

A tiny litter spider (Araneae: Amaurobioidea) from Australian rainforests

Valerie Todd Davies

Queensland Museum, PO Box 3300, South Brisbane, Queensland 4101, Australia

Abstract – The distribution of *Midgee* gen. nov., a tiny litter spider emphasises the species richness and endemism of spiders in rainforest areas. Nine new species are described: *M. binnaburra*, *M. bellendenker*, *M. parva*, *M. littlei*, *M. pumila*, *M. alta*, *M. monteithi*, *M. thompsoni* and *M. minuta*. *Midgee* is considered *incertae sedis* within the Amaurobioidea (*sensu* Lehtinen).

INTRODUCTION

Since the description of *Desis* Walckenaer, 1837 about thirty Australian amaurobioid (*sensu* Lehtinen (1967)) genera have been recognised, half of them since 1967. They have usually been assigned to one of three families, Amaurobiidae, Stiphidiidae or Desidae, the latter two of which have yet to be adequately diagnosed. The study of the phylogeny of higher taxa is hampered in the amaurobioids by this relatively small number of described Australian genera. This new genus adds a further taxon to a complex assemblage.

It is a pleasure to contribute to this volume published in honour of Barbara York Main, my friend and colleague for many years. Barbara has made an outstanding contribution to our knowledge of Australian spiders generally and to the mygalomorphs particularly.

METHODS AND ABBREVIATIONS

Most spiders were from sieved litter collections which were then put through Tullgren funnels; others were collected in pitfall traps. Notation of spines follows Platnick and Shadab's (1975) method; only those surfaces bearing spines are listed. All material is lodged in the Queensland Museum (QM).

Measurements: carapace length (CL) and width (CW), abdomen length (AL) and width (AW). Eyes: anterior median (AME), anterior lateral (ALE), posterior median (PME), posterior lateral (PLE). Spinnerets: anterior (ALS), median (PMS), posterior (PLS); left (L), right (R). Collectors: D. Cook (DC), D. Yeates (DY), Earthwatch/Queensland Museum Expedition (EWQM), G.B. Monteith (GBM), G. Thompson (GT), R.J. Raven (RJR), V.E. Davies (VED).

SYSTEMATICS

Midgee gen. nov.

Type species

Midgee binnaburra sp. nov. The genus is feminine.

Diagnosis

Tiny, 3-clawed ecribellate spiders less than 2 mm in length. Enlarged ventral spines on tibiae and metatarsi I and II. Eyes in procurved rows, the posterior row strongly procurved; AME smallest. Chelicera with proximal bristle on front crossing the tip of that on other chelicera. Anterior lateral spinnerets widely separated.

Description

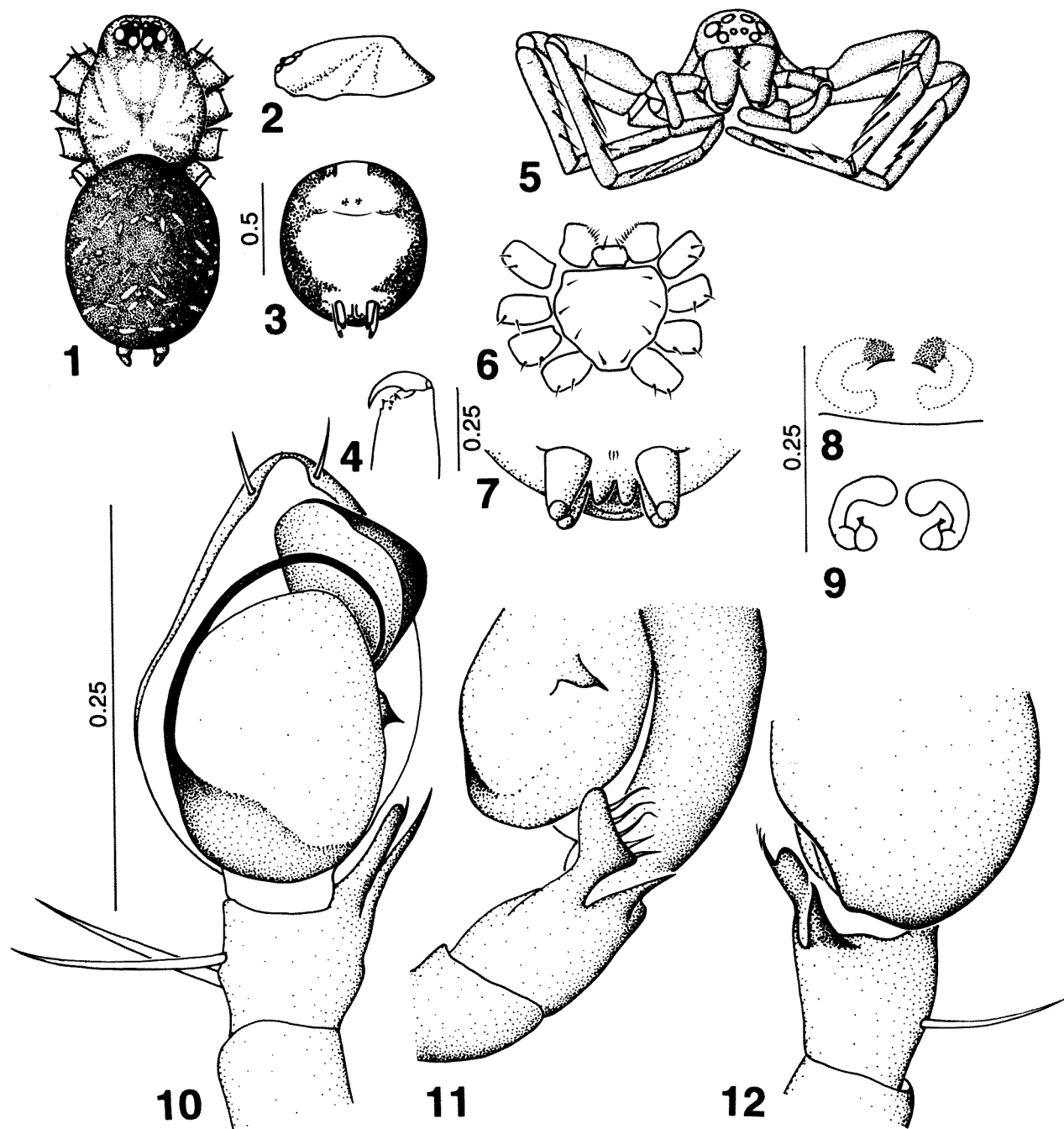
Carapace pale, dorsal abdomen varies from dark colour (Fig. 1) with pale chevron pattern to pale with darker cardiac marking; ventral abdomen pale with dark lateral margins (Fig. 3). All eyes except ALE surrounded by dark pigment. Clypeus more than diameter of AME, shorter below ALE (Fig. 5). Sternum as long as wide, broadly truncate anteriorly and narrowly so posteriorly (Fig. 6). Serrula on endite. Labium wider than long. Chelicera with three retromarginal, two promarginal teeth (Fig. 4) and small denticles to cheliceral base (Fig. 67); long promarginal filamentous seta at base of fang (arrow, Fig. 68), similar to promarginal setae outside simple scopula hairs. Legs, 4123. Enlarged ventral spines on tibiae and metatarsi I and II (Fig. 5); trochanters unnotched. Three tarsal trichobothria; bothrium grooved and collariform; tarsal organ with oval opening (Fig. 66). Superior claws with three teeth, inferior claw smooth; ♀ palpal claw smooth. Abdomen rounded. Anterior spinnerets largest, separated by more than the width of one anterior spin-

neret (Fig. 7). Females showed two clusters of dark-coloured silk glands through the integument near the spinnerets (Fig. 21); these are thought to be the piriform glands. Dissection of ♀ abdomens showed five pairs large cylinder-shaped glands (?cylindrical silk glands) extending from spinnerets almost to epigastrium. Colulus represented by a few setae (Fig. 73). Epigynum very small (Fig. 69); insemination ducts short (Fig. 71) or long. Embolus spiniform, short or long, arising prolaterally. Conductor non-membraneous, spoon-shaped,

arising antero-dorsally on tegulum (i.e. under tegulum as viewed from ventral surface); when slightly expanded appears to be retrolateral (Fig. 34). Median apophysis present. Tibial apophysis in two parts, a stout ventro-retrolateral arm with row of strong spines distally and a pointed slender dorso-retrolateral arm. Tracheal system simple.

Etymology

'Midgee' is an Aboriginal word meaning small.



Figures 1-12 *Midgee binnaburra*. 1, dorsal; 2, carapace, lateral; 3, abdomen, ventral; 4, chelicera; 5, frontal view; 6, cephalothorax, ventral; 7, spinnerets; 8,9, epigynum; ventral, dorsal; 10-12, ♂ palp, ventral, retrolateral, dorsal.

Midgee binnaburra sp. nov.

Figures 1–12, 66–71, 73–80, Table 1

Holotype

♀, ex litter, Binna Burra, Lamington National Park, southeast Queensland, Australia, 28°12'S, 153°11'E, 27.iii–3.iv.1976, RJR, VED (QM S21577).

Paratypes

Australia: Queensland: same as holotype, ♀, ♂ (QM S21578); 2♀, 4♂, ex pitfall traps, Binna Burra, 27.iii–7.iv.1976, RJR, VED (QM S21579); 40♀, 15♂, Lamington National Park, 27.iii–7.iv.1976, RJR, VED (QM S21580); 12♀, 3♂, Mt Hobwee, 8.iv.1976, RJR, VED (QM S21581); 2♀, ♂, O'Reillys, 28°14'S, 153°08'E, 28.viii.1976, RJR (QM S21582); 2♀, 4♂, O'Reillys, 15.xii.1981, GBM, RJR, DY (QM S21583).

Description*Female*

CL 0.8, CW 0.6, AL 1.0, AW 0.8. Ratio of AME:ALE:PME:PLE is 4:6:7:8. Leg measurements given in Table 1. Notation of spines: Tibial and metatarsal spines enlarged. Femora: I, V101; II, V201; III, V100. Tibiae: I, P120, V310; II P120, V220. Metatarsi: I, P011, V211; II PO11, V211. Spinnerets (Fig. 73): Anterior spinnerets (Fig. 75) with major ampullate spigot (and ? nubbin) and 13 piriform spigots. Median spinnerets (Fig. 77) with three large spigots postero-laterally, one of which may be the minor ampullate spigot and the others large aciniform spigots; three anterior spigots which are thought to be from the cylindrical glands as they are absent in the ♂; as well, a small aciniform spigot is present. Posterior spinnerets (Fig. 79) have 7 spigots, 2 sub-apical ones with shorter, broader fusules. Epigynum: short insemination ducts (Figs 8,9), leading to spermathecae. Females varied slightly in size.

Male

CL 0.8, CW 0.6, AL 0.8, AW 0.6. Legs (Table 1), spination similar to ♀ but without femoral spines and fewer tibial and metatarsal spines. Tibiae: I,

Table 1 Leg measurements (mm) of *Midgee binnaburra* sp. nov.

♀	Femur	Patella	Tibia	Metat.	Tarsus	Total
I	0.7	0.2	0.7	0.6	0.4	2.6
II	0.7	0.2	0.6	0.6	0.3	2.4
III	0.6	0.2	0.5	0.5	0.3	2.1
IV	0.8	0.2	0.6	0.8	0.4	2.8
♂						
I	0.6	0.2	0.6	0.5	0.4	2.3
II	0.6	0.2	0.6	0.5	0.4	2.3
III	0.6	0.2	0.5	0.5	0.3	2.1
IV	0.7	0.2	0.6	0.7	0.4	2.6

P110, V310; II, P010, V310. Metatarsi: I, P001, V220; II, V220. ♂ palp: spiniform embolus; saucer-shaped conductor (Figs 10, 70). Median apophysis small; tibial apophysis in two parts (Fig. 11). Cymbium without postero-retrolateral extension (Fig. 12). Spinnerets (Fig. 74): Fewer spigots than ♀ on all spinnerets. Anterior spinnerets (Fig. 76) with major ampullate, three piriform spigots and several scars (? tartipores). PMS (Fig. 78) with three spigots – one large minor ampullate spigot with a scar beside it, a medium sized spigot and a small spigot (? aciniform). The posterior spinnerets (Fig. 80) have three spigots.

Remarks

The following eight species are immediately recognisable as *Midgee* spp. having the same general structure and spination as *M. binnaburra*. They may be distinguished from one another by their genitalic structures – pattern and length of insemination ducts, length of embolus, size of conductor and presence of postero-retrolateral cymbial extension ('paracymbium') as shown in the illustrations.

Etymology

The specific name is from Binna Burra, Lamington National Park, the type locality.

Midgee bellendenker sp. nov.

Figures 13–18, 58

Holotype

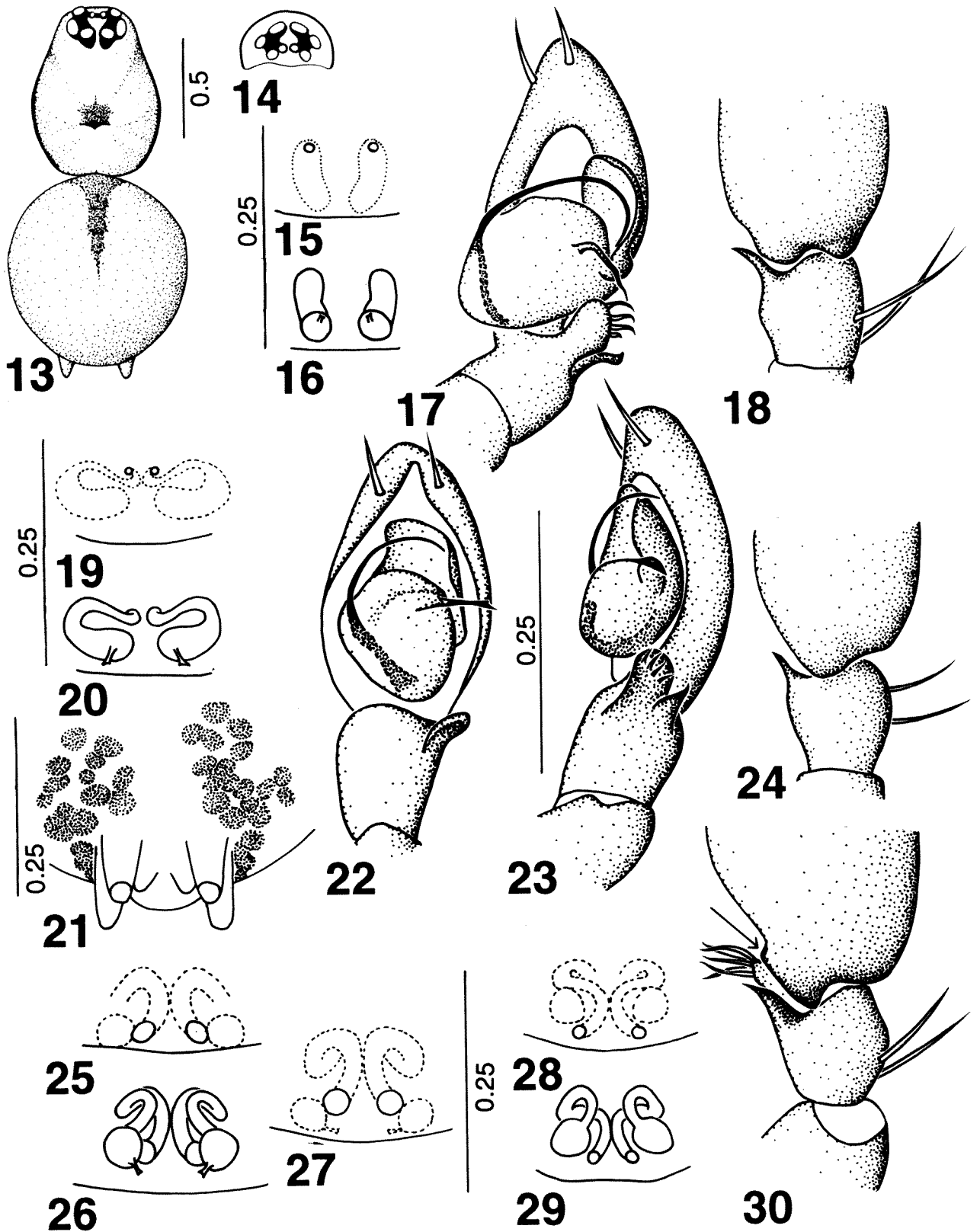
♀, Summit TV Station, Bellenden Ker Range, north Queensland, Australia, 17°16'S, 145°51'E, 1560m, 17.x–5.xi.1981, EWQM (QM S21584).

Paratypes

Australia: Queensland: same data as holotype, (QM S21585); 4♀, 5♂ (QM S21592); 22♀, 10♂ (QM S21586); ♀, 3♂, same locality, 29.iv–2.v.1983, GBM, DY (QM S21587); 9♀, 3♂, Cable Tower 3, 1054m, 17.x–5.xi.1981, EWQM (QM S21588); 12♀, 7♂ (QM S21589); ♀, 500m, 17–24.x.1981, EWQM (QM S21590); 13♀, 3♂, Mt Bartle Frere, 0.5 km N of South Peak, 17°24'S, 145°49'E, 1500m, 6–8.xi.1981, EWQM (QM S21591); 9♀, 7♂, Mt Bartle Frere, summit creek, 1500m, 24.ix.1981, GBM, DC (QM S21593); ♀, 4♂, Butchers Creek, 17°25'S, 145°46'E, 3–6.iv.1978, VED, RJR (QM S21594).

Description*Female*

CL 0.8, CW 0.6, AL 1.0, AW 0.9. Abdomen with less pigment and posterior row of eyes more strongly procurved (Figs 13, 14) than *M. binnaburra*. Epigynum small (Figs 15, 16).



Figures 13–30 *Midgee* spp. 13–18, *M. bellendenker*; 13, dorsal; 14, eyes, frontal; 15,16, epigynum; ventral, dorsal; 17,18, ♂ palp, ventral, dorsal. 19–24, *M. parva*; 19,20, epigynum; ventral, dorsal; 21, ♀ posterior abdomen with spinning glands (?piriform); 22–24, ♂ palp; ventral, retrolateral, dorsal. 25–30, *M. littlei*; 25,29 epigyna, 25–27 (Mt Lewis); 25, 27, ventral; 26, dorsal; 28–29 (Mossman): 28, ventral, 29, dorsal; 30, ♂ palp, dorsal (arrow to 'paracymbium').

Male

CL 0.6, CW 0.5, AL 0.6, AW 0.5. ♂ palp (Figs 17, 18, 58): median apophysis longer and more slender than *M. binnaburra*.

Etymology

The specific name is from Mt Bellenden Ker, the type locality.

***Midgee parva* sp. nov.**

Figures 19–24, 59

Holotype

♀, ex litter, *Nothofagus* rainforest, New England National Park, New South Wales, Australia, 30°30'S, 152°30'E, 22.iii.1980, GBM (QM S21595).

Paratypes

Australia: New South Wales: 6♀, 2♂, same data as holotype (QM S21596); ♂, pitfall trap, Pt Look-out, New England National Park, 1300m, 11.xi.1980–16.iii.1981, GBM (QM S21597); 2♀, ex moss on trees and rocks, *Nothofagus* Mt., 17km N of Woodenbong, 28°17'S, 152°38'E, 1200m, 26.xi.1982, GBM, DY, DC (QM S21598); ♀, ex litter, same locality, 17.vi.1982, GBM, GT (QM S21599).

Description*Female*

CL 0.8, CW 0.6, AL 0.9, AW 1.0. Epigynum (Figs 19, 20): tiny gonopores, close together.

Male

CL 0.6, CW 0.6, AL 0.7, AW 0.5, ♂ palp (Figs 22–24). Median apophysis long and slender pointing laterally; conductor small, narrower (Fig. 59) than *M. binnaburra* and *M. bellendenker*.

Etymology

The specific name is from the Latin 'parvus' meaning small, referring to the size of the spider.

***Midgee littlei* sp. nov.**

Figures 25–30, 60, 72

Holotype

♀, 7.5 km N of Mt Lewis, via Julatten, north Queensland, Australia, 16°34'S, 145°16'E, 1200m, 8.ix.1981, GBM, DC (QM S21600).

Paratypes

Australia: Queensland: 2♂, same data as holotype (QM S21601); 2♂, ♀, stick brushings, summit Mt Lewis, 1200m, 10.ix.1981, GBM, DC (QM S21602); 3♀, Mt Lewis, 17.x.1980, GBM (QM

S21603); 6♀, 2.5 km N Mt Lewis, 1040m, 3.xi.1981, DY, GT (QM S21604); ♀, hilltop, 5.5 km N Mt Lewis, 1200m, 13.ix.1981, GBM, DC (QM S21605); Mt Lewis, 925m, 4.ix.1983, A. Williamson (QM S21606); 4♂, ♀, 4 km NNE Mt Spurgeon, 16°24'S, 145°13'E, 1250m, 15.x.1991, GBM, H. Janetzki (QM S21607); ♀, Thornton Peak via Daintree, 16°10'S, 145°23'E, 1000–1300m, 20–22.ix.1981, GBM, DC (QM S21608).

Other material examined

Australia: Queensland: 3♂, 3♀, The Bluff, 11 km W Mossman, 16°27'S, 145°16'E, 1050m, 27.iv.1983, GBM, DY (QM S21610); ♀, Devils Thumb area, 10 km NW Mossman, 16°34'S, 145°17'E, 1150m, 9.x.1982, GBM, DY, GT (QM S21609).

Description*Female*

CL 0.8, CW 0.6, AL 0.8, AW 0.6. Epigynum (Figs 25–27): long insemination ducts loop before entering spermathecae. Females from the Mossman area have a smaller epigyne (Figs 28, 29).

Male

CL 0.7, CW 0.6, AL 0.6, AW 0.5. ♂ palp: Embolus longer, conductor larger (Fig. 60) and median apophysis more complex (Fig. 72) than in the previous species. Cymbium with posteroretrolateral extension, 'paracymbium' (arrow, Fig. 30).

Etymology

The specific name is a patronym in honour of Frank Little, naturalist from Mt Molloy.

***Midgee pumila* sp. nov.**

Figures 31–40, 61

Holotype

♀, 2.5km SW of Mt Hartley via Cooktown, north Queensland, Australia, 15°47'S, 145°19'E, 610m, 24.iv.1982, GBM, DY, DC (QM S21613).

Paratypes

Australia: Queensland: ♂, same data as holotype (QM S21614); ♀ (QM S21615); ♂, ♀, Home Rule via Helenvale, 15°42'S, 145°13'E, 28.x.1974, VED (QM S21616).

Other material examined

Australia: Queensland: ♀, ♂, Mt Finnigan, 37 km S of Cooktown, 15°49'S, 145°17'E, 1050m, 21.iv.1982, GBM, DY, DC (QM S21617).

Description*Female*

CL 0.8, CW 0.6, AL 0.9, AW 0.7. Epigynum (Figs

31–33) insemination ducts long and coiled. A female from Mt Finnigan (Figs 37–39) shows slight variation in coiling of ducts.

Male

CL 0.8, CW 0.6, AL 0.7, AW 0.6. ♂ palp: long embolus (Figs 34, 35) large conductor with convoluted edge (Fig. 61), without 'paracymbium' (Figs 36, 40).

Etymology

The specific name is from the latin 'pumilus' meaning little, referring to the size of the spider.

Midgee alta sp. nov.

Figures 41–43, 62

Holotype

♀, 21 km S of Atherton, Queensland, Australia,

17°27'S, 145°28'E, 1040–1100m, 5.xi.1983, DY, GT (QM S21618).

Paratypes

Australia: Queensland: ♀, ♂ same data as holotype (QM S21619); 11♀, 3♂ (QM S21620); ♀, Hypipamee National Park, 17°26'S, 145°29'E, 950m, 5.x.1980, GBM (QM S21621); 5♂, 8♀, Baldy Mts, SW of Atherton, 1200m, 10.x.1980, GBM (QM S21622); 3♀, Baldy Mtn Rd, 7km SW of Atherton, 1150m, 17°17'S, 145°24'E, 9.x.1988, GBM, GT (QM S21623).

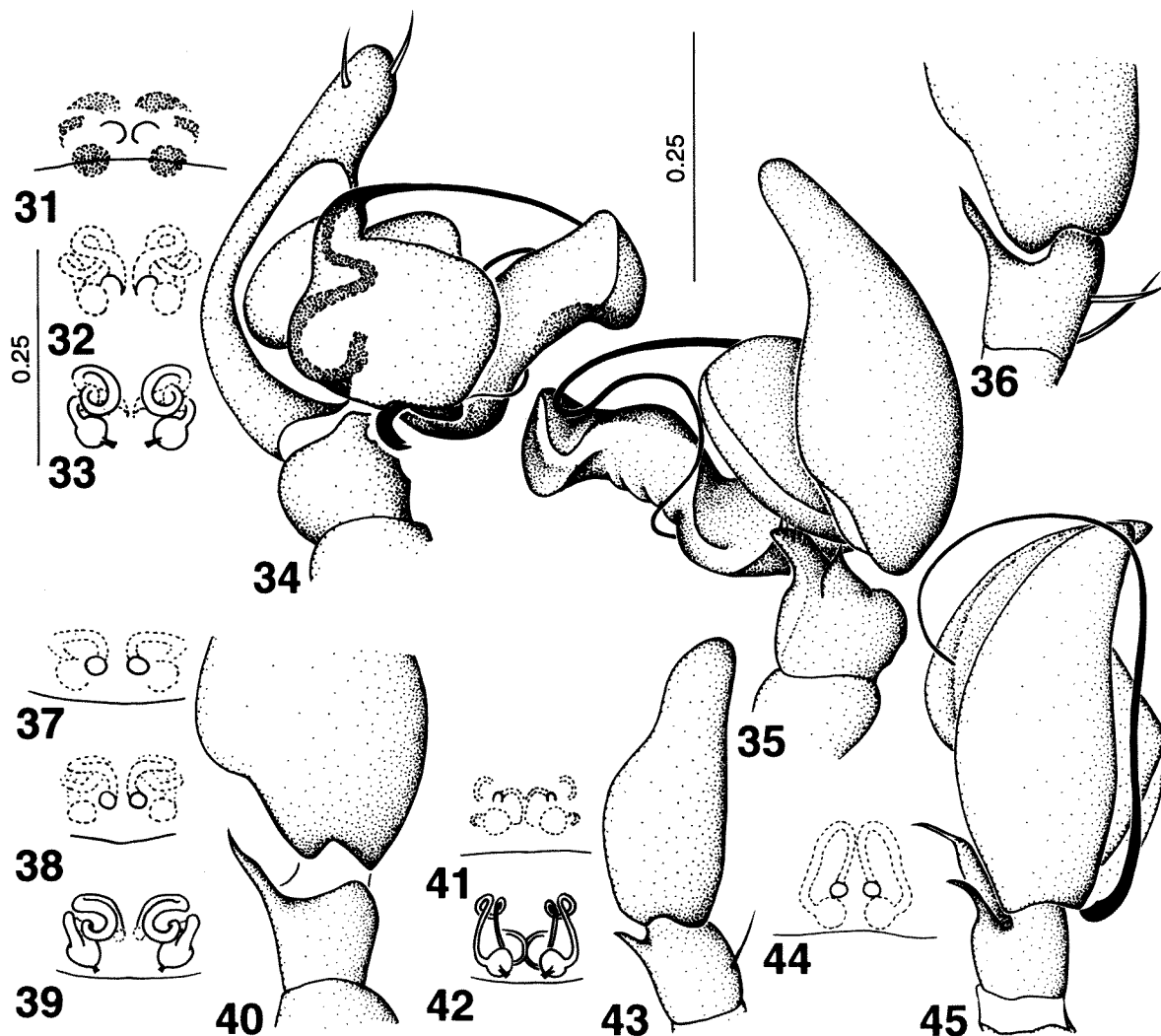
Description

Female

CL 0.7, CW 0.6, AL 1.0, AW 0.8. Epigynum (Figs 41, 42): long, thin coiled insemination ducts.

Male

CL 0.7, CW 0.5, AL 0.8, AW 0.6. ♂ palp: long



Figures 31–45 *Midgee* spp. 31–40, *M. pumila*; 31–33 epigynum: ventral, ventral (cleared), dorsal; 34–36, ♂ palp, (bulb slightly expanded, rotated on cymbium): prolateroventral, retrolateral, dorsal; 37–40, (Mt Finnigan): 37–39, epigynum: ventral, ventral (cleared), dorsal; 40, ♂ palp, dorsal. 41–43, *Midgee alta*; 41,42, epigynum: ventral, dorsal; 43, ♂ palp dorsal. 44,45, *M. monteithi*; 44, epigynum, ventral; 45, ♂ palp, dorsal.

embolus, conductor with convoluted edge (Fig. 62), without 'paracymbium' (Fig. 43).

Etymology

The specific name is from the latin 'altus' meaning high, referring to the mountainous habitat of the spider.

***Midgee monteithi* sp. nov.**

Figures 44, 45, 63

Holotype

♀, Thornton Peak via Daintree, Queensland, Australia, 16°10'S, 145°23'E, 1000–1300m, 20–22.ix.1981, GBM, DC (QM S21611).

Paratype

Australia: Queensland: 1♂, same data as holo-

type (QM S21612).

Description

Female

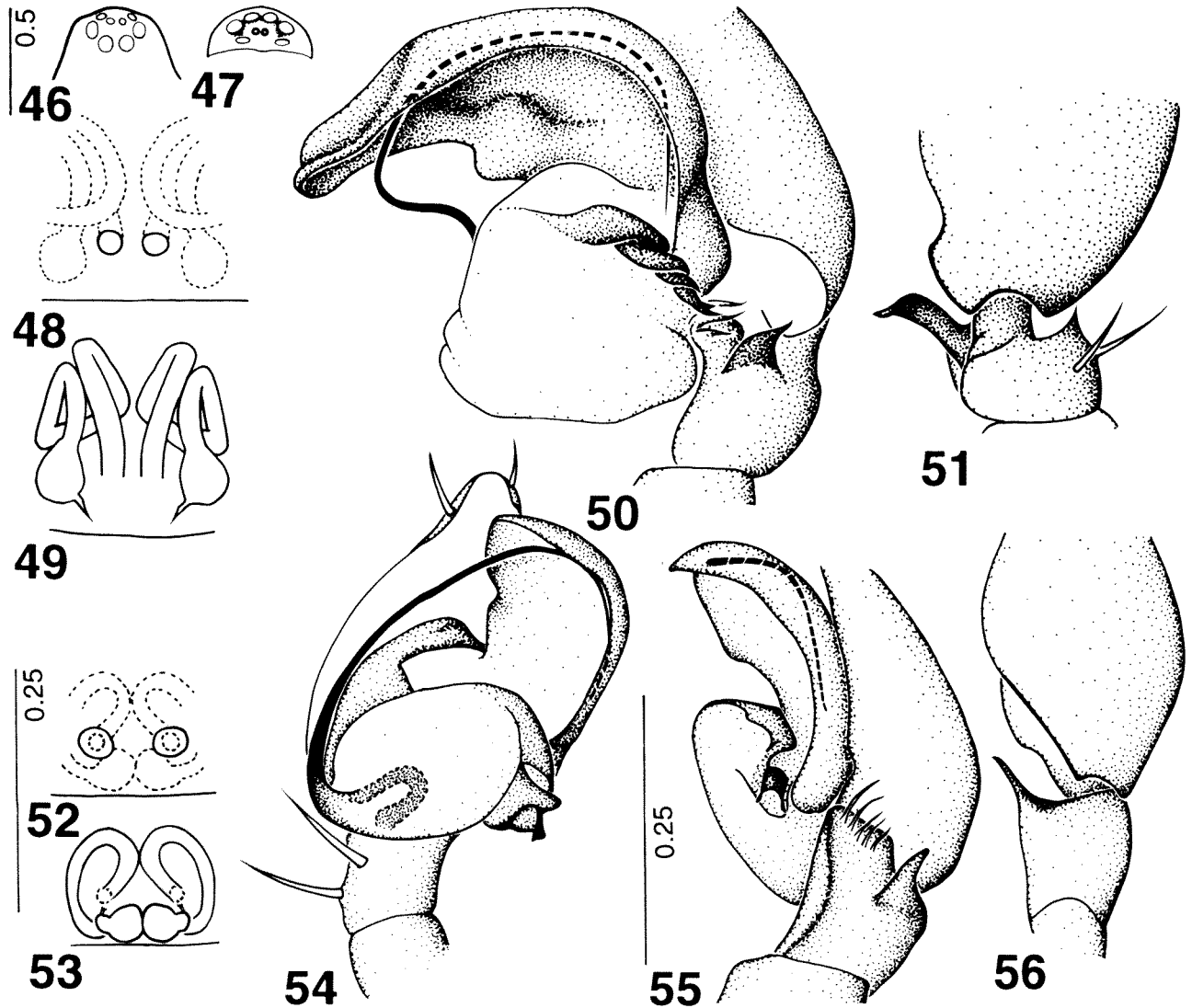
CL 0.7, CW 0.5, AL 0.9, AW 0.7. Epigynum (Fig. 44): insemination ducts long and simple.

Male

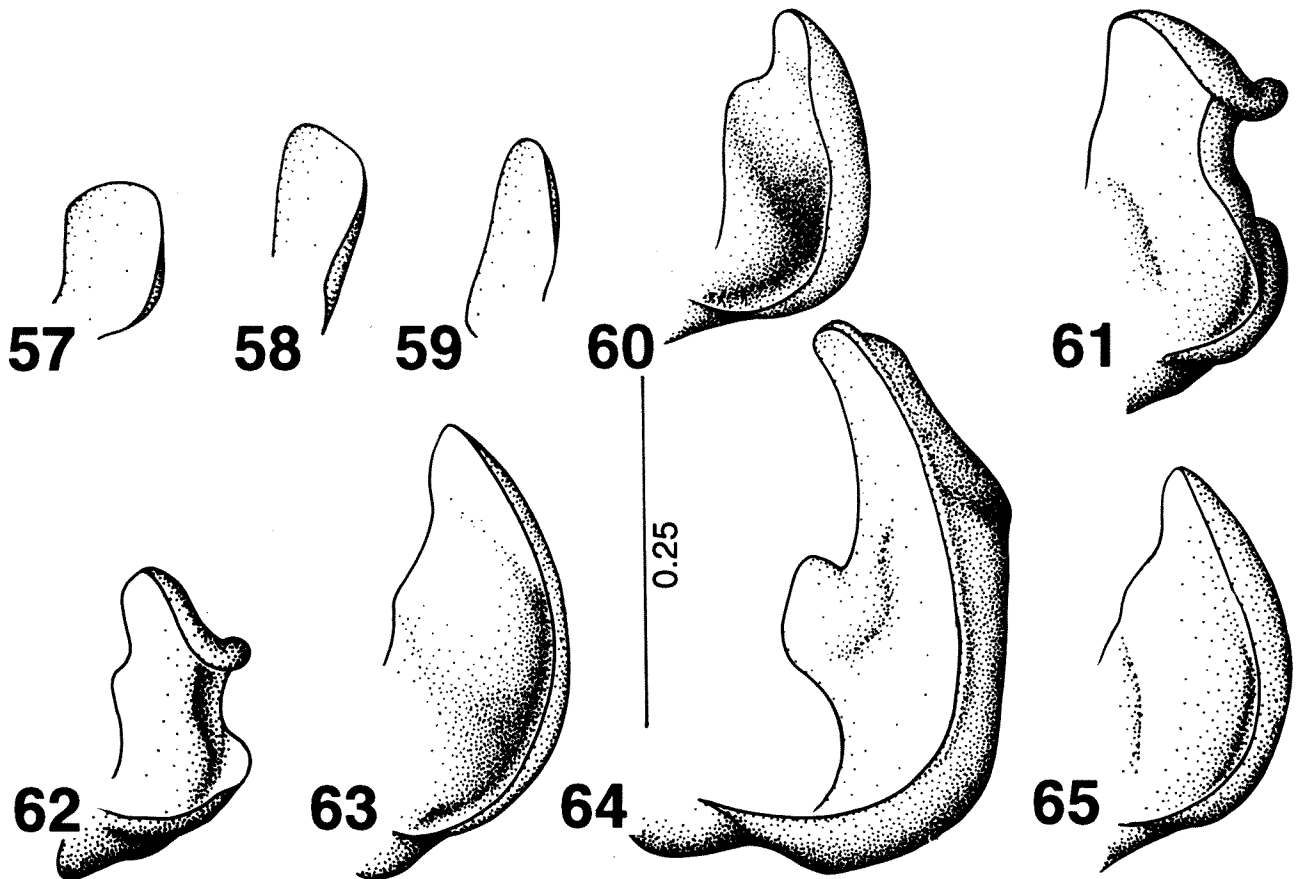
CL 0.6, CW 0.5, AL 0.7, AW 0.5. ♂ palp, (Fig. 45): long embolus, large conductor with folded edge (Fig. 63), without 'paracymbium'.

Etymology

The specific name is a patronym in honour of Geoffrey Monteith, curator of Entomology at Queensland Museum and collector of many high altitude specimens.



Figures 46–56 *Midgee* spp. 46–51, *M. thompsoni*; 46,47, eyes; dorsal, frontal; 48,49, epigynum; ventral, dorsal; 50,51, ♂ palp; retrolateral, dorsal. 52–56, *M. minuta*; 52,53, epigynum; ventral, dorsal; 54–56, ♂ palp, ventral, retrolateral, dorsal.



Figures 57–65 *Midgee* spp. conductors: 57, *M. binnaburra*; 58, *M. bellendenker*; 59, *M. parva*; 60, *M. littlei*; 61, *M. pumila*; 62, *M. alta*; 63, *M. monteithi*; 64, *M. thompsoni*; 65, *M. minuta*.

***Midgee thompsoni* sp. nov.**

Figures 46–51, 64

Holotype

♀, 4 km W of Cape Tribulation, north Queensland, Australia, 16°05'S, 145°26'E, 720m, 29.ix.1982, GBM, DY, GT (QM S21555).

Paratypes

Australia: Queensland: 1♀, 2♂, same data as holotype (QM S21574); 3♀, 3♂, 3.5 km W of Cape Tribulation, 680m, 2.x.1982, GBM, DY, GT (QM S21557); 3♀, 3.0 km W of Cape Tribulation, 500m, 2.x.1982, GBM, DY, GT (QM S21558); 2♀, pitfall traps, 680m, 23.ix–7.x.1982, GBM, DY, GT (QM S21559); 2♀, 3.5 km W of Cape Tribulation, 680m, 2.x.1982, GBM, DY, GT (QM S21560); 2♀, 4.5 km W of Cape Tribulation, 760m, 29.xii.1982, GBM (QM S21561); 2♀, 1♂, Cape Tribulation, 760m, 29–30.ix.1982, GBM, DY, GT (QM S21562); 1♀, 3♂, pitfall traps, 760m, 23.ix–7.x.1982, GBM, DY, GT (QM S21563); 2♀, 2♂, 760m, 23.iv.1983, GBM, DY (QM S21564); 1♂, 760–780m, 1.x.1982, GBM, DY, GT (QM S21556); 2♀, granite outcrops, 0.5 km E of Mt Pieter–Botte, 780m, 5.x.1982, GBM, DY, GT (QM S21565); 7♀, 1♂, summit, Mt Sorrow, Cape Tribulation, 16°08'S, 145°26'E, 800m, 19.x.1980, GBM (QM S21566); 1♂, 3.5 km W of Cape Tribula-

tion, 680m, 3.i.1983, GBM (QM S21567); 1♀, 1♂, 760m, 28.ix.1982, GBM, DY, GT (QM S21568).

Description

Female

CL 0.7, CW 0.6, AL 1.1, AW 0.9. Posterior eye row very strongly procurved; AME reduced, smaller than other species (Figs 46, 47). Epigynum (Figs 48, 49): larger than other species.

Male

CL 0.7, CW 0.6, AL 0.8, AW 0.7. ♂ palp (Figs 50, 51, 64): large conductor with marked prolateral bump; 'paracymbium' present as in *M. littlei*.

Etymology

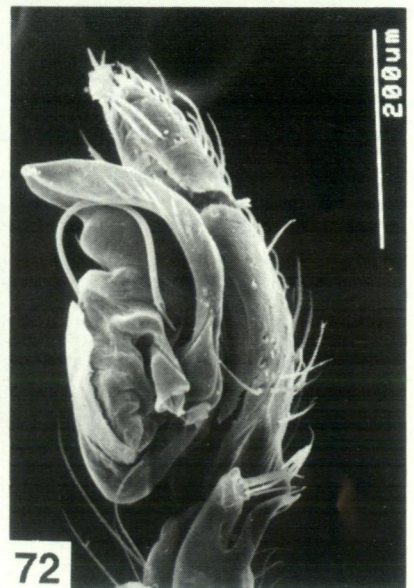
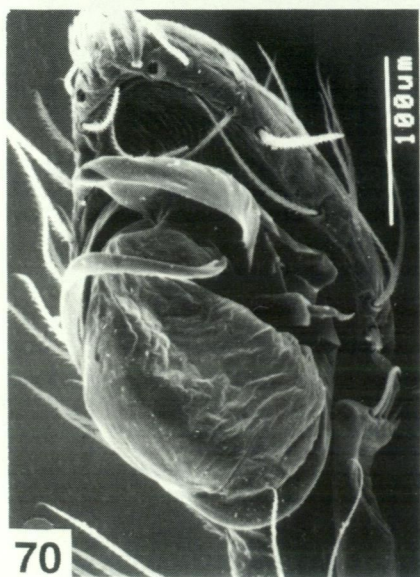
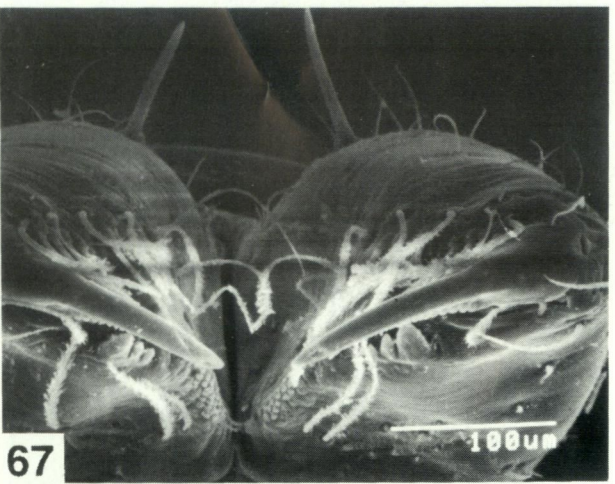
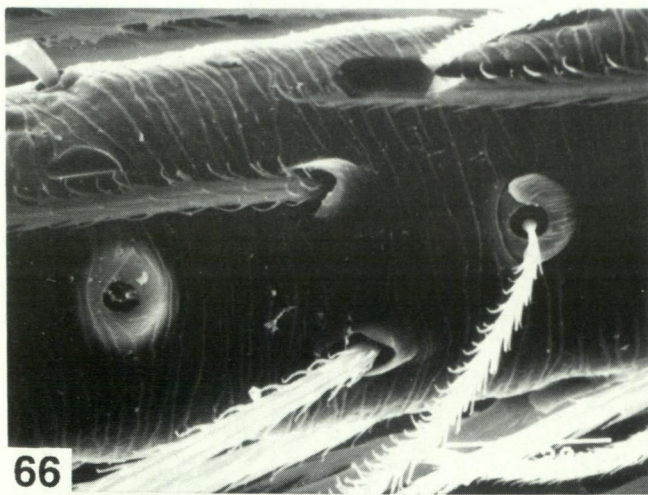
The specific name is a patronym in honour of Geoffrey Thompson who is co-collector of many of these spiders.

***Midgee minuta* sp. nov.**

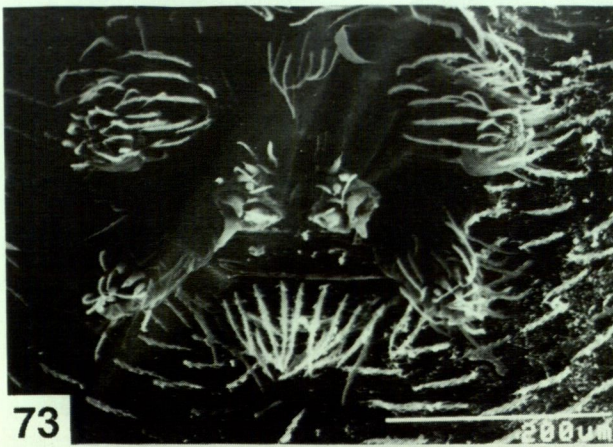
Figures 52–56, 65

Holotype

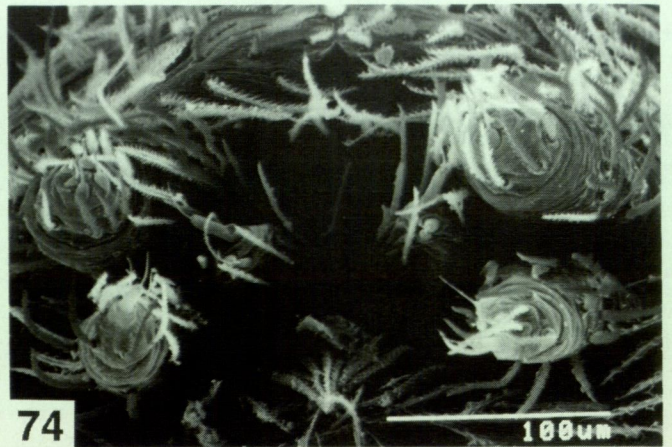
♀, 3.5 km W of Cape Tribulation, Queensland,



Figures 66–72 *Midgee* spp. 66–71, *M. binnaburra*; 66, tarsal organ and trichobothrium, tarsus I; 67, cheliceral teeth and denticles; 68, cheliceral fang, filamentous and scopula hairs; 69, epigastrium; 70, ♂ palp; 71, ♀, epigynum, dorsal. 72, *M. littlei*, ♂ palp.



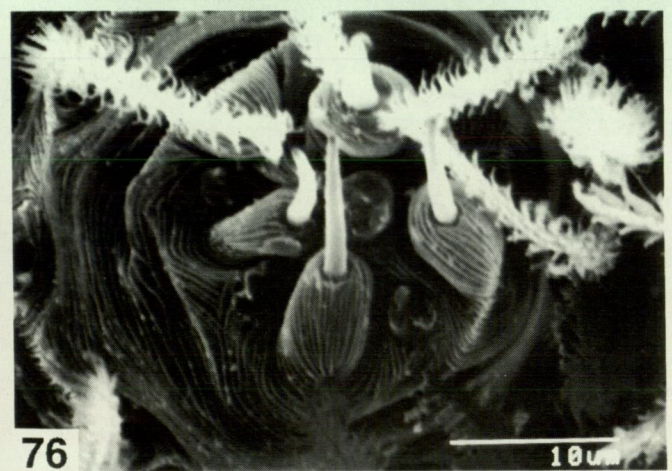
73



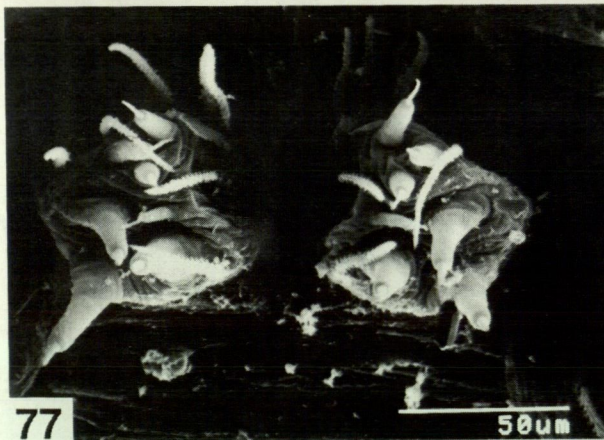
74



75



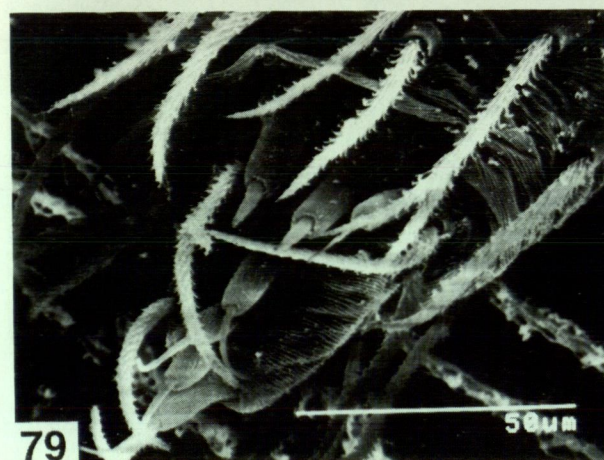
76



77



78



79



80

Figures 73–80 *Midgee binnaburra* spinnerets. 73,75,77,79, ♀; 73, spinning field; 75, ALS(L); 77, PMS; 79, PLS(R). 74,76,78,80, ♂; 74, spinning field; 76, ALS; 78, PMS; 80, PLS(L).

Australia, 16°05'S, 145°27'E, 680m, 2.x.1982, GBM, DY, GT (QM S21569).

Paratypes

Australia: Queensland: 7♀, 2♂, same data as holotype (QM S21570); 1♀ (QM S21571); 1♀, 1♂ (QM S21572); 1♀ (QM S21573); 1♂ (QM S21575); 1♀, Mt Finnigan, 37 km S of Cooktown, 15°49'S, 145°17'E, 1050m, 21.iv.1982, GBM, DY, DC (QM S21576).

Description

Female

CL 0.7, CW 0.6, AL 0.8, AW 0.6. Epigynum (Figs 52, 53): Insemination ducts simple, spermathecae contiguous.

Male

CL 0.7, CW 0.6, AL 0.7, AW 0.6. ♂ palp (Figs 54–56, 65): long embolus, conductor with folded edge; without 'paracymbium'.

Remarks

Midgee minuta is sympatric with *M. thompsoni* at Cape Tribulation, but is much less common.

Etymology

The specific name is from the latin 'minutus' meaning small, referring to the size of the spider.

DISCUSSION

Midgee is unlike any described Australian amaurobioid in its very small size and widely separated anterior spinnerets. An increase in paired spines on tibiae and metatarsi I and II is often associated with loss of cribellum and adoption of nomadic habit e.g. *Manjala*, *Bakala* and *Malala*. It is assumed that *Midgee* does not spin a web to capture prey and that the large silk glands

are used in construction of its egg-sac.

Midgee has an enlarged seta on front of the chelicera and a long filamentous seta at the base of the fang, characters which it shares with foliage spiders, *Manjala* and *Bakala* (Davies 1990).

At present I consider it as *incertae sedis* within the Amaurobioidea.

ACKNOWLEDGEMENTS

I am grateful for the support of the Council of the Australian Biological Resources Study for funding the survey of rainforests during which some of this material was collected and for its financial support of Chris Lambkin who did the illustrations and lay-out of figures. I acknowledge help given by 'Earthwatch' and the Center for Field Research, Boston, Mass. USA for supporting the expedition to Mt Bellenden Ker. I am indebted to the Wet Tropics Management Agency for its support of Kylie Williams who took the scanning micrographs. Finally thanks to the staff of the Queensland Museum, particularly Jennifer Mahoney for their willing help in preparation of this paper.

REFERENCES

- Davies, V. Todd (1990). Two new spider genera (Araneae: Amaurobiidae) from rainforests of Australia. *Acta Zoologica Fennica* **190**: 95–102.
- Lehtinen, P.T. (1967). Classification of the cribellate spiders and some allied families, with notes on the evolution of the suborder Araneomorphae. *Annales Zoologici Fennici* **4**: 199–468.
- Platnick, N.I. and Shadab, M.U. (1975). A revision of the spider genus *Gnaphosa* (Araneae, Gnaphosidae) in America. *Bulletin of the American Museum of Natural History* **155**: 1–66.

Manuscript received 24 January 1994; accepted 13 May 1994.