

A NEW SPECIES OF *POMPONATIUS* DISTANT FROM AUSTRALIA
(HEMIPTERA:HETEROPTERA:COREIDAE:ACANTHOCORINI)

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The Australian *Pomponatius* Distant is redescribed and the distribution of its type species *P. typicus* Distant is extended to the Northern Territory and to New Guinea. *P. luridus* sp. nov. is described from eastern and northern Australia. Distribution maps and a key are included. Food plants are *Melaleuca* and *Callistemon* (Myrtaceae). □ *Hemiptera*, *Coreidae*, *Pomponatius*, taxonomy, biological control.

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Pomponatius Distant, 1904 of the Acanthocorini was described from coastal Queensland and is known only from the type species, *P. typicus* Distant, 1904. It has been mentioned as a garden pest, under the common name of the callistemon tip bug, damaging cultivated species of the large Australian native plant genera *Melaleuca* and *Callistemon* (Jones & Elliot, 1986).

Because *Melaleuca quinquenervia* (Cav.) S.T. Blake, has become a severe weed pest of wetlands in Florida (Balciunas, 1990) the United States Department of Agriculture undertook an intensive search among native Australian insects for possible biocontrol agents. This search identified *Pomponatius typicus*, under the common name of the tip wilting bug, as one possible biocontrol agent (Balciunas & Burrows, 1994).

Museum collections were found to contain a second undescribed species of *Pomponatius* which widely overlaps in distribution and food preference with the type species. The new species is described below and the generic range is extended to the Northern Territory and to New Guinea.

The following abbreviations indicate institutions where specimens are deposited or which generously lent material: Australian Biological Control Laboratory, Townsville (ABCL); Australian National Insect Collection, Canberra (ANIC); Museum and Art Gallery of Northern Territory, Darwin (NTM); Department of Primary Industries, Mareeba (MDPI); Department of Primary Industries, Brisbane (QDPI); The Natural History Museum, London (BMNH); California Academy of Sciences, San Francisco (CAS); Canadian National Collections, Ottawa

(CNC); Colección Entomológica del Instituto de Biología, Universidad Nacional Autónoma de México (IBUNAM); Australian Museum, Sydney (AMS); Queensland Museum, Brisbane (QM); University of Queensland Insect Collection, Brisbane (UQIC); University of California, Riverside (UCR).

All measurements are in millimetres.

***Pomponatius* Distant, 1904**

Pomponatius Distant, 1904:265.

DESCRIPTION. Body elongate, narrowed posteriorly.

Head. Wider than long across eyes, nearly pentagonal, not produced beyond the antenniferous tubercles and dorsally flat; tylus apically upturned to form a small horn, with apex subacute or truncate; jugum unarmed, thick, apically globose, equal or slightly shorter than tylus; inner margins of antenniferous tubercles with conspicuous and large lobe apically rounded and widely separated; antennal segment I robust, thickest and always longer than head, segments II and III cylindrical, regularly incrassate and segment IV always fusiform or antennal segments I and II regularly incrassate and segment III the thickest and gradually widening; segment IV the shortest, segment III shorter than I and II and segment II usually shorter than I; ocelli sessile; preocellar pit deep; eyes moderately large, semiglobose and sessile or moderately large and compressed at lateral margins; postocular tubercle relatively small; bucculae rounded, short, not extending beyond anterior margin of eyes; rostrum reaching anterior margin or middle

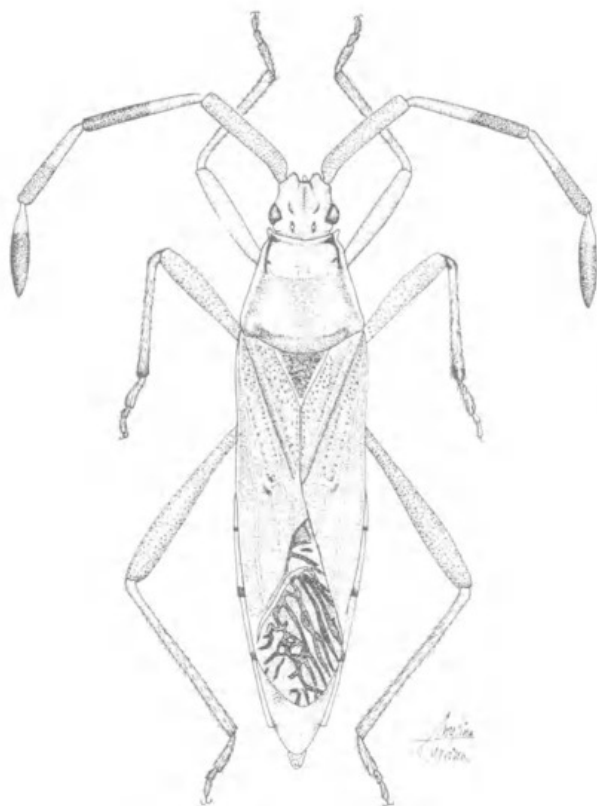


FIG. 1. Dorsal view of *Pomponatius luridus* sp. nov., male, length 11.5mm.

third of mesosternum; rostral segment I the shortest, segment III shorter than I and IV and segment IV the longest or subequal to I; frons with a deep central longitudinal incision.

Thorax. Pronotum trapeziform, wider than long, moderately declivent; collar not clearly marked; frontal angles produced forward as long and broad or produced as medium sized and slender conical projections; anterior margin concavely sinuate; anterolateral margins clearly emarginate or slightly upwardly reflected and nodulose; humeral angles rounded, not expanded and dorsally tuberculate; posterolateral margins slightly concave and smooth; posterior margin expanded on a short lip with the posterior border straight and smooth; calli not elevated, separated along midline by short longitudinal furrow. Anterior lobe of metathoracic peritreme elevated and reniform, posterior lobe sharp, small; mesosternum with a medial groove, extending to anterior third.

Legs. Femora apically incrassate, densely tuberculate and ventrally armed with a distinct tooth near apex; tibiae terete, conspicuously sulcate.

Scutellum. Triangular, longer than wide, flat, transversely striate; apex subacute or truncate.

Hemelytra. Macropterous, almost reaching the apex of the last abdominal segment; costal margin emarginate; apical margin almost straight or clearly sinuate, with inner third concave and outer third straight; apical angle obtuse; hemelytral membrane elongate with several longitudinal veins or small with reticulate venation.

Abdomen. Connexival segments complete, not extended as short spines; abdominal sternite without medial furrow.

Male genitalia. Genital capsule: Posteroventral margin projected in a broad or slender large-sized triangular lobe (Figs. 2F, 2G). Parameres: Body simple and broad or with middle third narrow, neck-like; apical projection with anterior lobe convex and continuous with body and posterior lobe conspicuously curved or dilated and ending in a sharp or blunt short projection (Figs. 2A-E).

Female genitalia. Abdominal sternite VII with plica and fissura; plica triangular, short, reaching anterior third of sternite VII. Genital plate: Gonocoxae I square, shorter than paratergite IX, in caudal view closed, in lateral view slightly convex; paratergite VIII triangular, with spiracle visible; paratergite IX elongate, triangular, larger than paratergite VIII.

DIAGNOSIS. Body elongate and narrowed posteriorly, antennal segments I to III regularly incrassate, antenniferous tubercles with a distinct lobe on the inner margins, posterior margin of pronotum expanded on a short lip and femora apically incrassate with a distinct tooth near apex.

REMARKS. Kumar (1965) studied an undetermined species of *Pomponatius* and described the male and female genitalia as well as the glands associated with the internal male organs.

***Pomponatius luridus* sp. nov.**
(Figs 1, 2C-G, 4)

MATERIAL EXAMINED. HOLOTYPE ♂: QMT13987: Central Qld: Mt. Moffatt NP, East Branch, Maranoa R. (Top Moffatt Camp), 26.ix.1986, Monteith, Yeates & Thompson, in QM. PARATYPES: Qld: QMT13988, ♀, same data as holotype (QM); QMT13989, ♀, Levers Plateau, via Rathdowney, 6-ii-1966, F.R. Wylie (QM); QMT13990, ♂, Mt Tamborine, 27.x.1957, S. Breeden (QM); ♀, St George, 13.v.1973, J Hodgson (IBUNAM); 1♂3 ♀♀, Indooroopilly, xi.1979, G. Gordh (UCR + IBUNAM); ♂, Einasleigh Riv., 35 m. E. of Georgetown, 31.v.1972, G.B. & S.R. Monteith (UQIC); ♀, 62 km W. Mt Garnet, 31.xii.1978, R.I. Storey, on *Melaleuca* sp.

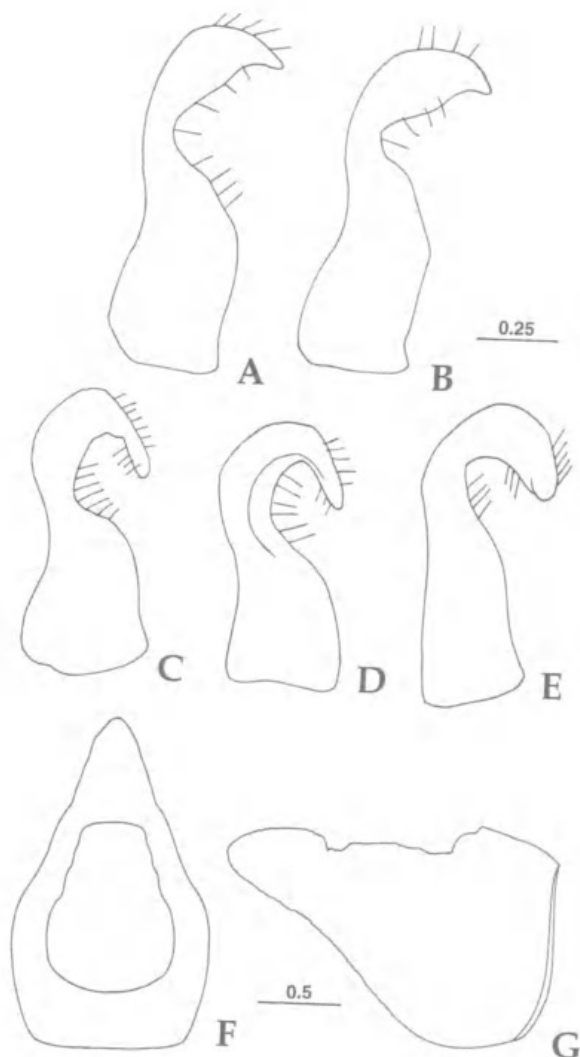


FIG. 2. Male genitalia. A-B, parameres of *Pomponatus typicus* Distant. C-E, parameres of *Pomponatus luridus* sp. nov. F-G, dorsal and lateral views of genital capsule *P. luridus* sp. nov. (Scale lines in mm.)

(MDPI); 1 ♂ 1 ♀, Biggenden, 12.xii.1971, H. Frauca (ANIC); 1 ♂ 5 ♀♀, Degilbo Ck., Biggenden, 4.xii.1971, H. Frauca (ANIC); 1 ♂, Mullet Ck., 31 mi. N. Bundaberg, 27.iv.1959, T.G. Campbell (ANIC); ♂, Calliope R. Xing, N. of Gladstone, ii.1965, E.J. Reye, on bottle brush (ANIC); ♂, Brisbane, 24.viii. 1976, B.K. Cantrell (QDPI); ♀, Kingaroy, 7. xi.1983, J. Wessels, on *Melaleuca armillaris* (QDPI); 2 ♂, Stanthorpe, 6.xii.1926 (QDPI); ♀, Indooroopilly, 15.i.1962, J.H. Barrett (QDPI); ♀, James Cook Univ., Townsville, 4.ix.1989, S.J. Newman, on *Callistemon viminalis* (ABCL); ♂, Chelmer, Brisbane, 15.ix.1992, M. Purcell, on *Callistemon viminalis* (ABCL). NSW: ♀, Oatley, 15.vi.1950, Deuquet (AMS); Enfield, Sydney, E.P. Ramsay (IBUNAM); 2 ♀♀, Rivertree, 10.viii.1921 (QDPI). NT: ♂, Edith Falls, Katherine Gorge NP, 6.xii.1980, M.B. Malipatil & I. Archibald

(NTM); 1 ♂, No locality, 25.ix.1896, A.L. Schrader (AMS).

DESCRIPTION. MALE. Dorsal coloration. Pale yellow, with punctures dark orange and following areas creamy yellow: anterolateral margins of pronotum and apex of scutellum; antennal segment I orange yellow with tubercles reddish, segment II orange yellow with apical third and tubercles reddish, segment III with apical half and apical join pale yellow and basal half including the tubercles dark orange reddish and segment IV pale yellow; following areas black: longitudinal stripe close to the anterior third of anterolateral margins of pronotum, and anterior third of costal margin of corium; connexival segments and abdominal sternite VII pale yellow with punctures dark orange; abdominal segments I to VI bright orange. **Ventral coloration:** Pale yellow with pink diffuse areas and with following areas black: apex of rostral segment IV, one small discoidal spot on propleura and mesopleura, two longitudinal series of discoidal spots running laterally to the midline on mesosternum and irregular spots on mesocoxa, metacoxa, mesotrochanters and metatrochanters; tubercles of femora black or reddish brown or pale pink.

Structure. Antennal segments I to III regularly incrassate; eyes moderately large, semiglobose, sessile but not compressed at lateral margins. Pronotum: Frontal angles produced forward as long and broad conical projection; anterolateral margins clearly emarginated. Hemelytra: Apical margin clearly sinuate, with inner third concave and outer third straight; hemelytral membrane elongate with several longitudinal veins.

Genital capsule. Posteroventral margin projecting as a large broad triangular lobe (Fig. 2F,G). Parameres (Fig. 2C-E).

FEMALE. Coloration. Similar to male. Abdominal segments IV to VII bright orange with two pale brown discoidal or irregular spots, close to the connexival segments; segment VIII dark orange and segment IX dark reddish brown with longitudinal stripe orange, close to midline; connexival segments I to VII pale reddish brown with upper margin mostly pale yellow; connexival segments VIII and IX mostly yellow; abdominal sterna and genital plates pale yellow with following areas black: irregular spots on sterna III to VII and close to midline as well as the internal margin of fissure and the area close to upper margin of plica.

VARIATION. 1, Antennal segment IV with dis-

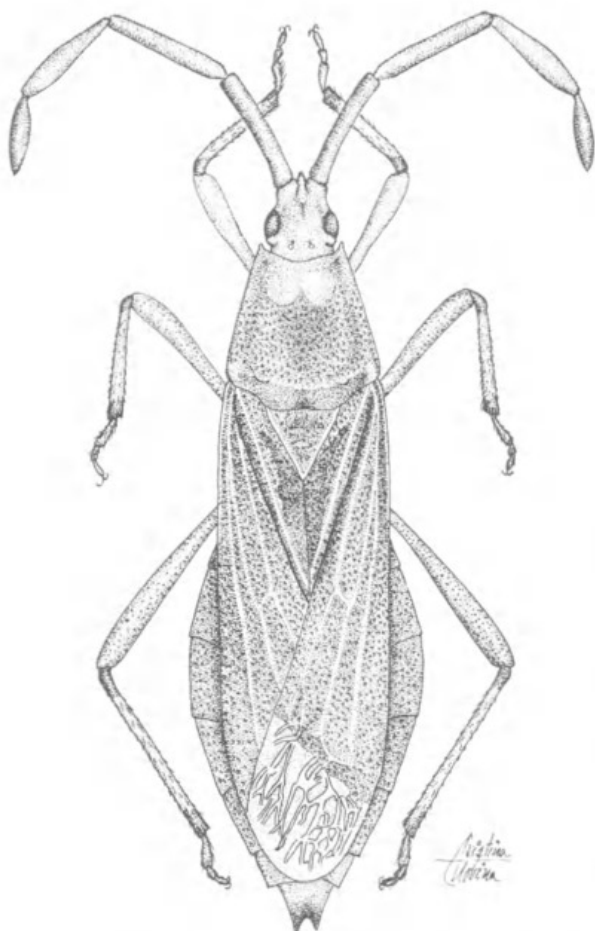


FIG. 3. Dorsal view of *Pomponatius typicus* Distant, female, length 15.1mm.

tal half pale yellow and basal half pale orange yellow. 2, Humeral angles black or dark brown. 3, Endocorium with black discoidal spot somewhat diffuse. 4, Scutellar disc with or without median black stripe. 5, Abdominal sterna and genital plates of female pale yellow, with pale pink marks or with only the internal margins of fissure and the areas close to the plica black. 6, Abdominal segment VIII of female bright orange.

MEASUREMENTS. ♂ first, then ♀: Head length: 1.08, 1.32; width across eyes: 1.36, 1.56; interocular space: 0.80, 0.91; interocellar space: 0.25, 0.27; length antennal segments: I, 2.40, 2.72; II, 2.48, 2.64; III, 2.08, 2.24; IV, 2.00, 1.88. Pronotum: Total length: 2.12, 2.76; width across frontal angles: 1.20, 1.44; width across humeral angles: 2.40, 3.08. Hemelytra: Total length of hemelytral membrane: 3.76, 4.40. Scutellar length: 1.00, 1.40; width: 0.92, 1.32. Total body length: 11.52, 14.65.

DISTRIBUTION (Fig. 4). From Sydney along coastal and inland Queensland to the Northern Territory.

FOOD PLANTS. See discussion below.

ETYMOLOGY. Latin *luridus*, pale yellow; for its light coloration.

***Pomponatius typicus* Distant, 1904**
(Figs 2A-B, 3, 4)

Pomponatius typicus Distant, 1904: 266.

MATERIAL EXAMINED. NSW: Bulahdelah, 11.xi.1932 (IBUNAM); Hat Head, nr. Kempsey, 3.i.1970 (ANIC). QLD: HOLOTYPE ♀, Townsville (BMNH); Acacia Ridge, 16.i.1973; Lockerbie Area, Cape York, 13-27.iv.1973; Jardine River road crossing, 16-27.ix.1974; Brisbane, 24.x.1916; Lakefield NP, 75 km N. of Laura, 15-28.vi.1980; Kuranda, 3.x.1920; Nth Keppel Island, track to Mazie Bay, 3.ix.1987 (QM); Archerfield, 19.ix.1964; St Lucia, 6.ix.1965; Bowen, 2.vi.1965; Brisbane, 20.v.1959 (UQIC); Black Mt Rd (Kuranda), 24.i.1970; Cairns, 22.vii-24.xii.1969 (CNC); Townsville 5.ii.1945 (CAS); Watalgan Range, via Rosedale, 6.iv.1974; Baldwin Swamp Fauna Reserve, Bundaberg, 27.xi.1971; Goodwood, Isis Shire, 5.iv.1974; Gumdale, Brisbane, 11.xi.1968; Ladysmith Yard at Turnoff Lagoon, 18.ix.1930 (ANIC); Bridge Ck, Cook Highway, 29.v.1974, on *Melaleuca*; Kurrimine Beach Rd, 26.vi.1974; Mareeba, 1.ii.1979, at light; Home Hill, 28.vii.1947 (MDPI); Chandler, Brisbane, 29.i.1976, damaging new growth of *Callistemon* sp.; Mareeba, 29.ix.1981; Townsville, viii. 1984, on *Callistemon viminalis*; nr. Gamboola H.S., 23.vii.1982, (QDPI); Coombabah, 14.ii.1990 & 4.ix.1990, on tips of *Melaleuca quinquenervia*; Burpengary, 12.xi.1992, feeds on *M. quinquenervia*; Chelmer, 15.ix.1992, on *M. quinquenervia*; Centenary Park, Cairns, 8.v.1991, tips of *M. quinquenervia*; 16.9 km ESE of Tully, 31.viii.1994 and 2.viii.1994, ex *M. quinquenervia*; same locality, 27.vi.1994, ex *M. dealbata*; 14.3 km S. Tully, 31.viii.1992; 21.8 km S. Tully, 4.xi.1993, ex *M. dealbata*; 15 km ESE Tully, 27.xi.1994, ex *M. quinquenervia*; James Cook Univ., Townsville, 17.iv.1990 & 18.i.1993, feeding on *Callistemon viminalis*; same locality, 4.vii.1991 and 2.ii.1992, ex *Melaleuca quinquenervia* (ABCL). NT: 48 ml. SW of Daly River, 30.viii.1968; 9 km NE of Mudginbarry HS, 26.v.1973 (ANIC); Wildman River cashew plantation, 17.x.1989, ex adjacent *Melaleuca* regrowth; Mary R., 37 ml. E of Pine Creek, 9.vii.1971; Darwin, 9.viii.1983, ex *Lepidospermum* (NTM); Crystal Falls - Biddlecombe Cascades, Nitmiluk NP, 17-18.iii.1995, ex *Melaleuca viridiflora* (QM); Howard River, Darwin, 24.x.1986, ex *Melaleuca nervosa* (ABCL). PNG: Rouku, Morehead River, Western District, PNG, 19.iii-28.v.1962 (ANIC).

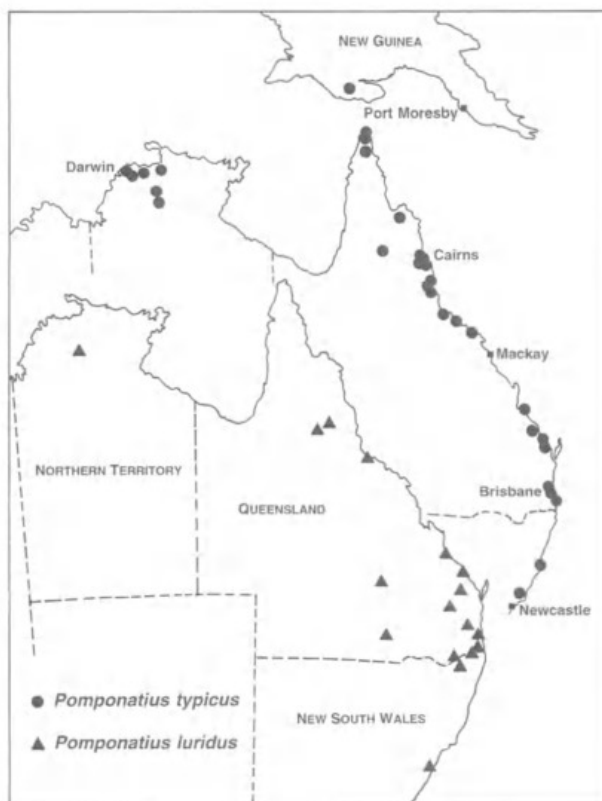


FIG. 4. Distribution map of *Pomponatius* species.

DIAGNOSIS. Antennal segment III gradually widening and uniformly pale orange yellow, hemelytral membrane short, with reticulate venation, anterolateral margins of pronotum slightly reflected, and propleura and mesopleura without black discoidal spot. Genital capsule: Posteroventral margin projected in a large slender triangular lobe. Parameres (Fig. 2A-B).

DISTRIBUTION (Fig. 4). This species was first described from Townsville (Distant, 1904) and later recorded from Rockhampton (Blöte, 1935) and Heathlands in Cape York Peninsula (Cassis, 1993). It is now known to be widespread in Australia from northern NSW along the coast to north Queensland. It is also now recorded from the Northern Territory and New Guinea. Genitalia of specimens from the Northern Territory and southern New Guinea agree with those from eastern Australia.

FOOD PLANT RECORDS

Pomponatius feeds by sucking sap from young stems at the ends of branches, especially when the apical shoot has a flush of soft new growth. Their feeding causes wilting and sometimes death of

the terminal shoot and its young leaves. This effect is often useful evidence for locating specimens on plants and has led to their common name of 'tip wilting bugs'.

All records for *Pomponatius* species are from plants of the Family Myrtaceae, as follows:

Pomponatius luridus – *Melaleuca* sp. (Mt Garnet); *Melaleuca armillaris* (Kingaroy); *Callistemon viminalis* (Townsville, Chelmer); on bottle brush (*Calliope* R.).

Pomponatius typicus – *Melaleuca quinquenervia* (Coombabah, Burpengary, Chelmer, Cairns, Tully District, Townsville); *Melaleuca dealbata* (Tully district); *Melaleuca viridiflora* (Nitmiluk NP); *Melaleuca nervosa* (Darwin); *Melaleuca* sp. (Cook Highway, Wildman R); *Callistemon viminalis* (Townsville) *Callistemon* sp. (Chelmer); *Leptospermum* sp. (Darwin).

Almost all records are from the closely related *Melaleuca* and *Callistemon*. The only confirmed *Callistemon* is *C. viminalis* which is sometimes assigned to *Melaleuca*. The only other genera for which records exist are *Leptospermum* (one record from Darwin which may have been a garden plant and for which actual feeding has not been confirmed) and a prolonged infestation of a garden plant of *Calothamnus* in Brisbane by a species of *Pomponatius* which was not identified (GBM obs.). *Calothamnus* is related to *Melaleuca* but is naturally restricted to south-western Australia beyond the known range of *Pomponatius*.

Circumstantial evidence for *Pomponatius* feeding on other plant species in the form of characteristically damaged growing tips has been noted by the USDA survey staff on *Melaleuca arcana*, *M. argentea*, *M. bracteata* and *Callistemon polandii* (Burrows pers. comm.).

Although both species of *Pomponatius* have been recorded from both *Melaleuca* and *Callistemon* it would appear from inferences which can be drawn from the data that, in the wild, *Pomponatius luridus* is virtually restricted to *Callistemon viminalis*, and *Pomponatius typicus* is similarly restricted to 'paper bark tea trees' of the *M. leucadendra* complex as defined by Blake, 1968. For *P. luridus* the record from *M. armillaris* is from a garden plant outside its natural range while many of the collection localities where plant associations were not recorded are habitats where *C. viminalis* is abundant, e.g. *Calliope* R., Maranoa R., Degilbo Ck, Mullet Ck. Similarly with *P. typicus* all *Callistemon* records are from unnatural suburban situations, while most natural occurrences of the bug are from habitats where

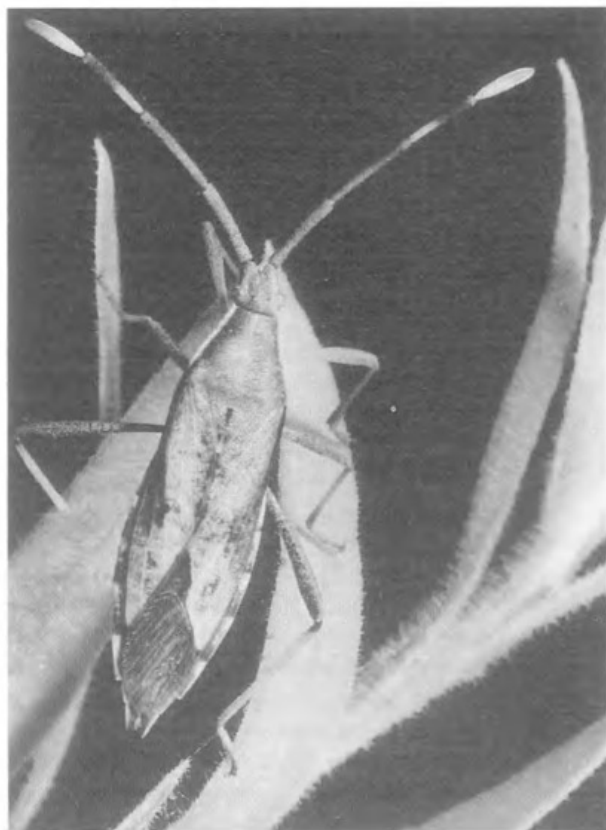


FIG. 5. A living ♀ of *Pomponatius luridus* sp. nov. on its foodplant *Callistemon viminalis* in Brisbane.

paperbarks predominate. This includes the PNG record.

This apparent food plant dichotomy between the two *Pomponatius* species is suggested as the mechanism which maintains their specific integrity throughout almost identical distributions.

KEY TO THE KNOWN *POMPONATIUS* SPECIES

1. Antennal segment III not noticeably more swollen than II, and bicoloured with apical half paler than basal half; hemelytral membrane elongate, longer than 3.20mm, with several longitudinal veins, and with its basal margin strongly sinuate; dark longitudinal stripes on prosternum about same width as rostrum; apical lobe of paramere not dilated and without a small projection (Figs 2C-E) . . . *Pomponatius luridus* sp. nov. (Fig. 1)
- Antennal segment III noticeably more swollen than II and not bicoloured; hemelytral membrane short, less than 3.20mm, with reticu-

late venation and with its basal margin uniformly curved; dark longitudinal stripes on prosternum at least twice width of rostrum; apical lobe of each paramere dilated and ending in a sharp or blunt projection (Fig. 2A,B)

. *Pomponatius typicus* Distant (Fig. 3)

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