

## New Species of *Euryglossula* Michener (Apoidea: Colletidae)

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**ABSTRACT.** Eleven new species of *Euryglossula* Michener are described: *E. aeneocephs*, *E. elizabethae*, *E. eremophilae*, *E. incisa*, *E. kubinensis*, *E. laticeps*, *E. pallida*, *E. pinnulata*, *E. purpurea*, *E. scalaris* and *E. storeyi*. The male of *E. variepicta* Exley is described for the first time. As now understood, the genus *Euryglossula* contains 18 species. New floral records and illustrated identification keys for both sexes of all species of the genus are provided. Variations in some diagnostic features of *Euryglossula* and the taxonomic placement of some species are discussed.

**KEYWORDS.** Bees; Colletidae; Euryglossinae; *Euryglossula*, new species.

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Clouds of small to minute euryglossine bees are commonly found swarming around *Eucalyptus*, *Corymbia* and other myrtaceous flowers. Many belong to one of three related genera, *Euryglossina* Cockerell, *Euryglossula* Michener and *Pachyprosopis* Perkins, that have the second submarginal cell of the forewing much less than half as long as the first (or absent), and the first abscissa of vein Rs transverse (Michener, 2007). While these features may be a consequence of their small size (Danforth, 1989), recent molecular studies support the idea that they form a monophyletic group (Kayaalp, 2011). The genus *Euryglossula* was separated from *Euryglossina* primarily on the basis of the facial profile of females (Michener, 1965) and the presence of a noticeable fringe across the apical margin of the fifth metasomal sternum of males (Exley, 1968a, 1969).

Occasionally species exhibit characteristics of more than one genus or subgenus. For example: the wings of *Euryglossina narifera* Cockerell and *Euryglossula fultoni* Cockerell have venation patterns approaching that of *Pachyprosopis* (Michener, 1965); *Pachyprosopis trichopoda*

Exley has some features of *P. (Parapachyprosopis)* species and some that would place it in *P. (Pachyprosopula)* (Exley, 1972); and the clypeus of female *Euryglossula variepicta* Exley is reminiscent of that seen in *Euryglossina* species (Exley, 1969).

The new descriptions include some features that support previously proposed generic characteristics and others that demonstrate new types of variation. No attempt has been made to re-examine the boundaries of the genus *Euryglossula*, though the observations do indicate directions that such a re-examination might take.

### Terminology, methods and measurements

Previously named species were compared with their published descriptions using numerous specimens, identified by Professor E.M. Exley, including the holotype and allotype of *E. deserti* and of *E. flava*, female paratypes of all other species except *E. chalcosoma* and the male holotype of *Euryglossina claristigma* Rayment, which was synonymised with *Euryglossula chalcosoma* (Exley, 1968a).

The morphological terminology follows that used by Michener (2007) including use of the word hair and the description of legs in their normal positions. Relative dimensions quoted in the descriptions were measured using an eye-piece graticule on a stereomicroscope with the zoom objective set to give a reading of 50 divisions for the head width. Abbreviations used for the measurements are *CL*, vertical length of clypeus; *CW*, width of clypeus; *FL*, length of flagellum; *FVL*, length of facial fovea; *HL*, head length; *HW*, head width; *LID*, lower interorbital distance; *UID*, upper interorbital distance. Metasomal terga are numbered *T1*, *T2* etc., sterna as *S1*, *S2* etc. and tarsal segments as *ta1*, *2* etc. from proximal to distal. The male terminalia exhibit useful diagnostic characteristics and were extracted for examination. Geospatial coordinates are GPS readings (map datum WGS84). The following abbreviations are used for collections in which the specimens are lodged: *AM*, Australian Museum, Sydney; *ANIC*, Australian National Insect Collection, Canberra; *QM*, Queensland Museum, Brisbane.

Images of the male terminalia of newly described species are those of the holotype.

## Morphological features of diagnostic importance

### *Apex of marginal cell*

One of the frequently quoted characteristics of the genus *Euryglossula* is that the marginal cell of the forewing is pointed on the costa. Closer examination shows that in species like *E. chalcosoma* and *E. flava* there is a region of denser setae and slight pigmentation that can appear to be continuation of the venation, but that the apex of the marginal cell is usually marked with a very short stub lying between 0.5 and 1.0 times the vein width from the costa. It is true that in most species of *Euryglossina* and *Pachyprosopis* the apex of the marginal cell lies slightly further from the costa than it does in *Euryglossula* species, but as shown in Fig. 1, this is not a particularly useful character for separating the genera. In the following descriptions, the apex of the marginal cell is 1 vein width or less from the costa.

### *Hind basitibial area*

A distinguishing feature of *Euryglossula* females is the presence of a defined hind basitibial area. Many of the new species have only a short bare polished area without discernable carinae, confirming previous observations that the area is frequently indistinctly defined (Exley, 1968a; Michener, 2007). None of the new species exhibited the tubercles found in most *Euryglossina* or *Pachyprosopis* species.

### *Fringe on male S5*

Males of all previously described *Euryglossula* species have a relatively long fringe of hair on the apical margin of S5, usually longer and denser laterally (Exley, 1968a; Michener, 2007). Similar fringes were found on males of all but two of the species described here. The male of *E. pinnulata* n. sp. has sparse, modified setae on S5, while the male of *E. variepicta* has no fringe.

### *Female clypeus*

The clypeus of females does not slope inwards as in *Euryglossina* species, but forms a continuous arc with the supraclypeal area when viewed laterally. This is true for all the new *Euryglossula* species.

### *Female fore tarsal setae*

The fore tarsi of females bear setae that are either strongly hooked or have the apex bent 90° or more (Fig. 2). The bent setae are found on the three middle segments, ta2–4, while the basitarsus usually carries straight setae, sometimes weakly capitate. This feature is found in some *Euryglossina* species, but is uncommon in that genus.

### *Mandibular setae of males*

All species have some setae on the mandibles, but a number of the newly described species have males with mandibles bearing groups of particularly stout setae on the lower edge (Fig. 3c, d). Males of *E. carnarvonensis* also have mandibles with at least two long, stiff setae.

## Key to females of the genus *Euryglossula*

1	Facial fovea ca ½ length eye .....	2
—	Facial fovea < ½ length eye .....	3
2	Scutum partly yellow or orange .....	<i>E. variepicta</i> Exley
—	Scutum black .....	<i>E. fultoni</i> (Cockerell)
3	Metasoma with black and yellow scalariform pattern (Fig. 16) .....	<i>E. scalaris</i> n. sp.
—	Metasoma without scalariform pattern .....	4
4	Front of head entirely yellow .....	5
—	Front of head not entirely yellow .....	6
5	Metasomal terga medially with small dark marks .....	<i>E. pallida</i> n. sp.
—	At least central ⅓ of metasomal terga black .....	<i>E. flava</i> Exley and <i>E. laticeps</i> n. sp.
6	Clypeus bright yellow .....	7
—	Clypeus black, brown or yellow-brown .....	10
7	Paraocular areas entirely black .....	<i>E. chalcosoma</i> (Cockerell)
—	Paraocular areas at least partly yellow .....	8

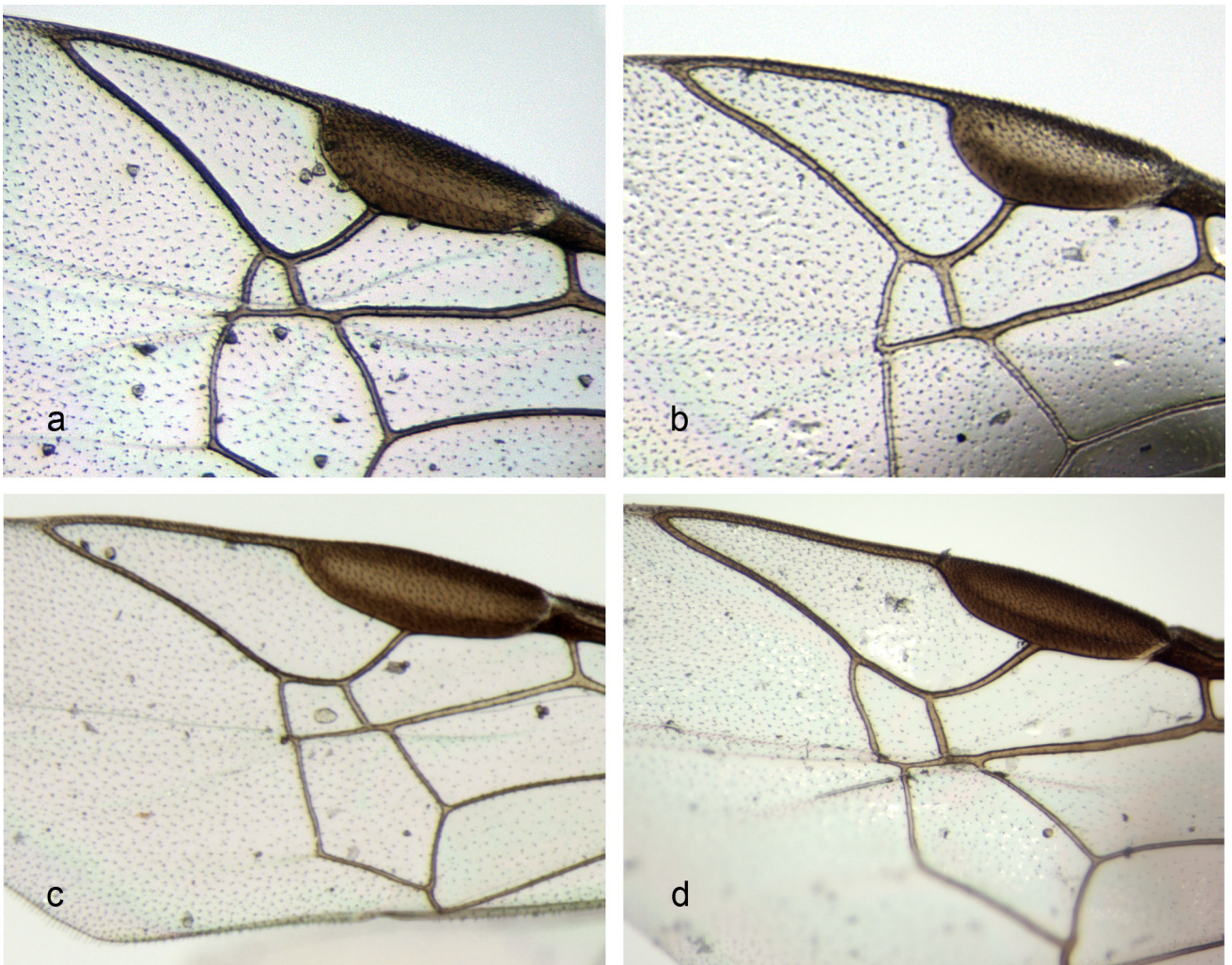


Figure 1. Marginal cell of forewing for: (a) *Euryglossula fultoni*; (b) *Euryglossula pinnulata*; (c) *Euryglossina fuscescens*; and (d) *Pachyprosopis haematostoma*.

8	Clypeal distal margin with two projections .....	<i>E. storeyi</i> n. sp.
—	Clypeal distal margin without projections .....	9
9	Supraclypeal area yellow .....	<i>E. aeneiceps</i> n. sp.
—	Supraclypeal area brown .....	(typical form) <i>E. purpurea</i> n. sp.
10	Clypeus brown or yellow-brown .....	11
—	Clypeus black .....	15
11	Head elongate, length $\geq 0.9 \times$ width .....	12
—	Head not elongate, length $\leq 0.85 \times$ width .....	13
12	Facial foveae $\geq 0.4 \times$ length of eye .....	<i>E. pinnulata</i> n. sp.
—	Facial foveae $\approx 0.3 \times$ length of eye .....	<i>E. carnarvonensis</i> Exley
13	Facial foveae $\geq 0.4 \times$ length of eye .....	(variety) <i>E. purpurea</i> n. sp.
—	Facial foveae $< 0.3 \times$ length of eye .....	14
14	Inner orbits almost parallel (LID $\approx 0.95 \times$ UID) .....	<i>E. incisa</i> n. sp.
—	Inner orbits ventrally convergent (LID $\approx 0.8 \times$ UID) .....	<i>E. eremophilae</i> n. sp.
15	Anterior clypeal margin with three projections .....	<i>E. microdonta</i> (Rayment)
—	Anterior clypeal margin without projections .....	16

- 16 Femora yellow ..... *E. deserti* Exley  
 — Femora black or dark brown except apically ..... 17
- 17 Metasomal T2–5 with conspicuously translucent apicolateral margins ..... *E. kubinensis* n. sp.  
 — Metasoma black ..... *E. elizabethae* n. sp.

### Key to males of the genus *Euryglossula*

- 1 Hind femora incrassate (Fig. 18), S5 without fringe ..... *E. variepecta* Exley  
 — Hind femora not incrassate ..... 2
- 2 Metasoma with black and yellow scalariform pattern (Fig. 16) ..... *E. scalaris* n. sp.  
 — Metasoma without scalariform pattern ..... 3
- 3 Head (other than occiput) entirely yellow ..... 4  
 — Head yellow with vertex black ..... 5
- 4 Mandible gently curved, not enlarged apically (Fig. 3a) ..... *E. flava* Exley  
 — Mandible apically enlarged (Fig. 3b) ..... *E. pallida* n. sp.  
 — Mandible with apical  $\frac{1}{2}$  inflexed, three stout setae ventrally (Fig 3c) ..... *E. laticeps* n. sp.
- 5 Facial foveae surrounded by yellow ..... 6  
 — Facial foveae not surrounded by yellow ..... 9
- 6 Scutum yellow with U-shaped black mark ..... *E. eremophilae* n. sp.  
 — Scutum black with anterolateral corners black ..... 7
- 7 Facial foveae  $\geq \frac{1}{4}$  length of eye ..... *E. aeneiceps* n. sp.  
 — Facial foveae short,  $< 0.2 \times$  length of eye ..... 8
- 8 Scutum laterally yellow to anterior edge of tegula ..... *E. kubinensis* n. sp.  
 — Scutum laterally yellow well past tegula ..... *E. carnarvonensis* Exley
- 9 Yellow on frons medially reaches almost to top of foveae ..... 10  
 — Yellow on frons medially stops well below top of foveae ..... 14
- 10 Head elongate, length  $> 0.9 \times$  width ..... *E. pinnulata* n. sp.  
 — Head not elongate, length  $< 0.85 \times$  width ..... 11
- 11 Width clypeus  $ca\ 2.7 \times$  length ..... *E. chalcosoma* (Cockerell)  
 — Width clypeus  $ca\ 2.3 \times$  length ..... 12
- 12 Metasoma black dorsally, mandible with stiff setae ..... *E. elizabethae* n. sp.  
 — Metasoma brown dorsally, mandible without stiff setae ..... 13
- 13 Mesepisternum medially with large black patch ..... *E. microdonta* (Rayment)  
 — Mesepisternum ventral half uniformly yellow ..... *E. storeyi* n. sp.
- 14 Scutellum bright yellow ..... *E. purpurea* n. sp.  
 — Scutellum black ..... 15
- 15 Facial foveae entirely surrounded by black ..... *E. fultoni* (Cockerell)  
 — Facial fovea not entirely surrounded by black ..... 16
- 16 Metasomal T2–T6 with large anterolateral yellow marks ..... *E. incisa* n. sp.  
 — Metasoma with at most small lateral marks ..... *E. deserti* Exley

### Descriptions of new species

Unless otherwise indicated, all species have a number of common features: the facial fovea are black, narrow and relatively elongate, never dot-like; the median flagellar segments are markedly broader than long and the mandibles have dark red tips; the subantennal sulci are little longer than diameter of the antennal socket; and the inner hind tibial spur is pectinate with very short, widely-spaced teeth. Most species have two long, fine setae medially on the clypeal margin. The exceptions are *E. fultoni* and *E. variepicta*. The setae are broken in many specimens, greatly reducing their value as a diagnostic character.

The claws of females are simple, while the claws of males are toothed and the mandibular setae of males are weak unless explicitly described.

#### *Euryglossula aeneiceps* n. sp.

Figs 2d, 7, 19, 33

**Type specimens.** HOLOTYPE ♂ Cooper Creek, 19 km E by S of Mt Borradaile, Northern Territory (12°6'S 133°4'E), 5–6 Jun 1973, J.C. Cardale in ANIC (32-067029). PARATYPES (5♀♀, 7♂♂, all in ANIC) same data as holotype (32-067023–028, 32-067030–035).

**Diagnosis.** Female frons and scutum dark with a metallic sheen; clypeus, supraclypeal area and lower paraocular area yellow; apical margins of metasomal terga translucent. Distinguished from *E. chalcosoma* by yellow in paraocular areas and from *E. purpurea* by yellow supraclypeal area and shorter facial fovea. Male facial fovea surrounded by yellow; mesosoma except propodeum yellow ventrally and laterally. Distinguished from *E. kubinensis* and *E. carnarvonensis* by relatively long facial foveae and absence of stiff mandibular setae.

**Description.** Female.—Head width 0.85 mm, body length 3.0 mm. Relative measurements: HW 50, HL 41, UID 33, LID 27, FVL 11, CW 24, CL 9, FL 25. *Head and mesosoma* dark metallic green-bronze except propodeum black and the following yellow: clypeus, supraclypeal area, lower paraocular area, lower gena, mandibles, labrum, scape and flagellum ventrally, pronotal tubercle, alar sclerites and legs (with brown marks on hind coxa and tibia). The yellow in the paraocular area extends as a finger along inner orbit to top of antennal socket. Scape and flagellum dorsally brown. Clypeus and supraclypeal area weakly tessellate with open medium punctures; frons strongly tessellate with close to dense, fine punctures. Fore basitarsal setae straight, setae on ta2–4, apically hooked (Fig. 2d). Scutum strongly tessellate with dense fine punctures. *Metasoma* dark brown, apical margins T2–5 with translucent band, wider laterally, sterna with a similar translucent margin preceded by a pale yellow band. The widths of the yellow bands vary between specimens.

Male.—Head width 0.88 mm, body length 2.5 mm. Relative measurements: HW 50, HL 41, UID 33, LID 27, FVL 9, CW 23, CL 9, FL 29. *Head* yellow except vertex and occiput black with a dark green metallic sheen; fovea surrounded by yellow. *Mesosoma and metasoma* dark dorsally, yellow ventrally (except S1 brown medially); scutum and scutellum with slight metallic green sheen, anterolateral corners of scutum, pronotal tubercle, tegula

and alar sclerites yellow; apicolateral margins of metasomal terga translucent, preceded by narrow yellow line. S5 with prominent fringe of white hair, short medially. Legs yellow. Sculpture as for female except scutal punctures weak.

**Remarks.** In some females the scutellum and metanotum are brownish.

**Etymology.** The specific epithet is a Latin adjective meaning bronze headed.

**Additional material examined.** (10♀♀, 25♂♂, all in QM). **Western Australia:** 9♀♀, 16♂♂, Napier Range, 29 May 1981, D.P.A. Sands, on *Eucalyptus* sp.; 1♂, 170 km E of Broome, 21 May 1981, D.P.A. Sands, on *Eucalyptus* sp.; 1♀, 8♂♂, King Leopold Ranges, 29 May 1981, D.P.A. Sands, on *Eucalyptus* sp.

#### *Euryglossula elizabethae* n. sp.

Figs 8, 21, 36

**Type specimens.** HOLOTYPE ♂, 5 km W Hattah-Kulkyne NP, Victoria, 34.762°S 142.292°E, 5 Nov 2013, M. Batley, ex *Eremophila deserti*, in AM (K470033). PARATYPES (13♀♀, 8♂♂, all deposited in AM). **Victoria:** Hattah-Kulkyne NP, 5 Nov 2013 (K470031–032), 3 Nov 2014 (K470034–052), M. Batley, ex *Eremophila deserti*.

**Diagnosis.** Female clypeus black, facial fovea < 1/3 length of eye, femora black except apically. Distinguished from *E. microdonta* by absence of teeth on clypeal margin, from *E. deserti* by the black femora, from *E. kubinensis* by black metasoma without prominent translucent tergal margins. Male face yellow to top of fovea, scutum black, lower half mesepisternum yellow, subantennal sulcus relatively long. Distinguished from *E. microdonta* principally by terminalia.

**Description.** Female.—Head width 1.01 mm, body length 3.2 mm. Relative measurements: HW 50, HL 46, UID 32, LID 25, FVL 8, CW 21, CL 9, FI 25. *Head* black with mandible, labrum, flagellum ventrally yellow-brown; scape and flagellum dorsally dark brown. Ventral margin of clypeus without teeth but outer edge has a slight thickening or small tubercle. Frons dulled with strong tessellation and weak, open punctures. *Mesosoma* black except pronotal tubercle, spot on tegula and alar sclerites bright yellow; legs yellow except coxae basally, femora (except distal end), distitarsi and medial patch on hind tibia dark brown or black. Scutum dull with small punctures on a strongly tessellate ground, openly punctate becoming close anteriorly. Fore basitarsal setae stiff, capitate; setae on ta2–4 stiff, apically hooked 90°. *Metasoma* black with transverse lineolation and sparse punctures.

Male.—Head width 0.88 mm, body length 2.7 mm. Relative measurements: HW 50, HL 45, UID 34, LID 26, FVL 10, CW 21, CL 10, FL 35. *Head* yellow except vertex, occiput, dorsal 20% of gena and frons down to mid-point of fovea black, with narrow yellow line to top of inner orbit. Mandibles with ca 4 stiff but not particularly robust setae. Frons dull with strong tessellation obscuring any punctures. *Mesosoma* black with following areas yellow: pronotum laterally (including tubercle), anterolateral corners of scutum, tegula, alar sclerites, mesepisternum below subalar pits, ventral 1/2 metepisternum, legs (becoming yellow-brown distally). Surface sculpture like that of frons. *Metasoma* black dorsally and yellow ventrally,

except T6 and lateral margins of T1–5 yellow, the yellow on T2,3 frequently visible from above. S5 with prominent fringe of white hair, short medially.

**Remarks.** On a single day, significant numbers of this species and *E. fultoni* were collected in the same area. Without exception, *E. elizabethae* was taken at different sites from *Eremophila deserti*, while *E. fultoni* was found on *Eucalyptus* sp.

**Etymology.** This species is named in memory of Prof. Elizabeth Exley who contributed so much to the study of the Euryglossinae. Many bee species have been named in her honour, but none in this subfamily.

### *Euryglossula eremophilae* n. sp.

Figs 3d, 9, 22, 36

**Type specimens.** HOLOTYPE ♂, 64 km N Bourke, New South Wales (29.514°S 145.817°E), 3 Sep 2013, M. Batley, ex *Eremophila sturtii* in AM (K447064). PARATYPES (5♀♀, 3♂♂). **New South Wales:** 2♀♀, 62 km N Bourke (29.533°S 145.828°E), 3 Sep 2013, M. Batley, ex *Eremophila sturtii* in AM (K447087, K447088). **Queensland:** 3♀♀, 3♂♂, ‘Thylungra’, 100 km NW Quilpie, 23 Sep 1983, S.R. Monteith, on *Eremophila* sp. in QM (T234945–947, T234948–950).

**Diagnosis.** Female mostly black, clypeus with yellow-brown suffusions, legs mostly yellow, face not elongate. Distinguished from *E. incisa* by convergent inner orbits and yellow femora. Male face yellow to ocelli and scutum yellow with large U-shaped black mark (Fig. 9).

**Description.** Female.—Head width 0.97 mm, body length 3.1 mm. Relative measurements: HW 50, HL 40, UID 31, LID 24, FVL 8, CW 23, CL 10, FL 26. *Head* black except clypeus ventrally and mandibles yellow-brown, clypeus basally and supraclypeal area dark brown; antenna ventrally dull yellow, dorsally brown. Fore basitarsal setae stiff, capitate; setae on ta2–4 bent 90°. Frons weakly tessellate with open punctures. *Mesosoma* black with following yellow: tegula, alar sclerites and legs (with brown infuscation of hind coxa). Scutum moderately strongly tessellate with close punctures. *Metasoma* black dorsally with lateral margins T2–4, apical margin T5 and all T6 yellow, ventrally yellow (except S1 brown).

Male.—Head width 0.88 mm, body length 2.7 mm. Relative measurements: HW 50, HL 40, UID 33, LID 25, FVL 4, CW 21, CL 9, FL 31. *Head* yellow except vertex and adjacent area of occiput black. Mandible with ca 3 stiff setae on ventral margin (Fig. 3d). Frons strongly tessellate with open to close punctures. *Mesosoma* yellow with following black: U-shaped mark on scutum, dorsal surface of propodeum, some or all of metanotum, subalar pits and some suture lines. Scutum strongly tessellate with dense punctures. *Metasoma* yellow ventrally, dorsally black, except apicolateral corners of T1–5 and all T6 yellow. S5 with prominent fringe of white hair, short medially.

**Remarks.** Some females have the dorsal surface of the metasoma entirely dark brown or black, while sterna may have brown infusions. The amount of yellow on the metasoma of males is also somewhat variable.

**Etymology.** The specific name refers to the flower from which the species has most frequently been collected.

**Additional material examined. Queensland:** 1♀, 10 km E Windorah, 23 Sep 1983, S.R. Monteith, on *Grevillea* sp.; 22♀♀, 15 km E Windorah, 24 Sep 1983, S.R. Monteith, on *Grevillea* sp.; 191♀♀, 52♂♂, ‘Thylungra’, 100 km NW Quilpie, 23 Sep 1983, S.R. Monteith, on *Eremophila* sp.

### *Euryglossula incisa* n. sp.

Figs 10, 24, 36

**Type specimens.** HOLOTYPE ♂, 13 km E of Cheepie, Queensland (26°38'S 145°8'E), 9 Sep 1989, E. Exley, G. Daniels and C. Burwell, on *Eucalyptus thozetiana* in QM (T234951). PARATYPES (15♀♀, 4♂♂, all in QM). **Queensland:** 11♀♀, 4♂♂, same data as holotype (QM T234952–962, T234963–966); 4♀♀, 5 km W of Cheepie, Queensland (26°38'S 144°47'E), 9 Sep 1989, E. Exley, G. Daniels and C. Burwell, on *Eucalyptus ochrophloia* (QM T234967–970).

**Diagnosis.** Female mostly black, lower face brown with clypeus mostly yellow and paraocular areas with yellow suffusions. Distinguished from *E. eremophilae* and *E. kubinensis* by almost parallel inner orbits. Male face yellow to bottom of fovea, metasomal terga with large lateral yellow marks viewed from above. Distinguished from *E. purpurea* by black scutellum, from *E. fultoni* by yellow line adjacent to upper half of inner orbit and from *E. deserti* primarily by terminalia.

**Description.** Female.—Head width 1.10 mm, body length 3.5 mm. Relative measurements: HW 50, HL 41, UID 30, LID 28, FVL 10, CW 25, CL 9, FL 22. *Head and mesosoma* dark brown with following dull yellow: clypeus, scape and flagellum ventrally, mandibles, gena ventrally, pronotal tubercle, tegula, alar sclerites, trochanters and femora distally. Paraocular areas with dull yellow suffusions, legs yellow with brown areas on coxae, femora and tibiae. Frons moderately tessellate with weak punctures; scutum weakly tessellate with close punctures. Fore basitarsal setae stiff, weakly capitate; setae on ta2–4 stiff, short, hooked. *Metasoma* black with posterolateral corners T2–5 translucent, occasionally with narrow yellow line.

Male.—Head width 0.99 mm, body length 2.9 mm. Relative measurements: HW 50, HL 42, UID 32, LID 28, FVL 10, CW 23, CL 8, FL 33. *Head* yellow except vertex, occiput and frons medially black to bottom of fovea, scape and flagellum brown dorsally. *Mesosoma* black dorsally with pronotum, anterolateral corners of scutum, tegula and alar sclerites yellow, ventrally yellow except lower mesepisternum with a brown mark and dark subalar pits. Sculpture similar to female, but tessellation somewhat stronger and punctures denser. *Metasoma* yellow ventrally, dark brown dorsally with T6 and T1–5 laterally, yellow. S5 with prominent fringe of white hair, short medially.

**Etymology.** The specific epithet refers to the dorsal colour pattern on the metasoma of the males.

***Euryglossula kubinensis* n. sp.**

Figs 11, 25, 34

**Type specimens.** HOLOTYPE ♂, 5 km WSW of St Pauls, Moa (Banks) Is., Torres Strait, Queensland, 16 July 1977, G. Monteith and D. Cook, on *Melaleuca*, in QM (T234971). PARATYPES (14♀♀, all in QM), same data as holotype (QM T234972–985).

**Diagnosis.** Female black or with faint metallic sheen, metasomal terga with conspicuously translucent apicolateral margins, tibiae and tarsi mostly yellow. Distinguished from *E. incisa* by convergent inner orbits and from *E. elizabethae* by tergal margins. Male face yellow to top of foveae, mandible with stiff setae ventrally, metasoma dark brown. Distinguished from *E. aeneocephus* by shorter fovea and from *E. carnarvonensis* by short lateral yellow marks on scutum.

**Description.** Female.—Head width 0.93 mm, body length 3.3 mm. Relative measurements: HW 50, HL 41, UID 30, LID 25, FVL 11, CW 24, CL 7, FL 24. *Head* black or with faint metallic sheen, mandible yellow, antenna mottled yellow-brown. Frons weakly tessellate with close to dense punctures. *Mesosoma* black with the following yellow: tegula, alar sclerites, trochanters, femora apically, tibiae and tarsi (mid and hind tibiae with medial brown marks). Pronotal tubercle brown, wing veins weakly pigmented. Fore basitarsal setae stiff, weakly capitate; setae on ta2–4 stiff, apically hooked. Scutum weakly tessellate with dense punctures. *Metasoma* black, T2–5 with translucent margins, wider laterally. S3–5 apical margins translucent, preceded by narrow yellow line. *Sculpture* of frons, scutum, scutellum and dorsal surface of propodeum finely tessellate with fine, open punctures. *Metasoma* with transverse lineolation.

Male.—Head width 0.80 mm, body length 2.5 mm. Relative measurements: HW 50, HL 43, UID 33, LID 25, FVL 6, CW 21, CL 8, FL 29. *Head* yellow with vertex, occiput and upper frons black. Mandible ventrally with ca 3 long, stiff setae. Frons and scutum dull with strong tessellation obscuring the weak punctures. *Mesosoma* black dorsally, except anterolateral corners of scutum yellow, just reaching anterior edge of tegula; ventrally yellow, except upper half mesepimeron and large spot on mesepisternum black. *Metasoma* brown dorsally, apical margins T2–6 translucent, ventrally yellow with irregular brown suffusions. Posterior margin S1 with rounded medial projection bearing plumose setae extending ½ length of S2. S5 with prominent apical fringe, long and uniform in length. *Sculpture* as for female.

**Etymology.** The specific name refers to the collection location, currently known as Kubin Island.

***Euryglossula laticeps* n. sp.**

Figs 3c, 5c, 12, 26, 34

**Type specimens.** HOLOTYPE ♂, 15 km W of Windorah, Queensland, 24 Sep 1983, S.R. Monteith, on *Eucalyptus terminalis* in QM (T234986). PARATYPES (10♀♀, 3♂♂, all in QM), same data as holotype (QM T234987–999).

**Diagnosis.** Female with head and mesosoma predominantly yellow, very like *E. flava*, but facial profile more strongly curved (Fig. 5). Male head entirely yellow, mandible inflexed

apically with stout setae on ventral edge. Distinguished from *E. flava* and *E. pallida* by form of mandible and terminalia.

**Description.** Female.—Head width 1.05 mm, body length 3.0 mm. Relative measurements: HW 50, HL 40, UID 29, LID 27, FVL 10, CW 24, CL 9, FL 24. *Head* yellow except occiput black, flagellum brown dorsally. Frons and scutum dull, weakly tessellate with dense punctures. *Mesosoma* yellow with irregular brown marks on scutum. Dorsal and posterior faces of propodeum and most suture lines black. *Metasoma* yellow with dorsum black medially.

Male.—Head width 1.09 mm, body length 3.4 mm. Relative measurements: HW 50, HL 38, UID 30, LID 27, FVL 7, CW 24, CL 8, FL 24. *Colour* as for female except flagellum entirely yellow. *Mandible* with apical ½ inflexed, 3 or 4 stout setae at point of inflection (Fig. 3c). S5 with prominent fringe of white hair, longer laterally. *Sculpture* as for female but finer making the surface almost matt.

**Etymology.** The specific name refers to the relatively broad head of this species.

***Euryglossula pallida* n. sp.**

Figs 2c, 3b, 4a, 13, 27, 36

**Type specimens.** HOLOTYPE ♂, 6 km NE of Barkly Roadhouse, Northern Territory (19.6693°S 135.8577°E), 7 Aug 2012, M. Batley, ex *Corymbia terminalis*, in AM (K360278). PARATYPES (10♀♀, 6♂♂ in AM), same data as holotype (K345816, K345823, K345668–675, K360274, K360276, K470057–060).

**Diagnosis.** Female with head and mesosoma predominantly yellow, very like *E. flava*, but paler with less black dorsally on metasoma, distinguished from *E. flava* by width of lower gena (Fig. 4). Male distinguished from *E. flava* by paler colour, shape of mandible and terminalia.

**Description.** Female.—Head width 1.05 mm, body length 3.3 mm. Relative measurements: HW 50, HL 39, UID 29, LID 26, FVL 9, CW 24, CL 9, FL 18. *Head* yellow, paler ventrally (except occiput black). Lower gena almost as wide as eye. Frons tessellate with dense punctures. *Mesosoma* yellow with orange suffusions; dorsal and posterior surfaces of propodeum usually all black, but occasionally yellow laterally; most suture lines black. *Sculpture* of scutum similar to frons. Wing veins weakly pigmented. *Metasoma* pale yellow with small medial dark brown or black patch on each tergum.

Male.—Head width 1.0 mm, body length 3.0 mm. Relative measurements: HW 50, HL 41, UID 31, LID 28, FVL 8, CW 28, CL 8, FL 25. *Head* pale yellow shading to white ventrally (except occiput black); flagellum very pale brown; mandibles bidentate with ventral tooth enlarged (Fig. 3b). Frons with moderate to weak tessellation and small, dense punctures. *Mesosoma* pale yellow apart from small black area on dorsal surface of propodeum. *Sculpture* of scutum similar to frons. *Metasoma* pale yellow with central ½ of each tergum black.

**Etymology.** The specific name refers to the pale colour relative to that of *E. flava*.

**Additional material examined. Northern Territory:** 2♀♀, 2♂♂, 4 km NE Barkly Roadhouse (19.681°S 135.849°E), 7 May 2008, M. Batley, ex *Corymbia terminalis*, in AM (K361452–455); 2♀♀, 3♂♂, Elliott (17.562°S 133.558°E), 13 May 2008, M. Batley, ex *Corymbia terminalis*, in AM (K361586–590); 2♀♀, 2♂♂, 7 km NW Barkly Roadhouse (19.670°S 135.768°E), 14 May 2008, M. Batley, ex *Corymbia terminalis*, in AM (K361607–610). **Queensland:** 3♀♀, 13♂♂, ‘Talawanta’, 80 ml SE of Burketown, 24 May 1972, G.B. & S.R. Monteith, on *Eucalyptus*, in QM.

*Euryglossula pinnulata* n. sp.

Figs 1b, 2e, 6, 14, 28, 34

**Type specimens.** HOLOTYPE ♂, 19 km S Charleville, Queensland, 26.565°S 146.200°E, M. Batley, 6 Sep 2013, ex *Calytrix longiflora* in AM (K447281). PARATYPES (23♀♀, 17♂♂, all in AM), same data as holotype. (K447247–280, K470067–072).

**Diagnosis.** Female mostly black, clypeus with yellow-brown suffusions, head elongate. Distinguished from *E. carnarvonensis* by length of facial fovea and large part of femora brown. Male with elongate head, yellow to top of fovea; S5 with two pairs of distinctive setae unlike any other species.

**Description.** Female.—Head width 0.9 mm, body length 3.25 mm. Relative measurements: HW 50, HL 48, UID 31, LID 23, FVL 13, CW 22, CL 9, FL 27. *Head* black with clypeus, supraclypeal area and lower gena brown, mandible and labrum yellow-brown. Antenna yellow ventrally, dark brown dorsally. Labrum without an apical spine. Frons tessellate with sparse, fine punctures. *Mesosoma* black with pronotal tubercle, tegula, alar sclerites and legs yellow (with the following brown: coxae, trochanters medially, femora other than distal end, small brown patch on hind tibia and all distitarsi). Hind basitibial area defined by carinae only basally. Scutum tessellate with dense punctures. *Metasoma* dark brown, T1–5 with translucent apical margins, T6 pale yellow apically, pygidial plate amber; sterna lighter with irregular yellow-brown markings. Occasionally metasoma entirely black.

Male.—Head width 0.85 mm, body length 2.7 mm. Relative measurements: HW 50, HL 46, UID 31, LID 24, FVL 8, CW 21, CL 10, FL 36. *Head* yellow with vertex, occiput and frons down to top of fovea black. Frons strongly tessellate obscuring any punctures. *Mesosoma* black with the following yellow: pronotum, lateral margins of scutum to rear of tegula, ventral half of mesepisternum except for a medial black patch. Scutum strongly tessellate with dense punctures. *Metasoma* dark brown dorsally (except apical tergal margins translucent), apical half of T6 and venter yellow. S6 weakly concave, fringe on S5 reduced to sparse row of very long, plumose setae, including a pair of broad pinnate setae on each side. Metasomal S2–S5 have slightly elevated areas either side of midline (Fig. 6).

**Etymology.** The specific name is a Latin adjective referring to the feather-like setae on the fifth sternum of the male.

*Euryglossula purpurea* n. sp.

Figs 15, 29, 33

**Type specimens.** HOLOTYPE ♂, 7 km NW Barkly Roadhouse, Northern Territory (19.681°S 135.849°E), 14 May 2008, M. Batley, ex *Corymbia terminalis* in AM (K361603). PARATYPES (16♀♀, 4♂♂, all deposited in AM). **Queensland:** 1♀, 10 km E Camooweal (19.920°S 138.202°E), 20 Aug 2007, M. Batley, ex *Corymbia terminalis* (K361679). **Northern Territory:** 1♀, same data as holotype (K361604); 3♀♀, 2♂♂, 4 km NE Barkly Roadhouse (19.680°S 135.848°E), 7 May 2008, M. Batley ex *Corymbia terminalis* (K470073–077); 7♀♀, 2♂♂, 6 km NE Barkly Roadhouse (19.669°S 135.857°E), 7 Aug 2012, M. Batley ex *Corymbia terminalis* (K345804–811, K470066); 3♀♀, Elliott (17.562°S 133.558°E), 13 May 2008, M. Batley, ex *Corymbia terminalis* (K361568–570); 1♀, Avon Downs (20.026°S 137.489°E), 20 Aug 2007, M. Batley, ex *Corymbia terminalis* (K361653).

**Diagnosis.** Female with frons and scutum dark with a metallic sheen, clypeus yellow but supraclypeal area brown. Distinguished from *E. chalcosoma* by colour of paraocular areas and translucent tergal margins and from *E. aeneiceps* by colour of supraclypeal area. Male face yellow to bottom of fovea, scutellum yellow, anterior margins of several terga narrowly yellow. No other species has this combination of characters.

**Description.** Female.—Head width 1.0 mm, body length 3.4 mm. Relative measurements: HW 50, HL 40, UID 29, LID 28, FVL 13, CW 25, CL 9, FL 25. *Head* black with coppery purple sheen and following areas yellow: clypeus, lower gena, paraocular area, labrum and mandibles. Antenna yellow ventrally, brown dorsally. Yellow areas are sometimes reduced to yellow suffusions. Frons strongly tessellate with close, weak punctures. *Mesosoma* black with coppery purple sheen, except pronotal tubercle, spot on tegula, alar sclerites and legs yellow. Coxae are often brown basally. Sculpture of scutum similar to frons. *Metasoma* black dorsally with apicolateral margins of terga translucent, sometimes preceded by a narrow yellow line; T6 yellow on apical half; sterna brown with variable degrees of irregular yellow marking.

Male.—Head width 1.0 mm, body length 3.0 mm. Relative measurements: HW 50, HL 39, UID 29, LID 26, FVL 9, CW 22, CL 8, FL 32. *Head* yellow except vertex, occiput and frons medially to middle of fovea black, flagellum dark brown dorsally. Frons strongly tessellate with dense punctures. *Mesosoma* dorsally black with coppery sheen, with the following yellow: pronotum, lateral margins of scutum, axillae, metanotum, tegula and alar sclerites. *Mesosoma* ventrally yellow. Sculpture of scutum similar to frons. *Metanotum* variably banded dark brown and yellow, T1 with small yellow marks laterally, T2–5 basally yellow, apically dark brown in variable proportions, sterna yellow. Fringe on S5 long but not very dense.

**Etymology.** The specific name refers to the colour of the metallic sheen on the frons and scutum.

**Additional material examined** (18♀♀, 15♂♂, all in QM). **Western Australia:** 9♀♀, 6♂♂, Napier Range, 29 May 1981, D.P.A. Sands, on *Eucalyptus* sp.; 9♀♀, 9♂♂, 170 km E of Broome, 21 May 1981, D.P.A. Sands, on *Eucalyptus* sp.



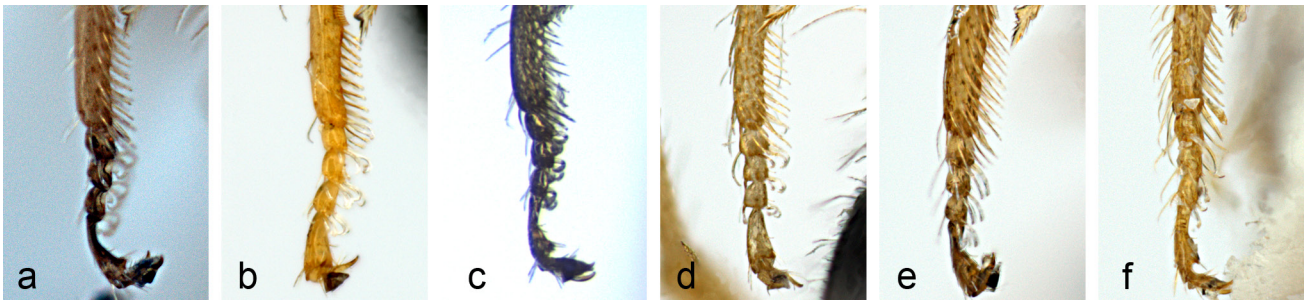


Figure 2. (a–d) Fore tarsi of *Euryglossula* females. (a) *E. flava*; (b) *E. fultoni*; (c) *E. pallida*; (d) *E. aeneiceps*; (e) *E. pinnulata*; (f) fore tarsus of *Euryglossina hypochroma*.

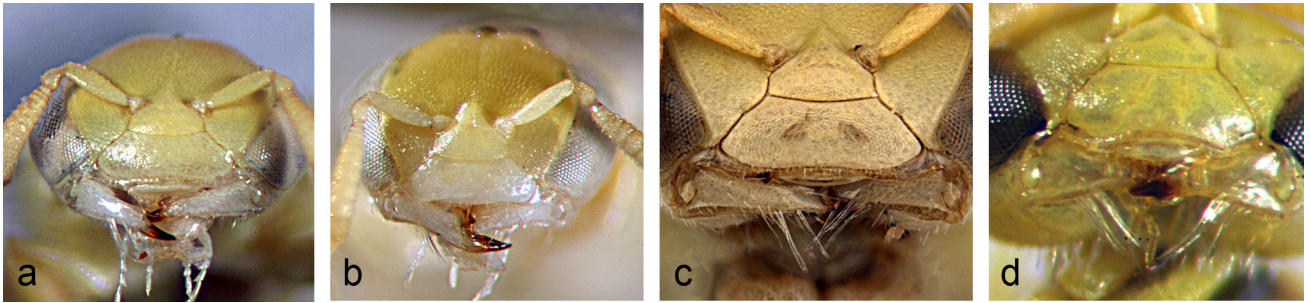


Figure 3. Mandibles of *Euryglossula* males. (a) *E. flava*; (b) *E. pallida*; (c) *E. laticeps*; and (d) *E. eremophilae*.

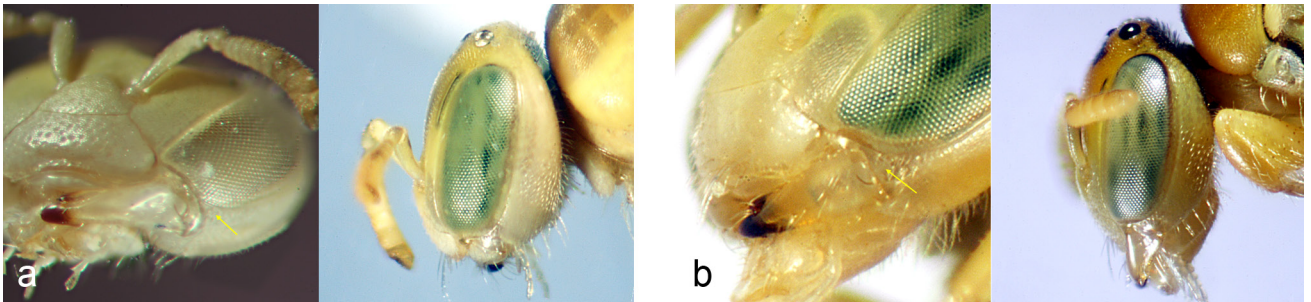


Figure 4. Malar space (arrowed) and shape of gena of females (a) *E. pallida*; and (b) *E. flava*.

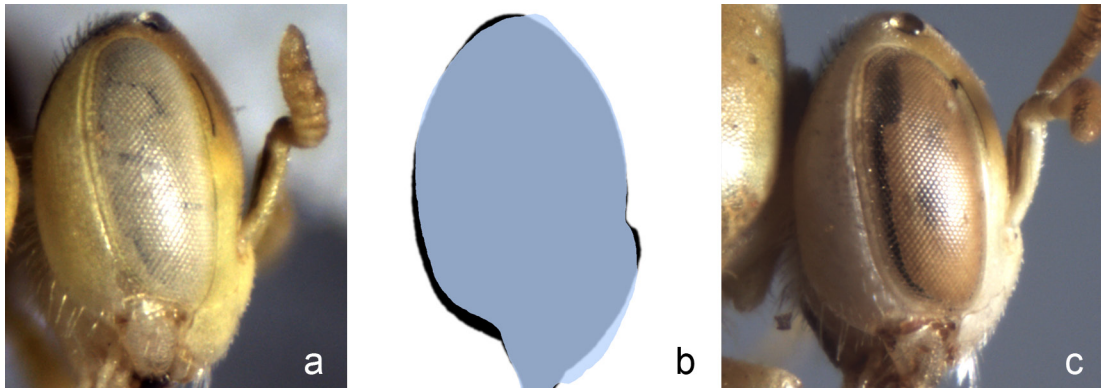


Figure 5. Head shapes of (a) *E. flava* and (c) *E. laticeps*. (b) Silhouette of *E. flava* (blue) superimposed on that of *E. laticeps* (black).

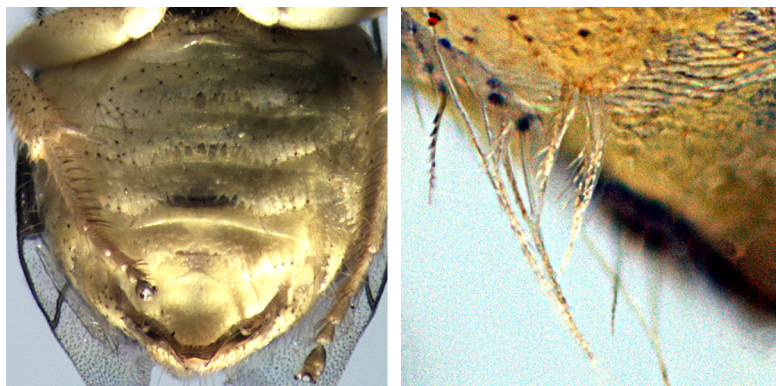


Figure 6. *Euryglossula pinnulata* male ventral view of metasoma and enlarged view of setae on S5.

***Euryglossula scalaris* n. sp.**

Figs 16, 30, 35

**Type specimens.** HOLOTYPE ♂, 6 km NE Barkly Roadhouse, Northern Territory (19.669°S 135.857°E), 7 Aug 2012, M. Batley *ex Corymbia terminalis* in AM (K360277). PARATYPES (7♀♀, 8♂♂, all deposited in AM). 2♀♀, 3♂♂, same data as holotype (K345676–680), 5♀♀, 5♂♂, 4 km NE Barkly Roadhouse (19.681°S 135.849°E), 7 May 2008, M. Batley, *ex Corymbia terminalis* (K361456–463).

**Diagnosis.** Both sexes recognisable from colour pattern on metasoma.

**Description.** Female.—Head width 1.1 mm, body length 3.5 mm. Relative measurements: HW 50, HL 39, UID 30, LID 25, FVL 11, CW 25, CL 10, FL 24. *Head* yellow with occiput black and antenna dark brown dorsally. Frons with weak, dense punctures and weak tessellation. *Mesosoma* yellow except scutum orange-yellow with darker markings approximately along parapsidal lines, propodeum dorsally black with medial yellow patch, laterally yellow. Scutum with dense punctures and weak tessellation. *Metasoma* yellow with thick black lines running down the sides and across the rear of each tergum to form a linear pattern of contiguous rectangles.

Male.—Head width 1.1 mm, body length 3.5 mm. Relative measurements: HW 50, HL 37, UID 31, LID 25, FVL 5, CW 23, CL 9, FL 26. As for female, but scutum yellow with irregular faint brown markings.

**Etymology.** The specific name is a Latin adjective meaning “of a ladder” and refers to the dorsal colour pattern on the metasoma of both sexes.

**Additional material examined.** **Northern Territory:** 3♀♀, 1♂, 5 km E Barkly Homestead, 23 Aug 1987, N.W. Rodd, in AM; 2♀♀, 3♂♂, Elliott (17.562°S 133.558°E), 13 May 2008, M. Batley, *ex Corymbia terminalis*, in AM (K361563–567); 1♀, 7 km NW Barkly Roadhouse (19.670°S 135.768°E), 14 May 2008, M. Batley, *ex Corymbia terminalis*, in AM (K361605). **Queensland:** 1♀, 10 km E Camooweal (19.920°S 138.202°E), 20 Aug 2007, M. Batley, *ex Corymbia terminalis*, in AM (K361671); 5♀♀, 6♂♂, Airstrip, 27 km N of Coen, 28 Jun 1975, S.R. Monteith, in QM. **Western Australia:** 3♀♀, 170 km E Broome, 21 May 1981, D.P.A. Sands, on *Eucalyptus* sp. (in QM).

***Euryglossula storeyi* n. sp.**

Figs 17, 31, 36

**Type specimens.** HOLOTYPE ♂, Walsh River, via Chillagoe, Queensland, 28 Oct 1976, R.I. Storey, in QM (T207000). PARATYPES (2♀♀, 1♂, in QM), same data as holotype (T207001–3).

**Diagnosis.** Female black dorsally, clypeus and supraclypeal area yellow, distal clypeal margin with two projections. Distinguished from *E. chalcosoma* by absence yellow in paraocular areas and teeth on clypeal margin. Male face yellow to top of fovea, metasoma brown dorsally, scutum with anterolateral yellow marks reaching only to mid-tegula. Distinguished from *E. chalcosoma* by narrower clypeus, shorter anterolateral marks on scutum, from *E. elizabethae* by brown metasoma and from *E. microdonta* by absence of

black patch on lower mesepisternum and shorter anterolateral marks on scutum.

**Description.** Female.—Head width 0.98 mm, body length 3.1 mm. Relative measurements: HW 50, HL 40, UID 29, LID 22, FVL 12, CW 21, CL 8, FL 25. *Head* black with the following yellow: clypeus, lower paraocular area adjacent to inner orbit, labrum, mandibles, lower gena and antenna ventrally. Ventral margin of clypeus with pair of blunt teeth laterally. Frons moderately tessellate with weak, open punctures. *Mesosoma* black with the following yellow: metanotal tubercle, spot on tegula, alar sclerites and legs (except hind coxa brown basally, hind tibia with brown mark). Scutum weakly tessellate with dense punctures. Wing veins weakly pigmented. *Metasoma* black with S3–5 apically and T2–4 apicolaterally translucent, preceded by a narrow yellow line, T6 yellow apically with an orange-brown pygidial plate.

Male.—Head width 0.85 mm, body length 2.5 mm. Relative measurements: HW 50, HL 41, UID 32, LID 23, FVL 8, CW 21, CL 9, FL 27. *Head* yellow with vertex, occiput and frons medially down to about top of fovea black. Frons tessellate with close punctures. *Mesosoma* black dorsally, with anterolateral corners of scutum yellow to mid-tegula. Pronotum laterally, mesepisternum (except upper half above episternal groove) and small part of metepisternum ventrally yellow, remainder black. Scutum strongly tessellate with dense, weak punctures. *Metasoma* entirely dark brown, or anterior half brown with remainder dark brown. Fringe on S5 dense and plumose except medially.

**Remarks.** The type series carry labels indicating that they were collected from “*Melaleuca* sp.”, but were stored in a unit tray containing only the four specimens and a note in the same hand as that on the labels stating “plant is *Eugenia eucalyptoides*” (currently known as *Syzygium eucalyptoides*).

**Etymology.** The species is named after the late Ross Storey who collected the only currently known specimens of this species.

***Euryglossula variepicta* Exley 1969**

Figs 18, 32, 35

**Diagnosis.** Females are quite distinctive with an orange scutum and pale yellow metanotal tubercles plus other features described previously (Exley, 1969). The male is the only known *Euryglossula* species with modified hind legs and no fringe on S5. In both sexes the clypeus is significantly flattened and openly covered with long white, finely branched hair.

**Description.** Male.—Head width 0.85 mm, body length 2.5 mm. Relative measurements: HW 50, HL 41, UID 32, LID 23, FVL 8, CW 21, CL 9, FL 27. *Head.* Face yellow to top of fovea with a line adjacent to inner orbit as far as the top of the eye; most of gena, mandibles and antennae yellow. *Mesosoma* black with the following yellow: pronotum laterally (including tubercle), anterolateral corners of scutum, tegula and alar sclerites. Small patches on mesepisternum and all legs yellow to orange-yellow (tibiae with brown suffusions medially). Hind femur incrassate and hind tibia broadened with inner face concave. Hind tibia with small projection at distal end in the form of a linear ridge topped

by short bristles. Hind tibial spurs broadened and flattened (Fig. 18). *Metasoma* dark brown dorsally with posterolateral corners of terga pale yellow; S1–5 dark brown with apical margins translucent preceded by narrow pale yellow line, S6 mostly pale yellow. Apical margin S5 without a fringe of hair.

**Remarks.** The sexes were associated by morphological similarity, especially the clypeus, and coincident collection. The female was indistinguishable from a paratype specimen in the AM collection except that the facial colour of the female was more orange than that of the paratype.

**Material examined. Queensland:** 1♀ paratype, Blackall 28 Oct 1968, E.M. Exley on *Bauhinia carronii*. **Western Australia:** 1♀, 1♂ ca 13 km E of Streely Creek Bridge, 20.31°S 119.33°E, 24 Aug 2005, G. Cassis, S. Lassau, S. & G. Carter ex *Bauhinia cunninghamii* (all in AM).

### Discussion

Most of the newly described species have all the characteristics previously associated with the genus *Euryglossula* (Michener, 1965; Exley, 1968a). In addition, it is now clear that the form of S7 for males of *Euryglossula* is variable to a greater degree than is found in males of the genera *Euryglossina* and *Pachyprosopis* (Exley, 1986b, 1972). In only two species, *E. fultoni* (Cockerell) and *E. variepicta* Exley, does the form of S7 resemble those of *Euryglossina* and *Pachyprosopis* species.

There is, however, no compelling evidence to suggest that these species should be moved to another genus. *Euryglossula fultoni* has wing venation suggesting possible affinities with *Pachyprosopis*, but the absence of a spine on the female labrum, and the short flagellum and fringe on S5 of the male suggest otherwise. The relatively blunt gonostyli and form of S7 of the male is like that found in *Euryglossina*, and the shape of female clypeus viewed in profile is intermediate between that of most *Euryglossula* and the usual shape for *Euryglossina*. The appropriate classification for *E. variepicta* is even less clear. While the form of S7 resembles those of species in both *Euryglossina* and *Pachyprosopis*, the long hairs on the apex of the gonostyli are found in neither genus. Similarly, the modification of the hind legs is not like that found in some species of *Pachyprosopis* (Exley, 1972). The suggested similarity of the female facial profile to that of *Euryglossina* species (Exley, 1969), could equally be described as flattening of the clypeus. Until further evidence emerges, it is recommended that both species be retained within *Euryglossula*, where they may be remnants of older lineages.

From the shape of S7 of males, it is possible to discern what appear to be species groups. The first is that consisting of *E. aeneiceps*, *E. chalcosoma* (Cockerell) and *E. purpurea*. In addition to the similarity between the hidden sterna, all three species have a metallic sheen on the scutum and usually the frons. In another group of three species, *E. flava*, *E. lateiceps* and *E. pallida*, all have a predominantly yellow head. While the similarity between the forms of S7 in *E. flava* and

*E. pallida* is less obvious, the two species are otherwise quite difficult to separate. Finally, males of the group consisting of *E. elizabethae*, *E. eremophilae*, *E. incisa* and *E. storeyi* share a distinct second pair of lobes on the ventral side of S7 and the colour patterns are similar in both sexes. The numbers of species in these groups are small and the differences between groups too slight to warrant formal subdivision of the genus.

It was previously noted (Exley, 1969) that *E. variepicta* was the first species to be collected principally from non-myrtaceous flowers. To this we can now add two further species, *E. elizabethae* and *E. eremophilae*, found almost exclusively on *Eremophila* species. Several of the new species are known from a small number of specimens, making any conclusions about their distributions unreliable. It is probable, however, that *E. chalcosoma* is not sympatric with the closely related species *E. purpurea* and *E. aeneiceps* (Fig. 33). On the other hand, the four species *E. flava*, *E. pallida*, *E. scalaris* and *E. purpurea* were found together at several locations (Figs 33–36) and are therefore at least partially sympatric.

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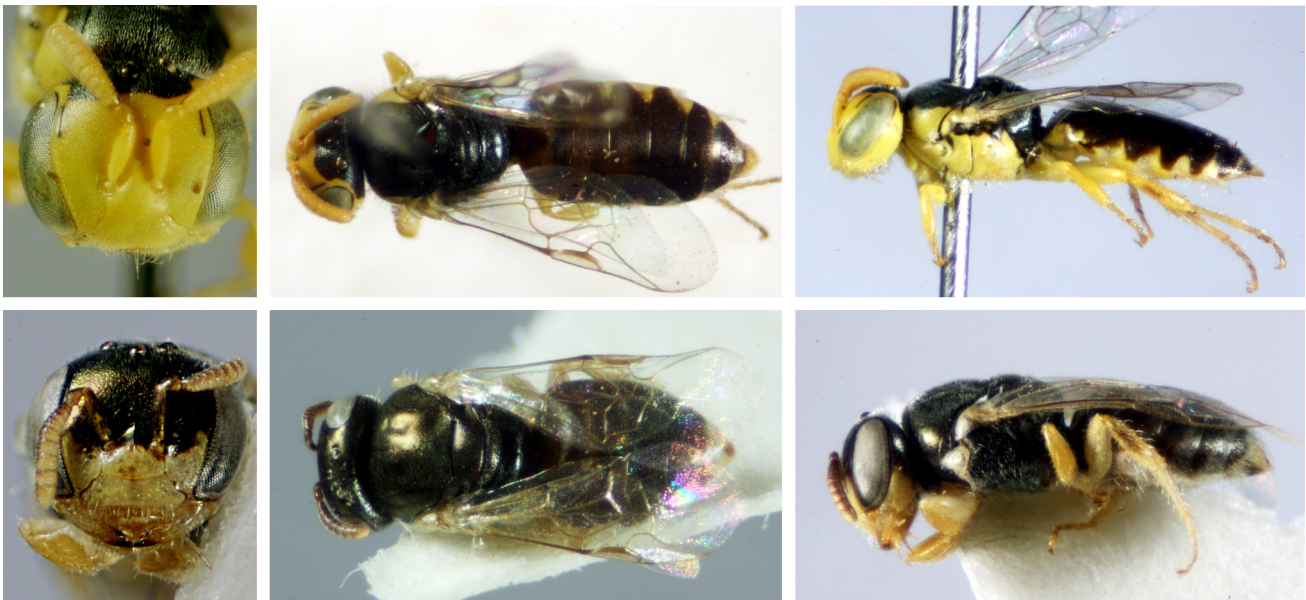


Figure 7. *Euryglossula aeneiceps*; male above, female below.

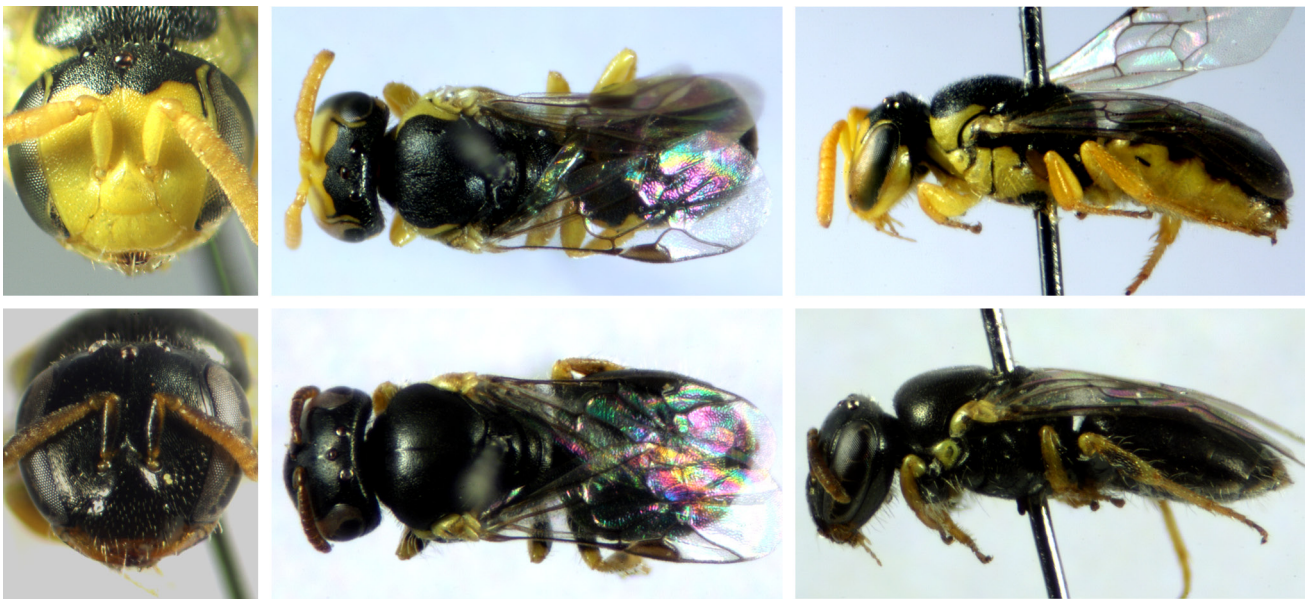


Figure 8. *Euryglossula elizabethae*; male above, female below.



Figure 9. *Euryglossula eremophilae*; male above, female below.



Figure 10. *Euryglossula incisa*; male above, female below.



Figure 11. *Euryglossula kubinensis*; male above, female below.



Figure 12. *Euryglossula laticeps*; male above, female below.



Figure 13. *Euryglossula pallida*; male above, female below.

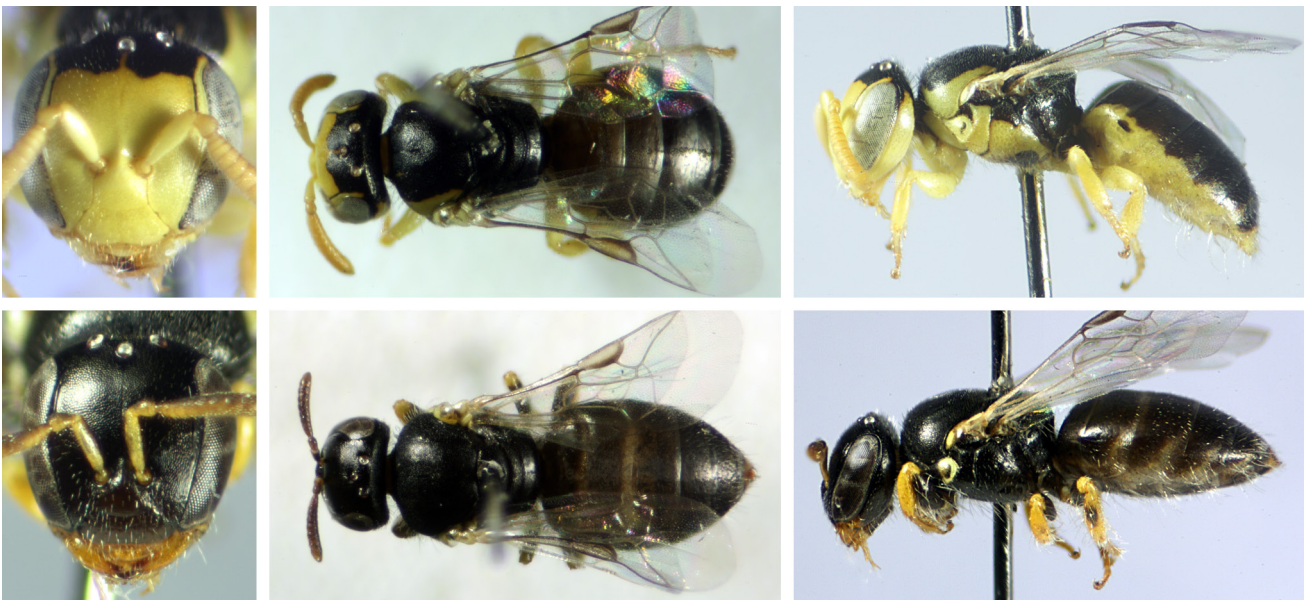


Figure 14. *Euryglossula pinulata*; male above, female below.



Figure 15. *Euryglossula purpurea*; male above, female below.



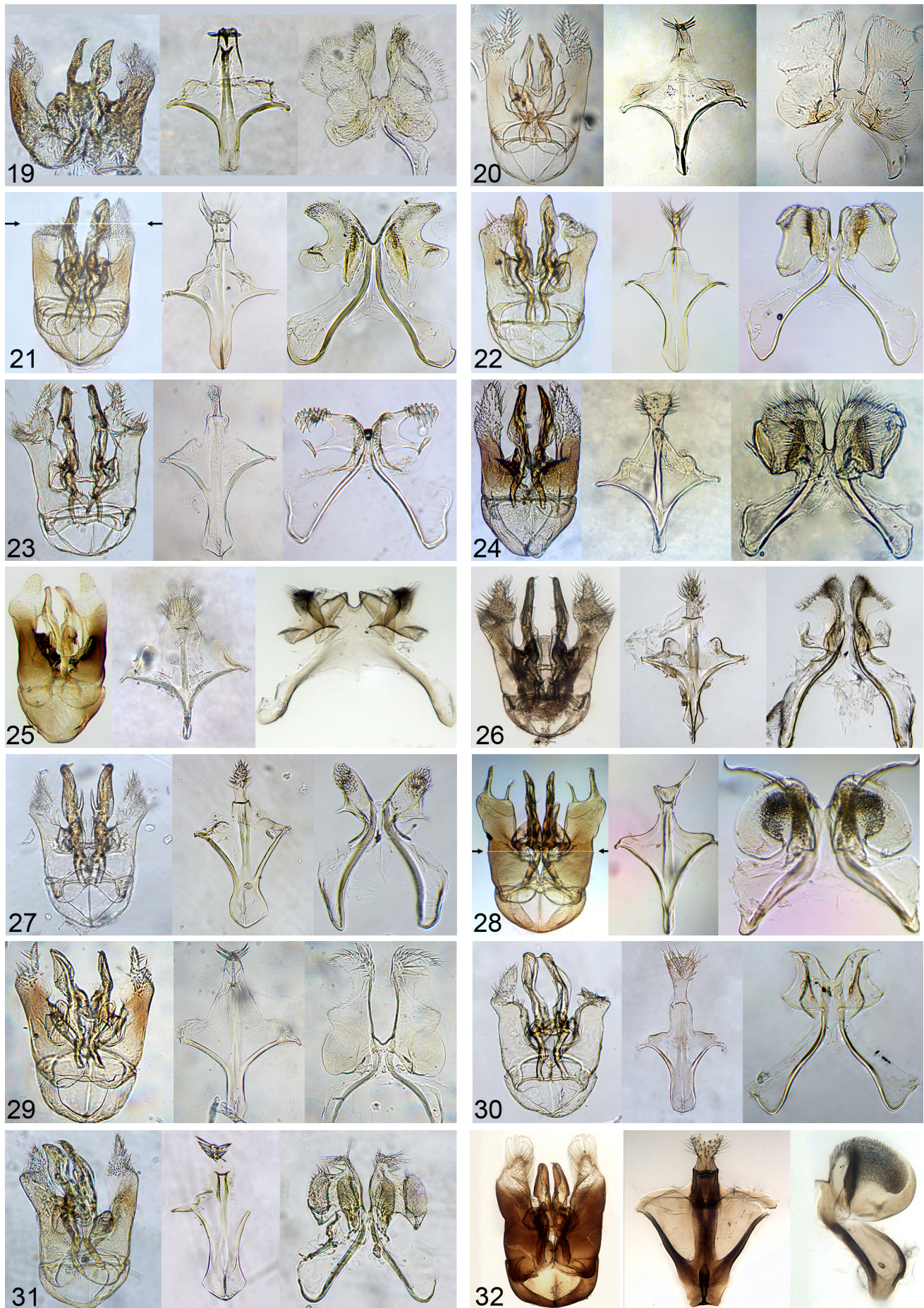
Figure 16. *Euryglossula scalaris*; male above, female below.



Figure 17. *Euryglossula storeyi*; male above, female below.

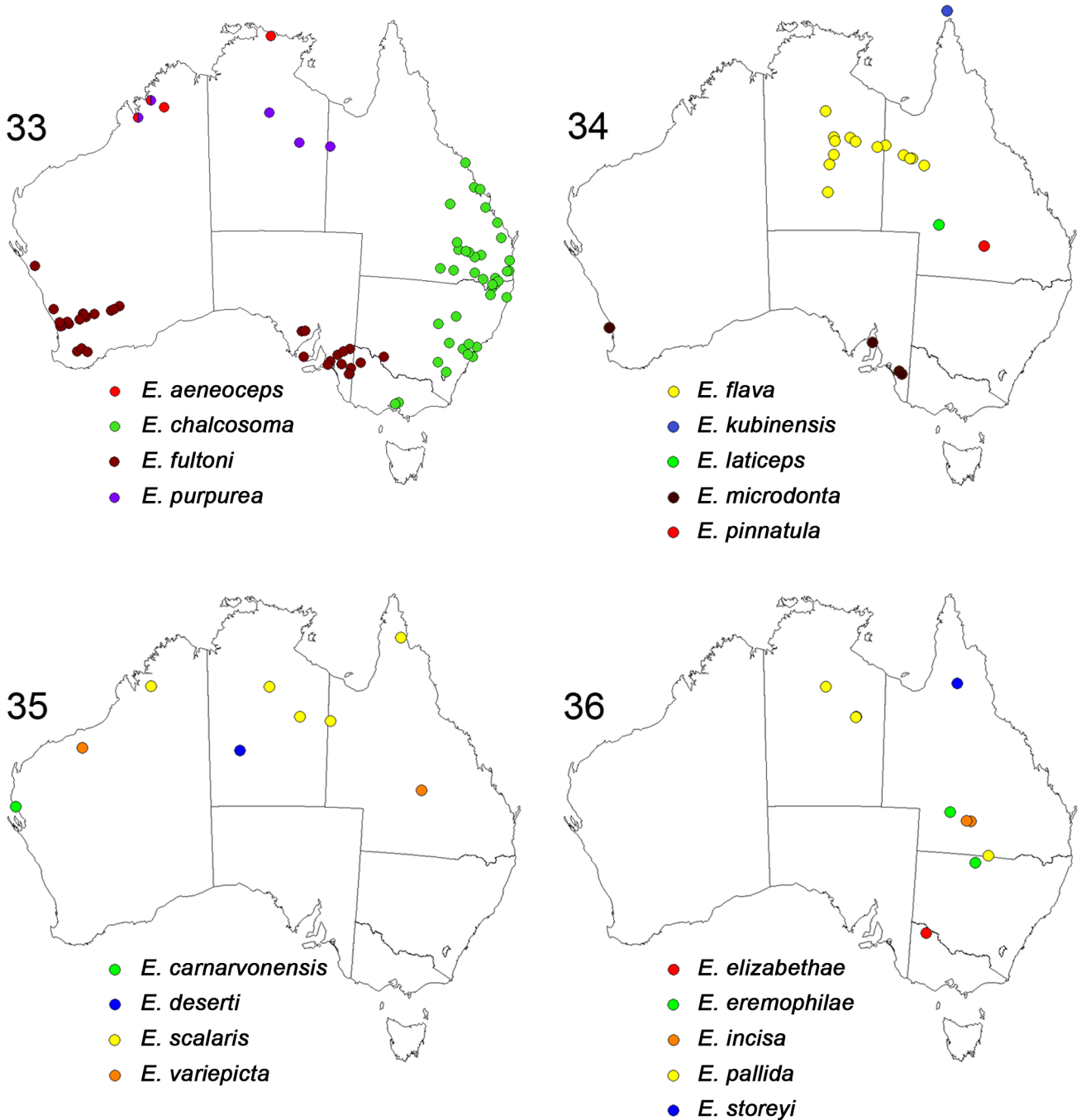


Figure 18. Habitus images of *Euryglossula variepicata* male. Top row: anterior, dorsal and lateral views; bottom row: hind tibial spurs and apical projection of tibia, metasoma ventral view showing absence of sternal fringe, hind legs showing incrassate femora.



Figures 19–32 (see caption on facing page, page 261). *Euryglossula* male terminalia ...





Figures 33–36. Known distributions of: *Euryglossula aeneocephs*; *E. chalcosoma*; *E. fultoni*; *E. purpurea*; *E. flava*; *E. kubinensis*; *E. laticeps*; *E. microdonta*; *E. pinnatula*; *E. carnarvonensis*; *E. deserti*; *E. scalaris*; *E. variepicta*; *E. elizabethae*; *E. eremophilae*; *E. incisa*; *E. pallida*; and *E. storeyi*.

Figures 19–32 (caption for facing page, page 260). *Euryglossula* male terminalia ventral view: left to right, genital capsule, S8 and S7. (19) *E. aeneocephs*; (20) *E. chalcosoma* (Cockerell); (21) *E. elizabethae*; (22) *E. eremophilae*; (23) *E. flava* Exley; (24) *E. incisa*; (25) *E. kubinensis*; (26) *E. laticeps*; (27) *E. pallida*; (28) *E. pinnulata*; (29) *E. purpurea*; (30) *E. scalaris*; (31) *E. storeyi*; (32) *E. variepicta* (showing right half only of S7). Figures 21 and 28 are composites of two images with the joins indicated by arrows.

