂ 49, ♀ 29–30. Cercus length, ♂ 9.5–11.5, ♀ 11.0–12.0.

Immature stages. Nymphs have a pale mid dorsal stripe but it is not as prominent as in some other members of the genus. The toothed margins of the pronotum are not apparent in very early instars. The ootheca is unknown.

Distribution and habits. Recorded from far north eastern New South Wales and eastern Queensland as far north as Townsville (fig. 172). Nothing is known of the habits of this species but it is probably a shrub dweller.

Remarks. This species is not well represented in collections considering its distribution covers some fairly well populated areas and may not be common in nature.

Archimantis monstrosa Wood-Mason

Figures 102–110, 172

Archimantis monstrosa Wood-Mason, 1878: 583.

Archimantis latizonata Sjöstedt, 1918: 21.

Material examined. Holotype female of *A. monstrosa*, Victoria River, North Australia (Northern Territory), 10 Mar 1856. R. Elsey Esq., 57.134 1 (BMNH).

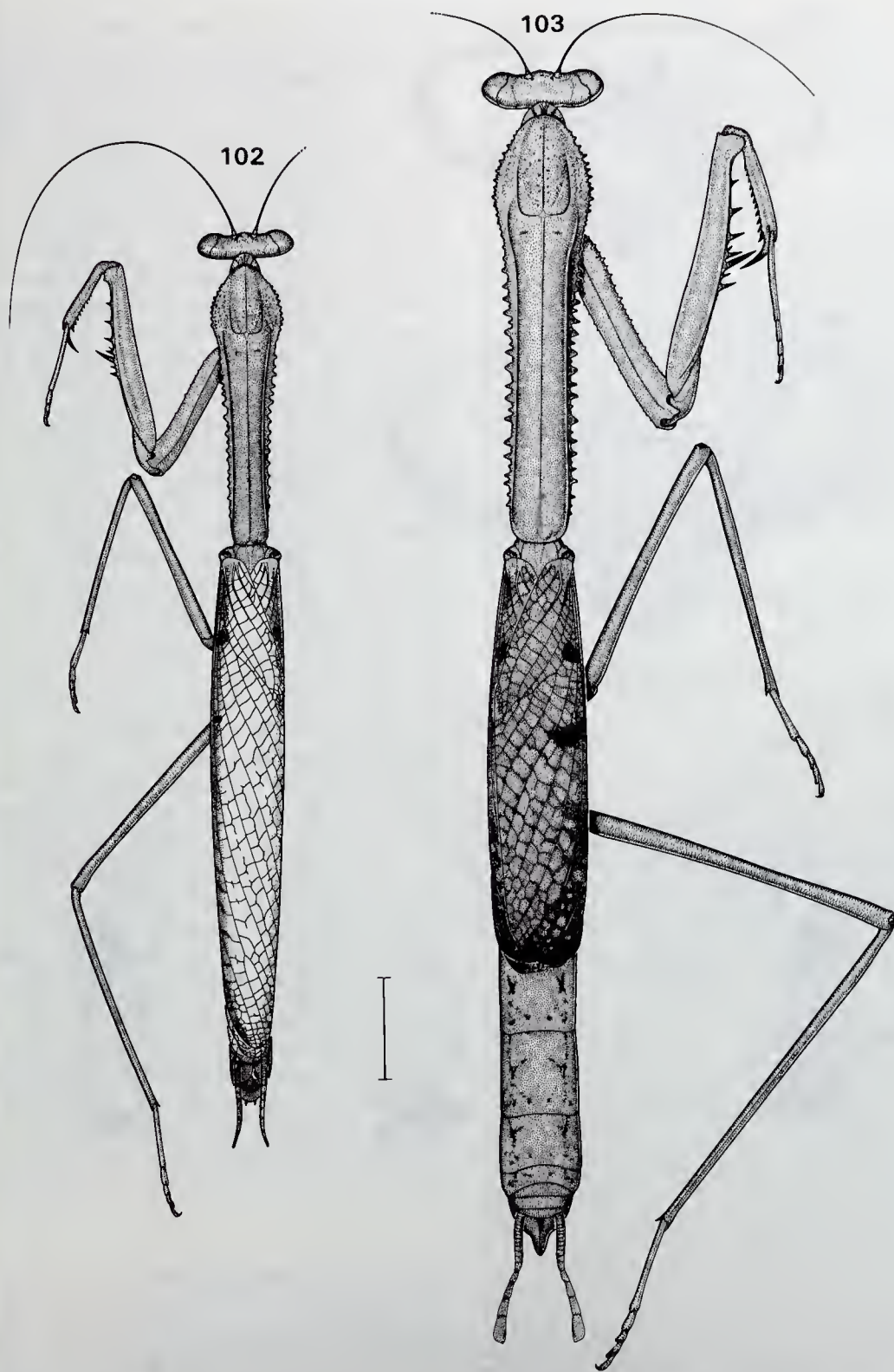
Other specimens examined (20♂, 3♀, 38 juv.). Qld. ♂, 17°20'S, 144°57'E, Emu Ck, 27 km SW of Dimbulah, 25–26 Nov 1981. ♂, 18°10'S, 140°15'E, Flinders River, 59 km SW of Normanton, 1 Dec 1981. ♂, 17°25'S, 145°05'E, 15 km W of Irvinebank, 27–28 Nov 1981 (all ANIC). ♂, 17°13'S, 145°17'E, 5.5 km N of Collins Weir, W of Atherton, 10 Feb 1989. 2♂, 17°51'S, 141°08'E, Glenore Pumping Station, Norman River,

13 Jan 1993. 1 juv., 19°33'S, 140°51'E, Julia Creek Rd., Dugald River crossing, 15 Jan 1993. ♂, Karumba, 7 Apr 1989. ♀, 18°43'S, 144°38'E, Kennedy Development Rd, Spring Creek HS turnoff, 17 Apr 1991. 2♀, 21 km SSW of Mt Garnet, 11 Apr 1991. ♂, 17°38'S, 141°09'E, 0.5 km S of Wills Ck., NE of Normanton, 11 Jan 1993 (all NMV). ♂, 8♀, 5 juv., Mornington Island Mission, 20–21 May 1963 (SAM).

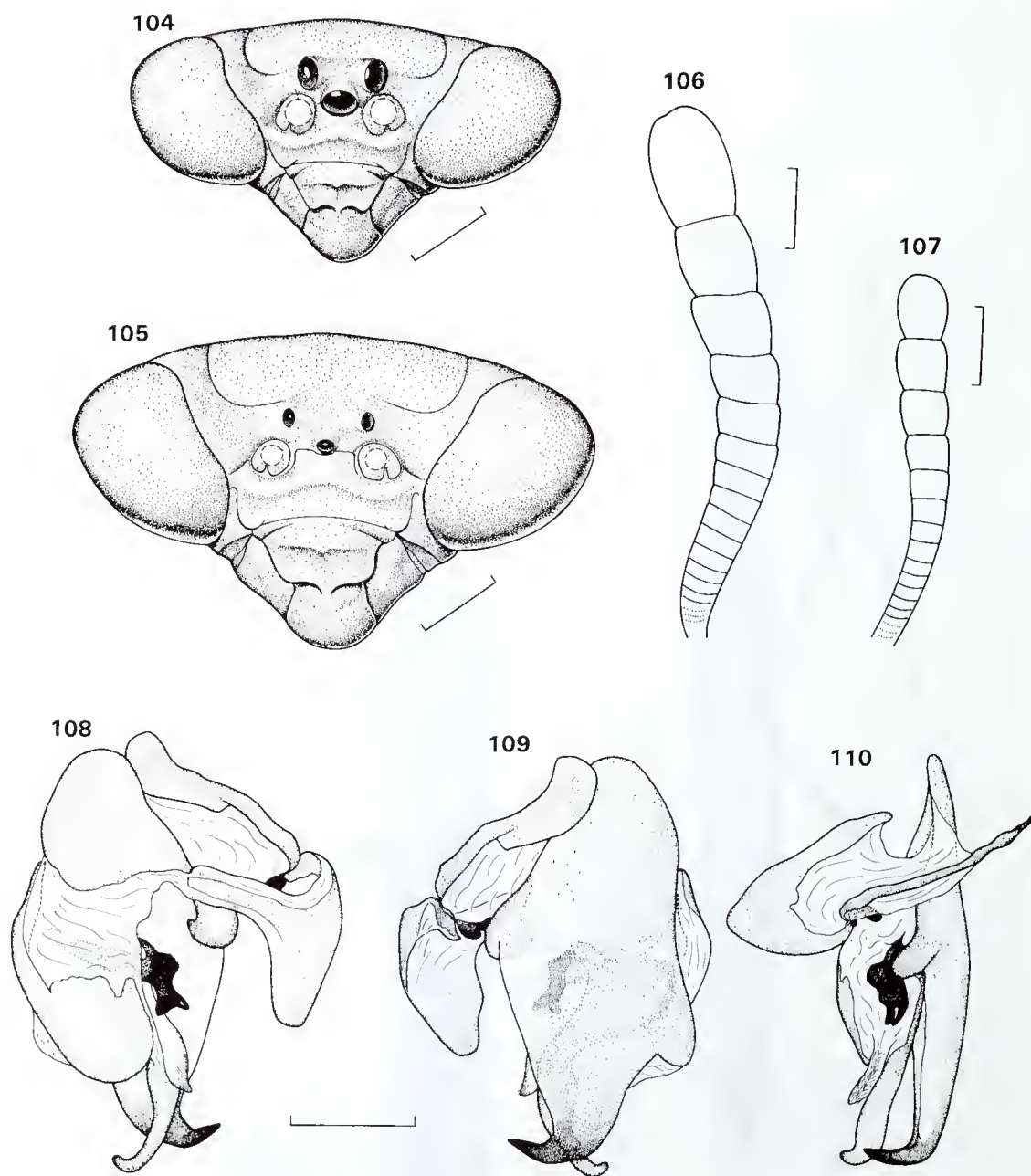
NT. 1 juv., MacArthur River, 18 Jun 1976. ♂, ♀, Nhulunbuy, Feb 1973. ♂, ♀, Nhulunbuy, Mar 1973. ♀, Nhulunbuy, Feb 1974. 1 juv., Port Keats, 20 Jun 1952 (all AM). 1 juv., 8 km NW of Adelaide River, 10 Jun 1972. ♂, 16°19'S, 136°05'E, 36 km SW of Borrooloola, 4 Nov 1975. 1 juv., 16°28'S, 136°08'E, Bukalara Range, 47 km SSW of Borrooloola, 23 Apr 1976. ♂, 12°25'S, 132°59'E, 3 km ENE of Cahills Crossing, East Alligator River, 12 Nov 1972. 1 juv., 2 km NW of Cahills Crossing, East Alligator River, 14 Sep 1982. 1 juv., 5 km W of Jabiru, 7–10 Feb 1983. 1 juv., 16°23'S, 129°31'E, 13 km WNW of Kildurk HS, 29 Jul 1969. ♀, Koongarra, 15 km E of Mt Cahill, 6 Apr 1973. 1 juv., 12°50'S, 132°51'E, 16 km NE of Mt Cahill, 13 Jun 1973. 2 juv., 15 km SW of Mudginberri HS, 31 Aug 1982. 1 juv., Patonga Rd, 12 km WSW of Mt Cahill, 14–15 Sep 1981. ♂, 11°07'S, 132°08'E, Smith Point, Cobourg Peninsula, 27 Jan 1977. 2♂, Tindal, 30 Nov 1967. 2♂, 14°31'S, 132°22'E, Tindal, 13 km ESE of Katherine, 2 Dec 1967. ♂, 3♀, Tindal, 17 Dec 1967. 1 juv., 16°24'S, 131°02'E, 3 km ENE of Victoria River Downs HS, 2 Jun 1969. 1 juv., 16°12'S, 130°26'E, 70 km WNW of Victoria River Downs HS, 25 Jun 1968. 1 juv., Borrooloola, McArthur River, 16 Jun 1929. ♀, 11°08'S, 132°09'E, 2 km SE of Smith Point, Cobourg Peninsula, 5 Feb 1977 (all ANIC). 1 juv., Darwin, 7 Aug 1912 (NMV). 2♀, 4 juv., Darwin. ♀, 1 juv., Groote Eylandt. ♀, Northern Territory. 4♀, 1 juv., Roper River. ♂, Stapleton (all SAM).

WA. 1 juv., 17–25 km NNE of Bedford Downs HS, 1–8 Jul 1964. 1 juv., 17°19'S, 122°10'E, 8 km S of Cape Bertholet, West Kimberley District, 19 Apr 1977. 1 juv., 14°39'S, 126°57'E, Drysdale River, Kimberley District, 18–21 Aug 1975. 2 juv., 18 km E of Gibb River HS, Kimberley District, 21 Jun 1979. 1 juv., 14°17'S, 126°39'E, Kalumburu, 13 Jun 1985. ♀, Kimberley Research Stn, 10 Dec 1951. ♂, Kimberley Research Stn, 3 Mar 1962. 1 juv., 14°49'S, 125°42'E, Mitchell River Falls, Kimberley District, 12 May 1983. 1 juv., 14°37'S, 125°48'E, 8 km SW of Walsh Point, Admiralty Gulf, 17 May 1983. ♀, Wyndham. ♀, Wyndham, 17 Dec 1930 (all ANIC). ♀, 3 juv., Wotjulum, Sep 1955 (WAM).

Diagnosis. Eyes with lateral margins rounded, pronotum with strongly toothed margins which are broadly lamellate anterior to coxal insertions, fore coxa without large teeth on anterior margin or distinctive pattern on inner face, tegmina of female covering first $3\frac{1}{2}$ tergites of abdomen, apical segment of cercus with rounded margin, pa of male genitalia compact with double pointed projection.



Figures 102-103, *Archimantis monstrosa*. 102, male; 103, female. Scale = 2 mm.



Figures 104–110, *Archimantis monstrosa*. 104, male head; 105, female head; 106, female cercus; 107, male cercus; 108, male genitalia, dorsal; 109, male genitalia, ventral; 110, male genitalia, right lateral. Scale = 2 mm.

Description. Body large elongate and robust, brown in colour. Apical margin of head broadly arched, eyes slightly protuberant anteriorly with lateral margins rounded but slightly angular, frontal shield with distinct subantennal ridge. Prothorax elongate, marked supracoxal expansion; lateral margins strongly toothed and distinctly lamellate anteriorly, strongly tuberculate ventrally anterior to coxal insertion; metazona with distinct mid dorsal keel; prozona with few scattered tubercles dorsally, denser more pronounced tubercles ventrally which are paler than surrounding area. Fore coxa with 6–8 small teeth on anterior margin, inner face not distinctly patterned. Fore femur with all spines blackish. Fore tibia with 10–11 external and 14–16 internal spines, all tipped blackish brown. Mid and hind femora without genicular spine. Wings of male not quite covering abdomen. Tegmen hyaline except for costal area and costal margin of discoidal area which are opaque brown above; below costal margin of discoidal area orange brown, costal area glossy black in proximal fifth, remainder whitish with black cross veins; discoidal area with dark spot dorsally at either end of stigma. Hindwing with costal area orange brown, remainder hyaline. Wings of female covering first 3½ tergites of abdomen. Tegmen similar to that of male but discoidal area completely opaque with venation darkly pigmented. Hindwing with orange brown area more extensive and venation more darkly coloured, particularly apically. Abdomen lacking pale mid dorsal stripe, anterior margin of abdominal sternites 3–6 blackish but only visible when abdomen flexed. Cercus (figs 106–107) elongate, apical segment with rounded margin, distal segments relatively broader than those of *A. armata*. Male genitalia (figs 108–110) with dpr of vph broad at base, strongly curved, narrow toward tip; medial lobe strongly produced slightly mucronate; anterior section of vl of lph broadly rectangular, narrowly produced at junction with pa; apr swollen medially, tip slightly mucronate; pa compact, strongly shagreened with two short tooth like projections, one directed posteriorly, the other posterior-laterally.

Measurements (mm). Body length, ♂ 90–97, ♀ 115–117. Head width, ♂ 8.8–9.5, ♀ 11.0–11.6. Head depth, ♂ 4.5–5.6, ♀ 5.5–6.3. Pronotum width, ♂ 7.0–8.4, ♀ 8.5–9.8. Pronotum length, ♂ 29–32, ♀ 42–44. Fore coxa length, ♂ 17–18, ♀ 22–23. Fore femur length, ♂ 19–21, ♀ 27–29.

Tegmen length, ♂ 50–52, ♀ 40–44. Cercus length, ♂ 8.7–10.0, ♀ 10.5–13.0.

Immature stages. Nymphs with pale mid dorsal abdominal stripe but not as prominent as some other members of the genus. Ootheca unknown.

Distribution and habits. Found across the tropical north of Australia (fig. 172). I have collected later instars of this species in shrubs and early instar nymphs in low shrubs and grasses in open woodland, in northern Queensland.

Remarks. It is possible that this species may be conspecific with *A. armata* as the amount of variation between the two species is no greater than that found in several other species in this genus. However at present all specimens examined can be assigned to one or other species. Further collecting in the area between Charters Towers and Mount Surprise in Queensland should clarify this situation.

Archimantis quinquelobata (Tepper)

Figures 111–125, 169

Fischeria quinquelobata Tepper, 1905: 238.

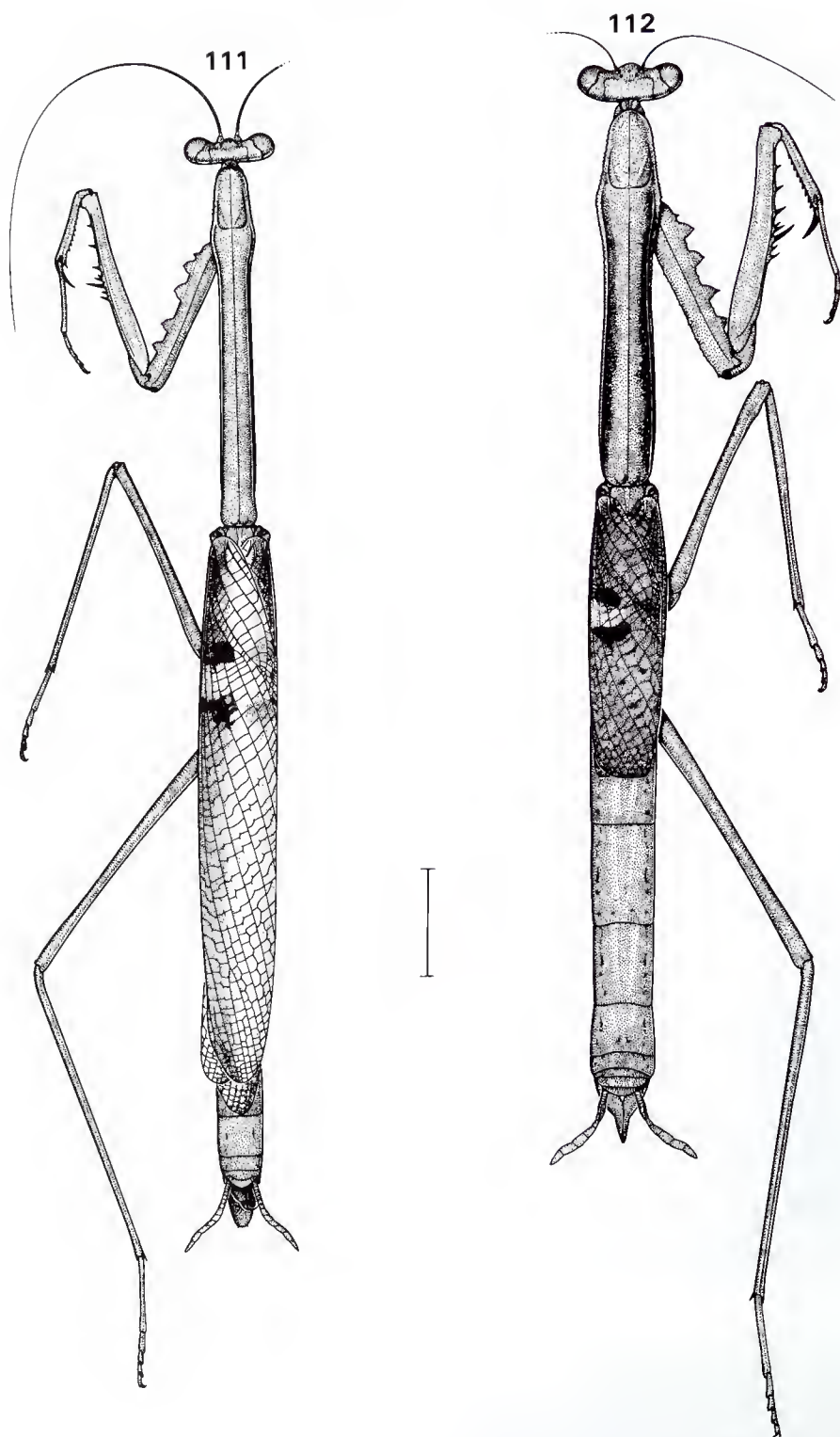
Rheomantis quinquelobata (Tepper)-Giglio-Tos, 1917: 44.

Archimantis quinquelobata (Tepper)-Tindale, 1923: 441.

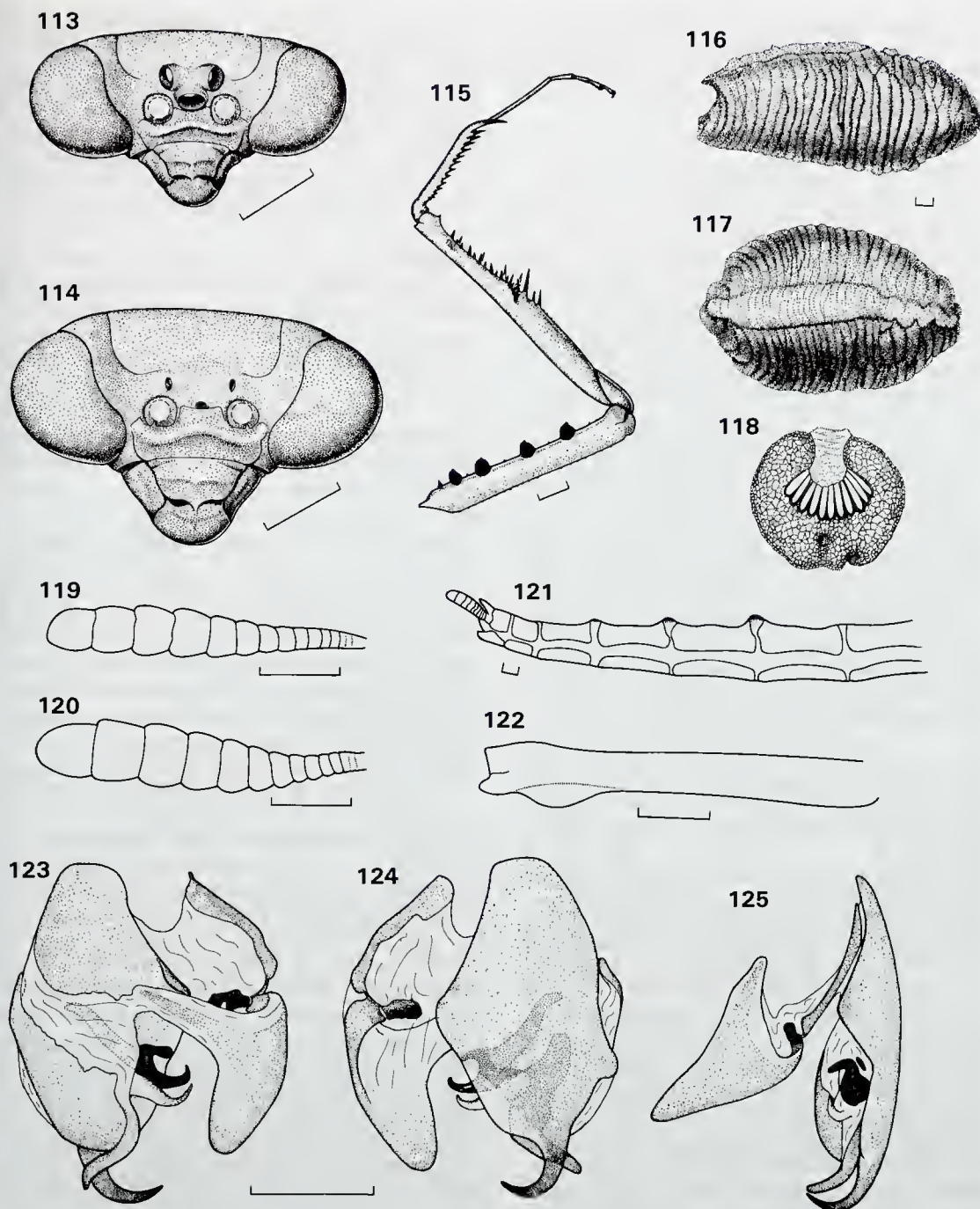
Material examined. Syntype female of *A. quinquelobata*, Yactoo, South Australia, 19 May 1887, M. Crawford. Syntype female of *A. quinquelobata*, north west South Australia, Mar-Dec 1903, H. Basedow, 1 14067. Syntype female of *A. quinquelobata*, Broken Hill (NSW), 3 Jan 1890, F. J. Burgess (all SAM). See Balderson (1984) for discussion of type material.

Other specimens examined (49♂, 50♀, 33 juv.). Qld. ♂, 26°24'S, 146°15'E, Charleville, 7 Apr 1976. ♂, 21°41'S, 140°30'E, Selwyn Mine, 160 km SE of Mt Isa, 16 Oct 1990 (both ANIC). 2 juv., 25°48'S, 146°35'E, Augathella, 18 Jan 1993. ♀, Charleville, 15 Mar 1921. ♀, 21°13'S, 146°29'E, 140 km S of Charters Towers, 19 Feb 1989. 1 juv., 25°40'S, 146°30'E, Khyber Rd., 14 km N of Augathella, 18 Jan 1993 (all NMV). ♀, Cunnamulla (SAM).

NSW. ♂, Bogan River, 40 km E of Coolabah, 8 Jan 1963. ♀, 23 km NNE of Bourke, 13 Mar 1959. 3♂, 18 km WNW of Bourke, 9 Jan 1972. 1 juv., 47 km N of Bourke, 23 Dec 1961. ♀, 30°50'S, 146°33'E, 23 km SSE of Byrock, 5 Apr 1976. ♂, 7 km W of Cobar, 20 Feb 1963. ♀, 6 km W of Cobar, 23 Mar 1972. 1 juv., 6 km W of Cobar, 10 Dec 1971. 1 juv., 7 km W of Cobar, 1 Feb 1964. 1 juv., 25 km SW of Dubbo, 16 Jan 1961. 1 juv., 20 km N of Dubbo, 19 Jan 1961. 1 juv., 12 km SE of Girilambone, 23 Dec 1961. 1 juv., 12 km NW of Goolma, 14–15 Jan 1961. 1 juv., 8 km W of Mendooran, 18 Jan 1961. 1 juv., 5 km SE of Merrygoen, 18 Jan



Figures 111–112, *Archimantis quinquelobata*. 111, male; 112, female. Scale = 10 mm.



Figures 113–125, *Archimantis quinquelobata*. 113, male head; 114, female head; 115, male foreleg, inside; 116, ootheca, lateral; 117, ootheca, dorsal; 118, ootheca, transverse; 119, male cercus; 120, female cercus; 121, mid instar nymph, abdomen lateral; 122, mid instar nymph, mid left femur, dorsal; 123, male genitalia, dorsal; 124, male genitalia, ventral; 125, male genitalia, right lateral. Scale = 2 mm.

1961. ♀, Trangie, 6 Apr 1956. (all ANIC). 6♂, 7♀, 22 km NNW of Coombah, 29 Jan 1990 (NMV). 2♂, Broken Hill, 11 Dec 1906. ♀, Carinda, nr Orange, Mar 1928. 1 juv., 32 km W of Euabalong, 28 Jan 1969. ♀, Menindee Lakes, 16 May 1969 (all SAM).

NT. ♂, 23°41'S, 134°15'E, 39 km E of Alice Springs, 25–26 Sep 1978. ♂, 23°41'S, 133°52'E, Alice Springs, 3–4 Nov 1988. ♂, Ayers Rock, 7 Nov 1980. ♂, Ayers Rock, 16 Feb 1967. 1 juv., 12 km SE of Frewena, 23 Aug 1960. ♂, 23°48'S, 132°21'E, 5 km NE of Gosses Bluff, 10 May 1969. ♀, 37 km NNW of Renner Springs, 24 Mar 1955. ♀, 20°53'S, 130°25'E, Sangsters Lake, 38 km SE of The Granites Minc, Tanami Desert, 31 Oct 1988. ♂, 25°21'S, 131°03'E, Uluru Motel, Ayers Rock, 6 Nov 1980 (all ANIC). ♂, 55 km NNW of Alice Springs, 27 Sep 1987. 2♀, 20°52'S, 130°16'E, 10 km WSW of Sangsters Bore, SE of The Granites, Tanami Desert, 27–31 Oct 1987 (all NMV). ♀, Alice Springs, Jun 1894. 1 juv., Palm Creek (both SAM).

SA. ♀, Marte, 6 Feb 1888 (AM). ♂, 26°09'S, 130°35'E, 56 km W of Amata, Musgrave Ranges, 19 Jan 1982. ♂, 5 km ESE of Bopecchee, 1 Jan 1969. 1 juv., 31°17'S, 131°34'E, 27 km E of Ivy Tank Motel, 31 Oct 1970. 1 juv., Leigh Creek, 29 Sep 1965. 1 juv., Wilpena Pound, 25 Feb 1970 (all ANIC). ♀, Overland Railway, 17 km E of Golden Well, Jan–Mar 1909. 1 juv., 31 km NW of William Creek, 18 Sep 1987 (both NMV). 1 juv., Cortina Stn. ♂, Kingoonya, 1 juv., 26°04'S, 135°05'E, Lake Surprise, Simpson Desert. ♂, Macumba Creek, 22 Nov 1909. 6♂, Mt Painter, Flinders Range. ♂, Murray River. ♀, Ooldea. ♀, north South Australia, 18 Feb 1888. ♂, Tintara. ♀, Wynbring (all SAM).

Vic. ♀, 24 km NNE of Bendigo, 3 Jan 1987. 3♀, Hattah Lakes Nat Pk, 10 Apr 1982. 2♂, 4♀, Hattah Lakes Nat Pk, 8 Apr 1982. ♀, nr Murray River. 1 juv., 35°32'S, 142°29', Waithe Reserve, 21 Jan 1987 (all NMV).

WA Australia. ♂, Balgo Hills, 19 Oct 1985. ♂, Brogo Hill, 160 km S of Halls Creek, 14 Oct 1985. 1 juv., 27 km ENE of Cosmo Newbery Mission, 14 Oct 1970. ♀, 27°50'S, 114°43'E, Four Mile Pool, Murchison River, 23 Oct 1984. 1 juv., Gahnda Rockhole, 1–2 Feb 1967. ♂, 11 km N of Geraldton, 26 Jan 1973. ♂, 29°36'S, 115°15'E, Gravel Scrape, 25 km N of Eneabba, 24 Oct 1984. ♂, 6 km W of Hayes Hill, nr Lake Cowan, 8 Feb 1983. ♂, 30°09'S, 115°07'E, 19 km NNE of Jurien, 25 Oct 1984. 1 juv., 5 km NNW of Kalgoorlie, 11 Feb 1975. 3 juv., 27°34'S, 14°26'E, Loop Rd, 30 km ENE of Kalbarri, Kalbarri Nat Pk, 17 Oct 1984. ♂, ♂, 18 km E of Meekatharra, 28 Apr 1963. 1 juv., 10 km W of Mia Mia HS, nr Exmouth Gulf, 29 Jan 1972. 3♂, Mt Leonora, nr Leonora, 13 Feb 1981. 2 juv., Mt Leonora, nr Leonora, 20 Feb 1979. 1 juv., 26°31'S, 119°53'E, 4 km ESE of Mt Russell, NW of Wiluna, 15 Oct 1984. ♂, 85 km ENE of Port Hedland, 18 Apr 1963. ♂, 60 km SE of Sandstone, 23 Jan 1973. ♂, 1.5 km SE of Spargoville, 10 Feb 1980. ♀, 3 km NW of Spargoville, 17 Feb 1982. 1 juv., 28°32'S, 121°00'E, Victory Creek, 50 km NNW of Leonora, 14 Oct 1984. 1 juv., 21°58'S, 118°03'E, 42 km NW of Wittenoom, 11 Nov 1970. ♀, 48 km ESE of Wittenoom, 25 Apr 1963. 1 juv., 28°26'S, 116°05'E, 20 km W of Wurarga, NE of Mullewa, 16 Oct 1984 (all

ANIC). 1 juv., Middalya, 17 Aug 1904 (NMV). ♀, Coolgardie, 1 May 1896. 2♀, Fraser Range, Oct 1891 (all SAM). ♀, 27°42'S, 121°37'E, 7.5 km SE of Banjiwarn Stn, 22–28 Feb 1980. ♀, 31°12'S, 120°17'E, Boorabbin Rock, 20–21 Jan 1982. ♀, Charles Knob, 500 km NE of Laverton, 20 Feb 1964. ♀, 29°57'S, 121°07'E, 3.8 km NE of Comet Vale Siding, 7–15 Mar 1979. ♂, Mt Eger-ton. ♀, Lake Side. ♀, Landor Stn. ♀, Narrogin. ♀, Tardun, 1 Jan 1963. ♂, Towrana Stn (all WAM).

Diagnosis. Lateral margin of eyes rounded, lateral margins of pronotum with only very fine denticles in anterior part, anterior margin of fore coxa with four large and one or two smaller teeth which are black on inner face, tegmina of female covering first 2½ abdominal tergites, apical segment of cercus with rounded margin; pa of male genitalia with two lateral projections, the anterior one short and flattened, the lower one elongate unciform.

Description. Body of male slender, of female more robust, considerable variation in size; colour grey to brownish, sometimes with lighter and darker mottlings. Apical margin of head slightly arched; eyes anteriorly protuberant, with rounded lateral margins; frontal shield with distinct subantennal ridge. Prothorax moderately to extremely elongate, slight but distinct supra-coxal expansion; lateral margins very finely tuberculate in prozona and smooth in metazona of male, more strongly tuberculate in prozona and finely tuberculate in anterior half of metazona of female; prozona with few small scattered tubercles above, stronger tubercles below that are cream coloured surrounded by dark background; metazona with distinct mid dorsal carina, reddish black ventrally between bases of fore coxae. Fore coxa (fig. 115) with four large flat triangular teeth and usually smaller proximal one, occasionally small distal one, these teeth coloured black ventrally and contrasting with pale colouration of rest of inner face of coxa. Fore femur with all spines tipped blackish brown. Fore femur with 13–15 inner and 9–10 outer spines, all tipped blackish brown. Mid and hind femora with or without genicular spine. Tegmina of male covering first six abdominal tergites; costal area opaque brownish above, darker orange brown beneath in proximal fifth with remainder pale semi opaque; anterior third of discoidal area opaque brownish above and darker orange brown beneath with large dark spot at proximal end and smaller dark spot at distal end of stigma dorsally, remainder hyaline, venation slightly to distinctly dark coloured. Hind wing of male with distal two thirds of

costal area and apical portion of discoidal area brownish with veins darker, remainder hyaline. Tegmina of female covering first 2½ abdominal tergites; costal and discoidal areas opaque brownish or grey above, reddish brown beneath, often with scattered semi opaque areas in discoidal area; dark patches at ends of stigma extensive, sometimes joining posteriorly, stigma paler than surrounding area; venation more darkly coloured. Hindwing of female very reduced, only about half the length of tegmin; smokey blackish brown in costal area and anterior portion of discoidal area, particularly apically, more orange brown beneath, remainder hyaline. Abdomen without pale mid dorsal stripe, anterior margin of sternites 3–6 blackish, posterior margin of sternites 2–5 with fine creamy yellow border; cerci (figs 119–120) slightly to distinctly elongate, margin of apical segment rounded. Male genitalia (figs 123–125) with dps of vph strongly curved, narrow at base and gradually narrowing to point distally; anterior portion of vl of lph narrow, slightly produced at junction with pa; apr swollen proximally, tip simple; pa finely shagreened with narrow projection at junction with vl and two prominent projections dextrad, anterior one short and slightly flattened to spatulate with distal margin finely serrate, posterior one longer and spiniform, directed laterally then curving ventrally; small sclerite in membrane anterior to pa.

Measurements (mm). Body length, ♂ 80–103, ♀ 77–132. Head width, ♂ 7.2–8.2, ♀ 8.0–11.4. Head depth, ♂ 4.3–4.6, ♀ 5.0–7.4. Pronotum length, ♂ 23–34, ♀ 27–47. Pronotum width, ♂ 3.7–4.1, ♀ 5.4–6.5. Fore coxa length, ♂ 14–16, ♀ 15–24. Fore femur length, ♂ 16–18, ♀ 18–27. Tegmen length, ♂ 48–52, ♀ 20–35. Cercus length, ♂ 4.5–9.0, ♀ 3.9–10.0.

Immature stages. Nymphs often display a small lobiform expansion apically on posterior edge of mid and hind femora (fig. 122) and single, small bulbous dorsal protrusions between abdominal tergites 3–6 (fig. 121). Ootheca (figs 116–118) rather depressed oblong with fairly thick spongy layer, cells arranged in a shallow u-shaped formation, colour pale grey, brown or greenish, deposited near ground on shrubs, grasses, logs or rocks, when on flat surfaces rather depressed in appearance, often parasitised by wasps of the genus *Podagrion*.

Distribution and habits. Recorded from the more arid regions of mainland Australia (fig. 169). Usually found in woody shrubs though

occasionally in tall grasses. Adults most commonly collected from January to April.

Archimantis brunneriana Saussure

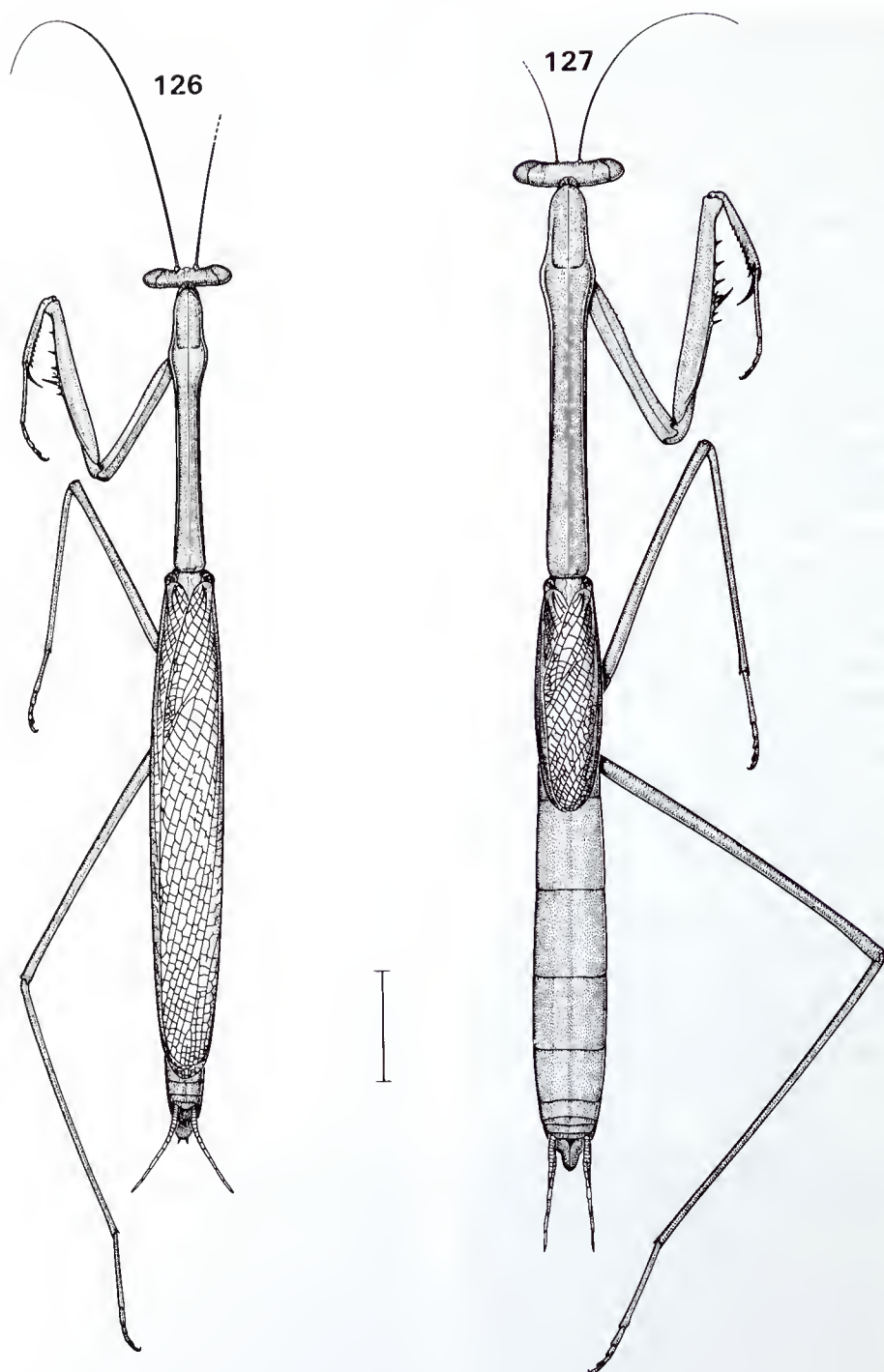
Figures 126–136, 173

Archimantis brunneriana Saussure, 1871: 277.

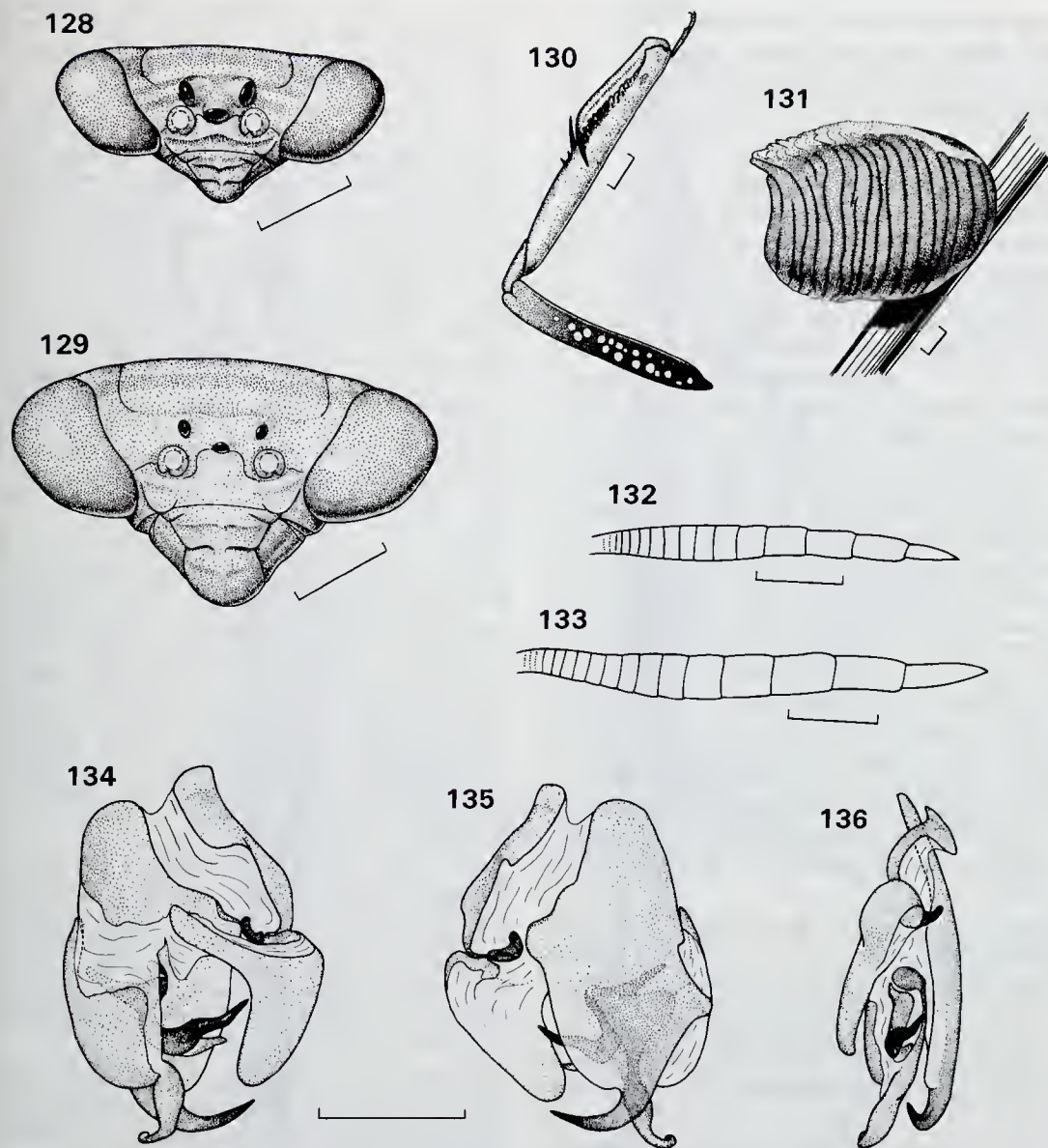
Material examined (10♂, 8♀, 10 juv.). Qld. ♂, Kinbombi Falls, nr Goomeri, 19 Dec 1976. ♂, 20 km N of Monto, 6 Dec 1979 (both AM). ♂, Armstrong Creek Crossing, 13 km NNW of Guthalungra, 26 Jan 1982. 1 juv., 3 km N of Bundaberg, 23–30 Jun 1971. ♂, Burnett River Crossing, 10 km NE of Eidsvold, 9 Jan 1970. ♂, ♀, Ceratodus, 31 Dec 1955. ♂, 17°12'S, 144°34'E, 6 km SE of Chillagoe, 26 Nov 1981. 1 juv., 13°56'S, 143°12'E, Coen, 18 Jul 1986. ♂, 2 juv., 1.7 km W of Gayndah, 3 Jan 1965. 1 juv., 23°20'S, 150°35'E, Mt Archer (NW summit), Rockhampton, 30 Jun 1980. ♂, Mt Garnet, Dec 1960. 1 juv., 25°26'S, 152°56'E, Mt Tibrogargan, Glasshouse Mountains, 15 Aug 1985. ♀, 10 km NE of Stanwell, 6 Jan 1965. ♀, Tannum Beach, nr Gladstone, 22–23 Dec 1955. 1 juv., Watalgan Range, nr Bundaberg, 6 Nov 1971. ♀, 20°10'S, 152°33'E, Woodgate Nat Pk, 29 km ENE of Childers, 13 Aug 1985 (all ANIC). 1 juv., Bruce Hwy, 4 km S of Bowen, 1 Apr 1991. ♂, 12°44'S, 143°16'E, Claudie River, Iron Range Nat Pk, 25 km NW of Lockhart River, 10 Nov 1988. ♂, 8 km E of Emuford, 30 Dec 1989. 3♀, 16°48'S, 145°22'E, 22 km NNW of Mareeba, 15 Feb 1989. 2 juv., 44 km SSW of Mundubbera, 31 Mar 1991 (all NMV). ♀, Brisbane (QM).

Diagnosis. Lateral margin of eye angular, lateral margin of pronotum without teeth, anterior margin of fore coxa without large teeth, inner face of fore coxa with pattern of small pale spots on blackish background that peters out distally, tegmina of female covering first two abdominal tergites, apical segment of cercus with pointed apex, pa of male genitalia with tip of projection directed laterally and slightly anteriorly.

Description. Body slender, grey-brown, brown, yellow-brown or pale green in colour. Head strongly antero-posteriorly compressed, apical margin broadly arched in female, almost horizontal in male; frontal shield with distinct subantennal ridge in male, only very slight ridge in female; eyes with angular lateral margins. Prothorax slender with slight but distinct supra coxal expansion; lateral margins entire in male, minutely denticulate for whole length in female but sparser posteriorly; prozona sparsely granulate above, more densely tuberculate below; metazona with distinct mid dorsal carina, darkly coloured ventrally between bases of fore coxae. Fore coxa (fig. 130) with few very small blunt teeth on anterior edge in male, more numerous in female with 2 or 3 larger ones proximally;



Figures 126–127, *Archimantis brunneriana*. 126, male; 127, female. Scale = 10 mm.



Figures 128–136, *Archimantis brunneriana*. 128, male head; 129, female head; 130, male foreleg, inside; 131, ootheca, lateral; 132, male cercus; 133, female cercus; 134, male genitalia, dorsal; 135, male genitalia, ventral; 136, male genitalia, right lateral. Scale = 2 mm.

inner face dark brown, becoming black proximally with numerous irregular pale spots. Fore femur with all spines tipped black-brown, claw groove slightly distal of mid point. Fore tibia with 15–16 inner and 9–11 outer spines, all more or less tipped black. Inner face of tarsal segments sometimes blackish. Mid and hind femora without genicular spine. Wings of male reaching just beyond fifth abdominal tergite; tegmen with costal area opaque white except for posterior proximal third which is black, costal margin of discoidal area orange-brown, colours more intense below, remainder of tegmen hyaline. Tegmina of female reaching just beyond caudal margin of second abdominal tergite; colouring similar to male except that pale costal margin very narrow, black colour extends for three quarters of the length of costal area and orange-brown band broader, covering about one third of discoidal area. Hindwings of both sexes with costal and sub costal areas orange-brown, remainder hyaline. Abdomen sometimes with broad pale median dorsal stripe, anterior margin of sternites 3–7 blackish; apical segment of cercus (figs 132–133) with pointed apex. Male genitalia (figs 134–136) with dpr of vph narrow at base, strongly curved; anterior section of vl of lph broadly triangular, broad projection at junction with pa; apr with medial bulge, distal end short, tip slightly mucronate; pa with single uncinate spiniform projection, lightly shagreened, slightly sinusoidal distad with sharp angle near tip.

Measurements (mm). Body length, ♂ 72–78, ♀ 86–92. Head width, ♂ 6.5–7.3, ♀ 8.4–9.0. Head depth, ♂ 3.1–3.6, ♀ 4.8–5.1. Pronotum length, ♂ 23–26, ♀ 32–35. Pronotum width, ♂ 2.9–3.4, ♀ 4.3–4.8. Fore coxa length, ♂ 13, ♀ 16–19. Fore femur length, ♂ 15, ♀ 19–21. Tegmen length, ♂ 36–37, ♀ 20–22. Cercus length, ♂ 8.2–8.4, ♀ 10.9–12.4.

Immature stages. Nymphs similar in colour to adults; ootheca (fig. 131) rather small, brownish, thin spongy layer, eggs in w-formation, deposited on stems of shrubs and grasses.

Distribution and habits. Recorded from eastern Queensland, from Iron Range in the north to Brisbane in the south (fig. 173). Found in grasses and shrubs in woodland habitats.

Archimantis straminea Sjöstedt

Figures 137–147, 173

Archimantis straminea Sjöstedt, 1918: 17.

Material examined. Lectotype ♂, here designated, Noonkanbah, NW Austr., Dec, Mjöberg, (3) 271 82. Paralectotype ♀, here designated, NW Austr., Mjöberg, (3) 272 82 (both NHRM).

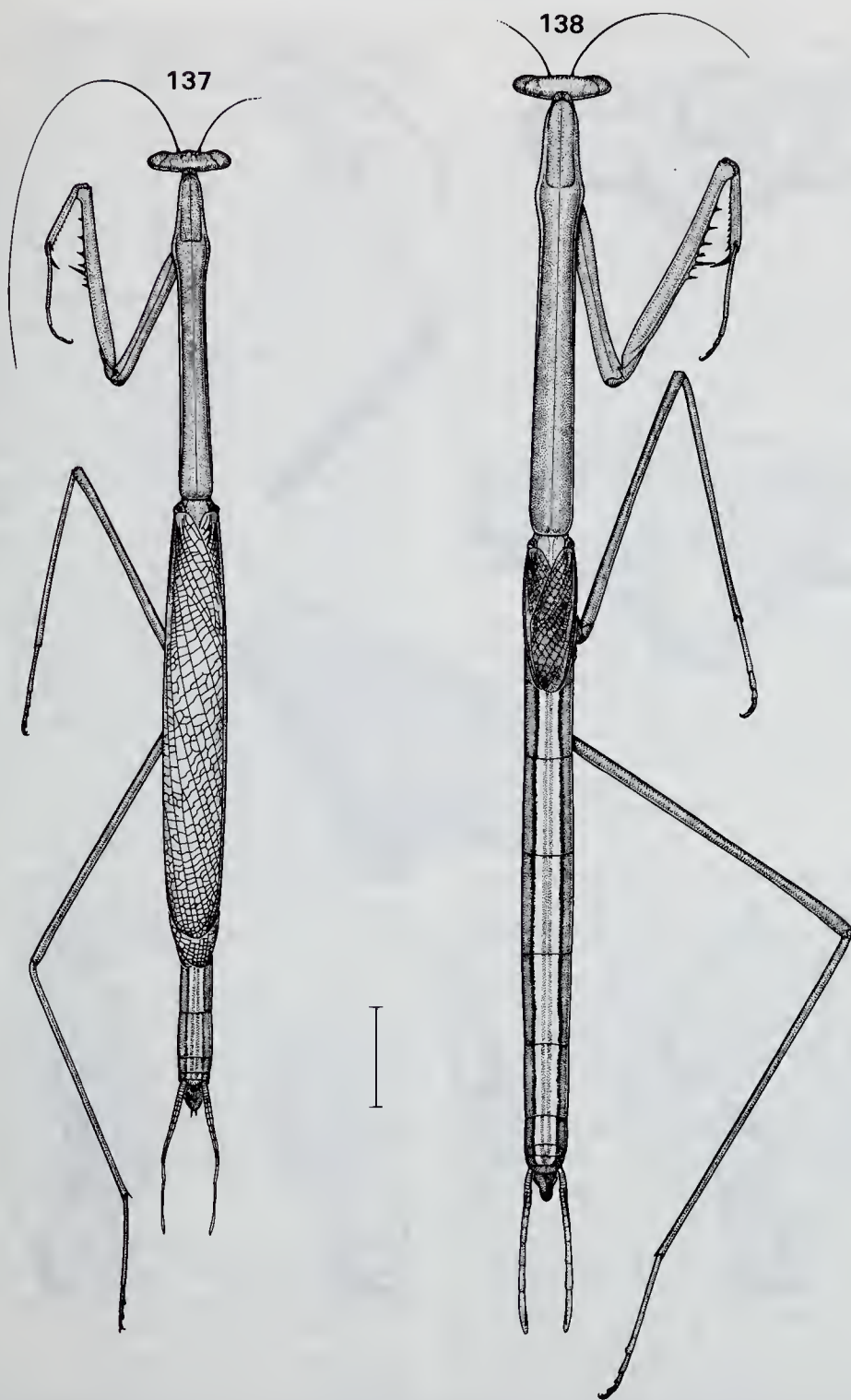
Other specimens examined (20♂, 6♀, 21 juv.). Qld. ♂, Butcher Creek, 20 km W of Cloncurry, 21 Jan 1977. ♂, 65 km E of Hughenden, 3 Feb 1981 (both AM). 3 juv., 8 km E of Dunbar HS, 10 Oct 1965. ♀, 25 km SE of Mt Christison, Hughenden dist., 10–11 Jan 1965. 1 juv., 8 km ENE of Prairie, 10 Jan 1965 (all ANIC). ♂, ♀, 19°14'S, 140°21'E, Burke and Wills Junction, 16 Jan 1993. ♀, 17°33'S, 141°09'E, Eleven Mile Ck., 16 km NNE of Normanton, 10 Jan 1993. 4♂, ♀, 1 juv., 17°33'S, 141°09'E, Eleven Mile Ck., 16 km NNE of Normanton, 5 Jan 1993. 1 juv., 6 km NE of Georgetown, 15 Apr 1991. ♂, ♀, 1 juv., 12 km E of Georgetown, 12 Apr 1991. 2♂, 17°51'S, 141°08'E, Glenore Pumping Station, Norman River, 13 Jan 1993. 1 juv., 17°38'S, 141°09'E, 9 km NE of Normanton, 4 Jan 1993. 3♂, 1 juv., 17°36'S, 141°09'E, 11 km NE of Normanton, 6 Jan 1993 (all NMV). ♂, Cloncurry, 8 Apr 1947 (UQ).

NT. ♂, Alpha Creek, 35 km W of Timber Creek township, 8 Jan 1986. 1 juv., 16°08'S, 136°06'E, 22 km WSW of Borroloola, 2 Nov 1975. 1 juv., 17 km S of Dunmarra, 4 Nov 1965. ♂, Keep River Crossing, Victoria Hwy, 7 Jan 1986. 1 juv., 25 km NNW of Larrimah, 20 Nov 1966. 1 juv., 10 km NW of Larrimah, 4 Nov 1965. 1 juv., 30 km NW of Mataranka, 17 Aug 1960. 3♂, October Creek, Carpentaria Hwy, 180 km E of Daly Waters, 11 Jan 1986. ♂, 11°01'S, 136°45'E, Rimbija Island, Wessel Is, 12 Feb 1977. 1 juv., 35 km E of Timber Creek, 29 Oct 1965. ♂, Tindal, 6 Dec 1967. ♀, 16 km W of West Barnes River Crossing, Victoria Hwy, 8 Jan 1986 (all ANIC).

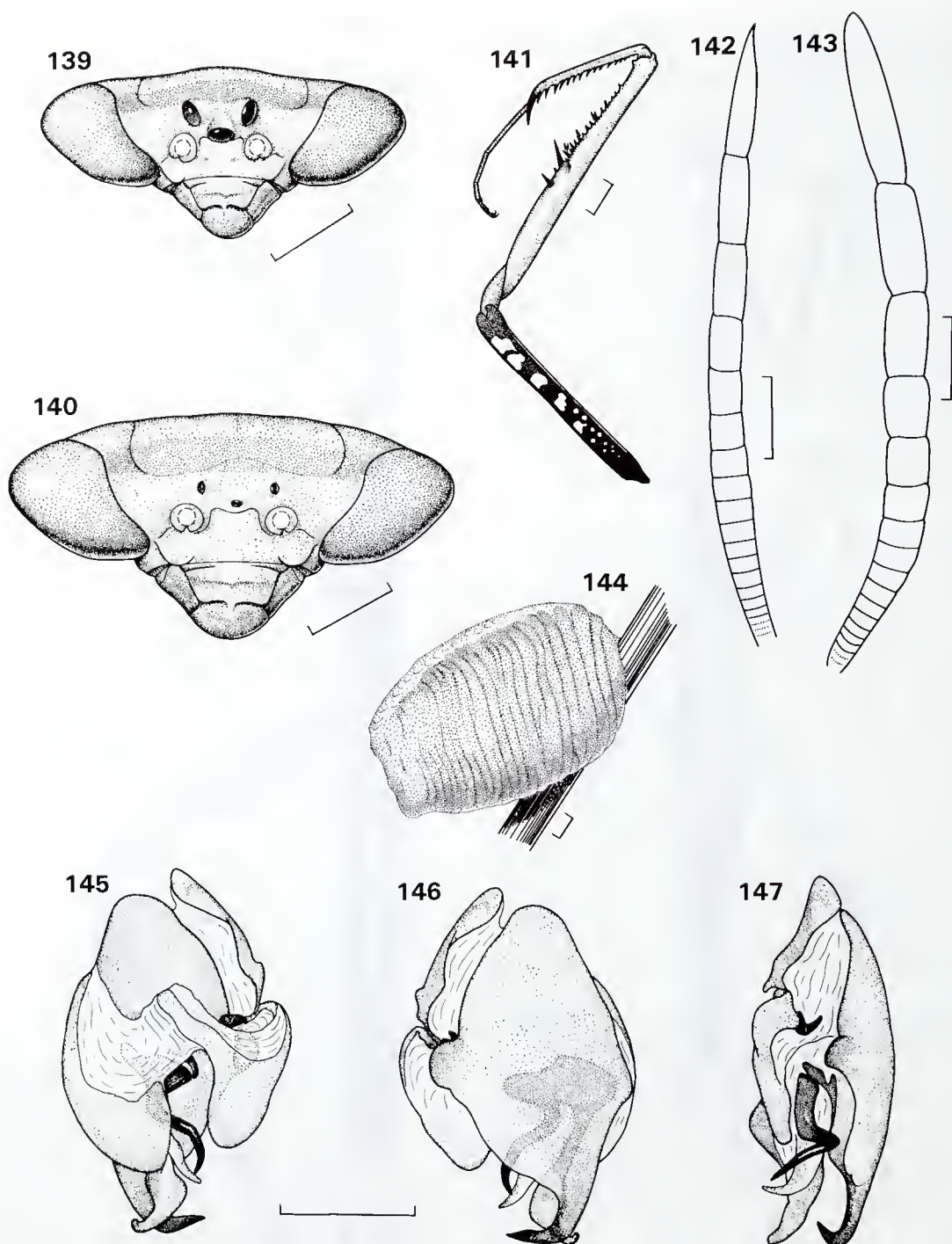
WA. 1 juv., 18°22'S, 122°53'E, 85 km ESE of Broome, 16 Aug 1976. 1 juv., 18 km E of Gibb River HS, Kimberley dist., 21 Jun 1979. 1 juv., 14°13'S, 126°44'E, 13 km NE of Kalumburu, 17 Jun 1985. 2♂, Lissadel Stn, nr Kununurra, Feb 1982. 1 juv., McSpeery Gap, Napier Range, SE of Kimberley Downs HS, 27 Oct 1969. 1 juv., Wyndham East, 27 Oct 1965 (all ANIC).

Diagnosis. Lateral margin of eye distinctly angular, lateral margin of pronotum without teeth, anterior margin of fore coxa without large teeth, inner face of fore coxa with pattern of large pale spots on blackish background which extends distally, tegmina of female covering only first abdominal tergite, apical segment of cercus with pointed apex, pa of male genitalia directed laterally then caudally.

Description. Body moderately large, elongate and slender; pale brown, yellow brown or green in colour. Head strongly antero-posteriorly compressed, apical margin only slightly arched, eyes with lateral margins distinctly angled, frontal shield lacking subantennal ridge. Prothorax elongate and slender with slight but distinct



Figures 137–138, *Archimantis straminea*. 137, male; 138, female. Scale = 10 mm



Figures 139–147, *Archimantis straminea*. 139, male head; 140, female head; 141, male foreleg, inside; 142, male cercus; 143, female cercus; 144, ootheca, lateral; 145, male genitalia, dorsal; 146, male genitalia, ventral; 147, male genitalia, right lateral. Scale = 2 mm.

supracoxal expansion; lateral margins entire in male, virtually so in female; prozona sparsely granulate above, more densely tuberculate below; metazona with distinct mid dorsal keel, darkly coloured between bases of fore coxae. Fore coxa (fig. 141) with numerous small tubercles on anterior edge; inner face dark brown to blackish with pale spots which become larger distally. Fore femur with all spines tipped blackish brown, claw groove slightly distal of mid point. Fore tibia with 14–16 inner and 10–11 outer spines, all tipped blackish. Mid and hind femora without genicular spine. Wings of male reaching just beyond fifth abdominal tergite; tegmen with costal area opaque white except for proximal third which has posterior black band, costal margin of discoidal area orange-brown, colours more intense beneath, remainder hyaline. Tegmina of female only covering first abdominal tergite; colour of costal area similar to male except inner black band broader, extending almost to apex; discoidal area completely opaque, pale pinkish above, intense rose colour below. Hindwings of both sexes with costal area orange-brown, remainder hyaline, those of female very reduced. Abdomen with broad, pale mid dorsal stripe, anterior margin of sternites 3–7 red and blackish; cerci (figs 142–143) very elongate, apical segment with pointed apex. Male genitalia (figs 145–147) with dpr narrow at base, with abrupt curve at mid point; anterior section of vl of lph broad with rounded margins; apr with medial bulge, distal end short, tip slightly mucronate; pa with single, long spiniform projection, directed caudally, laterally then dorso-caudally.

Measurements (mm). Body length, ♂ 78–91, ♀ 100–108. Head width, ♂ 8.5–9.0, ♀ 10.0–10.8. Head depth, ♂ 4.0–5.0, ♀ 5.0–5.5. Pronotum length, ♂ 28.0–31.5, ♀ 39.0–42.0. Pronotum width, ♂ 3.8–4.0, ♀ 4.5–4.8. Fore coxa length, ♂ 13.8–15.5, ♀ 18.5–19.5. Fore femur length, ♂ 15.5–18.0, ♀ 21.5–23.0. Tegmen length, ♂ 38.0–41.0, ♀ 14.0–14.5. Cercus length, ♂ 12.0–15.4, ♀ 16.5–18.5.

Immature stages. Nymphs similar in appearance to adults. Ootheca (fig. 144) similar in appearance to that of *A. brunneriana* but pale greenish in colour with a slightly thicker spongy layer.

Distribution and habits. Found across the tropical north of Australia, west of the Dividing Range (fig. 173). I have collected this species in long grasses in open woodland country in north Queensland.

Archimantis gracilis sp. nov.

Figures 148–157, 174

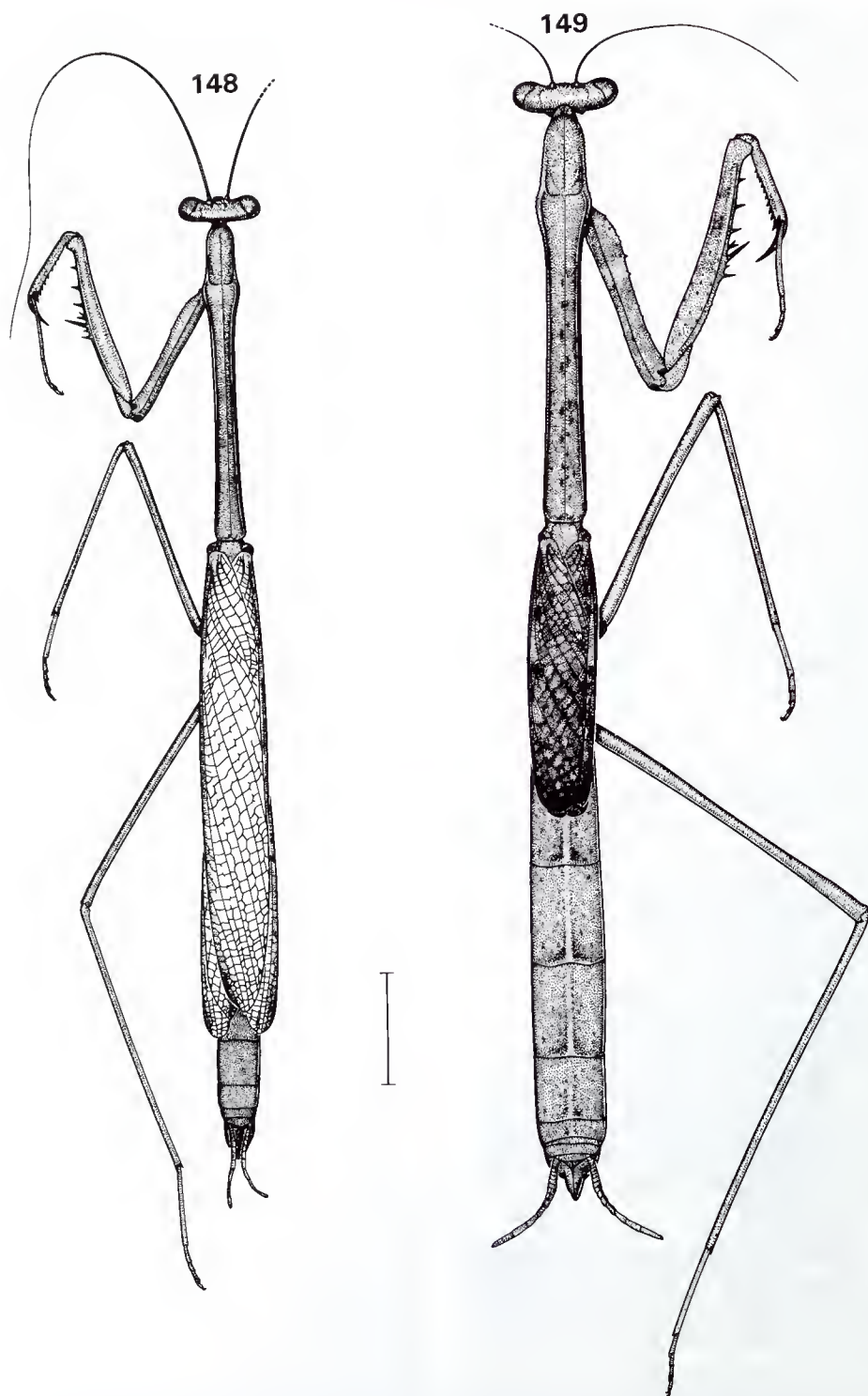
Material examined (7♂, 4♀, 5 juv.). Holotype: ♂, 12°50'S, 132°51'E, 16 km E of Mt Cahill, Northern Territory, 7 Mar 1973, K.H.L.Key (ANIC).

Paratypes. NT. ♂, 2♀, 12°25'S, 132°58'E, 1 km N of Cahills Crossing, East Alligator River, 30 May 1973, K.H.L.Key. ♀, 5 km NNW of Cahills Crossing, East Alligator River, 25 May 1973, K.H.L.Key. ♀, 12°25'S, 132°58'E, 1 km N of Cahills Crossing, East Alligator River, 29 May 1973, K.H.L.Key. ♂, 12°31'S, 132°54'E, 9 km NE of Mudginbarry HS, 10 May 1973, M.S.Upton & J.E.Feehan. ♂, 12°17'S, 133°14'E, 15 km WSW of Nimbuwah Rock, 1 Jun 1973, K.H.L.Key. 3♂, 12°22'S, 133°01'E, 6 km WSW of Oenpelli, 30 May 1973, K.H.L.Key (all ANIC).

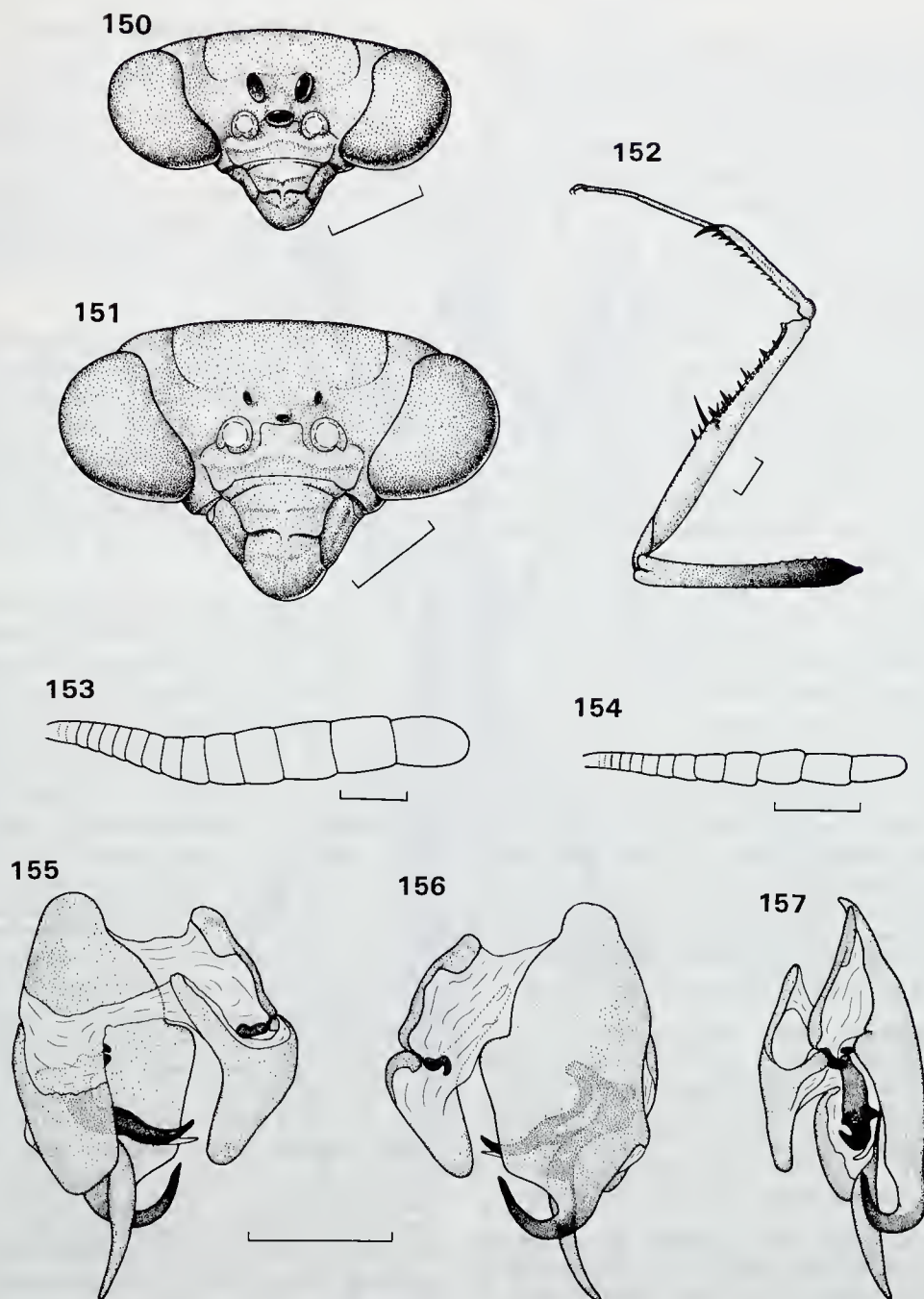
Other specimens examined. NT. 1 juv., nr Cahills Crossing, 18 km SW of Oenpelli, 20 Sep 1981. 1 juv., 12°52'S, 132°50'E, 15 km E of Mt Cahill, 12 Jun 1973. 1 juv., 12°22'S, 133°01'E, 6 km WSW of Oenpelli, 30 May 1973. 2 juv., 13°19'S, 132°47'E, Twin Falls Gorge, 52 km S of Mt Cahill, 26 Mar 1982 (all ANIC).

Diagnosis. Body slender, lateral margins of eyes rounded, lateral margins of pronotum and anterior margin of fore coxa not strongly armed, interior face of fore coxa becoming blackish proximally but without distinctive colour pattern, tegmina of female covering first 2½ abdominal tergites, apical segment of cercus with rounded margin, pa of male genitalia with single clongate process.

Description. Body of moderate size, rather slender in form particularly in the male; colour of dry specimens yellow-brown to chocolate brown, females often peppered with darker spots on abdomen, dorsal surface of pronotum and outer face of fore legs. Head with slightly arched apical margin, eyes somewhat protuberent anteriorly with rounded lateral margins, frontal shield with distinct subantennal ridge. Prothorax slender, especially in male, with slight but distinct supracoxal expansion; prozona lightly granulate above, more strongly tuberculate below; metazona with fine mid dorsal keel, darkish between bases of fore coxae. Fore coxa (fig. 152) with number of small tubercles on anterior edge, more so in female, usually with two more prominent ones in proximal third; inner face pale distally, becoming blackish and faintly tubercled proximally. Fore femur with discoidal, outer, large inner and tips of small inner spines blackish. Foretibia with 14 inner and 8–10 outer spines, all tipped blackish brown. Mid and hind femora usually with small genicular spine. Wings of male extending just beyond sixth



Figures 148–149, *Archimantis gracilis*. 148, male; 149, female. Scale = 10 mm.



Figures 150–157, *Archimantis gracilis*. 150, male head; 151, female head; 152, male foreleg, inside; 153, female cercus; 154, male cercus; 155, male genitalia, dorsal; 156, male genitalia, ventral; 157, male genitalia, right lateral. Scale = 2 mm.

abdominal tergite. Tegmen of male hyaline except for costal area which has opaque white marginal band, followed by black band in proximal third, followed by brown band at costal margin of discoidal area and orange-brown band in proximal third, these colours more intense below; stigma obscure. Tegmen of female extending to about middle of third abdominal tergite, costal and discoidal areas completely opaque, costal area dark blackish, discoidal area dark brown with fuscous reticulate pattern more prominent distally and roughly coinciding with veins; stigma usually indicated by paler area with blackish spot at proximal and distal end; colouring more intense beneath. Hindwing of male with distal two thirds of costal area flushed brown, remainder hyaline. Hindwing of female about four fifths as long as tegmen, costal area and longitudinal veins brown, rest of wing hyaline except for smoky area apically. Abdominal sternites 3–6 with blackish anterior margins; cercus (figs 153–154) elongate, terminal segment with rounded apical margin. Male genitalia (figs 155–157) with dpr of vph narrow at base, strongly recurved; anterior section of vl of lph rather small in area and situated noticeably to the left, with narrow elongate projection at junction with pa; apr with only slight medial bulge, extending well beyond dpr, tip simple; pa with single spiniform projection, initially directed posteriorly, then curving laterally, slightly sinusoidal with tip directed anterio-laterally, faintly shagreened except toward tip, with small more strongly shagreened ventrally directed secondary projection near elbow of main projection; apr very short.

Measurements (mm). Body length, ♂ 77–82, ♀ 90–98. Head width, ♂ 6.9–7.1, ♀ 8.5–8.8. Head depth, ♂ 4.2, ♀ 5.4–5.7. Pronotum length, ♂ 26–28, ♀ 33–35. Pronotum width, ♂ 3.1, ♀ 4.3–4.8. Fore coxa length, ♂ 13, ♀ 17–18. Fore femur length, ♂ 15, ♀ 20–21. Tegmen length, ♂ 41–43, ♀ 23–25. Cercus length, ♂ 7.3–8.0, ♀ 8.4–9.6.

Immature stages. Dry specimens of nymphs are more mottled than adults with indications of a pale mid dorsal abdominal stripe of uneven width. Ootheca unknown.

Etymology. Specific name derived from the Latin *gracilis* meaning slender or thin.

Distribution and habits. Only recorded from a small area in the East Alligator River region of the Northern Territory (fig. 174). Habits unknown but probably a shrub dweller.

Archimantis vittata sp. nov.

Figures 158–165, 174

Material examined. Holotype: ♂, 11°45'S, 142°35'E, Heathlands HS, Queensland, 22 Jan 1992, T. Weir (ANIC).

Paratypes: ♂, 11°08'S, 142°29'E, Jardine River, Cape York Peninsula, Queensland, 12 Oct 1979, M.S. and B.J. Moulds (AM). ♂, Dulhenty River Crossing, Cape York Peninsula, Queensland, 27–28 Sep 1974, G.B. Monteith (QM).

Diagnosis. Body slender, lateral margins of eyes rounded, lateral margins of pronotum and anterior margin of fore coxa not strongly armed, interior face of fore coxa becoming blackish proximally but without distinctive colour pattern, tegmen of male with diagonal bands in discoidal area, terminal segment of cercus with rounded apical margin, pa of male genitalia compact.

Description (male only). Body rather small for genus, elongate, slender, colour of dry specimens brown with darker speckling on abdomen and outer face of fore legs. Head with almost straight apical margin; eyes slightly protruberent anteriorly, lateral margins rounded; frontal shield with distinct subantennal ridge. Prothorax elongate and very slender, with slight but distinct supracoxal expansion, lateral margins very faintly tuberculate in prozona and anterior third of metazona; prozona faintly granulate above, more strongly tuberculate below; metazona with fine mid dorsal keel, dark reddish between bases of fore coxae. Fore coxa (fig. 160) with few, very small, blunt teeth on anterior edge; inner face pale distally, becoming blackish with few very small pale tubercles proximally. Fore femur with discoidal, outer, large inner and tips of small inner spines blackish. Fore tibia with 16–17 inner and 8–9 outer spines, all more or less tipped blackish brown. Mid and hind femora without genicular spine. Tegmen (fig. 161) reaching just beyond abdominal tergite 6; costal area with opaque white marginal band, narrowing distally and followed by darker band in proximal third which is brown above and black beneath; narrow zone between subcosta and radius dark brown, further band posterior to radius in proximal third which is cream above and yellow-orange below; discoidal area with major veins flushed brown giving banded appearance except for area posterior to stigma which, along with remainder of tegmen, is hyaline. Wing with distal half of costal area and zone between subcosta and radius flushed brown,

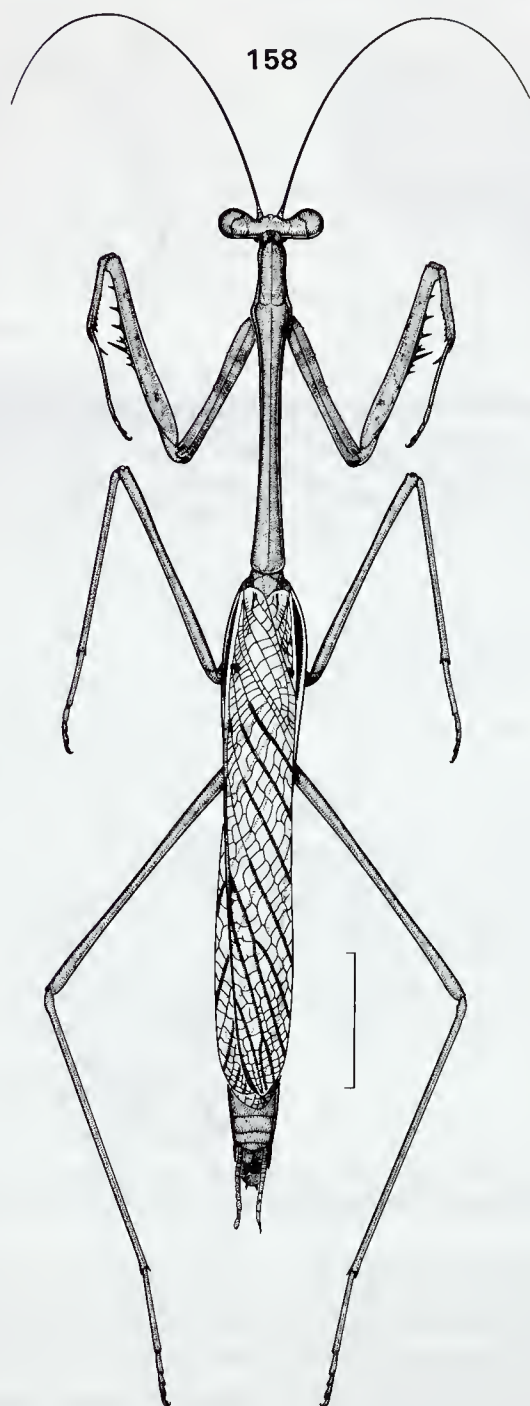
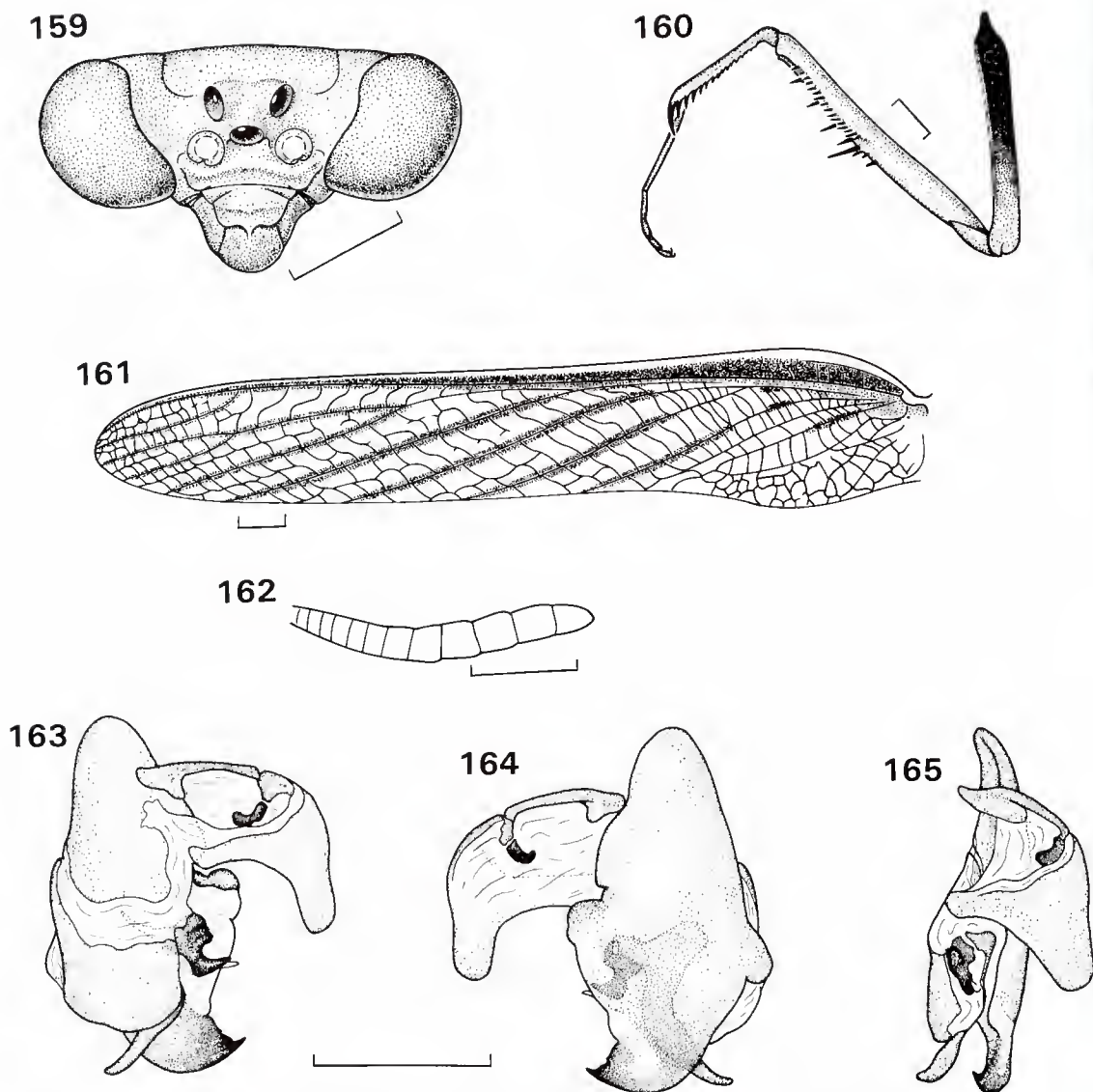


Figure 158, *Archimantis vittata*, male. Scale = 10 mm.



Figures 159–165, *Archimantis vittata*, male. 159, head; 160, foreleg, inside; 161, tegmen; 162, cercus; 163, genitalia, dorsal; 164, genitalia, ventral; 165, genitalia, right lateral. Scale = 2 mm.

remainder hyaline. Cerci (fig. 162) elongate, terminal segment with rounded apical margin. Male (figs 163–165) genitalia with dpr of vph compact, mandible like in appearance, with small tooth at apex, dorsal surface lightly ridged dextrad; anterior section of vl of lph with short broad projection at junction with pa; apr without noticeable median bulge, tip simple; pa compact and strongly shagreened anteriorly, with short, abruptly curved, uncinat posterior projection.

Measurements (mm). Body length, 66–67.

Head width, 6.8. Head depth, 3.5. Pronotum length, 22–23. Pronotum width, 2.8–2.9. Fore coxa length, 10.8. Fore femur length, 13.5. Tegmen length, 35–36. Cercus length, 6.2.

Immature stages. Unknown.

Etymology. Specific name from the Latin *vittatus*, meaning decorated with bands.

Distribution and habits. Known only from three records near the tip of Cape York Peninsula (fig. 174). Habits unknown but probably a shrub dweller.

Acknowledgments

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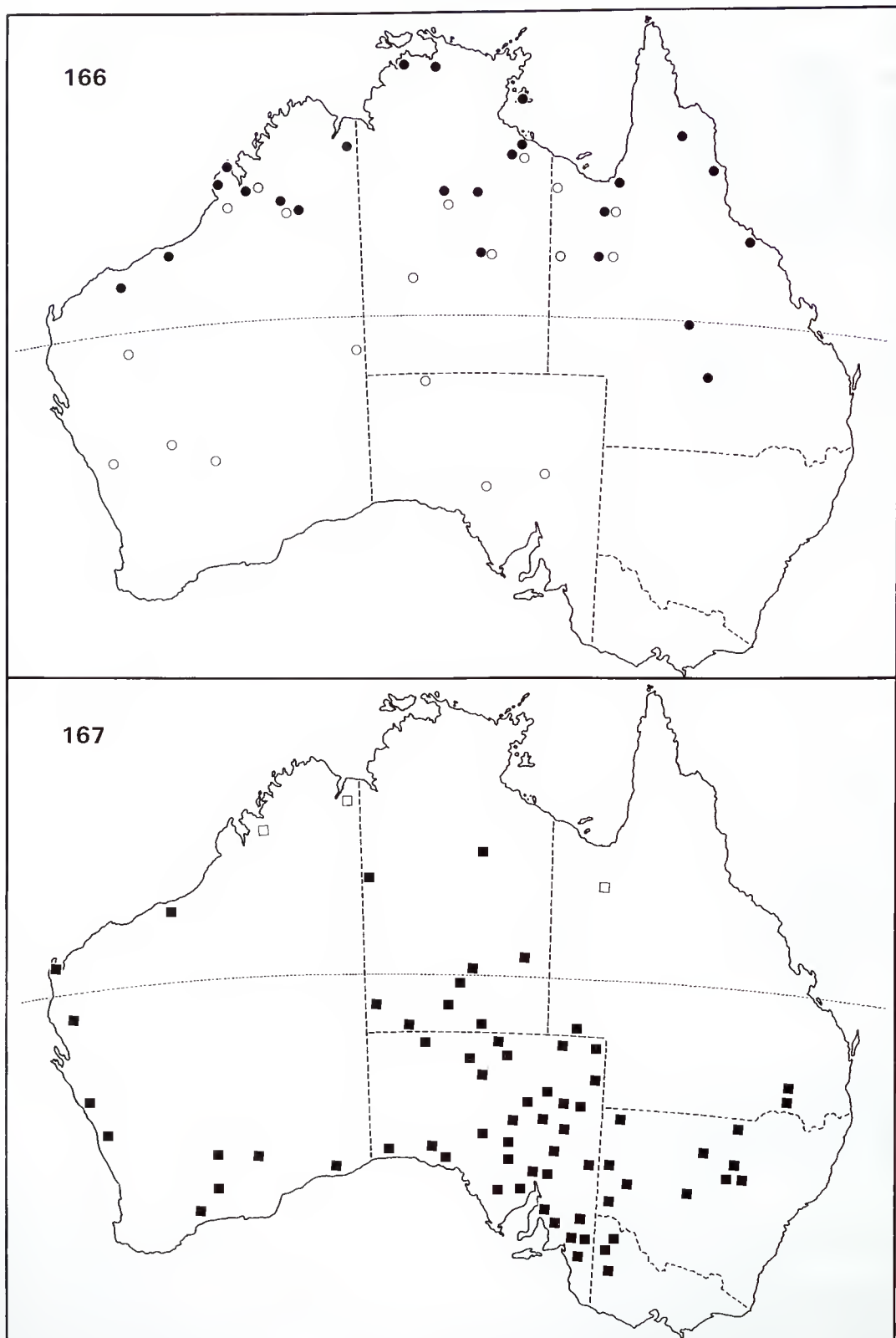


Figure 166. Distributions of *Austromantis albomarginata* (●) and *Nullabora flavoguttata* (○).
Figure 167. Distributions of *Corthylomantis baldersoni* (□) and *Coenonantis kraussiana* (■).

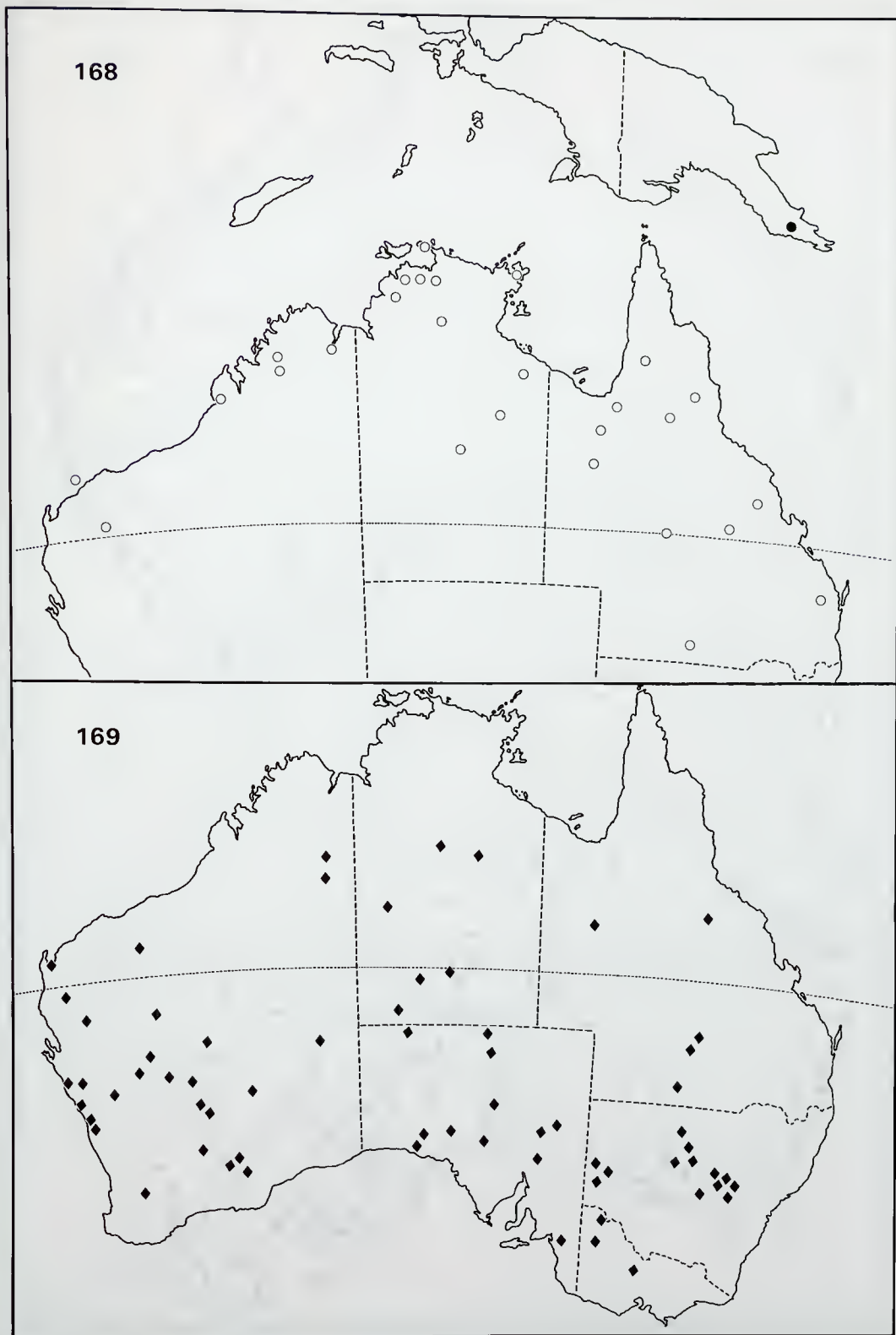


Figure 168. Distributions of *Austrovates variegata* (○) and *A. papua* (●).
 Figure 169. Distribution of *Archimantis quinquelobata* (◆).

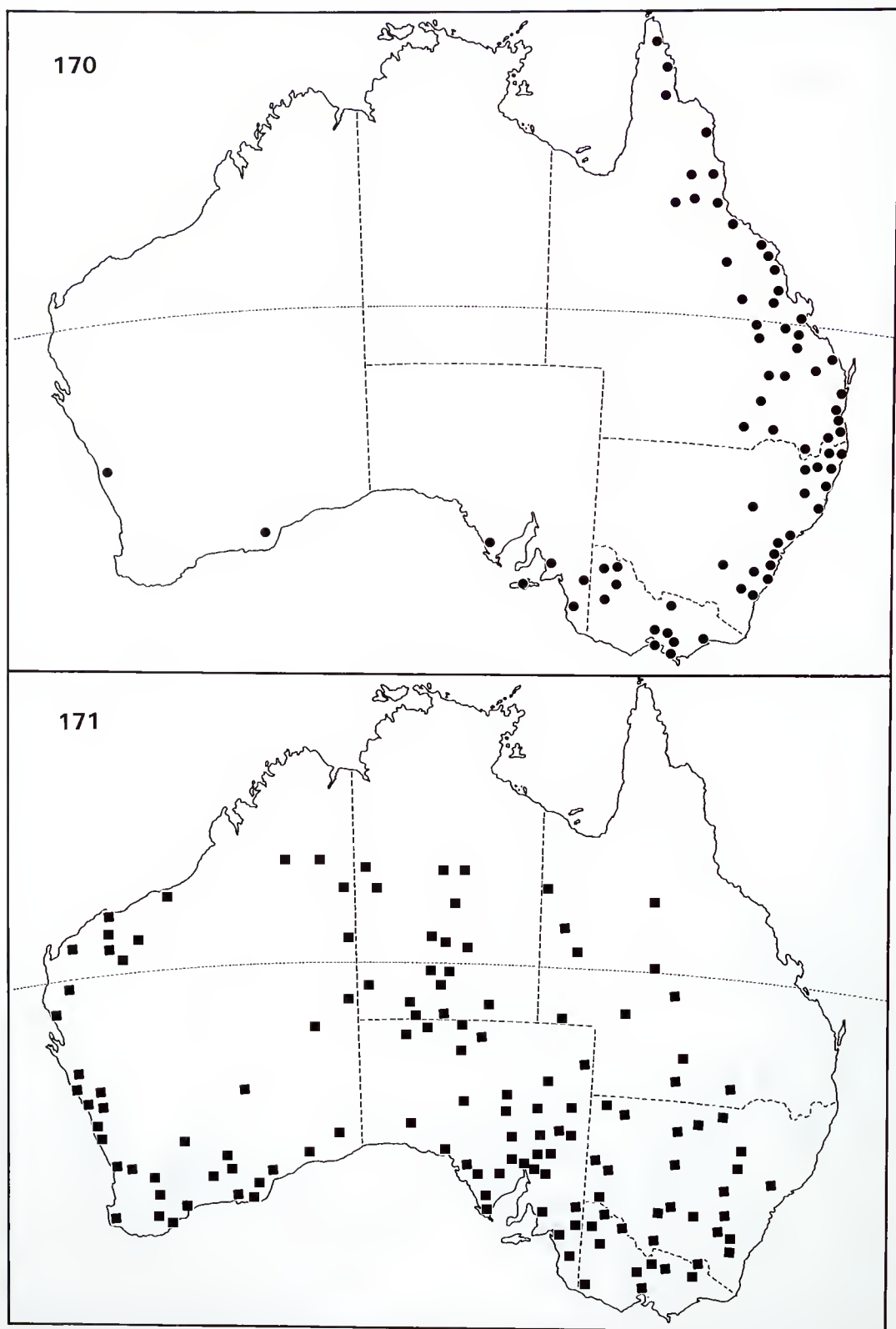


Figure 170. Distribution of *Archimantis latistyla* (●).
Figure 171. Distribution of *Archimantis sobrina* (■).

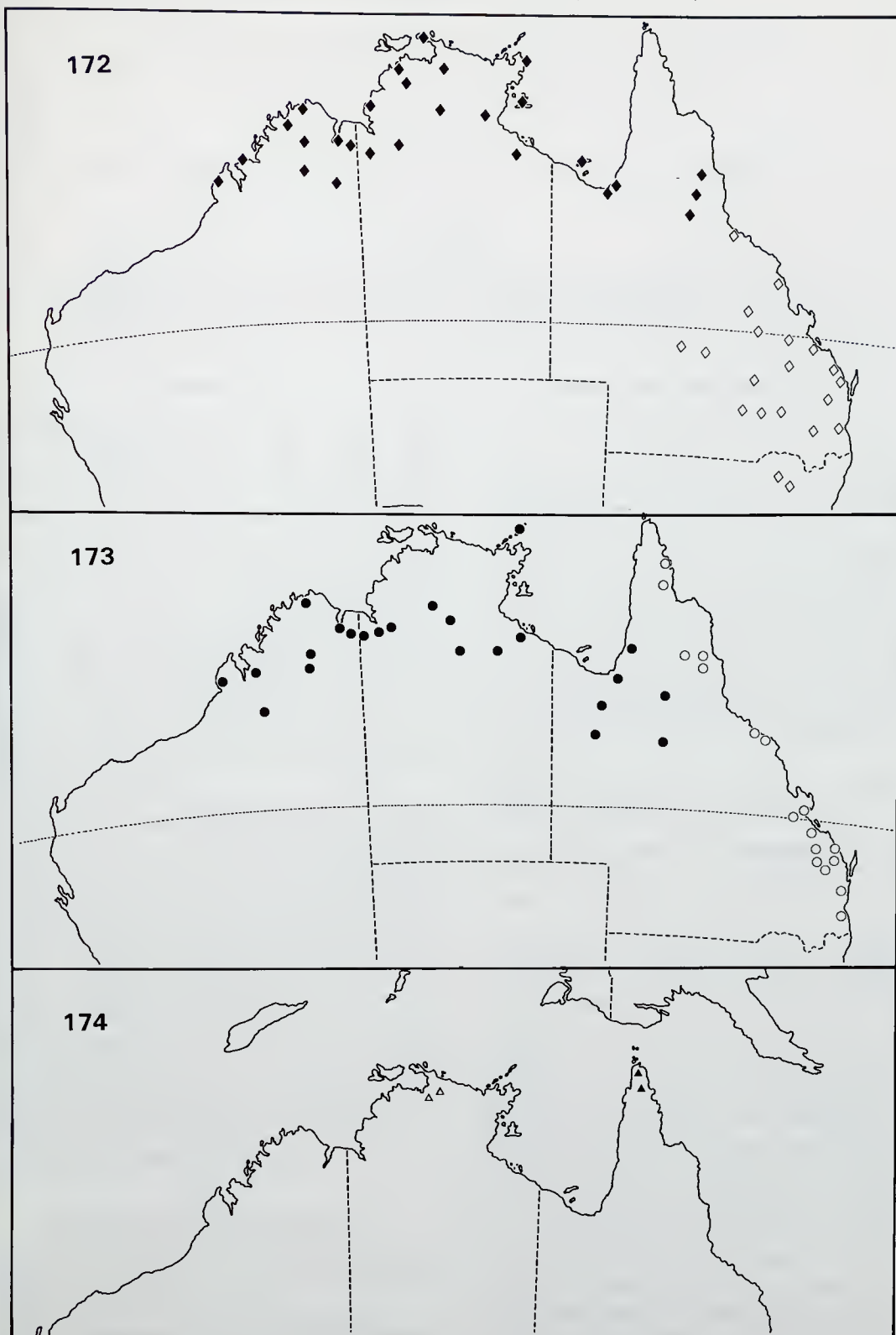


Figure 172. Distributions of *Archimantis monstrosa* (◆) and *A. armata* (◇).

Figure 173. Distributions of *Archimantis straininea* (●) and *A. brunneriana* (○).

Figure 174. Distributions of *Archimantis gracilis* (△) and *A. vittata* (▲).