The Orb-Weaving Spider Genus *Larinia* in Australia (Araneae: Araneidae)

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> Abstract
Despite some dispute on the validity of the genera in the “Larinia-group” (as defined by Grasshoff in 1970), *Larinia* Simon, 1874 and *Lipocrea* Thorell, 1878 have been maintained as separate genera. Our review does not allow sustaining a separation of these two genera in Australia taking into account morphological variability within and between the species. We accept a commonly employed broader concept of *Larinia* and recognise five Australian species. *Larinia montagui* Hogg, 1914 (revalidated) is the most common representative of the genus in Australia, with records from all mainland states and many offshore islands. *Larinia phthisica* (L. Koch, 1871) and *L. tabida* (L. Koch, 1872) occur sympatrically along the coast in the northern two thirds of Australia, with *L. phthisica* also being present in South Australia. *Larinia jamberoo* sp. nov. has been reported from New South Wales, South Australia and Victoria. The synonymy of *Larinia delicata* Rainbow, 1920, currently only known from Lord Howe Island, with *Lipocrea diluta* Thorell, 1887 is disputed and the species revalidated.

> Key words

1. Introduction

The orb-weaving spider genus *Larinia* Simon, 1874 currently includes 52 species world-wide (Platnick 2008). Members of this genus can be found on almost all continents, with more than ten species known each from Africa (e.g. Grasshoff 1970a; Levy 1986; Platnick 2008), the Americas (Levi 1975; Harrod et al. 1991) and the Palaearctic, including China (Yin 1994; Yin et al. 1997; Platnick 2008) and Japan (Tanikawa 1989). Seven species are known from the Indian subcontinent (e.g. Tikader 1982; Gaube 2004), but only two species are currently recognised from south-east Asia (*Larinia parangmata* Barrion & Litsinger, 1995) and Australia (*Larinia phthisica* L. Koch, 1871).


In a study of North American orb-weaving spiders Levi (1975) disputed the validity of the genera recognised by Grasshoff (1970a) and retained *Larinia* for all species revised, although he conceded that (page...
102) “Perhaps it is the broader aspect of the study […] that makes me uneasy about using the small genera in Grasshoff’s […] excellent studies, even though each is a natural grouping of closely related species.” Levi’s (1975) broader concept of Larinia had nomenclatural consequences for Drexelia only, as he placed the type species of this genus, Epeira directa Hentz, 1847 into Larinia. Levi’s (1975) concept of Larinia was followed by Marusik (1986), Tanikawa (1989), Harrod et al. (1991) and Yin et al. (1997). In contrast, Levy (1986) applied the genera of Grasshoff, stating that (page 1) “reverting to the cumulative genus Larinia would imply abandoning the fine discrimination attained thus far. Maintaining, though with a margin of doubt, the numerous genera of Grasshoff, leads to the placement in a different genus of each member of this group in Israel. […] Of the genera concerned herein, apparently Larinia, Lipocrea and Drexelia form a tight, closely related group, while Siwa might be considered as being a little apart.” Although most authors prefer a wider definition of Larinia, sometimes mainly for “operational reasons” (Harrod et al. 1991), all of Grasshoff’s genera, except Drexelia, are considered valid (Platnick 2008). It is clear that only a detailed phylogenetic analysis of all species and sexes within the Larinia-group will provide synapomorphies for all genera and thereby answers to the confusion within this group and show if Grasshoff’s genera can be maintained.

There is also ample confusion within Larinia and allied genera in Australia. Four species of the Larinia-group have been reported from Australia, Larinia phthisica (L. Koch, 1871), Lipocrea tabida (L. Koch, 1872), Larinia montagui Hogg, 1914 (currently listed as junior synonym of Lariniaria argiopiformis (Bösenberg & Strand, 1906)), and Larinia delicata Rainbow, 1920 (currently a junior synonym of Lipocrea diluta (Thorrell, 1887)). Davies (1988; p. 31, plate 29) illustrated L. tabida as part of a key to Australian orb-weaving spiders; however, a comparison of her illustrations with those of Grasshoff (1970a: figs. 12–13, p. 229) strongly suggest that Davies (1988) misidentified this species. Examination of type material showed that the species she illustrated is Larinia montagui Hogg, 1914, which we consider a valid species. Likewise, our examination of the type material of L. delicata showed that this species is not conspecific with L. diluta necessitating a revalidation of this species here. However, its inclusion in Larinia must be considered tentative due to considerable somatic and genitalic differences to all other species treated here.

The aim of this study is to taxonomically revise the five Australian species of Larinia, including a new species, L. jamberoo sp. nov., and provide a key for their identification. Lacking a proper phylogenetic framework for the Larinia-group, we apply a broader concept for the generic limitations of Larinia in Australia.

2. Methods

This review is based on an exhaustive examination of most Australian museum collections as well as type material or relevant species deposited overseas. Descriptions are based on specimens preserved in 70% ethanol. Larinia generally display bright green colours when alive, however these fade to yellow or yellow-brown after storage in 70% ethanol.

Female epigynes were prepared for examination by submersion in 10% KOH for ca. 2 h. For clarity, the illustrations of male pedipalps and female epigynes omit the setae. The description of the views of the male pedipalp relate to their position as a limb, i.e. a full view of the bulb is a retrolateral view as in Araneidae the cymbium is situated mesal. The length of eye rows is measured as their maximum width, i.e. including the diameter of the eyes. The length of leg segments is given in the following order: femur + patella/tibia + metatarsus + tarsus = total length. All measurements in the descriptions are in [mm].

The morphological nomenclature generally follows Grasshoff (1970a); however we distinguish between the epigynal scape and a median septum. A scape is an elongated process originating at the anterior margin of the epigyne and connected to the epigyne only at this point. In contrast, a median septum is a central structure raised from the epigyne that is connected to the epigyne over its whole length.

Images were taken with a Leica DFC500 digital camera that was attached to a Leica MZ16A stereo microscope. Photographs were taken in different focal planes (ca. 10–20 images) and combined with the Leica Application Suite version 2.5.0R1.

Species are listed in alphabetical order in the taxonomic part of this study, with the exception of L. delicata that shows considerable somatic differences to all other Larinia treated here and is therefore redescribed last.

3. Abbreviations

Morphology

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tr>
<td>ALE, AME</td>
<td>anterior lateral / median eyes</td>
</tr>
<tr>
<td>PE</td>
<td>posterior eyes</td>
</tr>
<tr>
<td>CL, CW</td>
<td>cephalothorax length and width</td>
</tr>
<tr>
<td>PLE, PME</td>
<td>posterior lateral / median eyes</td>
</tr>
<tr>
<td>TL</td>
<td>total length</td>
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4. Taxonomy

4.1. Key to the species of Larinia of Australia

1 Carapace much higher in thoracic region than in cephalic region, with deep longitudinal fovea (Fig. 50) ..........................................
   - Carapace of equal height over its whole length (Figs. 27, 42) .............................. 2
2 Males .......................................................... 3
   - Females ................................................... 6
3 Femur IV of males without basoventral spines (Fig. 24); median apophysis with two neighbouring, apically directed spines (Fig. 29) ............................................................. 4
   - Femur IV of males with two (rarely one or three) basoventral spines (Figs. 2, 13, 37) .................. 4
4 Median apophysis almost rectangular in ventral view (Fig. 17), without apical hook or keel
   - Median apophysis of variable shape, with apical keel (Fig. 6) or apically directed hook-shaped process (Fig. 41) ................................................................. 5
5 Median apophysis with keel (Fig. 6)
   - Median apophysis with apically directed hook-shaped process (Fig. 41) .......................... 4
   - Epigyne with scape (i.e. only connected to epigyne anteriorly) (Figs. 30, 43), which is almost always broken off (e.g. Fig. 32) ........................................ 7
   - Epigyne with median septum (i.e. central structure that is connected to epigyne over its whole length), never broken off (Figs. 7, 18) ................................. 8
6 Rim of epigyne distinct almost all around and comparatively narrow (Fig. 43); outline of scape (if present) drop-shaped (Fig. 43) ........................................ 9
   - Rim of epigyne distinct mainly along posterior margin and comparatively wide (Figs. 30, 32); scape (if present) with almost parallel lateral margins, slightly narrowing posteriorly (Fig. 30) .................................................................................. 9
   - Median septum indistinct, wider anteriorly than posteriorly; epigyne somewhat nose-shaped (Fig. 7) ............................................................. 8
   - Median septum wider posteriorly than anteriorly (Fig. 18) .............................................. 3

4.2. Genus Larinia Simon, 1874

Type species: Epeira lineata Lucas, 1846; by monotypy. Gender female.

Remarks. Larinia was diagnosed and described in detail by Grasshoff (1970a). Levi (1975) did not accept the fine-scale differentiation of genera in the Larinia-group sensu Grasshoff and provided a broader generic concept for the genus. Likewise, we cannot confirm the generic concept of Grasshoff (1970a) for the Australian fauna, in particular the distinction between Larinia and Lipocrea. Grasshoff (1970a) distinguished Larinia and Lipocrea (sub Larinopa) by a separation (Larinopa; e.g. Fig. 6) or fusion (Lipocrea) of an apical extension of the tegulum with the conductor. In contrast, we recognise a distinctly separated conductor in Lipocrea sensu Grasshoff (all Australian Larina except L. phthisica; see Figs. 18, 28, 40) and in our morphological interpretation these species differ from L. phthisica solely in the absence of an apical tegular extension. We do not consider that this character warrants separate generic status for these species. Female genitalia of the Australian species also suggest a generic placement different to that suggested by Grasshoff (1970a). The epigyne structure of L. phthisica is much more similar to L. tabida (presence of scape) than to Larinia jamberoo sp. nov. or Larinia montaguí (presence of median septum), the latter three representing Lipocrea sensu Grasshoff (1970a) based on male pedipalp morphology. Interestingly, Grasshoff’s (1970a) study did not include any species with median septum and the discovery of two Australian species with such epigyne structure may provide informative character states for future phylogenetic studies of this group. Considering the problems in distinguishing separate genera by interpreting the morphology of male and female genitalic characters combined and the fact that all Australian Larinia, except L. delicata, are somatically almost indistinguishable from each other, we here decided to follow former studies of this group who employed a broader concept of Larinia (Levi 1975; Marusik 1986; Tanikawa 1989; Harrod et al. 1991; Yin et al. 1997).

Grasshoff (1970a) considered Larinia part of the araneid tribe Mangorini. However, the monophyly of this tribe was not supported by a preliminary mor-
phological phylogeny of the Araneidae (SCHARFF & CODDINGTON 1997) that included four of its putative genera: Eustala anastera (Walckenaer, 1842), Larinia borealis (Hentz, 1847), Larinia directa (Hentz, 1847), and Mangora gibberosa (Hentz, 1847). Eustala only showed remote similarity to Larinia and Mangora in the preferred phylogeny, however, nodal support for any of the ‘distal’ Araneinae was low. Larinia (Dreixelia) was placed as sister group to Aculepeira and Araneus combined, all of which represented the sister group to Nuctenea (SCHARFF & CODDINGTON 1997). The phylogenetic position of Mangora remained ambiguous (SCHARFF & CODDINGTON 1997). Solving any of the above taxonomic problems is far beyond the scope of our study and will require a detailed phylogenetic analysis of the Araneidae that includes world-wide representatives of the Mangorini sensu GRASSHOFF (1970a).

4.3. Larinia jamberoo sp. nov.


Other material examined. AUSTRALIA: New South Wales: 1 ♀, Arcadia, Bay Road, 0.2 km E of Calabash Road, 33°36′53′′S 151°04′36′′E (AM KS91126); 2 ♂♂, Jamberoo Mountain, 34°39′S 150°46′E (AM KS51901, KS53724). South Australia: 1 ♀, Crystal Brook, E of golf course eastern boundary, 33°21′S 138°13′E (SAM NN23538). Victoria: 1 ♀, Carnegie, 37°53′S 145°03′E (NMV K10087); 1 ♂, Hamilton, 37°44′S 141°01′E (NMV K10401).

Etymology. The species name is a noun in apposition and refers to the type locality, Jamberoo Mountain in New South Wales.

Diagnosis. Larinia jamberoo is most similar to L. montagui. Males differ distinctly in the shape of the median apodeme, which has a central keel-shaped process (absent in L. montagui) (Fig. 6 vs Fig. 17). The median septum of the female epigyne narrows posteriorly, whereas it widens posteriorly in L. montagui (Fig. 7 vs Fig. 18).

Description, male (holotype from Jamberoo Mountain, NSW; AM KS 56909). Total length 4.16. Carapace (Fig. 1): 2.08 long, 1.42 wide; yellow-brown, light brown and narrow median band between fovea and PME; one long white bristle between the AME; clypeus 0.08 high. Eyes: AME 0.12, ALE 0.10, PME 0.12, PLE 0.09; row of eyes: AME 0.35, ALE 0.65, PME 0.21, PLE 0.67. Sternum (Fig. 2): 0.92 long, 0.58 wide; black-pigmented, with yellow-brown, irregular median band; few brown setae anteriorly. Labium: wider than long; basal half with black pigmentation, anterior part forms a nearly semicircular white rim. Chelicerae: yellow; few light brown macrosetae apico-medially; four promarginal teeth, with the apical and third one largest, the second and fourth much smaller; three retromarginal teeth of similar size. Pedipalps (Figs. 5–6): conductor nearly circular with a pointed tip (Fig. 5); median apophysis with keel (Fig. 6). Legs: leg formula I>II>IV>III; uniformly yellow, two baso-ventral spines on femur of leg IV (arrow in Fig. 2); lengths of segments: pedipalp 0.46 + 0.39 + + + 0.69 = 1.54, I 1.21 + 3.23 + 2.81 + 0.92 = 9.09, II 2.08 + 2.77 + 2.27 + 0.85 = 7.97, III 1.23 + 1.46 + 0.96 + 0.54 = 4.20, IV 2.00 + 2.43 + 2.04 + 0.62 = 8.08. Abdomen (Fig. 1): 2.23 long, 1.08 wide; yellow-brown with darker folium pattern which incorporates two intermittent white longitudinal lines; venter with two black longitudinal lines and white spots interspersed between those; booklung covers surrounded by dark pigmentation (Fig. 2); spinnerets with dark pigmentation and surrounded by dark ring. Variation. A second male measured (NMV K10401) was larger (TL 5.94, CL 2.42, CW 1.58) than the holotype described above.

Description, female (paratype from Jamberoo Mountain, NSW; AM KS 49947). Somatic characters of the female agree in general details with the male, except that the carapace has narrow brown marginal bands and the folium pattern on the abdomen is more distinct as it is somewhat darker (see Figs. 3–4, female from Crystal Brook, SA). Total length 6.39. Carapace: 2.50 long, 2.08 wide; clypeus: 0.10 high. Eyes: AME 0.12, ALE 0.11, PME 0.11, PLE 0.10; row of eyes: AME 0.40, ALE 0.86, PME 0.24, PLE 0.88. Sternum: 1.27 long, 0.81 wide. Legs: leg formula I>II>IV>III; lengths of segments: pedipalp 0.65 + 0.69 + + + 1.00 = 2.35, I 2.62 + 3.93 + 3.08 + 1.08 = 10.70, II 2.50 + 3.58 + 2.54 + 0.92 = 9.55, III 1.69 + 1.89 + 1.16 + 0.65 = 5.39, IV 2.50 + 3.27 + 2.35 + 0.77 = 8.89. Abdomen: 4.54 long, 2.39 wide. Epigyne (Figs. 7–10): strongly sclerotised, median septum forms a blunt, posterior lobe (Fig. 7); spermathecae round, less than their radius apart (Fig. 9). Variation. TL 6.97–7.45, CL 2.30–2.85, CW 1.45–1.82 (n = 3).

Distribution. Larinia jamberoo is currently known from south-eastern mainland Australia, including New South Wales, South Australia and Victoria (Fig. 11).

Life history and habitat preferences. Adult males were collected in January, May and June, females between March and April with one record from November. This suggests reproductive activity between
Figs. 1–4. *Larinia jamberoo* sp. nov. 1–2: Male holotype from Jamberoo Mountain New South Wales, Australia (AM KS56909) (1 dorsal, 2 ventral view [inset shows ventral spines on femur IV]) (TL 4.16 mm). 3–4: Female from Crystal Brook, South Australia (SAM NN23538) (3 dorsal, 4 ventral view) (TL 7.33 mm).
Figs. 5–10, *Larinia jamberoo* sp. nov., male holotype (AM KS56909) and female paratype (AM KS49947) from Jamberoo Mountain, New South Wales, Australia. 5–6: Left male pedipalp (5 retrolateral, 6 ventral view). 7–10: Female epigyne (7 ventral, 8 lateral, 9 dorsal, 10 posterior view). Scale bar: 5–6, 0.52 mm; 7–10, 0.49 mm.
late summer and throughout winter. Only the South Australian record included information on the habitat of this species, “on bushes near creek”.

4.4. **Larinia montagui** Hogg, 1914

Figs. 12–22

*Larinia montagui* Hogg, 1914: 75–77, pl. 1, fig. 4.

*Larinia montagueti* (Hogg). **Bonnet** 1957: 2350 (invalid emendation; see ICZN 1999, Article 31.1.2)


**Larinia tabida** (L. Koch, 1872). **Davies** 1988: 308, fig. 29 (misidentification).

**Type material. Syntypes:** 2 ♀♀, Montebello Islands [20°26′S 115°31′E, Western Australia, Australia], P. D. Montague (BMNH); 1 ♀, same data, T. H. Haynes (BMNH) (examined).

**Other material examined. AUSTRALIA: New South Wales:** 1 ♀, Arcadia, 33°07′S 151°02′E (AM KS90973); 1 ♂, 3 ♀♀, Bonny Hills, 8 km N, 31°35′S 152°51′E (AM KS10176); 6 ♀♀, Clarence River, Copmanhurst, 31°35′S 152°51′E (SAM NN23520–5); 2 ♀♂, Lord Howe Island, 31°33′S 159°05′E (AM KS33425); 1 ♀, Lord Howe Island, E slopes of Roach Island, 31°30′08″S 159°04′09″E (AM KS75702); 1 ♂, 3 ♀♀, same data (AM KS75721); 2 ♀♂, same data (AM KS75657); 1 ♀, Lord Howe Island, end of Valley of the Shadows, 31°31′43″S 159°04′42″E (AM KS70566); 1 ♂, Lord Howe Island, Little Slope, S base of Mt Gower, 31°35′54″S 159°04′18″E (AM KS33436); 1 ♀, same data (AM KS33441); 1 ♀, Lord Howe Island, NE slope of Rabbit Island, 31°32′12″S 159°03′36″E (AM KS33440); 1 ♂, Lord Howe Island, Roach Island, 31°30′07″S 159°04′06″E (AM KS89094); 1 ♀, 1 juv., Lord Howe Island, summit of Kim’s Lookout, 31°30′54″S 159°03′00″E (AM KS33437); 1 ♀, Lord Howe Island, track to start of Mt Gower Track, S end Salmon Beach, 31°33′50″S 159°04′30″E (AM KS70618); 1 ♀, Lord Howe Island, track to start of Mt Gower Track, 31°33′54″S 159°04′29″E (AM KS70558); 1 ♀, Merriwa, SE of, The Battery picnic area, 32°07′S 150°21′E (AM KS70541); 1 ♀, Norfolk Island, 29°02′S 167°57′E (AM KS15191); 1 ♂, Rivatts Creek, 33°37′S 150°40′E (AM KS33433); 1 ♀, Scone, 32°02′S 150°52′E (AM KS33421); 1 ♀, Solitary Island, 29°55′S 119°54′E (QM S83402); 3 ♀♀, South West Rocks, 30°51′S 153°04′E (AM KS46011, KS50171–2); 4 ♀♀, 1 juv., Wyangarie, 29°24′S 150°33′E (AM KS33444). **Northern Territory:** 2 ♀♀, 3 juv., Campbell Spring, 15°32′S 131°17′E (WAM T75251). **Queensland:** 1 ♀, 1 juv., “Queensland, no exact locality, labeled “Q3050”, (QM S83403); 2 ♀♀, Belmont Hills Bushland Reserve, 27°31′S 153°07′E (QM S83400); 1 ♀, Boggoomoss No. 3, 25°26′S 150°01′E (QM S36384); 1 ♂, 1 ♂, 1 juv., same data (QM S37344); 1 ♀, Boggoomoss No. 4 and 5, 25°26′S 150°01′E (QM S36526); 1 ♂, 1 juv., Boggoomoss No. 8, 25°27′S 150°02′E (QM S36920); 2 ♀♀, Boggoomoss No. 12, 25°27′S 150°08′E (QM S36897); 2 ♀♀, 1 juv., Boggoomoss No. 21, 25°27′09″S 150°02′31″E (QM S36445); 2 ♀♀, same data (QM S37356); 2 ♂♂, Bribie Island, 27°03′30″S 153°11′32″E (AM KS69400, KS69480); 1 ♀, Brisbane Forest Park, 27°25′04″S 152°49′48″E (AM KS69569); 2 ♀♀, Burgess Creek, 4 km S Noosa Heads, 26°25′S 153°06′E (SAM NN23518–9); 2 ♀♀, 1 juv., Cania Gorge, 24°38′S 150°58′E (WAM T75249); 1 ♀, Chelsea Road Bushland Reserve, 27°28′58″S 153°11′15″E (QM S83387); 1 ♀,
Diagnosis. *Larinia montagui* is most similar to *L. jamberoo*. Males differ in the shape of the median apophysis, which lacks the keel-shaped process present in *L. jamberoo* (Fig. 6 vs Fig. 17). Females differ in the shape of the median septum of the epigyne that is wider posteriorly than anteriorly (vice versa in *L. jamberoo*) (Fig. 7 vs Fig. 18).

Description, male (from Barrow Island, WA; WAM T57663). Total length 7.07. Carapace (Fig. 12): 2.38 long, 1.77 wide; light yellow-brown, indistinct brown and narrow median band between fovea and PME; covered with white setae, white macrosetae around eyes; one long white bristles between the AME; clypeus 0.60 high. Eyes: AME 0.17, ALE 0.13, PME 0.12, PLE 0.08; row of eyes: AME 0.44, ALE 0.81, PME 0.18, PLE 0.86. Sternum (Fig. 13): 1.08 long, 0.62 wide; yellow-brown; laterally with dark pigmentation; few light brown setae. Labium: wider than long; basal half brown, anterior part forms a nearly semicircular white rim. Chelicerae: yellow-brown, basally somewhat darker; few light brown macroste- atico-medially; three promarginal teeth, with the basal one smallest; three retromarginal teeth of similar size. Pedipalps (Figs. 16–17): conductor almost quadrangular with pointy tip (Fig. 16); median apophysis almost rectangular in ventral view (Fig. 17). Legs: leg formula I>II>IV>III; yellow-brown with brown pigmentation, two baso-ventral spines on femur of leg IV (only one spine on left leg) (Fig. 13), insert; Lengths of segments: pedipalp 0.54 + 0.54 + + 0.69 = 1.77, I 3.08 + 4.69 + 4.23 + 1.23 = 13.23, II 2.92 + 4.23 + 3.31 + 1.08 = 11.54, III 1.92 + 1.85 + 1.61 + 0.69 = 6.08, IV 2.85 + 3.54 + 2.85 + 0.92 = 10.15. Abdomen: (Figs. 14–15): 4.54 long, 2.61 wide; yellow with light median band in darker, wider band; venter yellow, with two indistinct darker bands; spinnerets light brown. *Variation*. TL 5.51–7.15, CL 2.30–2.80, CW 1.58–1.81 (n = 10).

Description, female (from Barrow Island, WA; WAM T77408). Somatic characters of the female agree in general details with the male, except that the carapace has narrow brown marginal bands and there are two bristles between the AME (Figs. 14–15). Total length 8.15. Carapace: 2.69 long, 1.61 wide; clypeus 0.60 high. Eyes: AME 0.13, ALE 0.10, PME 0.12, PLE 0.10; row of eyes: AME 0.40, ALE 0.94, PME 0.23, PLE 0.94. Sternum: 1.23 long, 0.77 wide. Legs: leg formula I>II>IV>III; yellow-brown with brown pigmentation, two baso-ventral spines on femur of leg IV (only one spine on left leg) (Fig. 13), insert; Lengths of segments: pedipalp 0.54 + 0.54 + + 0.69 = 1.77, I 3.08 + 4.69 + 4.23 + 1.23 = 13.23, II 2.92 + 4.23 + 3.31 + 1.08 = 11.54, III 1.92 + 1.85 + 1.61 + 0.69 = 6.08, IV 2.85 + 3.54 + 2.85 + 0.92 = 10.15. Abdomen: (Figs. 14–15): 4.54 long, 2.61 wide; yellow with light median band in darker, wider band; venter yellow, with two indistinct darker bands; spinnerets light brown. *Variation*. TL 5.51–7.15, CL 2.30–2.80, CW 1.58–1.81 (n = 10).
Figs. 12–15. *Larinia montagui* Hogg. 12–13: Male from WAPET Camp, Barrow Island, Western Australia (WAM T57663) (12 dorsal, 13 ventral view [inset shows ventral spines on femur IV]) (TL 7.07 mm). 14–15: Female from Mattress Point Barrow Island, Western Australia (WAM T57661) (14 dorsal, 15 ventral view) (TL 8.15 mm).
Figs. 16–21. Larinia montagui Hogg, male from WAPET Camp, Barrow Island, Western Australia (WAM T57663) and female from Barrow Island, Bandicoot Bay, Western Australia (WAM T77408). 16–17: Left male pedipalp (16 retrolateral, 17 ventral view). 18–21: Female epigyne (18 ventral, 19 lateral, 20 anterior, 21 posterior view). Scale bar: 16–17, 0.83 mm; 18–21, 0.45 mm.
less than their diameter apart, copulatory duct narrow (Fig. 20). **Variation.** TL 6.75–11.88, CL 2.69–4.00, CW 1.63–2.25 (n = 14).

**Distribution.** *Larinia montagui* has been found in all mainland states of Australia and many off-shore islands (Fig. 22).

**Life history and habitat preferences.** Adult *L. montagui* have been found all year round. The species appears to tolerate a variety of climatic conditions and has been found in a variety of habitats. It was mainly recorded from grassland and heathland into low woodland, but habitat descriptions also include rainforests, soy bean crops and mangroves.

**Remarks.** In his first publication on *Larinia* and allied genera, Grasshoff (1970a) listed *L. montagui* as junior synonym of *Lariniaria argiopiformis* (Bösenberg & Strand, 1906) without justification. However this synonymy was accepted in subsequent catalogs (e.g. Platnick 2008). Curiously, in his later revision of *Lariniaria* Grasshoff (1970b) did not include *L. montagui* as synonym of that species. We examined the type material of *L. montagui* lodged at the BMNH, and recognised it as the most common species of *Larinia* in Australia. The morphology of this species, in particular that of the male and female genitalia, is vastly different to that of *L. argiopiformis* (e.g. Grasshoff 1970b: figs. 29a–e). Consequently, we reject the synonymy and revalidate *L. montagui* as valid species. The type material is in poor condition and therefore we redescribe the female based on a more recently collected specimen from Western Australia.

### 4.5. *Larinia phthisica* (L. Koch, 1871)

**Figs. 23–35**


L. albigera Yin et al., 1990: 76, figs. 188–194.
Platnick 1993: 442 (female only, male is Larinia argiopiformis Bösenberg & Strand, 1906) (synonymy in Yin et al. 1997).

L. triprovina Yin et al., 1990, Yin 1994: 135 (male only, misidentification).

Type material. Lectotype (designated here) of Epeira phthisica L. Koch, 1871: 1 ♀, Port MacKay [21°10′S 149°14′E, Queensland, Australia], Museum Godeffroy no. 7557 (ZMH, Rack 1961-catalogue no. 262) (examined). Paralectotypes of Epeira phthisica L. Koch, 1871: 1 ♂, data as lectotype (ZMH, Rack 1961-catalogue no. 262) (misidentification, this specimen is L. tabida); 2 ♀♀, Port MacKay [21°10′S 149°14′E, Queensland, Australia], Museum Godeffroy (ZMB 3344); 2 ♀♀, Port MacKay [21°10′S 149°14′E, Queensland, Australia], Museum Godeffroy No. 7557 (NMV K10084); 1 ♀, same data (BMNH 1915.3.5.982) (all examined).

Other material examined. AUSTRALIA: New South Wales: 1 ♂, Tarbesills, km N, 31°48′S 152°29′E (AM KS10195); 1 ♂, same data (AM KS10184); 1 ♂, 1 juv., Taree, 3 km N, 31°54′S 152°29′E (AM KS94110). Northern Territory: 10 ♂♂, Darwin, 12°27′S 130°50′E (NMV K10082, K10085); 1 ♂, Jabiru, Retention Pond No 1, Ranger Uranium Mines, 12°40′S 132°55′E (SAM NN23506). Queensland: 1 ♂, Allingham Creek, Bluff Downs Station, 19°46′S 145°59′E (QM S83379); 1 ♂, Archer River Crossing, 13°25′S 141°41′E (QM S83376); 1 ♂, 1 ♂, Gillies Highway, 1 km W Gordonvale, 17°05′S 145°57′E (QM S83375); 1 ♂, Gordonvale, 17°05′S 145°46′E (WAM 16/418); 3 ♀♀, 2 juveniles, same data (AM KS99789); 1 ♂, same data (QM S83406); 1 ♂, 4 juv., same data (AM KS33424); 1 ♀, 1 juv., same data (NMV K10083); 1 ♀, Port MacKay, 21°10′S 149°14′E, Museum Godeffroy 7557 (possible synonym of Epeira inaduactrix L. Koch, 1871) (ZMH, Rack 1961-catalogue no. 244); 1 ♂, Rockhampton, Kershaw Gardens, 23°22′S 150°30′E (AM KS67021); 1 ♂, 2 ♀♀, 16 juv., Saibai Island, 9°24′S 142°41′E (QM S83377); 1 ♂, Upper Brookfield, 27°28′S 152°15′E (QM S83378). South Australia: 1 ♂, 2 ♀♀, 1 juv., Crystal Brook, E of golf course eastern boundary, 33°21′S 138°13′E (SAM NN23508–10); 1 ♂, Innan River, Victor Harbor, near caravan park, 35°33′S 138°37′S (SAM NN23507); 1 ♂, North Para River, Anjetan, 34°33′S 138°52′E (AM KS2086); 1 ♂, Slaney Creek, Chowilla, 33°56′S 140°56′E (SAM NN670). Western Australia: 1 ♂, 1 ♂, Durack River Crossing, Gibb River Road, Kimberley region, 15°56′S 127°13′E (AM KS85892); 1 ♂, 2 ♀♀, 1 juv., King Edward River campsite, 14°55′S 126°12′E (WAM T75254); 1 ♂, 1 ♂, 1 juv., Millstream, 21°12′S 117°16′E (WAM T75257); 2 ♀♀, Millstream, near Crystal Pool, 21°12′S 117°16′E (WAM T75256).

Diagnosis. The shape of the male pedipalp, in particular the median apophysis with its two pointed apical processes (Fig. 29) is unique within the Australian species of Larinia. The female epigyne is most similar to that of L. tabida, but the posterior rim of the epigyne is stronger in L. phthitsica than in L. tabida and does not reach as far anteriorly at the lateral margins (Fig. 30 vs Fig. 43). If a scape is present (often broken off), its lateral sides are almost straight in L. phthitsica but curved in L. tabida.

Description, male (from King Edward River campsite, WA; WAM T75254). Total length 7.00. Carapace (Fig. 36): 2.38 long, 1.38 wide; dorsal profile straight in lateral view with minor indentation near fovea region (Fig. 27); yellow-brown, light brown median band that forms a three-ended fork behind the PE; covered with white setae, two long white bristles between the AME; clypeus 0.06 high. Eyes: AME 0.15, ALE 0.11, PLE 0.09, PLE 0.08; row of eyes: AME 0.42, ALE 0.75, PLE 0.25, PLE 0.79. Sternum (Fig. 24): 1.15 long, 0.69 wide; yellow; covered with light brown macrosetae. Labium: basal half light brown, anterior part forms a nearly semicircular white rim. Chelicerae: yellowish-brown; few brown macrosetae apico-medially; four promarginal teeth, with the apical and third one largest, the second and fourth much smaller; three retromarginal teeth of similar size. Pedipalps (Figs. 28–29): apical extension of tegulum pointed (Fig. 28); median apophysis with two narrow apical processes (Fig. 29). Legs: leg formula I>II>IV>III; uniformly yellow, sockets of setae brown; lengths of segments: pedipalp 0.62 + 0.46 + - + 0.77 = 1.85, I 2.92 + 4.84 + 4.15 + 0.92 = 12.84, II 2.77 + 4.54 + 3.46 + 0.85 = 11.61, III 2.00 + 1.92 + 1.31 + 0.62 = 5.84, IV 3.23 + 3.23 + 2.85 + 0.65 = 9.96. Abdomen: 4.61 long, 1.15 wide; yellow-brown with indistinct median band (Fig. 23); ventrally somewhat darker; spinnerets light brown (Fig. 24). Variation. TL 7.13–8.50, CL 2.63–3.25, CW 1.38–2.00 (n = 4).

Description, female (same data as male). Somatic characters of the female agree in general details with the male, except that the colouration is overall slightly darker (Figs. 25–26). Total length 9.61. Carapace: 3.08 long, 1.77 wide; clypeus 0.10 high. Eyes: AME 0.15, ALE 0.10, PLE 0.10, PLE 0.09; row of eyes: AME 0.48, ALE 1.06, PLE 0.21, PLE 1.08. Sternum: 1.54 long, 0.85 wide. Legs: lengths of segments: pedipalp 0.85 + 1.00 + - + 0.92 = 2.77, I 3.54 + 5.69 + 4.77 + 1.08 = 15.07, II 3.38 + 5.38 + 3.92 + 1.00 = 13.69, III 2.54 + 2.31 + 1.61 + 0.69 = 7.15, IV 4.08 + 4.54 + 3.54 + 0.77 = 12.92. Abdomen: 6.54 long, 1.92 wide. Epigyne (Figs. 30–34): wider than in ventral view; scape with a pocket at tip (Fig. 30), in many cases broken off (Fig. 32); spermathecae round, less than their diameter apart (Fig. 34). Variation. TL 7.25–12.50, CL 2.88–4.13, CW 1.63–2.38 (n = 7).

Distribution. In Australia, most records of L. phthitsica are from coastal areas in the northern two thirds
Figs. 27–34. Larinia phthisica (L. Koch). 27–29: Male from King Edward River, Western Australia (WAM T75254), 27 carapace, lateral view, 28–29 left pedipalp (28 retrolateral, 29 ventral view). 30–32: Epigyne of female from Gibb River Road, Durack River Crossing, Western Australia (AM KS58592) (30 ventral, 31 lateral, 32 posterior view). 33–34: Epigyne of female from King Edward River, Western Australia (WAM T75254) (33 ventral view – scape broken off, 34 dorsal view). Scale bar: 27, 2.34 mm; 28–29, 0.68 mm; 30–34, 0.69 mm.
of the continent, but the species is also found in South Australia into the centre (Fig. 35). Larinia phthisica is also reported from Uzbekistan and Turkmenistan (MARUSIK 1986), India (PATEL 1975; TIKADE & BISWAS 1981; TIKADE 1982), China (e.g. SONG et al. 1999), the Philippines (BARRION & LITSINGER 1995), Bangladesh (OKUMA et al. 1993) and West Papua, Indonesia (CHRYSANTHUS 1961).

Life history and habitat preferences. In Australia, adult L. phthisica have been found all year round. They appear to prefer low vegetation such as grass and shrubs, and were commonly found near the edge of watercourses.

Remarks. The collection of the Godeffroy Museum in the ZMH has a female of L. phthisica that is labelled “Epeira indagatrix L. Koch; M.G. 7557 Port Mackay”. This was listed as possible syntype of Epeira indagatrix by RACK (1961; catalog no. 244), although the spider does not confirm to the original description of E. indagatrix by L. Koch (1871). To avoid nomenclatural confusion between both species and to provide taxonomic stability for the species-group name L. phthisica, a lectotype (ZMH, RACK (1961)-catalog. no. 262) is designated here from the syntype series of Epeira phthisica. The second female syntype listed in RACK’s (1961)-catalog. no. 262 is L. tabida. KEYSERLING (1887) firstly described the male of L. phthisica from a pair in the Godeffroy Museum collected in Peak Downs (Queensland). We were not able to confirm the identity of this male as the two spiders could not be located in the collection of the BMNH where they are expected to be housed.

Larinia chloris (Audouin, 1826) from the Middle East, Africa and India is very similar to L. phthisica, but differs in various ways, including differences in the shape of the epigynum (GRASSHOFF 1970a). It remains unclear if L. phthisica and L. chloris represent separate species or are morphological variations of the same (GRASSHOFF 1970a, 1973; LEVY 1986; TANIKAWA 1989). Since GRASSHOFF’s (1970a) revisionary work, a number of Larinia species have been described and subsequently synonymised with L. phthisica (see above) but apparently in many cases without examination of type material. A detailed comparison of specimens within the putative range of L. phthisica and L. chloris is required to undoubtedly clarify the validity of these species. It is beyond the scope of this study to comprehensively elucidate the relationships of all species with affinities to L. phthisica from different regions of the globe. Our aim is to provide accurate illustrations for an identification of this species, which was originally described from Australia.

Fig. 35. Records (n = 32) of Larinia phthisica (L. Koch) in Australia.
4.6. **Larinia tabida** (L. Koch, 1872)

Figs. 36–47


_Larinia tabida_ (L. Koch). Thorell 1890: 25; Rainbow 1911: 181; Roewer 1942: 771; Bonnet 1957: 2351–2352; Chrisanthus 1961: 205, figs. 46–49; Chrisanthus 1971: 26, fig. 42.


**Type material.** _Holotype_ of _Epeira tabida_ L. Koch, 1872: ♀. Port McKay [21°10′S 149°14′E], Queensland, Australia], Museum Godeffroy no. 7549 (ZMH, Rack (1961)-catalogue. no. 280) (examined).

Other material examined. **AUSTRALIA:** _New South Wales_: 1 ♀, Bungawalin State Forest, 29°08′04″S 153°08′01″E (AM KS88532); 1 ♀, Bungawalin Nature Reserve, 29°05′44″S 153°04′19″E (AM KS88533); 1 ♀, Crowdy Bay National Park, 9 km S Laurieton, 31°50′S 152°45′E (AM KS9396); 1 ♀, Kempsey, banks of Mackay River, 31°04′S 152°50′E (AM KS6993); 1 ♀, Tharawal, Henry Kendall Forestry Reserve, 31°39′S 152°48′E (AM KS10158); 1 ♀, Urunga, 30°29′S 153°01′E (AM KS6994). _Northern Territory_: 1 ♀, Litchfield National Park, Wangi Falls, 13°9′49″S 130°40′46″E (AM KS5893). _Queensland_: 1 ♀, Atherton Tablelands, Rose Gums, 17°18′44″S 145°42′09″E (ZMUC); 1 ♀, 14 juv., Bamaga, around hotel, 10°53′S 142°24′E (QM S3307); 1 ♀, Bribie Island, 27°03′30″S 153°11′32″E (AM KS9605); 1 ♀, Chelsea Road Bushland Reserve, 27°28′58″S 153°11′15″E (QM S65836); 1 ♀, Cooktown, base track of Mt Cook, Mt Cook National Park, 15°29′11″S 145°15′40″E (AM KS7873); 1 ♀, Edmonton area, 17°01′S 145°44′E (AM KS33423); 1 ♀, Cotton Gum, 17°05′S 145°47′E (AM KS33445); 1 ♀, 1 juv., same data (QM S83382); 1 ♀, same data (QM W13); 1 ♀, same data (WAM 16/418A); 1 ♀, Port Mackay, 17°05′S 145°47′E, Museum Godeffroy no. 7575 (ZMH Rack (1961)-catalogue. No 262) (paleolectotype ♀ of *L. phthisica*; misidentification); 3 ♀♀, Saibai Island, 9°24′S 142°41′E (QM S83380); 2 ♀♀, Spear Creek, Mt Molloy, 16°2′S 145°24′E (QM S83381); 1 ♀, Weatherstation Creek, 13°42′S 143°17′E (QM S83383). _Western Australia_: 1 ♀, Gibb River Road/Kalumburu-turnoff, campsite on river, 15°58′S 126°51′E (WAM T75255).

**Diagnosis.** The shape of the male pedipalp, in particular the median apophysis with its hook-shaped process (Fig. 41) is unique within the Australian species of _Larinia_. The female epigyne is most similar to that of _L. phthisica_, but the posterior rim of the epigyne is narrower and reaches further anteriorly (Fig. 30 vs Fig. 43). If a scape is present, it is oval (not with straight lateral borders as in _L. phthisica_).

**Description, male** (from Wangi Falls, Litchfield National Park, NT; AM KS5893). Total length 7.69. Carapace (Fig. 36): 3.08 long, 1.77 wide; dorsal profile straight in lateral view (Fig. 42); yellow-brown, with narrow brown median band that widens twice along its length; covered with white setae, two long white bristles between the AME; clypeus 0.08 high. Eyes: AME 0.17, ALE 0.11, PME 0.12, PLE 0.09; row of eyes: AME 0.47 (0.42), ALE 0.84 (0.88), PME 0.16 (0.23), PLE 0.90 (0.92). Sternum: 1.46 long, 0.65 wide; yellow; covered with few light brown setae mainly marginally (Fig. 37). Labium: wider than long; basally yellow-brown, anterior part forms a nearly semicircular white rim. Chelicerae: yellow-brown; four promarginal teeth, with the apical and third one largest, the second and fourth much smaller; three retromarginal teeth of similar size. Pedipalps (Figs. 40–41): conductor elongated (Fig. 40); median apophysis with hook-shaped process (Fig. 41). Legs: leg formula I>II>IV>III; uniformly yellow-brown; two basoventral spines on femora of leg IV (Fig. 37, insert); lengths of segments: pedipalp 0.69 + 0.62 + + 0.77 = 2.08, I 3.54 + 5.54 + 5.08 + 0.54 = 14.69, II 3.38 + 5.00 + 4.15 + 1.15 = 13.69, III 2.38 + 2.31 + 1.54 + 0.69 = 6.92, IV 3.69 + 4.31 + 3.54 + 0.77 = 12.30. Abdomen (Figs. 36–37): 4.38 long, 1.54 wide; yellow-brown with indistinct light median band and five pairs of black spots; venter yellow-brown with white pigmentation medially and two longitudinal brown lines; spinnerets light brown. **Variation.** TL 7.50–7.69, CL 2.88–3.08, CW 1.69–1.79 (n = 3).

**Description, female** (from Gibb River Road, Kalumburu-turnoff, WA; WAM T75255). Total length 8.31. Carapace (Fig. 38): 2.77 long, 1.61 wide; yellow-brown, with narrow light brown median band that is widest half-way between PME and fovea; margins of carapace light brown; covered with very light brown setae mainly medially; white setae mainly around eyes, two long white bristles between the AME; clypeus 0.08 high. Eyes: AME 0.15, ALE 0.10, PME 0.10, PLE 0.09; row of eyes: AME 0.42, ALE 0.88, PME 0.23, PLE 0.92. Sternum (Fig. 39): 1.38 long, 0.77 wide; yellow-brown, somewhat darker towards margins; covered with brown setae. Labium: wider than long; basally light brown, anterior part forms a nearly semicircular white rim. Chelicerae: yellow; few light brown setae mainly apico-medially; four promarginal teeth, with the apical and third one largest, the second and fourth much smaller; three retromarginal teeth of similar size. Legs: leg formula I>II>IV>III; uniformly...
yellow, with black spots; lengths of segments: pedipalp 0.85 + 0.92 + + 0.85 = 2.61, I 3.08 + 4.92 + 4.15 + 1.15 = 13.30, II 3.00 + 4.38 + 3.46 + 1.00 = 11.84, III 1.92 + 2.23 + 1.31 + 0.77 = 6.23, IV 3.15 + 3.92 + 3.15 + 0.85 = 11.07. Abdomen (Figs. 38–39): 5.46 long, 1.85 wide; yellow-brown with six pairs of black spots; venter yellow-brown; spinnerets light brown. Epigyne (Figs. 43–46): wider than long in ventral view, with narrow rim nearly reaching to base of scape (Fig. 43); scape oval (in many cases broken off); spermathecae round and separated by approximately their radius (Fig. 46). Variation. Only one further female (WAM 16/418A) was measured which was slightly smaller than the specimen described above (TL 8.00, CL 3.00, CW 2.00).

Distribution. North and east coast of mainland Australia, also on some Torres Strait islands (Fig. 47); also in Sulawesi and West Papua, Indonesia (Thorell 1877; Chrysanthus 1961). Records of Larina tabida from Lord Howe Island (Rainbow 1920; AM KS33425, examined) are misidentified L. montagnii. Three females of L. tabida reported from New Codia (Berland 1924) were not examined.

Life history and habitat preferences. Larina tabida males and females have been found all year round with the exception of April, October and November. Similar to L. phthisica, this species appears to prefer low vegetation such as grassland and shrubs, but has also been found in rainforest and amongst trees of Spotted Gum (Corymbia maculata).

Remarks. Rack (1961; catalog. no. 280) listed 5 syntypes for L. tabida. The original description, however, is based on a single female holotype (L. Koch 1872; p. 106, from German: "From Port Mackay (One specimen in the Museum Godeffroy."). Therefore, the single female listed above is here considered the holotype of L. tabida. The remaining four specimens (Museum Godeffroy no. 7548) are all immature and accurate species identification is not possible.

Keyserling (1887: 171) firstly described the male of L. tabida based on (translated from German) "specimens from Australia without exact locality data" from the Godeffroy Museum. We have not been able to locate any of these specimens in the BMNH where Keyserling’s material is expected to be housed, nor in the ZMH or ZMB where material of the Godeffroy Museum is lodged.

4.7. Larina delicata Rainbow, 1920 (revalidated)

Figs. 48–54


Type material. Syntypes: 1 ♂, 1 ♀, Lord Howe Island [31°32′S 159°05′E, New South Wales, Australia], December 1915 – January 1916, A.M. Lea (AM KS6590); 1 ♂, same data (SAM NN243); 1 ♀, same data (SAM NN244) (all examined).

Other material examined. AUSTRALIA: New South Wales: 1 ♂, Lord Howe Island, track to N end of Middle Beach, 31°31′35″S 159°04′20″E (AM KS70745); 1 ♂, Lord Howe Island, Research Centre, 31°31′37″S 159°03′58″E (AM KS70632).

Diagnosis. Larina delicata clearly differs from all Australian Larinia by the high thoracic region of the carapace (Fig. 50).

Description, male (from Lord Howe Island, NSW; AM KS70632). Total length 4.52. Carapace (Fig. 48): 2.17 long, 1.67 wide; strongly arched in thoracic region (Fig. 50) and with deep longitudinal fovea; yellow-brown, indistinct darker radial pattern; few dark setae medially in anterior half, few white setae around eyes; clypeus 0.06 high. Eyes: AME 0.14, ASE 0.09, PME 0.09, PLE 0.11; row of eyes: AME 0.42, ASE 0.92, PME 0.88, PLE 0.94. Sternum (Fig. 49): 1.09 long, 0.86 wide; yellow; few light brown setae. Labium: wider than long; yellow-brown, anterior part forms a nearly semicircular white rim. Chelicerae: yellow-brown, apically somewhat lighter; three promarginal teeth, with the basal one smallest; four retromarginal teeth of decreasing size to basal one. Pedipalps (Figs. 51–52): apical extension of tegulum truncated (Fig. 51); median apophysis with two sclerotised processes, stipes present (Fig. 52). Legs: leg formula I>II>IV>III; yellow; lengths of segments: pedipalp 0.62 + 0.43 + + 0.64 = 1.69, I 3.24 + 4.57 + 3.67 + 1.00 = 12.47, II 2.76 + 3.71 + 2.71 + 0.86 = 10.04, III 2.05 + 4.38 + 3.46 + 1.00 = 11.84, IV 3.15 + 3.92 + 2.76 + 3.71 + 2.71 + 0.86 = 10.04. Abdomen (Figs. 48–49): 2.67 long, 1.24 wide; very light olive-green, covered with small white spots except medially; venter as dorsally; spinnerets yellow-brown. Variation. The syntype male (AM KS6590) is slightly larger (CW 1.70, CL 2.12, TL 5.15) than the specimen described here.

Description, female (syntype from Lord Howe Island, NSW; AM KS6590). Somatic characters of the female agree with those of the male, however the
Figs. 36–39. *Larinia tabida* (L. Koch). 36–37: Male from Wangi Falls, Litchfield National Park, Northern Territory, Australia (AM KS58593) (36 dorsal, 37 ventral view [inset shows ventral spines on femur IV]) (TL 7.69 mm). 38–39: Female from Gibb River Road, Kalumburu turnoff, Western Australia (WAM T75255) (38 dorsal, 39 ventral view) (TL 8.31 mm).
Figs. 40–46. Larinia tabida (L. Koch), male from Wangi Falls, Litchfield National Park, Northern Territory, Australia (AM KS58593) and female from Gibb River Road, Kalumburu turnoff, Western Australia (WAM T75255). 40–41: Left male pedipalp (40 retrolateral, 41 ventral view). 42: Carapace male, lateral view. 43–46: Female epigyne (43 ventral, 44 posterior, 45 lateral, 46 dorsal view). Scale bar: 40–41, 0.68 mm; 42, 2.80 mm; 43–46, 0.51 mm.
specimen is very bleached and natural colouration and setae patterns are not clearly evident and therefore not illustrated here. Total length 5.70. Carapace: 2.24 long, 1.82 wide; clypeus 0.15 high. Eyes: AME 0.12, ALE 0.10, PME 0.08, PLE 0.10; row of eyes: AME 0.38, ALE 1.02, PME 0.29, PLE 1.06. Sternum:

Figs. 48–49. Larinia delicata Rainbow, male from Lord Howe Island, New South Wales, Australia (AM KS70745) (48 dorsal, 49 ventral view) (TL 4.52 mm).
1.15 long, 0.85 wide. Legs: leg formula I>II>IV>III; lengths of segments: pedipalp 0.85 + 0.97 + - + 0.97 = 2.79, I 3.27 + 4.42 + 3.15 + 0.91 = 11.76, II 2.73 + 3.64 + 2.67 + 0.79 = 9.82, III 2.12 + 2.12 + 1.64 + 0.61 = 6.48, IV 2.55 + 2.79 + 2.18 + 0.61 = 8.12. Abdomen: 1.76 long, 1.70 wide. Epigyne (Fig. 53): scape tongue-shaped, laterally covered by additional tongue-shaped processes; internal genitalia not examined (only type material available for study).

**Distribution.** *Larinia delicata* is currently known from Lord Howe Island only (Fig. 54).

**Remarks.** *Larinia delicata* (Rainbow, 1920) was synonymised with *Lipocrea diluta* Thorell, 1887 purely based on the original description by Rainbow (1920) (Grasshoff 1970a). Examination of the type material of *Larinia delicata* from Lord Howe Island, New South Wales (AM KS6590) clearly showed that this species is not conspecific with the species that Grasshoff (1970a: 234, figs. 17a–c) illustrated as *L. diluta*; genitalia of both male and female differ greatly. We therefore here revalidate *L. delicata* as a good species. Rainbow originally placed this species in *Larinia*, but based on Grasshoff’s (1970a) key for males to the

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**Figs. 50–53.** *Larinia delicata* Rainbow, male (AM KS70745) and female paratype (AM KS6590) from Lord Howe Island, New South Wales, Australia. **50:** Male carapace, lateral view. **51–52:** Left male pedipalp (51 retrolateral, 52 ventral view). **53:** Female epigyne (ventral view). Scale bar: 50, 2.17 mm; 51–52, 0.57 mm; 53, 0.42 mm.
genera of the *Larinia*-group this species could belong to *Paralarinia*. The unusual carapace profile of *P. delicata* (Fig. 49) shows very good agreement with that of *Paralarinia denisi* (Lessert, 1938) as illustrated in Grasshoff (1970a), but the shape of the female epigyne of *P. delicata* is very different to any other *Paralarinia* (e.g. Grasshoff 1970b: figs. 22a–c), which have a long, wrinkled scape with apical pocket and no lateral processes as *P. delicata*. Therefore, we consider the placement of *Larinia delicata* in *Larinia* as tentative pending a phylogenetic analysis of the Australian species of the *Larinia*-group sensu Grasshoff (1970a).

The type material is in poor condition; the colouration is faded and the specimens are fairly fragile. Therefore, the male of *L. delicata* is here described based on more recently collected material.

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6. References


