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## Revision of the checkered beetle genus *Eunatalis* Schenkling, 1909 (Coleoptera: Cleridae: Clerinae)

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ROLAND GERSTMEIER & MARTIN SEITNER

**Revision of the checkered beetle genus *Eunatalis* Schenkling, 1909 (Coleoptera: Cleridae: Clerinae)**  
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## Abstract

The genus *Eunatalis* Schenkling, 1909 is taxonomically revised to include twenty-two species. The following species are described as new: *Eunatalis auricoma*, *Eunatalis flavopilosa*, *Eunatalis foveata*, *Eunatalis ninae*, *Eunatalis pernodulosa*, *Eunatalis punctata*, *Eunatalis schopfi*, *Eunatalis spadicea* and *Eunatalis villosa*. *Eunatalis blackburni* (Waterhouse, 1894), n. syn. is placed in synonymy with *Eunatalis lugubris* (Blackburn, 1890), *Eunatalis longicollis* (Blackburn, 1890), n. syn. is placed in synonymy with *Eunatalis hirta* (Blackburn, 1890); *Eunatalis lata* (Waterhouse, 1894), n. syn. and *Eunatalis alternicostata* (Kuwert, 1893), n. syn. are synonymized with *Eunatalis semicostata* (Blackburn, 1888). A key to the species, color photographs, genital figures and distribution maps are provided.

**Key words:** Australian species, taxonomy, identification key, genital figures, distribution maps

## Introduction

In recent times the higher classification of Cleridae has undergone considerable categorial oscillations (Opitz 2002a) and there is a “general morphological imbalance in the delimitation of genera and the lack of a credible suprageneric classification” (Opitz 2010). Clerinae, the most species-rich clerid subfamily, constitutes approximately 46% of all species in the family Cleridae, it includes 107 genera and 1711 species (Gerstmeier, in press).

Little attention has been focused on the Australian clerid fauna since Corporaal’s world catalogue (Corporaal 1950) except Winkler (1972, 1989), Gerstmeier (1990a, 1990b, 1991, 2001, 2002), Matthews (1992), Opitz (2002b), Kolibáč (2003) and Bartlett (2009a–2009d, 2010).

The first species of the genus *Eunatalis* Schenkling, 1909, described as *Notoxus porcata* by Fabricius in 1787, was transferred to the genus *Natalis* Laporte, 1836 by Spinola (1844). For a long time there was no generic differentiation between the South American and the Australian species until Schenkling (1909) erected *Eunatalis*

for the species of the Australian region. Kolibáč (1998) synonymized *Metademius* Schenkling, 1899, *Eunatalis* Schenkling, 1909 and *Cormodes* Pacoe, 1860 with *Natalis*. Solervicens (2007) reinstated *Metademius* and *Eunatalis* as valid genera, but did not comment on the status of *Cormodes*. Further assessment of these genera is required in order to clarify their taxonomic status. Therefore we have restricted the scope of our revision to *Eunatalis* only. The species *Eunatalis dregei* (Perroud, 1864) and *Eunatalis triangularis* (Perroud, 1864) were excluded from this revision, they belong to the new genus *Kanaliella* gen. n. (Gerstmeier & Seitner 2013).

The genus *Eunatalis* is a well known representative of the Australian fauna, including the largest clerid species (*Eunatalis laevis* (Waterhouse, 1894), circa 53 mm).

According to literature sources, *Eunatalis* larvae prey upon timber borers within trunk of *Eucalyptus* trees and adults may be found under eucalypt bark (Bashford 1994, 2004, McKeown 1944, Moore, 1989, 1990, Wainer 1979). While documenting the life history of *Epithora dorsalis* Macleay (Cerambycidae) Bashford (1994) noted that larvae of *Eunatalis porcata* (one of its predators) moults five times and consumes up to 23 borer larvae during a two year period, then devours a cerambycid pupa before pupating within the cell of its prey. Species of *Eunatalis* are also reported to omit a strong-smelling secretion (Hawkeswood 1987), or inflict a painful bite (Moore 1990), if handled. Specimen labels reveal that *Eunatalis* have been found in association with brigalow (*Acacia harpophylla*), bendee (*Acacia catenulata*), raspberry jam (*Acacia acuminata*) and prickly pine (*Bursaria incana*). Further label data indicates that specimens have been collected in vine scrub, *Triodia* (Poaceae) and *Atriplex* (Chenopodiaceae) habitats. Collecting methods include flight intercept trap, malaise trap, pyrethrum fogging and light trapping (mainly UV).

Prior to this revision, *Eunatalis* contained 20 species (Corporaal 1950) with an exclusive distribution in the Australian region (Australia, Tasmania, New Guinea, New Caledonia). In the present revision nine species are described as new, four species are synonymized. *Eunatalis cribripennis* (Boisduval, 1835) is excluded from this revision as no type material could be located. A determination key to the resulting 22 species of *Eunatalis* is presented. Distribution maps, habitus photographs and illustrations of male external reproductive organs, pygidium and ventrite VI are illustrated.

The following species are recognized:

- Eunatalis auricoma* Gerstmeier & Seitner **n. sp.**
- Eunatalis debilis* (Blackburn, 1900)
- Eunatalis fasciata* (Blackburn, 1890)
- Eunatalis flavopilosa* Gerstmeier & Seitner **n. sp.**
- Eunatalis foveata* Gerstmeier & Seitner **n. sp.**
- Eunatalis hirta* (Blackburn, 1890)
  - = *Eunatalis longicollis* (Blackburn, 1890), n. syn.
- Eunatalis integra* (Blackburn, 1899)
- Eunatalis laevicollis* (Blackburn, 1899)
- Eunatalis laevis* (Waterhouse, 1894)
- Eunatalis lugubris* (Blackburn, 1890)
  - = *Eunatalis blackburni* (Waterhouse, 1894), n. syn.
- Eunatalis mastersii* (MacLeay, 1873)
- Eunatalis ninae* Gerstmeier & Seitner **n. sp.**
- Eunatalis pernodulosa* Gerstmeier & Seitner **n. sp.**
- Eunatalis planipennis* (Blackburn, 1899)
- Eunatalis porcata* (Fabricius, 1787)
- Eunatalis punctata* Gerstmeier & Seitner **n. sp.**
- Eunatalis schopfi* Gerstmeier **n. sp.**
- Eunatalis semicostata* (Blackburn, 1889)
  - = *Eunatalis lata* (Waterhouse, 1894), n. syn.
  - = *Eunatalis alternicostata* (Kuwert, 1893), n. syn.
- Eunatalis spadicea* Gerstmeier & Seitner **n. sp.**
- Eunatalis spinicornis* (Blackburn, 1890)

*Eunatalis titana* (Thomson, 1860)  
*Eunatalis villosa* Gerstmeier & Seitner **n. sp.**

## Material and Methods

The study is based on 2440 specimens from 31 museums and private collections. Museum acronyms and curators are as follow:

AM	Australian Museum, Sydney, Australia	Dave Britton
ANIC	Australian National Insect Collection, Canberra, Australia	Adam Slipinski, Cate Leman
BMNH	The Natural History Museum, London, United Kingdom	Max Barclay, Beulah Garner
CDW	Collection Dostal, Wien, Austria	Alexander Dostal
CMLN	Collection Michael Langer, Niederwiesau, Germany	Michael Langer
CMSD	Collection Martin Seitner, Dietramszell, Germany	Martin Seitner
FMNH	Field Museum of Natural History, Chicago, USA	James Boone
HEC	Hope Entomological Collections, Oxford, United Kingdom	James E. Hogan
HNHM	Hungarian Natural History Museum, Budapest, Hungary	Otto Merkl
ISNB	Institut Royal des Sciences Naturelles de Belgique, Brussels	Pol Limbourg
JKCB	Jiri Kolibáč Collection, Brno, Czech Republic	Jiří Kolibáč
JRCP	Jakub Rolčák Collection, Praha, Czech Republic	Jakub Rolčák
MHNG	Muséum d'Histoire Naturelle, Geneve, Switzerland	Giulio Cuccodoro
MNHM	Museum National d'Histoire Naturelle, Paris, France	Thierry Deuve, Antoine Mantilleri
MRSN	Museo Regionale di Scienze Naturali, Torino, Italy	Luca Picciau
MSNG	Museo Civico di Storia Naturale "Giacomo Doria", Genova, Italy	Maria Tavano, Dr. Roberto Poggi
MTD	Museum für Tierkunde Dresden, Germany	Olaf Jäger
MZM	Moravian Museum, Brno, Czech Republic	Jiří Kolibáč
MZUF	Museo Zoologico "La Specola", Firenze, Italy	Luca Bartolozzi
NHMB	Naturhistorisches Museum Basel, Switzerland	Michel Brancucci
NMPC	National Museum, Prague, Czech Republic	Jiří Hájek
NMV	Museum Victoria, Melbourne, Australia	Catriona McPhee
QDPC	Queensland Primary Industries Insect Collection, Dutton Park, Australia	Justin S. Bartlett
QM	Queensland Museum, Brisbane, Australia	Dr. Federica Turco
RGCM	Roland Gerstmeier Collection, Munich, (deposited in the collection of the Technical University Munich, Animal Ecology), Germany	Roland Gerstmeier
SAMA	South Australian Museum, Adelaide, Australia	Peter Hudson
SDEI	Senckenberg Entomologisches Institut, Müncheberg, Germany	Lutz Behne, Stephan Blank
SMNS	Staatliches Museum für Naturkunde, Stuttgart, Germany	Wolfgang Schawaller
WAMP	Western Australian Museum, Perth, Australia	Terry Houston
ZMB	Zoologisches Museum Berlin, Germany	Manfred Uhlig
ZMUC	Zoological Museum, University of Copenhagen, Denmark	Alexey Solodovnikov

From all examined specimens the label data were transcribed and presented at the beginning of each species description. The depository of the specimen is given in parentheses.

The revision is based only on morphological studies including preparations of the male genitalia, the pygidium and the ventrite VI. At least, one male specimen (when available) was dissected. For this purpose the specimen was heated in distilled water and the genitalia were removed with fine forceps through small incisions made along the sides of the terminal abdominal segments. Aedeagi were cleaned of soft tissue in 10% KOH, cleared in 70% ethyl alcohol and submerged in glycerine, then stored in genital vials pinned below each specimen.

Measurements were made under a stereo microscope using an ocular micrometer. Total body length is the distance measured from the apical epistomal margin to the elytral apices. Elytral length was measured alongside the elytral suture and pronotal length was taken from the dorsal middle line. Pronotal width were measured at the broadest extreme, measurements of the elytral width were made across the middle. The scale bar is 1 mm (except as noted otherwise).

Habitus photographs of adult beetles were taken, as a series, using a DFC 490 digital camera fitted to a Leica Z6 stereo microscope, then composited with Leica LAS 3.8. automontage software.

Plot points of distribution maps were made with QuantumGIS (1.8.0) and are based on locality data sourced from specimen labels. These data included exact locality information based on longitude/latitude coordinates. Red lectotype labels were applied to newly designated lectotypes and paralectotypes.

The term antennomere is abbreviated to "A".

## ***Eunatalis* Schenkling, 1909**

Type species: *Notoxus porcatius* Fabricius, 1787: 127.

Schenkling 1909: 163; Elston 1921: 148; Kolibáč 1998: 191; Solervicens 2007: 57.

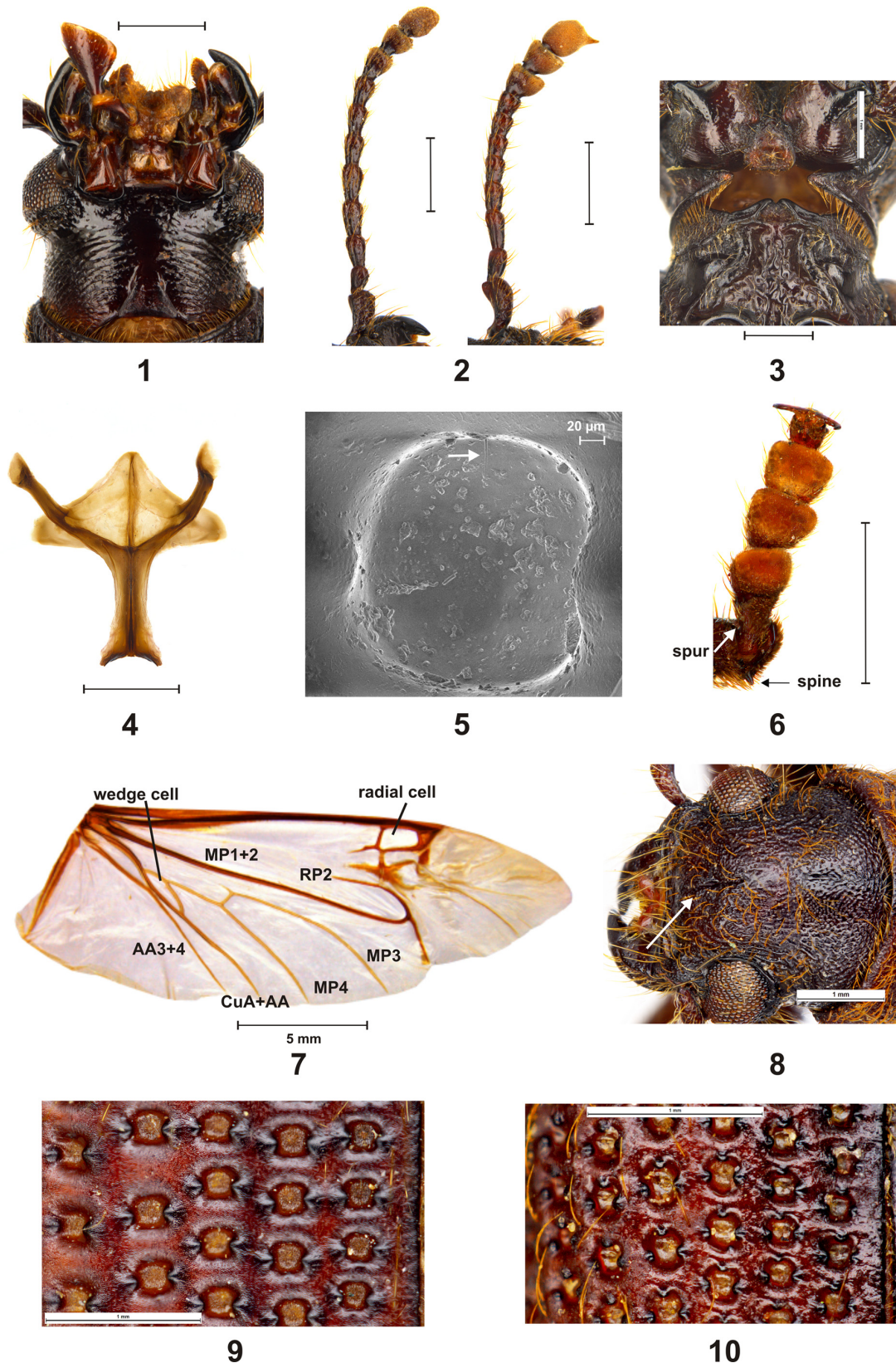
**Head:** Dark brown to black; vested with whitish to grey setae; labrum broadly emarginate, V-shaped, light brown to dark brown; terminal maxillary palpomeres with sides parallel to very weakly divergent and apex obliquely truncate, terminal labial palpomeres securiform (Fig. 1); eyes coarsely faceted, protruding laterally, margined; head including eyes as broad as or broader than anterior width of pronotum; interocular space from one to double eye width (as viewed from above); gular sutures converging, gular process conspicuous, with two papilles. Antennae with 11 antennomeres, filiform, light brown to black; antennomeres with dense, fine punctation, terminal three antennomeres densely tomentose, forming a loose club, A11 in *E. spinicornis* acuminate (Fig. 2).

**Thorax:** Light brown to black; punctation and pilosity variable, base and apex with fringe of setae, pilosity mostly grey to whitish; pronotum longer than wide, sides more or less sinuate, with wrinkles, middle always with an elongated groove (sometimes missing or weak); grooves of sub-basal collar on each side of pronotum fused or separated by a weak or distinct bar. Pro-intercoxal process narrow, broadly dilated distally; procoxal cavities opened to almost closed posteriorly (sometimes variable within a species); hypomeron tapering apically towards intercoxal process; mesoventrite with variable sculpture and punctation, anterior mesoventral process distinct, sinuate, pit-shaped, slightly opened apically; posterior part of mesepisternon mostly smooth or slightly punctate (Fig. 3); metaventrite with a conspicuous discriminial line, more or less punctate and wrinkled. Scutellum round to oblong-ovate, light brown to black, with isolated lateral setae, slightly punctate. Metendosternite with conspicuous furcal arms, laminae broadly triangular (Fig. 4).

**Elytra:** Light brown to black; pilosity variable, mostly densely vested with anteriorly directed setae at the lower margin of elytrae, whitish to grey; elytral base not margined, lateral margins parallel or broadest behind middle, apices broadly rounded or with a conspicuous tooth, elytral punctation arranged into ten striae (*E. laevis* with hidden punctures), the ninth stria is partly or completely vestigial, interstices with a fine microsculpture (wrinkled to punctate); diameter of punctations from base to apex similar, or diameter of punctations behind the middle decreasing or obsolete; punctation round or oblong, with two or three nodules (a pair of lateral nodules, and one posterior nodule), nodules more or less sinuate, with a single seta beneath the basal nodule (Fig. 5); interstices in basal half flattened, posterior of middle sometimes more or less ridged. Hindwing with closed wedge cell, margin of radial cell strongly sclerotized, MP3, MP4, AA3+4 and CuA+AA reaching margin (Fig. 7).

**Legs:** Light brown to black; more or less pilose, inner edge of protibiae and sometimes mesotibiae with a row of short, thick bristles, with more or less conspicuous punctation; profemora conspicuously swollen, protibiae slightly bent, mesotibiae more or less bent (except *E. semicostata* with almost straight mesotibiae), metatibiae straight to very slightly bent, all tibiae without longitudinal carinae, protibiae terminating in a short spine and a single spur, tibial spur formula 1-2-2; tarsal pulvillar formula 3-3-3, tarsal pulvilli broadly lobed, but not emarginate; claws simple (Fig. 6).

**Abdomen:** Six visible abdominal ventrites, with a more or less dense pilosity and punctation. Ventrite VI in males straight or emarginate, in females rounded. Tegmen ventrally closed, phallobasic apodeme and struts distally more or less spoon-like, branches of spicular fork distally strongly broadened. Female copulatory organs have not been investigated.



**FIGURES 1–10.** Morphological characters of the genus *Eunatalis*. (1) Head, lower surface (Scale bar 1 mm), (2) antennae (Scale bar 1 mm), (3) Pro- and mesothorax, lower surface (Scale bar 1 mm), (4) Metendosternite (Scale bar 1 mm), (5) Nodules of elytral punctation, arrow indicates the basal seta (Scale bar 20µm), (6) Protarsus, with spine, spur and pulvilli (Scale bar 1 mm), (7) Wing venation (Scale bar 5 mm), (8) Longitudinal groove between eyes of *E. ninae* n. sp. (Scale bar 1 mm), (9) Elytral punctation with two lateral nodules, *E. foveata* (Scale bar 1 mm), (10) Elytral punctation with two lateral nodules and one basal nodule, *E. pernodulosa* n. sp. (Scale bar 1 mm).

## Key to species

1	Elytral apices dentate	<i>spinicornis</i>
-	Elytral apices not dentate	2
2	Elytra smooth, with obsolete punctuation	<i>laevis</i>
-	Elytra with conspicuous punctuation	3
3	Submentum with four transverse foveae (Fig. 11)	<i>auricoma</i> n. sp.
-	Submentum without foveae (Fig. 1)	4
4	Head with a short, longitudinal groove between eyes (Fig. 8)	<i>ninae</i> n. sp.
-	Head without groove	5
5	Elytral punctuation with only two lateral nodules (Fig. 9)	6
-	Elytral punctuation with two lateral and one basal nodule (Fig. 10)	7
6	Smaller species (19–26 mm), pronotal disc almost impunctate, pronotum with very distinct and very deeply separated wrinkles, procoxal cavities mostly closed	<i>foveata</i> n. sp.
-	Larger species (24–46 mm), pronotal disc with isolated fine punctuation, pronotum coarsely wrinkled, procoxal cavities mostly open	<i>titana</i>
7	Diameter of elytral punctuation almost equal towards apex	<i>villosa</i> n. sp.
-	Diameter of elytral punctuation decreasing towards apex	8
8	Elytra very long (elytral length:width ratio > 2.9:1)	9
-	Elytra shorter (elytral length:width ratio < 2.9:1)	11
9	Elytra sub-parallel, sides of pronotum with wrinkles and coarse punctuation	10
-	Elytra broader behind middle, sides of pronotum with conspicuous wrinkles	<i>schoffi</i> n. sp.
10	Punctuation of 9 <sup>th</sup> stria distinct from middle towards apex, mesepisternum smooth	<i>porcata</i>
-	Punctuation of 9 <sup>th</sup> stria vestigial, mesepisternum conspicuously punctate	<i>debilis</i>
11	Interocular space about one eye width (as viewed from above)	12
-	Interocular space conspicuously more than one eye width (as viewed from above)	15
12	Mesotibiae almost straight	<i>semicostata</i>
-	Mesotibiae bent	13
13	Elytra long (elytral length:width ratio > 2.7:1)	<i>integra</i>
-	Elytra shorter (elytral length:width ratio < 2.5:1)	14
14	Pronotum conspicuously sinuate laterally, elytral punctuation reaching apex	<i>laevicollis</i>
-	Pronotum not conspicuously sinuate laterally, elytral punctuation not reaching apex	<i>lugubris</i>
15	Elytra long (elytral length:width ratio > 2.7:1)	16
-	Elytra shorter (elytral length:width ratio < 2.7:1)	17
16	Pronotum long (pronotal length:width ratio > 1.12:1)	<i>planipennis</i>
-	Pronotum shorter (pronotal length:width ratio < 1.08:1)	<i>flavopilosa</i> n. sp.
17	Pronotum long (length:width ratio > 1.10:1)	18
-	Pronotum short (length:width ratio about 1.06:1)	19
18	Sides of pronotum conspicuously sinuate, with conspicuous wrinkles laterally, elytral punctuation not reaching apex	<i>mastersii</i>
-	Sides of pronotum not conspicuously sinuate, without conspicuous wrinkles laterally, elytral punctuation almost reaching apex	<i>hirta</i>
19	Nodules of elytra (especially laterally) conspicuously emarginate	<i>pernodulosa</i> n. sp.
-	Nodules of elytra not conspicuously emarginate	20
20	Sides of pronotum strongly sinuate	<i>fasciata</i>
-	Sides of pronotum not strongly sinuate	21
21	Punctuation of 10 <sup>th</sup> stria extending almost towards apex	<i>punctata</i> n. sp.
-	Punctuation of 10 <sup>th</sup> stria extending shortly behind middle	<i>spadicea</i> n. sp.

### *Eunatalis auricoma* Gerstmeier & Seitner 2013, n. sp.

(Figures 11–12, 55A)

**Specimens examined:** Holotype ♀: Mt Finnigan, 850–950m, via Helenvale, N. Qld., 3–5 Dec 1970, Monteith, Thompson, Cook, Sheridan & Roberts (QM)

**Diagnosis:** This is one of the larger species, similar in size to *E. titana* and *E. laevis*. *E. auricoma* n. sp. differs from all species by the four transverse foveae on submentum, the extremely protruding deep wrinkles on the sides of the pronotum and the long yellow setae, especially of the thorax.

**Length:** (1 specimen measured) Total length: 39 mm.

**Head:** Black, scattered with yellowish pilosity, posterior part of clypeus densely vested with erect yellow setae; interocular space smaller than one eye width; punctuation very dense; epistomal suture distinct; submentum with four transverse foveae diverging anteriorly (Fig. 11).



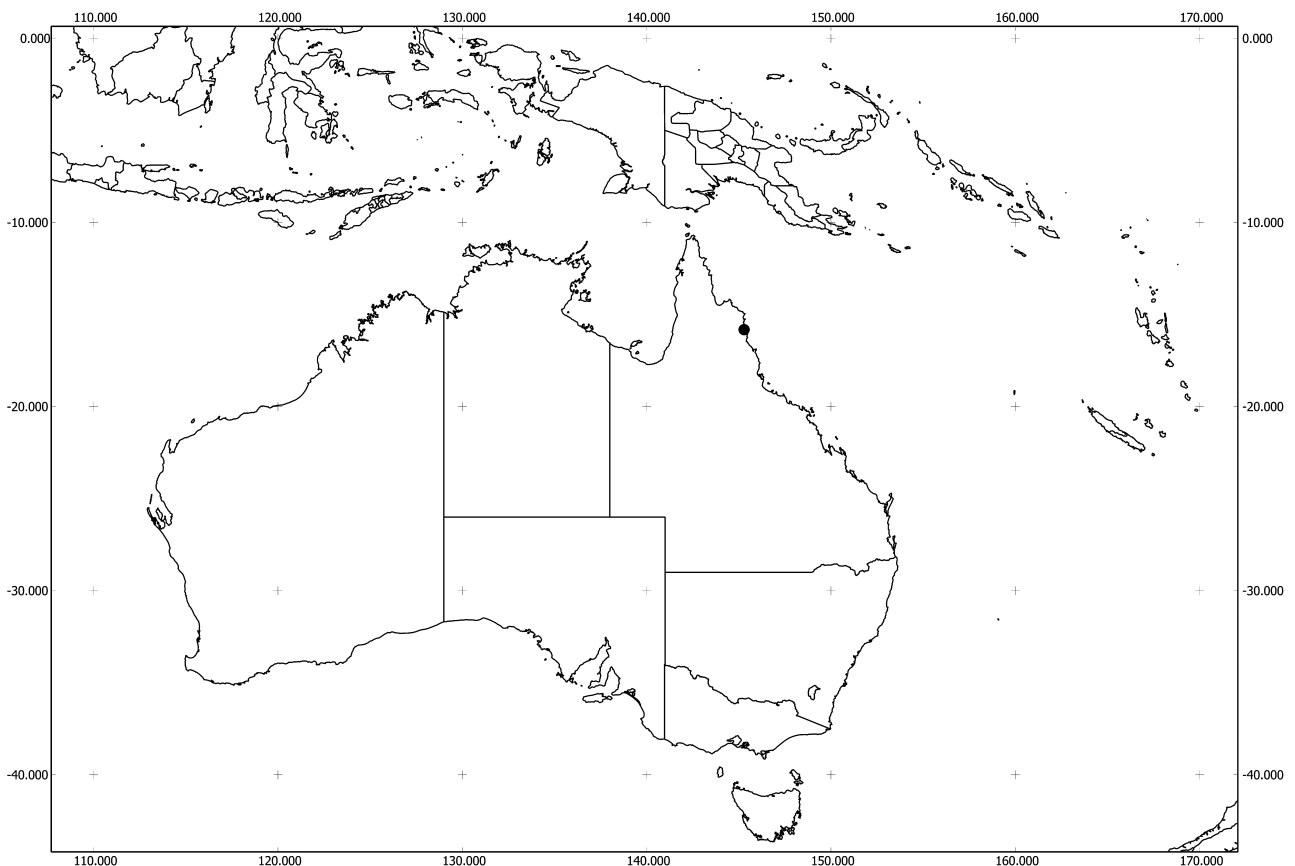


**FIGURE 11.** *Eunatalis auricoma* n. sp., head, lower surface, with four transverse foveae.

**Thorax:** Pronotal length to width ratio 1.07:1; pronotum black, vested with yellowish setae, laterally (in the middle) and at apex densely vested with golden-yellow setae, conspicuously constricted towards apex; sparsely punctate, sides with extremely protruding deep wrinkles; longitudinal groove slightly developed (short and shallow), grooves of sub-basal collar fused. Scutellum dark brown to black, slightly punctate.

**Elytra:** Elytral length to width ratio 2.17:1; elytra black, with long isolated yellow setae; elytral base slightly broader than pronotum, broader behind the middle; punctation circular to oblong, with two conspicuously protruding lateral nodules; in basal half as broad as interstices, behind the middle abruptly smaller, decreasing towards apex, punctations of tenth stria conspicuous to the middle; punctations of ninth stria vestigial; interstices weakly ridged, with conspicuous microsculpture.

**Lower surface:** Black, lightly vested with yellow pilosity; procoxal cavities wide open behind; posterior part of mesepisternum conspicuously shallow; metaventricle densely vested with yellow setae in the middle.



**FIGURE 12.** Distribution of *Eunatalis auricoma* n. sp.

**Legs:** Black, densely vested with yellow setae, especially inner edges; finely wrinkled; mesotibiae slightly bent.

**Distribution:** Only known from type locality, Mt. Finnigan, Northern Queensland.

**Seasonal occurrence:** Collected in December.

**Etymology:** The specific epithet, *auricoma*, a Latin adjective refers to the golden-yellow pilosity, especially that of the thorax.

### ***Eunatalis debilis* (Blackburn, 1900)**

(Figures 13–14, 55B)

*Natalis debilis* Blackburn, 1900: 120.

**Specimens examined: Holotype:** *Natalis debilis*, Blackb.; Australia, Blackburn Coll. B.M. 1910 – 236.; 6725 T, Lyndhurst. (TYPE) (BMNH).

**Comment on the type specimen:** In stating "the specimen before me", Blackburn (1900: 121) implied that the nominal species-group taxon, *Natalis debilis*, was based on a single specimen. The 'type' located in the Natural History Museum, London (BMNH) is therefore considered the holotype, fixed by monotypy (ICZN 1999: Article 73.1.2).

**Others:** Minnie Downs, N.E. Corner of S. Aust., L. Reeve; 25-035981 (SAMA). M. 1488; O-166963 (QDPC). Qld., Greenvale, 70 km SW, at light, A.J. Watts, 1–13 Jan. 96, 17–26 Jan. 96, 16–28 Jan. 96, 14–23 Feb 96, 28 Mar.–7 Apr. 1995, 18 ex. (SAMA). S. Aust., Allendale Stn, 4.6 km S Macumba HS, 27°17'38"S 135°39'20"E, 13–17 Nov. 1995, Stony Desert survey MA; 25-035913 (SAMA). Kurrajong Camp, Purnululu NP, c. 17.15'S 128.15'E, W. Aust., 14–15.vi.1998, D. Hirst; 25-035912 (SAMA). Walpa, QLD, July 1962, J.D. Majer, pitfall trap & by beating veget. (ANIC). 14.22S 131.33E, Ferguson River, NT, 21.ix.1968, M. Mendum (ANIC). Derby, N.W.A., W.D. Dodd; 25-035846 (SAMA). Australien NSW, Nyngan Umg., 3.-5.2.1962, leg. H. Demarz (RGCM). 14.49S 126.49E, Carson escarpment, W.A., 9–15 Aug. 1975, I.F.B. Common and M.S. Upton (ANIC). 6.4 km WSW of Victoria Riv., Downs Irrigat. Farm, N.T., 13–14 Sep. 1973, L.P. Kelsey (ANIC). (21.35S 117.04E), 1 km N of Millstream, W.A., 23.x.70, M.S. Upton, 2 ex. (ANIC). 1 km NE of Millstream HS., 21.35S 117.04E. WA, 4 Apr. 1971, Upton & Mitchell (ANIC). Lots 72, 73, 148, Caparra NSW, 14.1.95, m.v. light, S. Watkins (ANIC). Queensland, Hughenden, M. Dymoc R, 15/15/16 (ANIC). 8 ml. S of Lansdowne, H.S., W.A., 12–17.vii.1964, R. Plumb (ANIC). NT: 16°41'Sx135°44'E, Cape Crawford, 11621, 17–19 Apr 2004, MV light, G. Monteith & D. Cook, woodland, grass (QM). Katherine, N.T., 17–18 Aug. 1973, L.P. Kelsey (ANIC). Carnarvon, W.A.; Schenkling det., Col-02930 (SDEI). Coomoo 10.12.84 (MNHN). Mullewa, W.A., Miss P. May; 25-035786 (SAMA). Australien, Sydney (MNHN).Australia, Qld., Normanton, S. Lamond, 2 ex. (BMNH). North Creek Well, SA, 21 Oct. 1992, I. Gee (No. 66)(ANIC). 25.46S 132.52E, 9 km N of Kulgera N.T., 1.x.72, J. Upton (ANIC). Daly Waters, N.T. (Airport), 25 Nov. 1972, D.H. Collen (ANIC). 12.36S 132.52E, Magela Creek, N.T., 1 km NNW of Mudginbarry H.S., 25.v.73, E.G. Matthews (ANIC). 20 km E of Thylungra, S.W.Qld, 22 Sept 1983, G.B. Monteith (QM). Halls Creek, N.W.A., 1 Oct. 1953, N.B. Tindale; 25-036003 (SAMA). 85 km E of Hughenden, N. Qld., 3 Feb. 1981, M.S. & B.J. Moulds; K 324479 (AM). 33 km NNW of St George, Qld, 14 Dec. 1991, M.S. & B.J. Moulds; K 324495 (AM). 30 km N Gascoyne Junction, CS 4, W.Aust., to light, 18Oct1999, M. Powell; Reg.no. 83305 (WAMP). QLD: 16°58'Sx145°26'E, Emerald Hill, Marreba, 6–10 Feb. 2003, 11294, G. Monteith, M.V. light, 2 ex. (QM). QLD: 16°58'Sx145°26'E, Emerald Hill, Marreba, 6–7 Nov. 2004, open forest, 11680, G. Monteith, M.V. light, 2 ex. (QM). S. Australien, Hermannsburg a. Finkefluss, v. Leonhardi S.G. (ZMB). Cloncurry, Q.: Hacker; Col-02929 (SDEI). East Leichhardt Dam, 30 km E Mt. Isa, NWQld, 1–3 May 1993, Monteith, Janetzki & Sheridan (QM). MEQ: 23°12'Sx149°45'E, Boomer Ra, site 2, 180 m, 28–29 Sep. 1999, S. Evans & A. Ewart, at MV light, Open forest 7779, 2 ex. (QM). MEQ: 23°12'Sx149°46'E, Boomer Ra, site 8, 220m, 29 Sep 1999, Monteith & Burwell, open forest, at MV light 7788 (QM). Moola Bulla Stn, Halls Creek, WA, 14May 1997, Light, R. Patterson; Reg.no. 83298 (WAMP). QLD: 19°41.3'Sx146°26.4'E, Footprint Scrub, site 1, 7–8 Dec. 2006, 320–363m, G.Monteith, SWright & DCook, dry vine scrub 14613 (QM). Australien , NT, Alice Springs, 16.9.1972, leg. Baehr (RGCM). WA: Lake Grace, Feb 1974, E. Sutton (ANIC). Bernborough Downs, via Winton, Qld., in crevice of eucalyptus bark, R. Patterson; Reg.no. 83297 (WAMP). Townsville, Q'd Dodd; 25-035868 (SAMA). CQ: 22°14'Sx147°15'E, Mazeppa

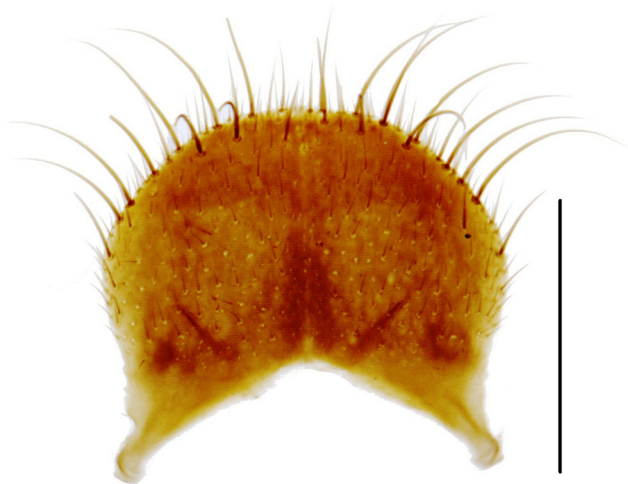


**A**

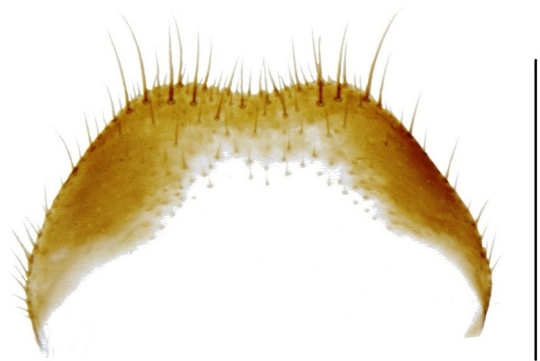
**B**

**C**

**D**



**E**



**F**

**FIGURE 13.** *Eunatalis debilis*: (A) Aedeagus ventral, (B) Phallus ventral, (C) Tegmen ventral, (D) Spicular fork, (E) Pygidium, (F) Ventrte VI.

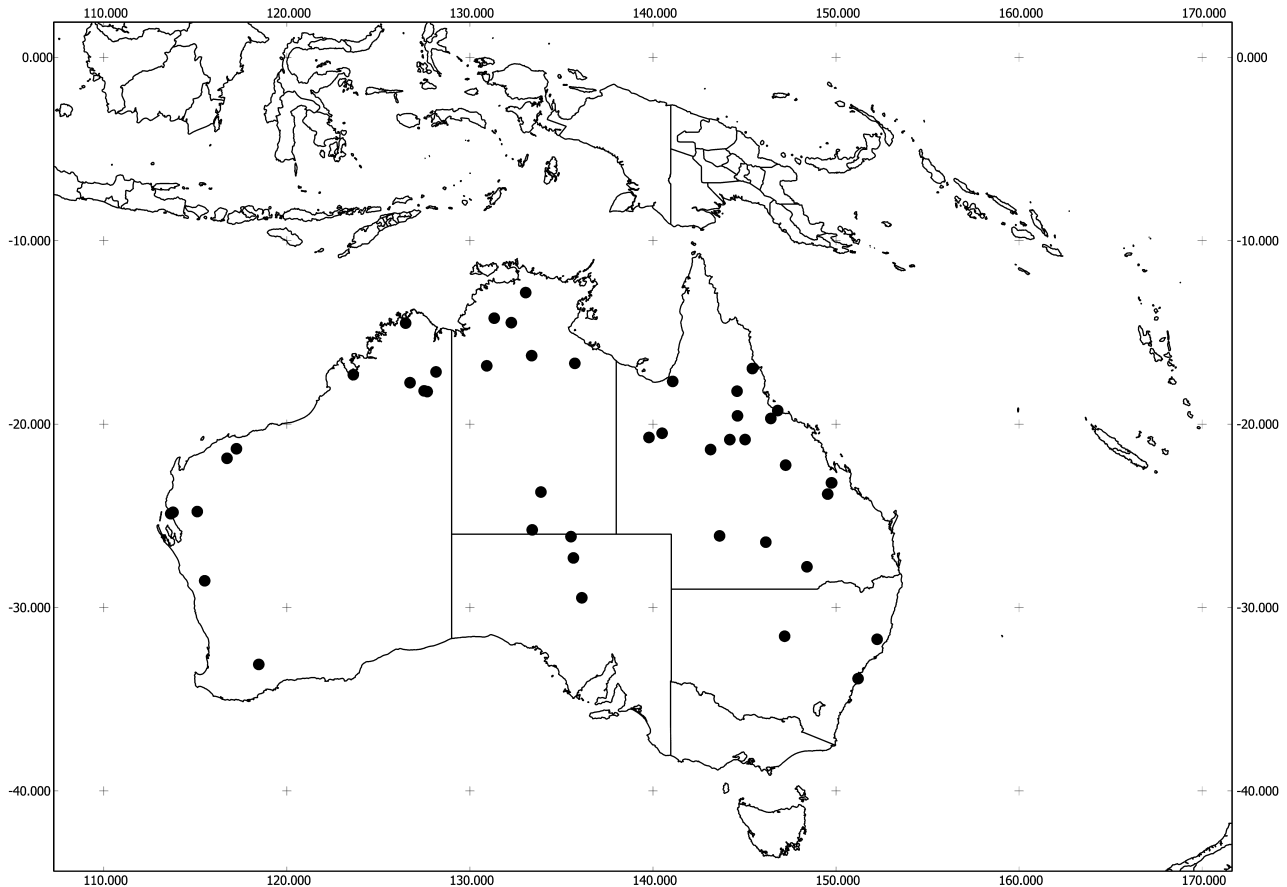


FIGURE 14. Distribution of *Eunatalis debilis*.

NP, N.end, 240 m, 18 Dec 2000, 9884, GB Monteith, brigalow, Pyrethrum-trunks & logs (QM). Fortescue R, Hamersley Range, N.W.A., W.D. Dodd; 25-035803 (SAMA). Qld: 26°26'Sx146°10'E, Charleville 8 km SW, 4–5 Mar 2008, 300m, G. Monteith, C.J. Burwell, box flat 51124 (QM). 24.50S 113.46E, 14 km ENE of Carnarvon WA, 21 Oct 1992, E.D. Edwards, E.S. Nielsen (ANIC). Forbes, Stephen; Col-65725 (NMV). N Queensland, 29.1.-3.2.2000, The Lynd Junction, Sv. Bily leg. (JRCP). N Queensland, 13.2.2000, Undara, Sv. Bily leg.; 2 ex. (JRCP). Austr., NT, 40 km W of Katherine, 28.11.08, 13°15'S, 130°44'E, 63m, Sv. Bily lgt. (JRCP).

**Diagnosis:** *E. debilis* is clearly recognizable by the extended pronotum and elytra, similar those of *E. porcata* and *E. schopfi* **n. sp.** *E. debilis* differs from all other species by the strongly punctate posterior part of the mesepisternum.

**Length:** (73 specimens measured) Total length: 14–17 mm.

**Head:** Black, with isolated pilosity; with dense punctation; epistomal suture inconspicuous; interocular space more than 1.5 eye width.

**Thorax:** Pronotal length to width ratio 1.17:1; pronotum black, dorsally and laterally with dense punctation; conspicuously longer than wide, more or less sinuate behind the base, wrinkles weak; grooves of sub-basal collar conspicuously separated by a wide, distinct bar. Scutellum dark brown to black.

**Elytra:** Elytral length to width ratio 3.06:1; elytra dark brown to black, in part with a transverse reddish fascia; elytral base as wide as or wider than pronotum, lateral margins subparallel; diameter of punctations as wide as interstices, punctation of equal diameter in basal and apical half; punctations of tenth stria conspicuous almost towards apex; elytral punctation with three nodules; interstice 4, 5 and 6 weakly ridged, interstices with conspicuous microsculpture.

**Lower surface:** Dark brown to black, with dense pilosity; procoxal cavities almost closed; posterior part of mesepisternum punctate; metaventricle with dense punctation and weak wrinkles.

**Legs:** Black, with isolated pilosity, with dense punctation and fine wrinkles; mesotibiae bent.

**Abdomen:** Tegmen opened ventrally, phallobasic apodeme terminating straight; spicular fork fused to two-third, dilated triangularly.

**Distribution:** Australia, mainly northern and south-eastern parts.

**Seasonal occurrence:** Collected from July to April.

### ***Eunatalis fasciata* (Blackburn, 1890)**

(Figures 15–16, 55C)

*Natalis fasciata* Blackburn, 1890: 125; Blackburn 1899: 30, 33.

**Specimens examined: Lectotype** (designated here): Type, 500, P. Linc. T.; Australia, Blackburn Coll., B.M. 1910-236; *Natalis fasciata*, Blackb. (BMNH).

**Comment on the type specimen:** Blackburn (1890: 125, 126) referred separately to three specimens but neglected to fix any one of them as the holotype. The specimen labelled 'type' located in the Natural History Museum, London (BMNH) is therefore considered a syntype (ICZN 1999: Article 73.2) and available for lectotype designation (ICZN 1999: Article 74.1). Should additional syntypes be discovered, they may be designated as paralectotypes.

**Others:** Mullewa, WA., Miss I.May; Ditto W. Australia; 25-035782; 25-035792; 25-035845; 25-036119 (SAMA). Adelaide, Blackburn; *Natalis fasciata* Bl, S. Australia; 25-036113 (SAMA). Adelaide, Blackburn; 25-036115 (SAMA). Sydney district, N.S.W., J.J.W., 3/1900 (BMNH). Sydney, coll. Lüddemann; Col-02923 (SDEI). Marloo Stn, Wurarga, W.A., 1931–1941, A. Goerling (ANIC). Leigh Ck, C.A.; Ditto S. Australia; 25-035785 (SAMA). S. Aust., Clifton Hills, OS, 26°32'S 139°27'E, at light, 18th Nov. 1993, J.A. Forrest, D. Hirst; 25-035906 (SAMA). Qld, 23°31'S 141°36'E, Ifracombe, 10 km E., 8 Jul 2003, GB Monteith, pyreth./gidgee 11357, 2 ex. (QM). Nov Holl, Swan R.; *Natalis porcata* Fabr., Austr. occid, 2 ex. (BMNH). Swan R., W. Australia, J. Clark (BMNH). S. Aust., Nullarbor N.P., 1.0 km E Border village, 25–29 Oct 2004, 31°37'52"S 129°1'0"E, under bark, WHC, Merdayerrah Svy.; 25-036051 (SAMA). Lake Broadwater, via Dalby, S.E. Qld., 26–28 Jan. 1985, G. Monteith & G. Thompson (QM). Hamb.S.-W.-Austr. Exped. 1905, stat. 71, Northampton, 15.VII.; *Natalis fasciata* Bl. (ZMB). 27–36 Subiaco (WAMP). Mt Gibson Stn, WA, 29°36'45" 117°24'56", 29 December 2001, light, SR Patterson; + 3 January 2004 (WAMP). Hermannsburg, C. Australia; 25-035959 (SAMA). N'lle Guinée, Coll. Schramm (MNHN). Goomalling, W. Australia, 25.IV.79, R.P. McMillan; out from tunnel in acacia acuminata (WAMP). Eucla, West Aust.; 364; *Eunatalis porcata* Blackb; *Eunatalis fasciata* Blackb. (ZMB). Toowoomba, Brisbane district (ZMB). Balladonia Stn, under Atriplex, W.A., 6-xii-1979, S. Barker; 25-035946 (SAMA). 10 km W of Balladonia W.A., under Atriplex, 8-xii-1974, S. Barker; 25-036111; 25-036112 (SAMA). Qld, 16°58'S 145°26'E, Emerald Hill, Mareeba, 16–29 Feb. 2002, Monteith & Thompson, MV light, 10580 (QM). Prison Farm, Glen Innes, July, 1969–Dec, 1970, coll ? donated (ANIC). Australien, SA, Hambidge, Mallee, 60 km W Cleve, Eyre Pen, 22.12.1972, leg. Baehr (RGCM). QLD: 22°16.3'S 147°36'E, Mazeppa NP, S end, 240m, 17 May 2008, G. Monteith, pyrethrum gidgee, Brigalow/gidgee, 15983 (QM). Northam, VII.53, W. Australien, leg. Demarz (RGCM). Bernborough Downs, via Winton Qld., 23 September 1973, attract to light, R. Patterson F247 (WAMP). Australia, WA 06/98 Millie Soak, 10 km N. Cue, 424 m, 27.29033S 117.91034E, 2.-3.2.2006, M. Baehr (RGCM). S. Aust., Musgrave RA, NG00, NGARUTJARA Homeland, at light, 12 October 1994, 26°13'94"S 131°14'89"E, Pitjantjatjara Lands survey; 25-035909 (SAMA). SEQ: 24°54'S 151°1'E, Hurdle Gully Reserve, 23 Sep. 1997, G. Monteith, pyrethrum, rainforest, 300 m, 5017 (QM). *porcata* F., Victoria, v. Müller (SMNS). Victoria, Hauschild; Col-02899 (SDEI). Australia, N.T., Wycliffe Well, 378 m, S20°47'062" E134°14'478", 9.XI.2000, U.V. light; Hungarian Entomological Expedition in Australia, leg. G. Hangay, I. Rozner, A. Podlussány (HNHM). WA: 32°22.629'S 120°36.878'E, (Aus84) Lake Johnston area, 24 November 2004, M. Peterson; landed on Eucalyptus sp. trunk at 0500hrs (QM). S. Aust., 10m S of Barrnbidy Cr, Northwest Coastal HWY, 18–19.VIII.1975, P.G., A.J. Kendrick; under dead Acacia bark (WAMP). W. Australia, 3.II.2003, Lake Barlee, Sv. Bily leg. (JRCP). W. Australia, Coolgarlie, Queen Victoria Rock, 19.10.2001, Bily leg. (JRCP).

**Diagnosis:** The pronotum being strongly sinuate behind the middle and the elytra with a lighter transverse fascia and more-or-less rounded apices are characteristic of *E. fasciata*.

**Length:** (54 specimens measured) Total length: 10–22 mm.



**FIGURE 15.** *Eunatalis fasciata*: (A) Aedeagus ventral, (B) Phallus ventral, (C) Tegmen ventral, (D) Spicular fork, (E) Pygidium, (F) Ventrite VI.

**Head:** Dark brown to black, with isolated pilosity; with dense punctation and fine wrinkles; epistomal suture conspicuous; interocular space between one and 1.5 eye width.

**Thorax:** Pronotal length to width ratio 1.06:1; thorax light brown to dark brown, with isolated pilosity, dense punctation with large and small punctures, laterally with conspicuously protruding wrinkles; strongly sinuate

behind middle, base more or less constricted; grooves of sub-basal collar separated by a bar. Scutellum dark brown, with slight punctation.

**Elytra:** Elytral length to width ratio 2.67:1; elytra light brown to dark brown or black, with a more or less lighter transverse fascia; with isolated pilosity; elytral base slightly broader than pronotum, broader behind the middle; apex more or less rounded, partly straight; diameter of punctations in basal half slightly wider than interstices, decreasing towards apex; punctations of tenth stria conspicuous up to just behind middle, sometimes conspicuous just before apex; punctations of ninth stria vestigial; elytral punctation with three nodules; interstices 2 and 4 conspicuously ridged just behind the elytral base, interstices 6 and 8 ridged behind the middle; interstices with microsculpture.

**Lower surface:** Light brown to dark brown, with isolated pilosity; procoxal cavities slightly opened to closed posteriorly; with more or less weak punctation; metaventrete partly finely wrinkled.

**Legs:** Dark brown, with dense pilosity, with dense punctation and fine wrinkles; mesotibiae conspicuously bent.

**Abdomen:** Tegmen opened ventrally and laterally; spicular fork fused halfway, processes dilated triangularly.

**Distribution:** Whole Australia.

**Seasonal occurrence:** Collected from July to January.

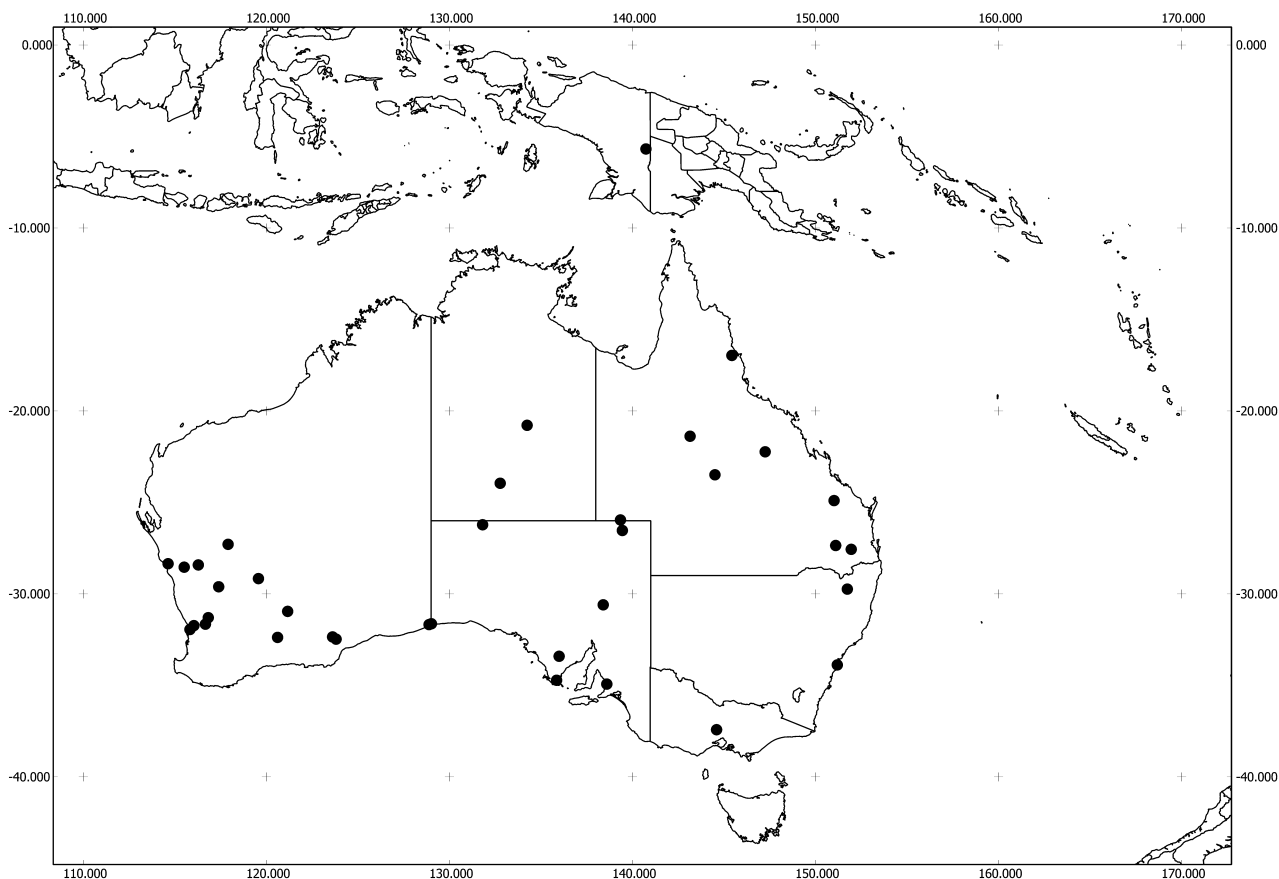


FIGURE 16. Distribution of *Eunatalis fasciata*.

***Eunatalis flavopilosa* Gerstmeier & Seitner 2013, n. sp.**

(Figures 17–18, 55D)

**Specimens examined: Holotype:** 35.30S 150.18E, Kioloa SF, 15 km NE Bateman's Bay, NSW, Sept. 86, M.G. Robinson, flight interc. trap, 5 ex.(ANIC).

**Paratypes:** Oct.86, 6 ex.; Nov. 86, 8 ex.; Dec.86, 6 ex.; Jan.87, 10 ex.; Feb.87, 13 ex.; Mar.87, 3 ex.; Apr.87, 4 ex. (ANIC). Glenmaggie, Weir, Vic, 13.4.57, F.E. Wilson; F.E. Wilson Collection (NMV). M.V. Light; Vic.

Macallster-Thomson River Jn, 28/Sep/1977, N.M.V. Survey Dept, G.R.E.S., 126no. (NMV). Australia, S.QLD., Stanthorpe, 20.2.1982, J. Sedlacek, 3 ex. (JKCB). Stanthorpe, QLD, 29.xii.1977, K.J., C.L. & T.A. Lambkin, 4 ex. (QM). Austral., Yorketown; CNHM 1955, Karl Brancsik Colln, ex Eduard Knirsch (FMNH). Dalrymple Creek, via Goomburra, S.E.QLD., 6 Jan. 1984, G.B. Monteith (QM). 35°16'57S 149°06'22E, Black Mountain, CSIRO site ACT, 4 Feb. 1998, M. Neave & S. Grome; Dec 1998, M. Neave, M. Yee & K. Hebbard, 2 ex. (ANIC). Yass, NSW, Jan. 61, C. Watts; 25-036038 (SAMA). Narara, N.S.W., 22.10.26, F.E. Wilson; F.E. Wilson Collection; Col-65722 (NMV). 2mi. N. of Lenswood, S.A., Mt. Lofty Ra., 4 pm, 22Mar1973, P.B.McQuillan; 25-035905 (SAMA). C.Qld: 25°04'S 148°03'E, Top Moffatt Camp, Mt. Moffatt Nat.Pk., 29Nov 1997, Skevington, Lambkin, Evans, mv lamp (QM). 35.16 S 149.06 E, Black Mtn. SE slope, light trap, ACT, 3Nov.1987, A.A. Calder (ANIC). Black Mt., ACT, light trap, 2.XII.64, I.F.B. Common (ANIC). 35.17S 149.07E, ACT: Canberra, Black Mountain, 14 Nov. 1988, M. Hanzen; at light (ZMUC). Sydney: coll. Lüddemann; Schenkling det.; Col-02921 (SDEI). 22.VIII.; Schenkling det; Waterfall; Umgeb. Sydney, leg. Lüddemann; Col-02922 (SDEI). Australia, Sydney, leg. Wachtel, 3.81 (RGCM). Adelaide, Aug. 19; 25-036045 (SAMA). Lilyvale, New South Wales, 15:4:1972, D.A. Doolan; K 324462 + 8:8:1971; K 324455, K 324456 (AM). Lilyvale, 23.10.1971, N.S.W.; K 324457 (AM). Australia, NSW, Mt. Coricudgy; 30.IX.1983, leg. G. Hangay (HNHM). Australia, NSW, Otford, 10 Dec 1991, R. de Keyzer; K 324494 (AM). Australia, N.S.W., Otford, Jan.. 2001, leg. G. Hangay (HNHM). Australia, N.S.W., Otford, Jan.. 2001, leg. G. Hangay (HNHM). Australia-Vic., Nowa Nowa, D.R. Holmes lgt. (JKCB). Royal National Park, N.S.W., 4 Dec. 1970, D.K. McAlpine; K 324452 (AM). 35°30'S 150°24'E (GPS), NSW: Bawley Point, 20–21 October 2000 DCF, Rentz; *Eunatalis porcata* (L.), Det. DFC Rentz 2000; + 7Feb.98;+29Nov.99 (ANIC). Blackdown Tableland, Stoney Ck., Via Dingo, ME. Qld., 17–19 Dec 1985, S. Hamlet, At light (QM). Brisbane, Hacker; Schenkling det.; Col-02919 (SDEI). NSW: Ebenezer, 28 Jan. 1998, B.J. Day, M. Moulds, S. Cewan; K 324501 (AM). 4 km N Mongarlowe, NSW, 25 May 1991, C. Reid, under *Eucalyptus* bark (ANIC). Prison Farm, Glen Innes, July, 1969–Dec, 1970, Coll. ?Donated (ANIC). 37.47S 148.44E, VIC, Cape Conran Coastal Park, 24 km SE Orbost, 12 Jan.–13 Feb. 2005, C. Lambkin, N. Starick; malaise trap ANIC, bulk sample 2623, heath under forest (ANIC). Toowoomba, Brisbane distr. (MNHN). Victoria, Alexandra; CNHM 1955, Karl Brancsik Colln, ex Eduard Knirsch (FMNH). Australia Q, Main Range, Mt. Steamers, leg. Wachtel 1.95 (RGCM). Australia, NSW, 5 km nw Wollombi (sw Cessnock), 4.12.1991, leg. R. Gerstmeier, 7 ex. (RGCM). AUS/S.A./Umg, Kangaroo-Isl., 12/97 leg. Roppel (RGCM). Australien, NSW, Macksville 12/1985, leg. F. Wachtel (RGCM). N.S.W., Ourimbah, Ch. Schindler, 1905 (MNHN). 37°20'20"S 149°12'43"E, GPS, 315m, VIC: Coopracambra NP, 26 km NNE Cann River, 5 Dec 2004–12 Jan 2005, C. Lambkin, N. Starick (ANIC). Orange, N.S.W., Austral., Sloane; Col-02946 (SDEI). Rockhampt., Heyne Broth.; Schenkling det., Col-02900 (SDEI). Australia: N.S.W., Appin, 31.VII.1966, M.I. Nikitin, B.M. 1966-576 (BMNH). Mollymook, NSW, nr Ulladulla, at light, (35.21S, 150.28E), 26.1.1971, E.B. Britton (ANIC). Upper Williams R, N.S.W., Oct. 1926, Lea & Wilson; K 324339 (AM). Wollongong, New South Wales, 12:6:1954, C.E. Chadwick; Under Bark, *Eucalyptus* sp.; *Eunatalis* ?*porcata* Fab., det. by C.E.C 6:7:1954 (ANIC). Mt. Dromedary, N.S.W., 23.xi.65, Britton & Upton (ANIC). Australia, Victoria; *cribricollis* Spin. (ZMB). Australia, Victoria; Museum Paris, 1952, Coll. R. Oberthur (MNHN). 37.13S 149.43E, NSW, East Boyd NP, 54 km SE Bombala, 6 Dec. 2004–12 Jan. 2005, C. Lambkin, N. Starick; Anteaters Rd, malaise trap ANIC, bulk sample 2614 (ANIC). Nov. Holl., C. Rebbe (NHMB). New S. Wales, 1913-117 (BMNH). 119 km S. of Nowra, N.S.W. (34.53S 150.36E), on Nerriga-Nowra road, 19.1.71, Misko & Pullen (ANIC). Austr., NT, 25 km S of Katherine, 16.–17.1.09, 14°31'S, 132°25'E, 168m, Sv. Bily leg. (JRCP).

**Diagnosis:** *E. flavopilosa* n. sp. differs from all other species by the yellowish pilosity of the pronotum. The phallic tip has a slightly bent, hook-like structure.

**Length:** (149 specimens measured) Total length: 11–18 mm.

**Head:** Red-brown or dark brown to black, with more or less depressed yellowish pilosity; with dense punctation and fine wrinkles; epistomal suture not distinct; interocular space broader than one eye width.

**Thorax:** Pronotal length to width ratio 1.04:1; pronotum red-brown or dark brown to black, with depressed yellowish pilosity; with weak punctation, laterally conspicuously wrinkled, convergent towards apex; grooves of sub-basal collar distinct, separated by a bar. Scutellum dark brown to black, with weak punctation.

**Elytra:** Elytral length to width ratio 2.83:1; elytra red-brown or light brown to dark brown, with isolated white pilosity; elytral base only slightly wider than pronotum, towards apex subparallel to slightly broader; diameter of punctations in basal half wider than interstices, especially punctation of striae 1 to 4 becoming smaller behind middle and almost decreasing, punctation of striae 5 to 8 not decreasing so conspicuously, punctations of tenth stria



distinct just before apex; punctations of ninth stria vestigial; elytral punctation with three nodules; interstices 4 and 6 weakly ridged behind the middle, the other flattened, without distinct microsculpture.

**Lower surface:** Red-brown or dark brown to black, with light, white pilosity; procoxal cavities slightly opened to closed posteriorly.



**FIGURE 17.** *Eunatalis flavopilosa* n. sp.: (A) Aedeagus ventral, (B) Phallus ventral, (C) Tegmen ventral, (D) Spicular fork, (E) Pygidium, (F) Ventrite VI.

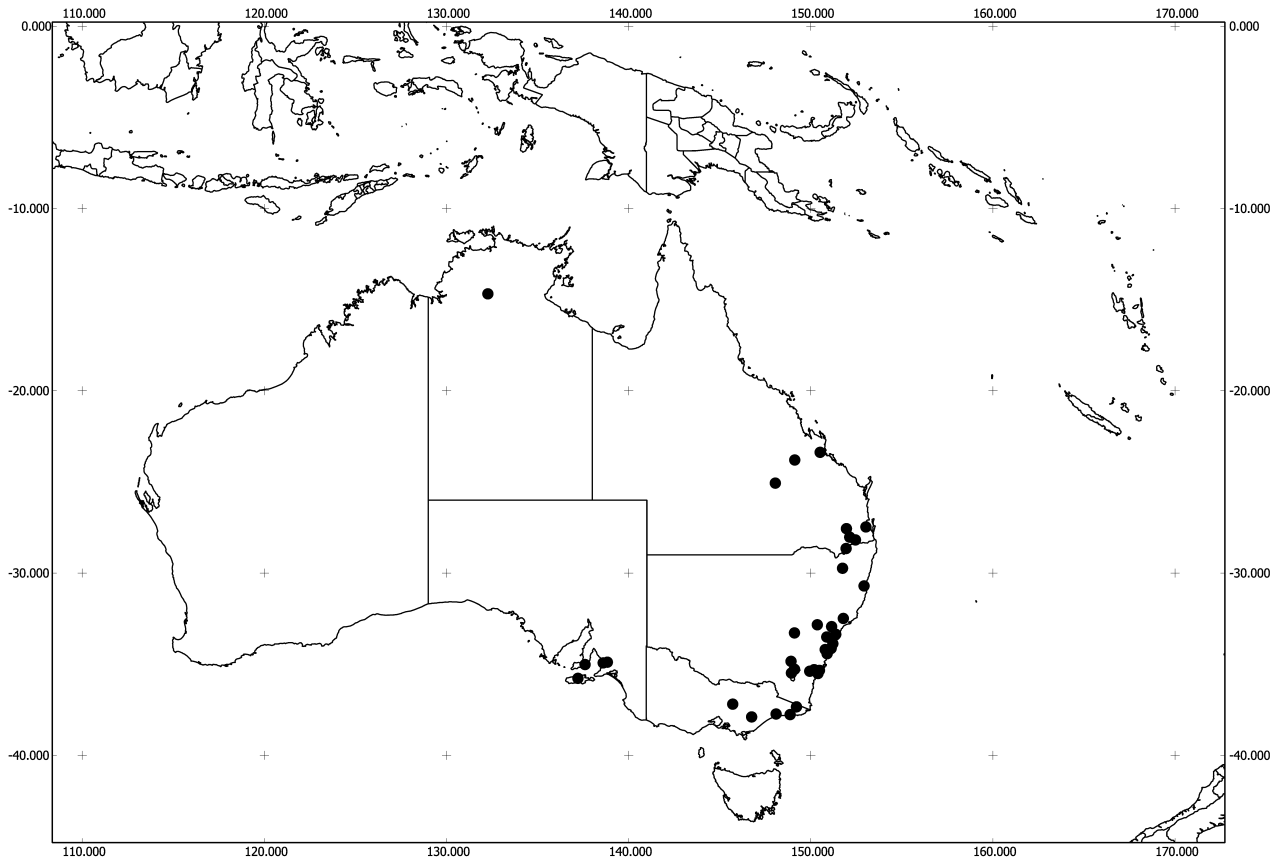
**Legs:** Light brown to dark brown, with dense, white pilosity; with weak punctation and fine wrinkles; mesotibiae bent.

**Abdomen:** Tegmen closed ventrally; phallus tip with a slightly bent, hook-like structure; spicular fork fused less than one-sixth.

**Distribution:** Australia, east coast and region around Adelaide.

**Seasonal occurrence:** Collected from September to May.

**Etymology:** The specific epithet, *flavopilosa*, a Latin adjective refers to the whitish pilosity, especially that of the pronotum.



**FIGURE 18.** Distribution of *Eunatalis flavopilosa* n. sp.

***Eunatalis foveata* Gerstmeier & Seitner 2013, n. sp.**

(Figures 9, 19–20, 55E)

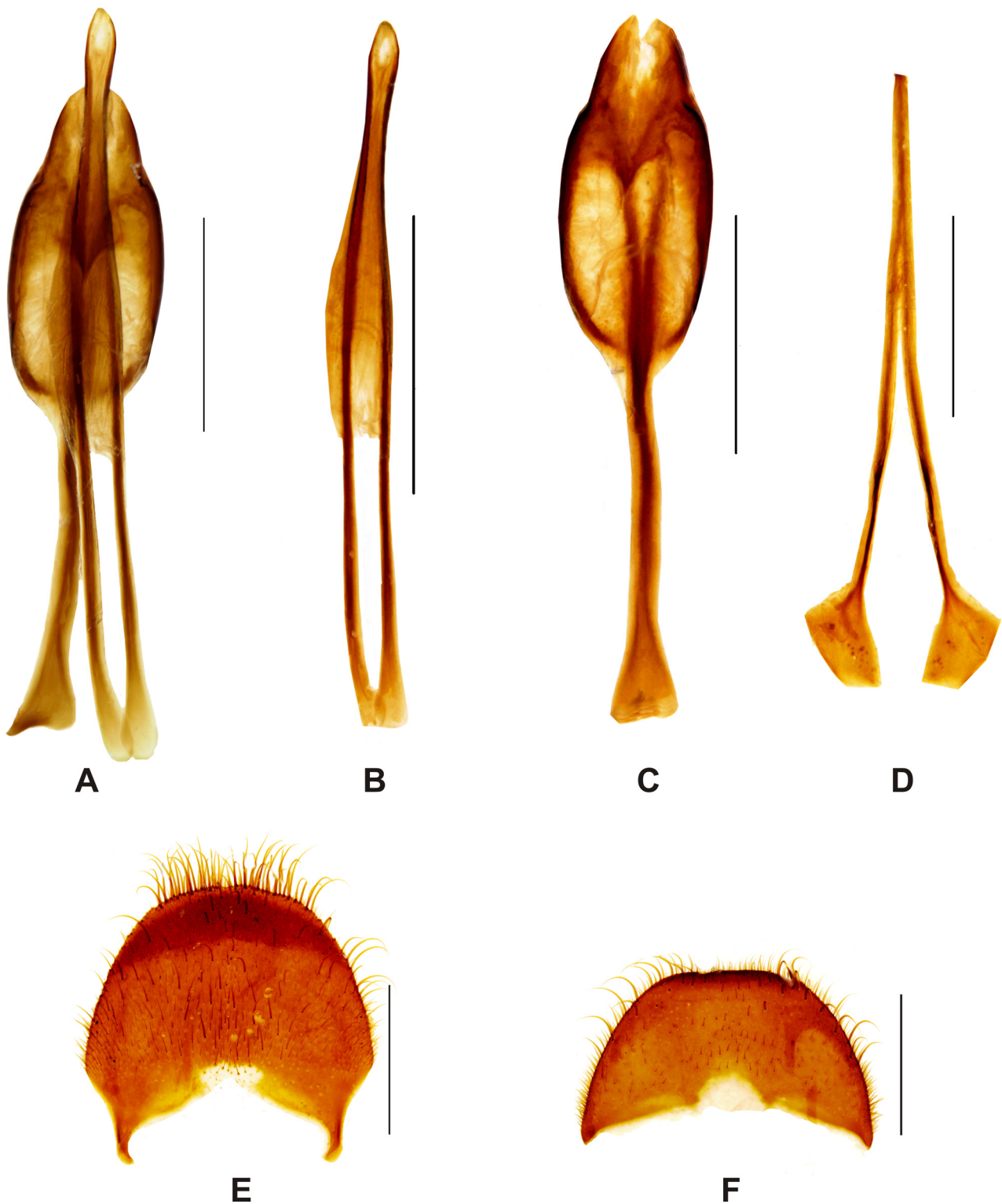
**Specimens examined: Holotype:** Qld: 26.24Sx150.817E, Barakula SF, site 8, 424m, 1–15 Dec 2009, Malaise, Monteith & Turco 19187 (QM).

**Paratypes:** Yurraman, A.R.B., 11.47; O-166569, 4 ex. (QDPC). N. Galles, du Sud, Richmond River, 2 ex. (MNHN/RGCM). Milmerran, Q., MacQueen (ANIC). May. 13; Nov. Holl., Queensland. (MNHN). N.S. Wales (MNHN). Queensland 85.44 (BMNH). Swans Rd., Bruxner Pk, Flora RES., N.E. NSW, 30°14'S 150°8'E, 14 Nov 1983, ABRS, AM/AM. RF. (QM).

**Diagnosis:** Besides *E. titana*, this is the only species with only two lateral nodules in elytral punctation. Other than its larger size, *E. titana* differs from *E. foveata* n. sp. by the distinct transverse convexity of the mesoventrite.

**Length:** (15 specimens measured) Total length: 19–26 mm.

**Head:** Black, with isolated pilosity; sparsely covered with small and large punctures, with extremely fine microsculpture; epistomal suture distinct; interocular space about one eye width.



**FIGURE 19.** *E. foveata* n. sp.: (A) Phallus lateral, (B) Phallus ventral, (C) Tegmen ventral, (D) Spicular fork, (E) Pygidium, (F) Ventrite VI.

**Thorax:** Pronotal length to width ratio 1.08:1; pronotum black, with isolated pilosity, impunctate, sides of pronotum strongly and deeply wrinkled; grooves of sub-basal collar distinct, fused. Scutellum dark brown to black, with weak punctation.

**Elytra:** Elytral length to width ratio 2.33:1; elytra dark brown to black, with isolated pilosity; elytral base as wide as pronotum, broader behind the middle; elytral punctation not reaching apex; punctations in basal half as wide as interstices, abruptly smaller behind middle and decreasing, punctations of striae 7 and 8 partly decreasing

just before apex, punctations of tenth striae distinct almost up to middle; punctations of ninth striae vestigial; elytral punctation with two conspicuously protruding lateral nodules (without basal nodules); interstice 4 weakly ridged just behind base, interstices 6 and 8 weakly ridged behind middle, interstices with extremely fine microsculpture.

**Lower surface:** Dark brown to black, with isolated pilosity; procoxal cavities distinctly closed behind; metaventrite with weak punctation and wrinkles.

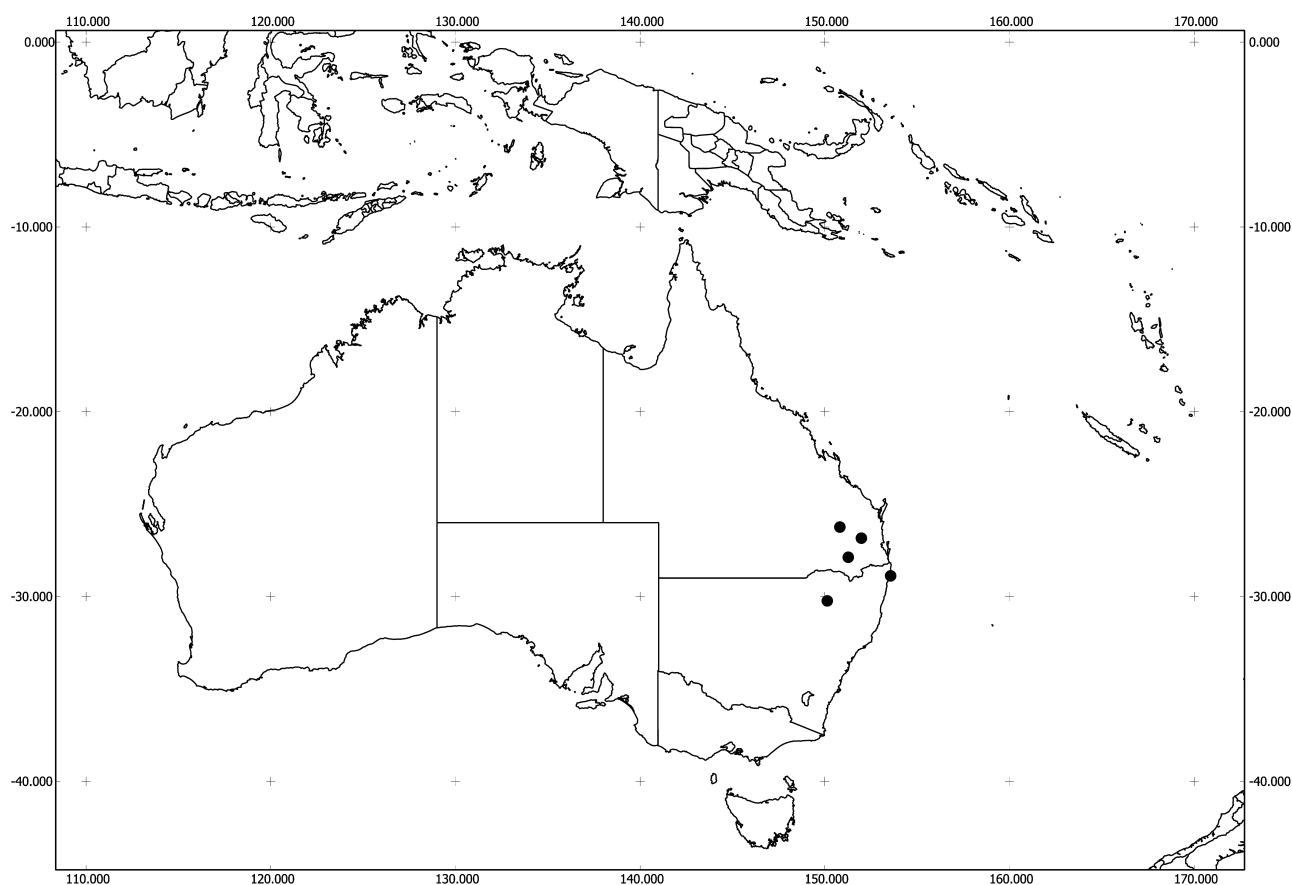
**Legs:** Black, with dense pilosity, especially at inner edge; with dense punctation and fine wrinkles; mesotibiae bent.

**Abdomen:** Tegmen closed ventrally and conspicuously dilated; spicular fork fused to one-third.

**Distribution:** In the south-eastern part of Queensland and the most northern part of New South Wales.

**Seasonal occurrence:** Collected in May, November and December.

**Etymology:** The specific epithet, *foveata*, a Latin adjective refers to the strong wrinkles at pronotal sides.



**FIGURE 20.** Distribution of *Eunatalis foveata* n. sp.

### *Eunatalis hirta* (Blackburn, 1890)

(Figures 21–22, 55F)

*Natalis hirta* Blackburn, 1890: 122; Blackburn 1899: 30.

*Eunatalis longicollis* (Blackburn, 1890): 126; Blackburn 1899: 29 n. syn.

**Specimens examined:** *Natalis hirta*: **Lectotype** (designated here): Type; Australia, Blackburn Coll., B.M. 1910-236; 3499T; *Natalis hirta* (♂, BMNH). **Paralectotype** (designated here): Israelite Bay; *Natalis hirta* Blackb, co-type; *Natalis hirta*, Blkb, ?W Australia; 25-035778 (SAMA).

*Natalis longicollis*: **Lectotype** (designated here): Type; 3445 Ad; Australia, Blackburn Coll., B.M. 1910-236; *Natalis longicollis* Blackb. (♂, BMNH). **Paralectotype** (designated here): *Natalis longicollis*, S. Australia, 9588 Cotype; S. Australia; 25-035800 (SAMA).

**Comment on the type specimens:** As Blackburn (1890) made no reference to type specimens in his descriptions of *Natalis hirta* and *N. longicollis*, all 'type' material for these nominal species-group taxa should be treated as syntypes (ICZN 1999: Article 73.2) and, as such, are available for lectotype designation (ICZN 1999: Article 74.1). Following Recommendation 74D (ICZN 1999) we have designated the BMNH syntypes as lectotypes because the majority of Blackburn's types are held in that institution (Lea 1912). Syntypes borrowed from SAMA were designated as paralectotypes.

**Others:** W. Australia; *Natalis hirta* Blackb, S. Schenkling det; Homotype, *Eunatalis hirta* Blackburn (BMNH). Ex Musaeo H.W. Bates 1892 (MNHN). East Hyden, 10-2-73 WA (ANIC). SEQ: 24°32'Sx150°36'E, Mt. Scoria 200m, 29 Jun.–21 Oct. 2000, Cook, Wright, Vanderduys, vine scrub, FIT 9469 (QM). Qld: 22°28.7'Sx147°52.3'E, Mt. Pollux, SW base, site 1, 12 Jan.–5 Mar. 2006, intercept, C. Burwell, 400m, brigalow, 13307 (QM). Eucla Basin, S.A. Eucla, 1600.2, nr the coast, 11.x.66, J. Lowry 42/40 (ANIC). Mullamullang area, Eucla Basin, S.A., surface, 29.viii.66–2.ix.66, J. Lowry, 42/33 (ANIC). W. Australia, Drummond Cove, 7m, N. of Geraldton, on coast, 3.v.1973; on sand dunes; N. McFarland Coll., B.M. 1973-399; DC, 3May73, uv.-NMCF. (BMNH). 25.23S, 135.25E, 13 km E. by N. of Andado HS., NT, 27.ix.72, J. Upton (ANIC). Greenough, (28.57S, 114.44E), Western Australia, 26–29 Aug. 1979, R.P. McMillan; Dune system; Reg.no. 83283 (WAMP). Australia; Geraldton; 25-035795 (SAMA). C.QLD: 22°02'Sx148°03'E, Moranbah, 6 km S 5646, 25 Jun.–20 Dec. 1997, G. Monteith & E. Kruck, Fit Intercept, Box flat, 5 ex. (QM). CQ: 22°03'Sx148°04'E, Moranbah, 6 km S, 220m, 20 Dec. 1997–26 Apr. 1998, G. Monteith 5803, Flight Intercept, BoxFlat, 2 ex. (QM). SEQ: 24°38'Sx149°01'E, Expedition Ra, Dawson Hwy, 27 Oct.–17 Dec. 1979, 420m, Cook & Monteith, FIT, Bottle Tree scrub 9821 Dalby Q, Mrs. F.H. Hobler; 25-035790 (SAMA). Dalby, N.W.A., W.D. Dodd; 25-035841 (SAMA). Boeyana, W.A., Miss Baisson; Col-65724 (NMV). QLD: 26°03'Sx150°55'E, "Wonga-Hills", 10 km ENE, 11 Dec. 2001–4 Mar. 2002, Monteith & Cook, 320m, FIT, brigalow, 10405, 2 ex. (QM). Nyngan, NSW, 13-3-63 CW; 25-036039 (SAMA). QLD: 26°38'Sx144°46'E, Cheeple, 26 km W, 4 May 2001, G.B. Monteith, 10 147, Pyrethrum, gidgee (QM). Albany; *Natalis alternicostata* Kuw. (MNHN). Cap York (NMPC). SEQ: 25°35'Sx149°46'E, Taroon, 9 km N, Ooline Scrub, roadside BS 15, 15 June 1996, P. Lawless, 174 (QM). Helena & Aurora Ranges, 30°21.22'S 119°42.20'E, W. Aust. Site#1A, 26 Sept 1995, R.P. McMillan CALM Survey (mallee woodland), Reg.no. 83284 (WAMP). Mt. Gibson Stn, WA, 12 February 2000, S.R. Patterson, Reg.no. 83300 (WAMP). W.-Australia 9.11.87, 3 km s Kambalda West, leg. Gerstmeier/Baehr (RGCM). NSW, 60k N of Moree Careunga Nat. Reserve, 28 March 1990, leg. P.H. Colman, Hangay collection; K 324493 (AM). W.-Australia, Young River, 80 km w Esperance, 11./12.11.1987, leg. Gerstmeier/Baehr (RGCM). Etadunna Stn, S.A., K&B Oldfield, x.1972; Reg.no. 83278 (WAMP). Higgins, Winton, 1912 (QM).Clermont, Queensland, Dr.K.K. Spence; K 324343 (AM). Clermont, Queensland, 8, 28, Dr.K.K. Spence; K 324344 (AM). Minnie Downs, N.(?)Corner of S. Aust., L. Reese; 25-035998 (SAMA). Western Australia, Wilga, 18-12-1974, K.&E. Carnaby (ANIC). Adelaide, Blackburn; 25-035801 (SAMA). Ouldea, S.A., R.T. Maurice; 25-035781 (SAMA).Adelaide; Ex Musaeo, H.W. Bates, 1892 (MNHN).21°10'16S 148°29'56E, Eungella Nat. Pk., Broken River QLD, 31 Aug.–8 Sep. 1998, Neave, Edwards, Powell, Sutrisno & Hebbard (ANIC). QLD: 26°01'Sx148°16'E, Mt. Hutton, 8,5 km SW, 15 Dec. 2001–6 Mar. 2002, Monteith & Cook, 550m, FIT, vine scrub, 10415 (QM).NSW, 4 km SE Mt. Harris, 7–8.ix.1982, B. Holloway; K 324482 (AM). Cunnamulla Dis., Q, Nov 32, N. Geary; K 324395 (AM). Cunnamulla, Q 12. Nov. 38, N. Geary; K 324374 + K 324375 (10.2.39) (AM). Cunnamulla, H. Harcastle; 25-035787 (SAMA). Cunnamulla, Q., Oct 1941, N. Geary; K 324394 (AM).Lake Narran, N.S.W., 12.ix.1961, A. Holmes; K 324427 (AM). Swan R., J.S. Clark; A.H. Elston Collection; (BMNH), K 324386 (AM). Swan R, Lea; Bridgetown, W.A. Lea; *hirta* Blackb.; *Natalis hirta* Blackb, W. Australia; 25-035789 (SAMA). Victoria, Barton (MNHN). Bernsborough Downs, via Winton Qld., 23 September 1973. attracted to light, R. Patterson F248; K 324467 (AM). 33.51S 123.00E, Thomas River, 23 km NW by W of Mt. Arid WA, 4–7.xi.1977, J.F. Lawrence (ANIC). SEQ: 25°41'Sx151°25'E, Nipping Gully, site 3, 26 Jan.–2 Jun. 1999, 240m, Monteith & Thompson, open for, pitfall, 2707 (QM). Airlee Island, 21.20S 115.10E, Western Australia, 20July 1987, V. Long, AE 004, Reg.no. 83286 (WAMP). At light, Goolgow,N.S.W., 6-XI-89 (QM). QLD: 25°46'Sx148°17'E, "Oak Wells", site 3, 15 Dec. 2001–7 Mar. 2002, Monteith & Cook, 600m, FIT, vine scrub, 10419 (QM). QLD: 25°46'Sx148°17'E, "Oak Wells", site 3, 16 Dec. 2001, 10286, Monteith, Cook, Blosch & Wright, vine scrub (QM). W. Australien, Marloo Station, Wururga II 1935, A. Goerling S.G., 2 ex. (ZMB). Marloo Stn., Wururga, W.A., 1931–1941, A. Goerling, 6 ex. (ANIC). Alice Springs NT, 3 September 1992, light, R. Patterson, 2810 + 2799, 3 ex. (ANIC). SA: 18 km S Port Pirie, 7.v.1980, G.J.&A. Holloway; K 324473, K 324474, 2 ex. (AM).38-2324, Hopetoun; Reg.no. 83259 (WAMP). 34.03S 140.43E GPS, Calperum HS, S.A., 13–14 Dec. 1995, at light, K.R. Pullen; Calperum Station/Bookmark Biosphere Reserve, Invertebrate Survey (ANIC). S.Aust.

1 km N White Bull, Yard Kalamurina Stn, 27°52'23"S 137°54'40"E, 5 Oct. 1999, at light, Warburton R. WHC exped.; 25-035911 (SAMA). Chowilla SA, 4/68 C. Watts; 25-036104 (SAMA). W.-Australia, 23.11.1987, Boyup Brook, Stadtpark, leg. Gerstmeier/Baehr (RGCM). W.-Australia, 12.11.1987, Oldfield River, 20 km w Munglinup, leg. Gerstmeier/Baehr (RGCM). Milmeran, SA, 3/51; J.G. Brooks, Bequest, 1976 (ANIC). W.A. Beverley; K 324353 (AM). W.A. Beverley; K 39149; *N. porcata* Fab., Id. by A.M. Lea; K 324353 (AM). 200 km N of Tennant, Creek township, Stuart Hwy, N.T., 4 April 1984, at light, K.&E. Carnaby (ANIC). S. Aust., Munyaroo CP, 12.9 km W Moonabbie, 33°23'14"S 137°15'25"E, 28th September 2002, under logs, SEG Munyaroo Survey; 25-035918 (SAMA). WA: Lake Moore, south BE11-SAP, wet pitfalls, 30°20'09" 117°29'48"E (GPS), 15 Sept 1998-25 Oct 1999, N.A. Guthrie, CALM Survey, Reg.no. 83309 (WAMP).S. Aust., Billiatt CP, 32 km S Alawoona, under bark, 34°59'29"S 140°28'22"E, 27 Mar 2000, JA Forrest; 25-035904 (SAMA). *Natalis cribricollis* Spin., Gayndah; Pl. 34050; K 324351 (AM).18mi. ESE of Penong, S.A., 2 Oct. 1968, Key, Upton, Balderson (ANIC). W.Aust., Faure Is., Shark Bay, 15 km SE Monkey Mia, 25°53'05"S 113°52'51"E, 27-31 May, 2000, pitfalls, JA Forrest, *Triodia* over sand, FAU 003; 25-035910 (SAMA). Burley Waterhole, 5mls S of Innaminka Station, Sth. Australia, II-13.iii.61, R. Mackay; K 324426 (AM).Bogan R., N.S. Wales, J. Armstrong (ANIC). Bogan R., N.S. Wales (ANIC).Gawler (NMPC). Gawler (SDEI). Milly Soak, N of Cue, West. Aust., Em. Jan. 2007, P. Hutchinson; Reg.no. 83304 (WAMP).Dunmore, via Dalby Qld, 10.xi.1980, F.R. Wylie, M.DeBaar, Acc 1819/36; O-166586 + O-166587, 2 ex. (QDPC). Reid, ACT., 15 Apr 2007, B. Boyd (ANIC). 29.00S 151.05E, 18 km SSW Texas QLD, 24.11.83, D. Rentz, M. Harvey, Stop 66 (ANIC). Picton; Griffith Collection, Id. by A.M. Lea; *N.porcata* VAR.; 25-035869 (SAMA).Redcliffs V., L.G. Chandler; K 324382 (AM). n. Jamvold, 25.V.1963, Mundarling, W. Australia; Reg.no. 83275 (WAMP). R.P. McMillan, Rottenest, on Acacia, Sept. 1939; Reg.no. 83273 (WAMP). 47-75, Perth; Reg.no. 83272 (WAMP).35-983, W.-Midland; Reg.no. 83258 (WAMP). Kenwick, W.A., leg. Demarz, 1964 (NHMB). S. Aust., nr Clifton Hills OS, 26°30'S 139°29'E, malaise trap, 18-20 Nov. 1993, JA Forrest, D Hirst; 25-035907 (SAMA).25.46S 133.18E, 9 km N of Kulgera, N.T., 1.x.72, J. Upton (ANIC). Qld: 25°14.5'Sx148°37.3'E, Moolayember Creek NP, site 3, 14303, 27 Jun.-6 Sept. 2006, 410m, R. Raven, B. Baehr, A. Amey (QM). Milly Milly, 10-6-22; 1922-435; Reg.no. 83268 (WAMP). Australia, W.A., Kalamunda, I-16-1954, H. Demarz leg., 2 ex. (FMNH). Mallee District, Victoria (SDEI). Cumberland, N.S.W. (MNH). Braemar S.F., via Kogan, S.E. Qld., 15-19 Oct 1979, G.B. Monteith & QM (QM). S. Aust., Kalumurrina, Water Hole, At light, 25 Nov. 1964, P. Aitken; 25-035919 (SAMA). Murray R., S.A., H.S. Cope; K 324340 (AM). 12.19S 133.19E, Nabarlek N.T., 19 Nov 1983, Melanie Webb (ANIC). Sea Lake, V., 5.1916, Goudie; Collection J.C. Goudie (NMV). Juranda Rockhole, 60mi S of Balladonia, W.A., 33.13S 123.27E, 21.xi.1969 Mallee at light, E. Britton (ANIC). (21.35S 117.04E), Millstream, WA, Deep Reach, 8.xi.70, at light, E.B. Britton (ANIC).Mullewa WA (SDEI). Cannuwaukaninna Dune, 16 km W of Etadunna Homestead, S. Aust., 5 Mar 1972, E.G. Matthews; 25-035914 (SAMA). Australien, 12/1969, Iron Baron, M. Buzga lgt. (JRCP).W. Australia, Coolgarlie, Queen Victoria Rock, 19.10.2001, Bily lgt. (JRCP). W. Australia, Peak Charles N.P., 8.xi.2001, Sv. Bily lgt. (JRCP). Austr., NT, 70 km SW of Mataranka, 22.12.08, 15°19'S 132°50'E, 190m, Sv. Bily leg. (JRCP).Austr., NT, 40 km W of Katherine, 28.11.08, 13°15'S, 130°44'E, 63m, Sv. Bily lgt. (JRCP).

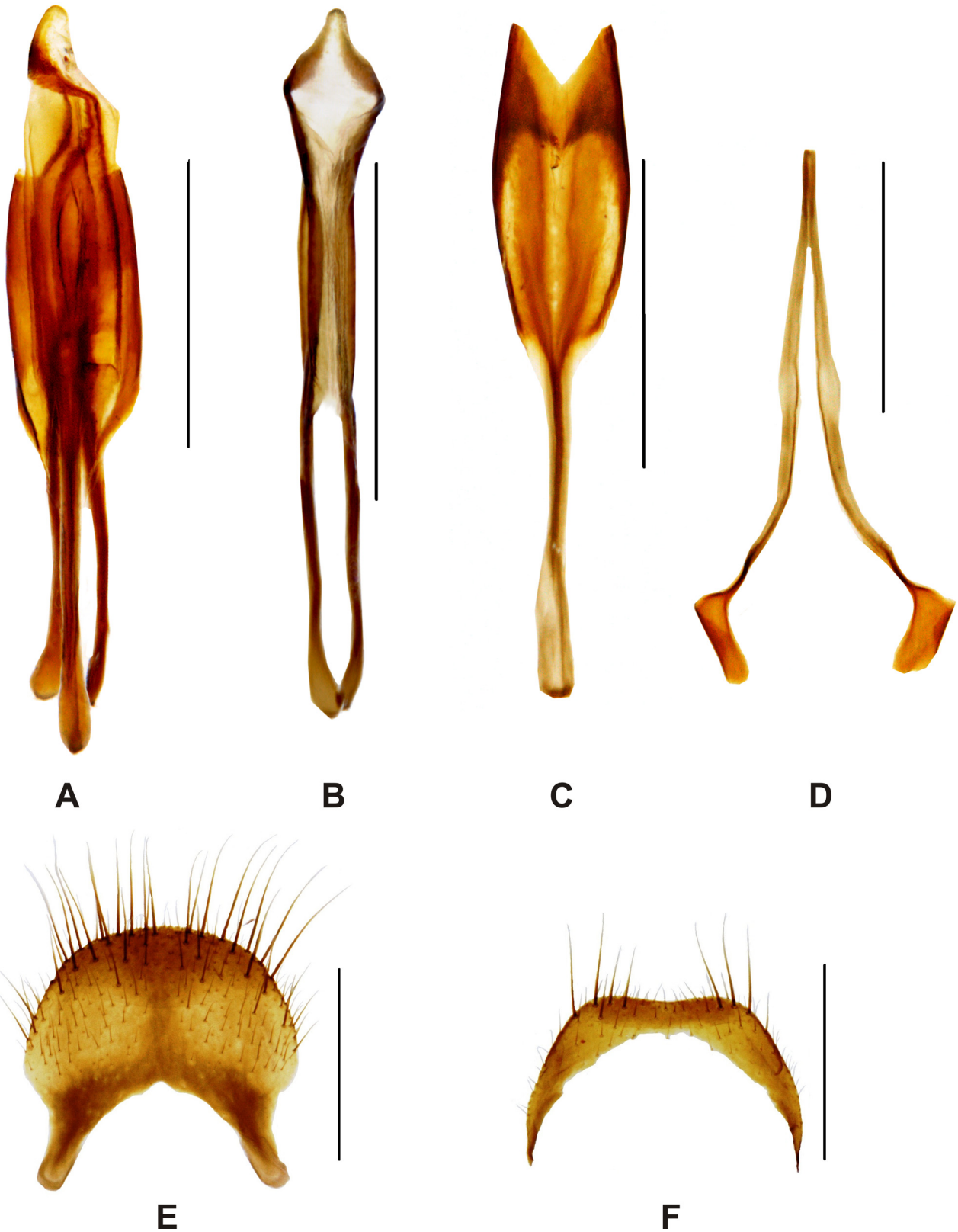
**Diagnosis:** As indicated by Blackburn (1890), the 2<sup>nd</sup>, 4<sup>th</sup> and 6<sup>th</sup> elytral interstices are characteristically ridged in *E. hirta*; as is the 8<sup>th</sup> interstice being conspicuously ridged behind the middle. The phallic tip has an open Z-shaped structure and less than one-fifth of the spicular fork is fused.

**Length:** (171 specimens measured) Total length: 10-29 mm.

**Head:** Dark brown to black, with dense pilosity; densely punctated with small punctures and isolated large punctures; epistomal suture more or less conspicuous; interocular space about 1.5 to double eye width.

**Thorax:** Pronotal length to width ratio 1.12:1; pronotum light brown to dark brown, with dense pilosity, with dense and small punctation and isolated large punctation; inconspicuously wrinkled; widest anterior to middle, slightly convergent towards apex; grooves of sub-basal collar separated by a conspicuous, wide bar. Scutellum light brown to dark brown, with weak punctation and isolated pilosity.

**Elytra:** Elytral length to width ratio 2.64:1; elytra light brown to dark brown, with dense greyish pilosity; elytral base slightly broader than pronotum, broader behind middle; punctations in basal half as wide as interstices, becoming only slightly smaller behind middle; elytral punctation with three nodules; punctations of tenth stria distinct just before apex; punctations of ninth stria vestigial; interstices 2 slightly, interstices 4 and 6 just shortly behind middle and interstices 8 behind middle conspicuously ridged.



**FIGURE 21.** *E. hirta*: (A) Phallus lateral, (B) Phallus ventral, (C) Tegmen ventral, (D) Spicular fork, (E) Pygidium, (F) Ventrite VI.

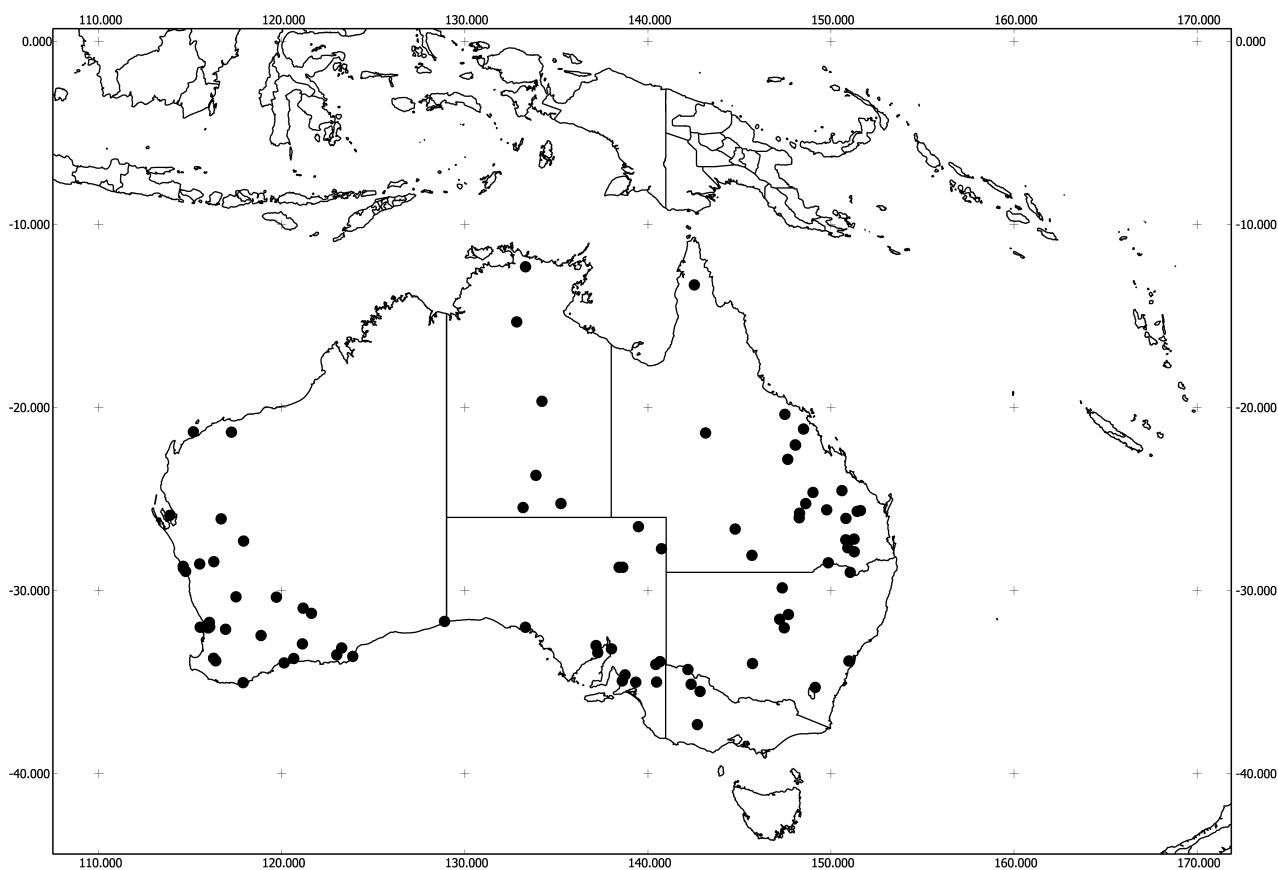


FIGURE 22. Distribution of *Eunatalis hirta*.

**Lower surface:** Light brown to dark brown, with dense pilosity; procoxal cavities slightly opened to closed posteriorly; mesoventrite and metaventrite with dense punctation; posterior part of mesepisternum smooth.

**Legs:** Light brown to dark brown, with dense pilosity and dense punctation; mesotibiae conspicuously bent.

**Abdomen:** Tegmen closed ventrally; phallus tip with an open Z-shaped structure; spicular fork fused less than one-fifth.

**Distribution:** Australia.

**Seasonal occurrence:** Collected the whole year.

**Remarks:** *E. longicollis* was synonymized with *E. hirta* because there were no differences in the aedeagi, pygidia and 6<sup>th</sup> ventrites. Within the species there is a conspicuous variability regarding the pronotum, distinctness of the elytral punctation in the apical half, and of the pilosity. As Blackburn described in 1890, the ridged interstices 2, 4 and 6 are particular.

### *Eunatalis integra* (Blackburn, 1899)

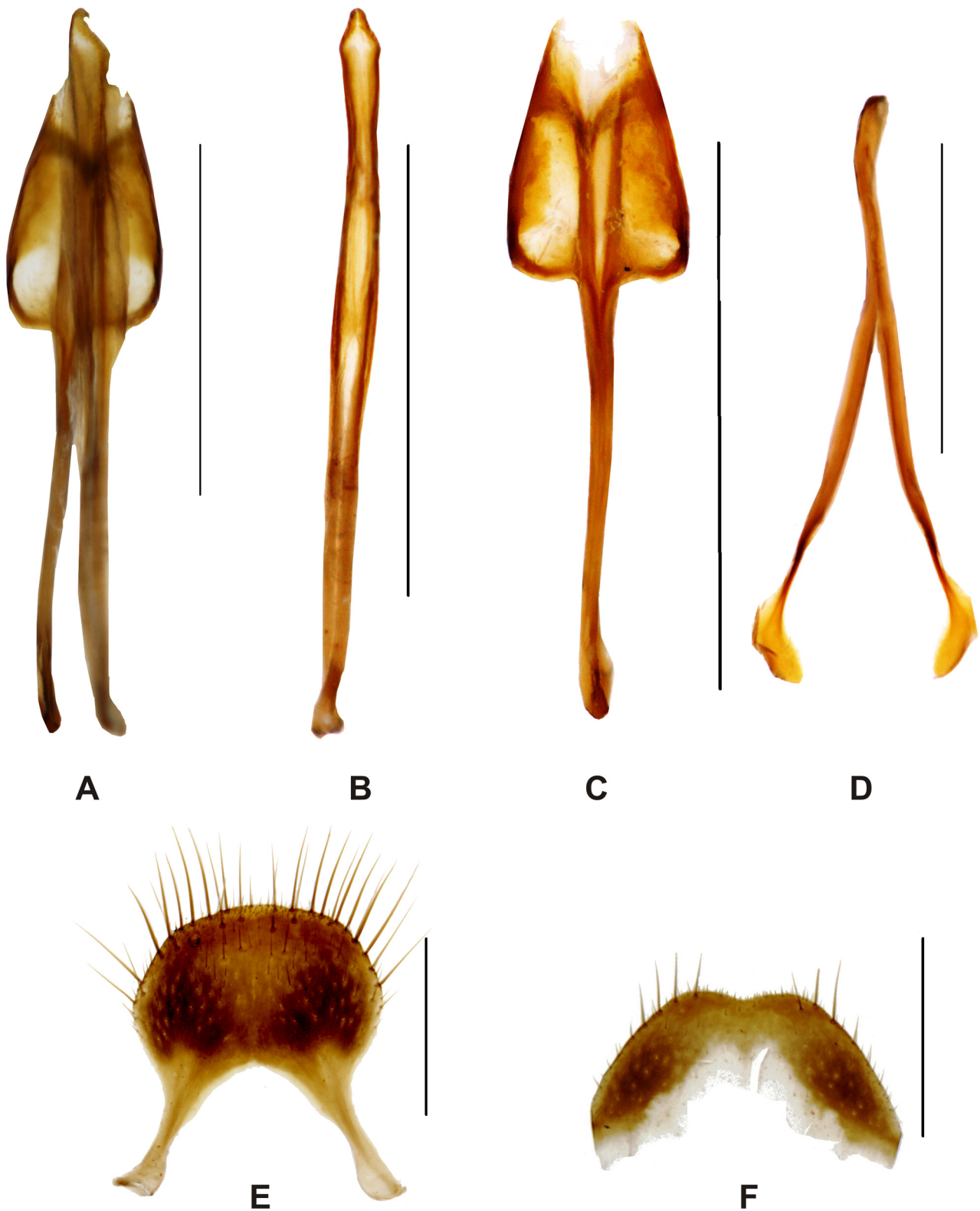
(Figures 23–24, 56A)

*Natalis integra* Blackburn, 1899: 29, 30.

**Specimens examined: Holotype:** *Natalis integra*, Blackb.; Australia, Blackburn Coll., B.M. 1910 – 236; 6393 Euc. T. (TYPE) (BMNH).

**Comment on the type specimen:** Blackburn (1899: 31) mentioned two specimens; one he referred to as "the type" plus a "second specimen taken near Adelaide", to which he did not allocate any type status. The type locality given after Blackburn's description is "S.Q. Australia (Eucla)". On one of the labels of the 'type' in the Natural History Museum, London (BMNH) "6393 Euc. T." is written; 'Euc' referring to the locality Eucla and 'T' referring to it being the type. As Blackburn referred to the Eucla specimen as "the type" within the original description, that specimen can therefore be considered the holotype, fixed by original designation (ICZN 1999, Article 73.1.1).





**FIGURE 23.** *Eunatalis integra*: (A) Phallus lateral, (B) Phallus ventral, (C) Tegmen ventral, (D) Spicular fork, (E) Pygidium, (F) Ventricle VI.

**Others:** W. Australia, Tom Price, Juni 1977, M. Hamm leg. (SMNS). 27.31S 144.07E QLD, Tregole Nat. Pk, 26–29 Oct. 1997, T. Weir; at light open forest of mulga, brigalow and coline (ANIC). Lamington Nat. Park, Q., 1.4.52, C. Oke (NMV). Kingaroy, Q., 22-XII-86, D.J. Rogers; At light; O-166577 (QDPC). W. Australia: Emu Field, 300 ml. N.W. of Woomera, ix.x.1953, F.L. Hill, 2 ex. (BMNH). W. Aust., Gill Pinnacle Mural Cres., At light,

10 Nov. 1963, P. Aitken, N.B. Tindale; 25-035936 + 25-035915 (SAMA). W. Aust., 18.3 km ENE Blackstone, at light, 25°55'51"S 128°26'58"E, 1–3 Oct. 2006, Camp 2, Central Ranges Survey; 25-036049 (SAMA). W. Aust., Central Ranges, 18.3 km ENE Blackstone, 25°55'51"S 128°26'58"E, 1–3 Oct. 2006, Camp 2, at light; 25-036050 (SAMA). Yuendumu, Centr. Aust.; J.H. Sedlacek, Collector; 3 ex. (MZM, QM, RMNH). Yuendumu, C. Australia, II-79, II-80 (ZMUC, HNHM, QM). J.H. Sedlacek, 2 ex. (QM). Centr. Australia, Yuendumu, V.1980, leg. J. Sedlacek (HNHM). 14.49S 125.50E, Mining Camp WA, Mitchell Plateau, 9–19 May 1983, I. Naumann, J. Cardale (ANIC). TAS: Westbury, 10 km N, 15 Aug 1996, A.I. Knight, under Gum tree bark (QM). Tambrey, N.W. Austr., W.H. Cusack, 1904-188 (BMNH). Coonabarrabran, New South Wales, 13:1:1981, D.A. Doolan; K 324478 (AM). Canberra; 25-036035 (SAMA). 1/2 km W of Millstream HS, 21.35S 117.04E, WA, 2 Apr. 1971, Upton & Mitchell (ANIC). Grafton, NSW, Feb. 1985, S. Caveney (ANIC). R.P. McMillan, Kings Park, Mount Bayrd, 13-2-53; Reg.no. 83274 (WAMP). Umgeb. Sydney, N.S.W. Austral., Leg. Nikitin, 1958 (RGCM). Horn Islet, Sir Edward Pellew Group N.T.; 22–28.ii.1968, B. Cantrell (MZM). 11,12 Combined St, Wingham, NSW, J. Stockard Coll., 28 XI 91; S.G. Watkins Collection, Donated 2001 (ANIC). QLD, 70 km SW Greenvale, 16–28 Jan. 96, A.J. Watts; 25-036085; 15–24 Feb 95; 25-036088; 14–23 Feb. 96; 25-036102; 5–15 Nov 96; 25-036105+25-036106 (SAMA). SCQ: 23°32'Sx147°18'E, Drummond Ra, summit, 24–26 Oct 2000, 920m, Cook, Wright, Vanderduys, At MV Light, O/F. 9478 (QM). Kununurra, W.A., 9 Apr. 1962, I.F.B. Common (ANIC). Ti-Tree N.T., 30/12/1982, D.P. Carne, At light (ANIC). Ooldea, S.A., A.M. Lea; 25-035834 (SAMA).

**Diagnosis:** *E. integra* is characterized by its relatively large eyes (the interocular space being smaller than one eye width) and the isolated transverse wrinkles along the longitudinal pronotal groove. The phallic tip is triangular with a small hook-like structure and the tegmen is very short.

**Length:** (52 specimens measured) Total length: 10–14 mm.

**Head:** Black, with isolated pilosity; with dense punctation and wrinkles; epistomal suture distinct; eyes relatively large; interocular space smaller than one eye width.

**Thorax:** Pronotal length to width ratio 1.08:1; pronotum dark brown to black, with isolated pilosity, weak punctation and laterally with distinct wrinkles, isolated transverse wrinkles along the longitudinal groove; grooves of sub-basal collar separated by a wide bar. Scutellum dark brown to black.

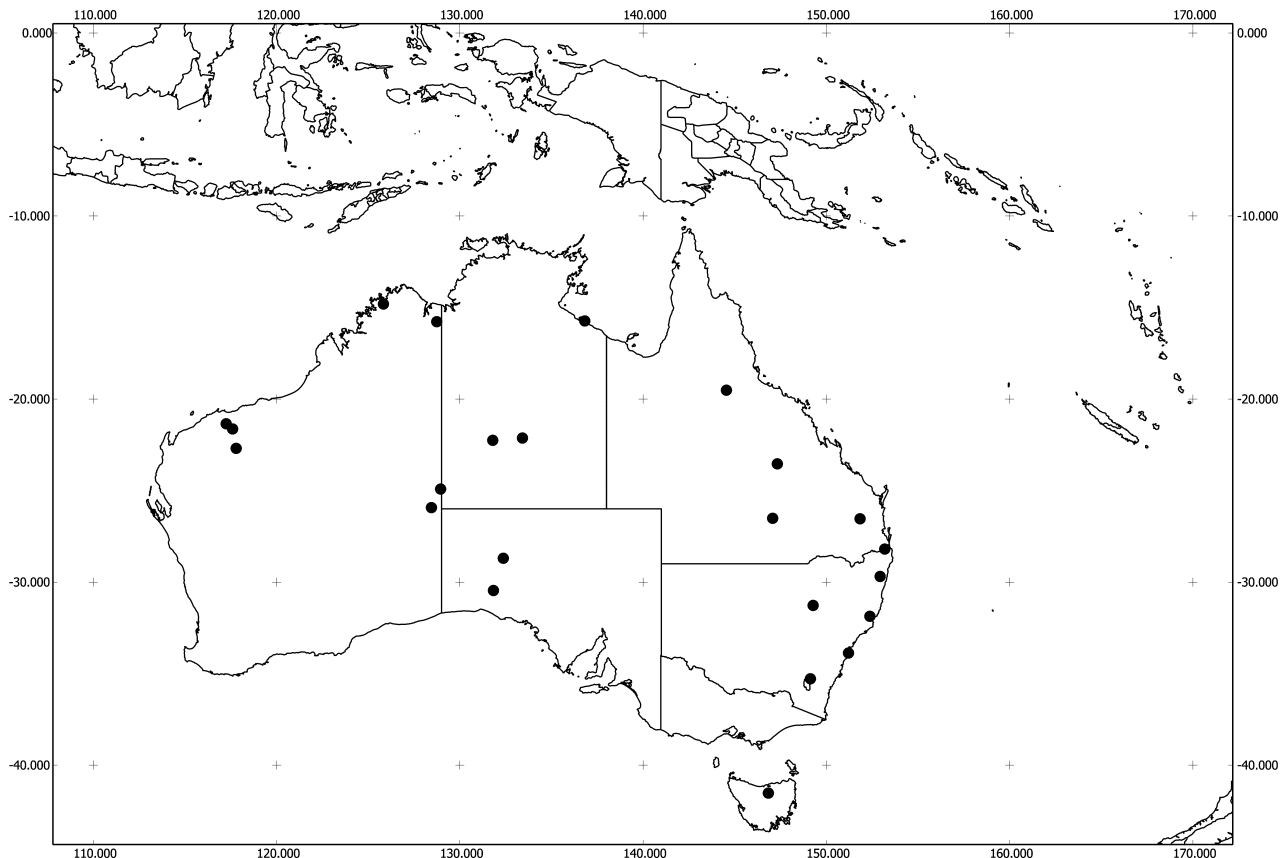


FIGURE 24. Distribution of *Eunatalis integra*.

**Elytra:** Elytral length to width ratio 2.76:1; elytra dark brown to black, with isolated pilosity; elytral base slightly wider than pronotum, broader behind middle, dorsally sinuate, apex rounded; punctations in basal half as wide as interstices, becoming smaller towards apex; elytral punctation with three nodules (laterally distinct, basally very weak); punctations of tenth stria distinct up to shortly behind middle; punctations of ninth stria vestigial, sometimes distinct; interstices very weakly ridged, with distinct microsculpture; humeri distinct.

**Lower surface:** Dark brown, with isolated pilosity; procoxal cavities opened posteriorly; prosternal process lighter; metaventricle with weak wrinkles; posterior part of mesepisternum smooth.

**Legs:** Black, with isolated pilosity and weak wrinkles; mesotibiae bent.

**Abdomen:** Tegmen closed ventrally; phallic tip triangular, with hook-like structure; spicular fork fused halfway; pygidial processes conspicuously extended.

**Distribution:** Australia, Tasmania.

**Seasonal occurrence:** Collected from August to May.

### ***Eunatalis laevicollis* (Blackburn, 1899)**

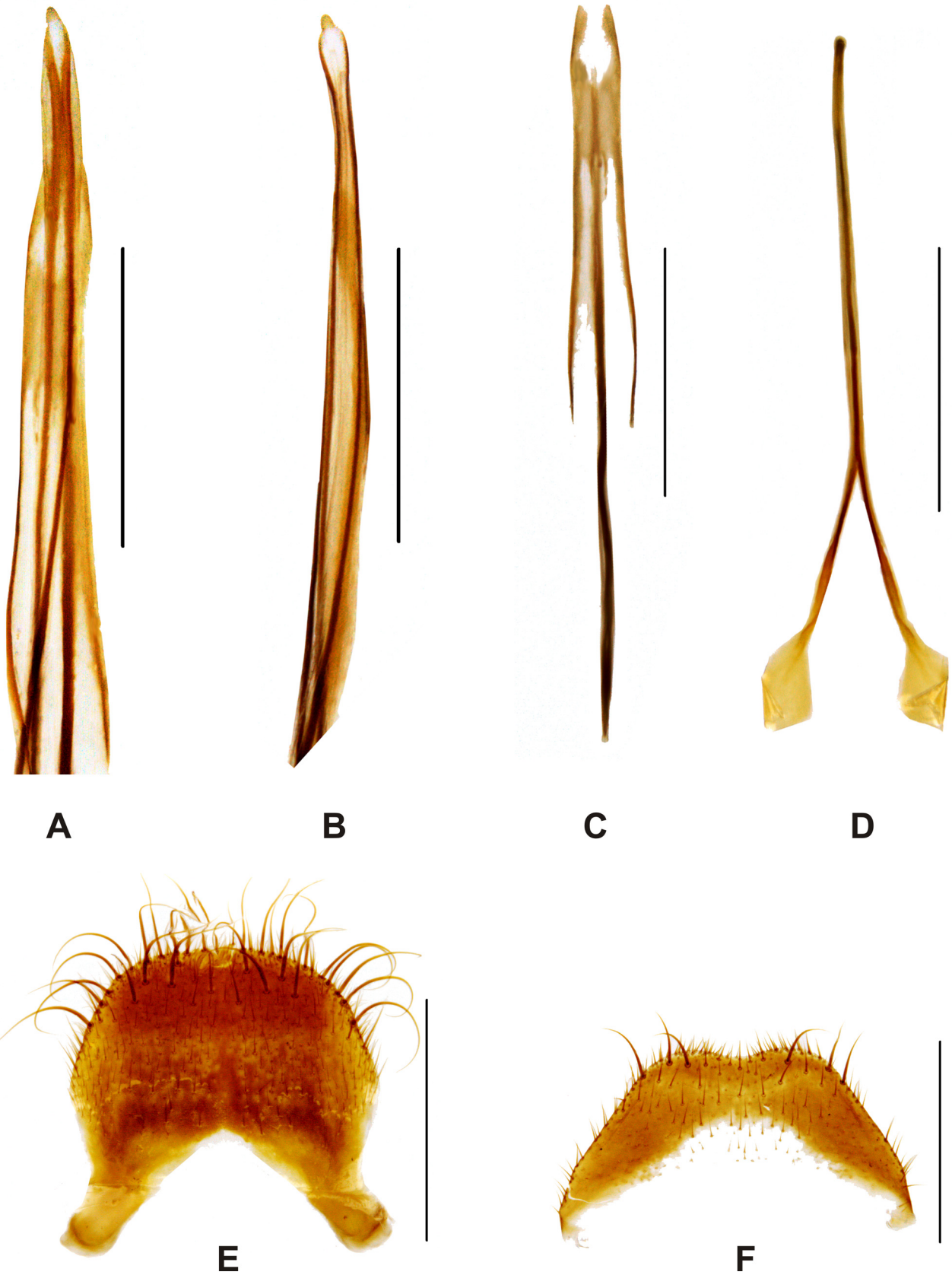
(Figures 25–26, 56B)

*Natalis laevicollis* Blackburn, 1899: 30, 31.

**Specimens examined: Holotype:** 6395, N.Qu.T., Australia., Blackburn Coll., B.M. 1910-236., *Natalis laevicollis*, Blackb.; TYPE (BMNH).

**Comment on the type specimen:** Blackburn (1899: 31) mentioned a single specimen in the original description and refers to it as "the type". The specimen labelled 'TYPE' in the Natural History Museum, London (BMNH) is therefore considered the holotype, fixed by original designation (ICZN 1999, Article 73.1.1).

**Others:** 4 Mile Hill, Cooktown, Qld 4 Jan. 1994, 15:28S 145:13E (GPS) M.S. & B.J. Moulds, K 324498 (AM). QLD; Cape York Pen., Heathlands Hsd, 11:45S 142:34E, 10 Mar. 1992, G. Cassis, at light at pumphouse, K324497 (AM). 11.45S 142.35E QLD, 1 km S of Heathlands, 24 Jul 1992 at light, P.Zborowski & E.S.Nielsen (ANIC). Qld. Greenvale 70 km SW at light 14–23, Feb. 96, A.J.Watts, No. 25-036073 (SAMA). 1 mi. S. of Mataranka, N.T., at light., 19.iii.66., J.A.Mahon (ANIC). 20.30S 144.50E, QLD, Wishaw Station near White Mountains N.P., 6 Apr. 2000, T. Weir, at light (ANIC). 20.27S 144.50E, QLD, White Mountains N.P., 1 km W of RSQ/AG, Base Camp, 5 Apr. 2000, T. Weir (ANIC). MT. GARNET., N.Q., 1/13., GB, J.C. Brooks, Bequest, 1976 (ANIC). 11.45S 142.35E, Heathlands, QLD, 15–26 Jan. 1992, T.A.Weir, I.D.Naumann at light (ANIC). 17°38'36S 145°27'29E, Atherton Tableland, QLD, Millstream Nat. Pk., 6–12 Mar. 1998, M.Neave, A.Calder, & A Strazynski (ANIC). Qld. Greenvale 70 Km SW at light 14–23, Feb. 96, A.J.Watts, No. 25-036052 (SAMA). Qld. Greenvale 70 Km SW at light 14–23 Feb. 96, A.J.Watts, No. 25-036069 (SAMA). Qld. 70 km SW Greenvale., 1–10 Feb. 95, A.J.Watts, No. 25-036079 (SAMA). Qld. Greenvale 70 Km SW at light 1–20 Mar. 96, A.J.Watts, No. 25-036078 (SAMA). Qld. Greenvale 70 Km SW at light. 28 Mar.–7 Apr. 1995, A.J.Watts, No. 25-036081 (SAMA). Qld. Greenvale 70 Km SW at light. 28 Mar.–7 Apr. 1995, A.J.Watts, No. 25-036092 (SAMA). Qld. Greenvale 70 Km SW at light 14–23 Feb. 1997, A.J.Watts, No. 25-036094 (SAMA). Qld. Greenvale. 70km SW at light. 28 Mar.–7 Apr. 1995, A.J.Watts, No. 25-036091 (SAMA). Qld. Greenvale 70km SW At light 1–10 Mar. 1995, A.J.Watts, No. 25-036090 (SAMA). Qld. Greenvale 70 Km SW at light 14–23 Feb. 96, A.J.Watts, No. 25-036101 (SAMA). Qld. Greenvale 70km SW at light. 28 Mar.–7 Apr. 1995, A.J.Watts, No. 25-036100 (SAMA). Qld. Greenvale. 70km SW at light. 28 Mar.–7 Apr. 1995, A.J.Watts, No. 25-036099 (SAMA). Qld. 70km SW GREENVALE. 15–24 Feb. 95, A.J.Watts, No. 25-036083 (SAMA). Queensland, Cape Bedford (ZMB). Qld. Greenvale 70 Km SW at light 14–23 Feb 96, A.J.Watts, No. 25-036064 (SAMA). Qld. Greenvale 70 Km SW at light 14–23 Feb. 96, A.J.Watts, No. 25-036063 (SAMA). 11.45S 142.35E Heathlands dump QLD, 25 Jul 1992 at light, P.Zborowski & E.S.Nielsen 2 ex. (ANIC). Qld. Greenvale 70 Km SW at light 14–23 Feb. 96, A.J.Watts, No. 25-036062 (SAMA). Qld. Greenvale. 70km SW at light. 28 Mar.–7 Apr. 1995, A.J.Watts, No. 25-036066 (SAMA). Qld. Greenvale 70 Km SW at light 14-23 Feb 96, A.J.Watts, No. 25-036098 (SAMA). Qld. Greenvale 70 Km SW at light 14–23 Feb. 96, A.J.Watts, No. 25-036065 (SAMA). Qld. Greenvale 70 Km SW at light 14–23 Feb. 96, A.J.Watts, No. 25-036055 (SAMA). 4 miles NE Mt. Lamond, Iron Range, Qld, 8 Jan. 1972, mv light., D.K.McAlpin, G.A.Holloway K 324459 (AM). 11.49S 142.30E, Cholmondeley Creek, 11km SW by W of Heathlands, QLD, 20 Mar 1992, D.C.F.



**FIGURE 25.** *Eunatalis laevicollis*: (A) Phallus lateral, (B) Phallus ventral, (C) Tegmen ventral, (D) Spicular fork, (E) Pygidium, (F) Ventricle VI.

Rentz stop 9 2 ex. (ANIC). AUSTRALIEN, N-QLD, Mt. Garnet, 110 km SW Cairns, 16.1.1989, leg. Lamond (RGCM). 11.45S 142.35E, Heathlands, QLD, 15–26 Jan. 1992, T.A.Weir,I.D.Naumann, at light (ANIC). ME Q:22°02'Sx148°03'E, Moranbah, 3kmS, bendee, 24–26 Mar. 2000., G.B.&S.R. Monteith., at M.V. light, 9265 (QM). Coominglyah St.For., QLD.22km NW Monto, 23 Dec. 1982, J.T.Doyen coll. (ANIC). Townsville, Qld., F.P. Dodd., 13.11.01, Schenkling det., Col-02935, *Eunatalis fasciata* Blackb. (SDEI). Cape York, Col-02943, *Eunatalis* sp. (SDEI). Qld. Greenvale 70 Km SW at light 14–23 Feb. 96, A.J.Watts, No. 25-036060 (SAMA). 11.45S 42.35E, Heathlands QLD, 1–6 Apr 1993 at light, P. Zborowski, *Claerine Opilo* sp. (ANIC). Cape York, *Natalis laevicollis* ? Blackb. (MNHN). AUSTRALIA, Qld, Edungalba, 8.1.1968, leg. G. Hangay (HNHM). Austral.North.T., Beswick,I.198, leg.H. Demarz (RGCM). Queensland, Cape Bedford, *Eunatalis* sp.No. 61 H. (ZMB). Australien, 864., FIELD MUS. (F. Psota Coll.) (FMNH). 3455, Relton Bequest, *Natalis porcata*.Fab. (QM). Qld. Greenvale. 70km SW at light. 28 Mar.–7 Apr. 1995, A.J.Watts, No. 25-036067 (SAMA). Qld. Greenvale 70 Km SW at light 14–23 Feb. 1996, A.J.Watts, No. 25-036056 (SAMA). AUSTRALIA, QLD, Mt. Surprise, 3.1993 Lamond (RGCM). AUSTRALIA; QLD, Normanton, 1.1996, leg. Lamond (RGCM). 11.50S 142.30E, Dulhunty R., 13 km SW Heathlands Q., 21 Mar 1992, E.D. Edwards (ANIC). H. Hacker, N. Pine R., 12-10-25 (QM). N. Queensland, 7.2.2000, Mt. Carbine, Sv. Bily leg. (JRCP). Austr., NT, 25km S of Katherine, 25.12.08–1.1.09, 14°31'S 132°25'E, 168m, Sv. Bily leg. (JRCP).

**Diagnosis:** The pronotum of *E. laevicollis* is laterally sinuate and convergent towards the apex; the prothorax is glossy black. The tegmen is characterized by its long lateral processes and two-thirds of the spicular fork is fused.

**Length:** (61 specimens measured) Total length: 15–23 mm.

**Head:** Black, with isolated pilosity; with dense, small punctation and isolated large punctures; epistomal suture distinct; interocular space about one eye width.

**Thorax:** Pronotal length to width ratio 1.05:1; pronotum glossy black, with isolated pilosity, weak punctation, sides sinuate, wrinkled; convergent towards apex; grooves of sub-basal collar distinct, separated by a bar. Scutellum dark brown to black, with weak punctation.

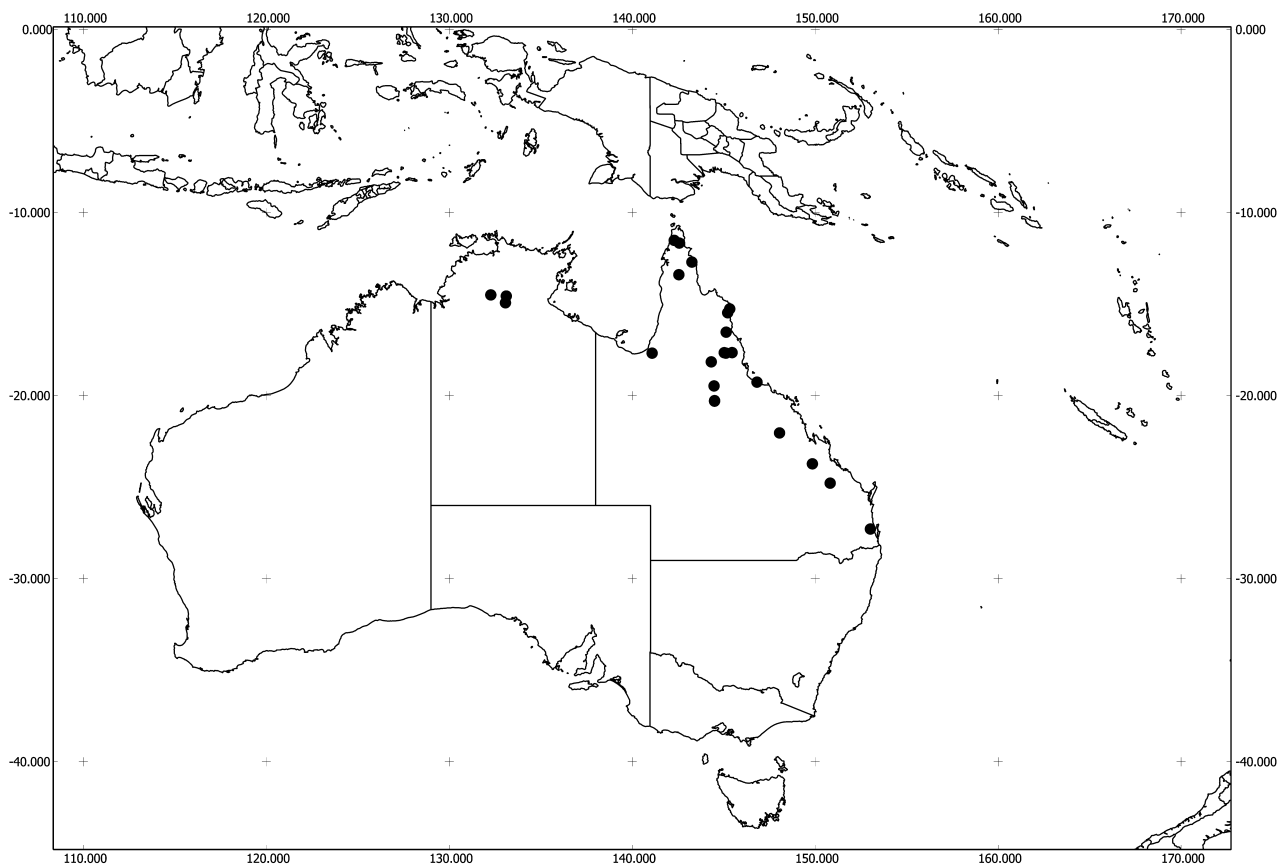


FIGURE 26. Distribution of *Eunatalis laevicollis*.

**Elytra:** Elytral length to width ratio 2.32:1; elytra black, partly with a reddish sheen and a broad, reddish transverse fascia; with isolated pilosity; elytral base as wide as pronotum, broader behind the middle; diameter of punctations in basal half as wide as interstices, diameter of punctations in rows 1 to 4 conspicuously decreasing behind middle, diameter of punctations of rows 5 to 8 decreasing just before apex; punctations of tenth stria distinct up to shortly behind middle; punctations of ninth stria vestigial; elytral punctation with three nodules; interstices 2 only ridged in basal half, interstices 4 ridged shortly behind base, interstices 6 ridged behind middle, interstices with more or less distinct microsculpture.

**Lower surface:** Dark brown to black, with dense pilosity; procoxal cavities slightly opened posteriorly.

**Legs:** Black, with isolated pilosity, with dense punctation and wrinkles; mesotibiae conspicuously bent.

**Abdomen:** Tegmen closed ventrally, with long processes laterally; spicular fork fused to two-third.

**Distribution:** Coastal region of Queensland, northern part of Northern Territory.

**Seasonal occurrence:** Collected during the whole year.

### ***Eunatalis laevis* (Waterhouse, 1894)**

(Figures 27–28, 56C)

*Natalis laevis* Waterhouse, 1894: 287; Jordan 1894: t. 13, f. 14.

**Specimens examined: Lectotype** (designated here): Dorey, 94–27; *Natalis laevis* (Type) Waterh. (♀, BMNH).

**Comment on the type specimen:** As Waterhouse (1894) made no reference to specimens in his description it cannot be assumed that the nominal species-group name, *Natalis laevis*, was based on a single specimen. The 'type' specimen located in the Natural History Museum, London (BMNH) must therefore be considered a syntype (ICZN 1999: Article 73.2) and available for lectotype designation (ICZN 1999: Article 74.1).

**Others:** Owgarrá, B.N. Guinea Meek (MNHN). Terr. Papua/NG, Okapa Rd., Irafa 7000', 3.VI. 1972; *Eunatalis laevis* (C.O. Waterh.), J.R. Winkler det., 1972 (JKCB). Komba-Bez, D.N. Guinea, L. Wagner leg.; Nolte-Hannover, comp. 24.VIII.1931; Schenkling det., DEI Müncheberg Col-02893 (SDEI). N. Guinea, Hatam: VI, Beccari 1875; *Eunatalis laevis* Waterh.; Teste Schenkling; cfr. schada N. 6492 (MNHN). New Guinea: Tifalmin, IV: 1970, leg. W. Wheatcroft; Collection of Verne Reaves, 2 ex. (FMNH). New Guinea: Tifalmin, XII: 1970, leg. W. Wheatcroft; Collection of Verne Reaves (FMNH). Arfak, Irian Jaya, Indonesia, VII. 2005 (RGCM).

**Diagnosis:** *E. laevis*, the largest clerid species, is distinctly characterized by its size and obsolete elytral punctation.

**Length:** (9 specimens measured) Total length: 36–53 mm.

**Head:** Black, with isolated pilosity; with dense, small and large punctation, with weak wrinkles; interocular space about one eye width.

**Thorax:** Pronotal length to width ratio 0.95:1; pronotum dark brown to black, with isolated pilosity and punctation, conspicuously wrinkled laterally; strongly convergent towards apex; dorsal longitudinal groove very weak to absent; grooves of sub-basal collar less distinct, fused. Scutellum dark brown to black.

**Elytra:** Elytral length to width ratio 2.61:1; elytra light brown to black, with very isolated pilosity; elytra broader behind middle; with hidden punctation (only very minute punctations between interstices); interstices 2, 4 and 6 weakly ridged; interstices with distinct microsculpture.

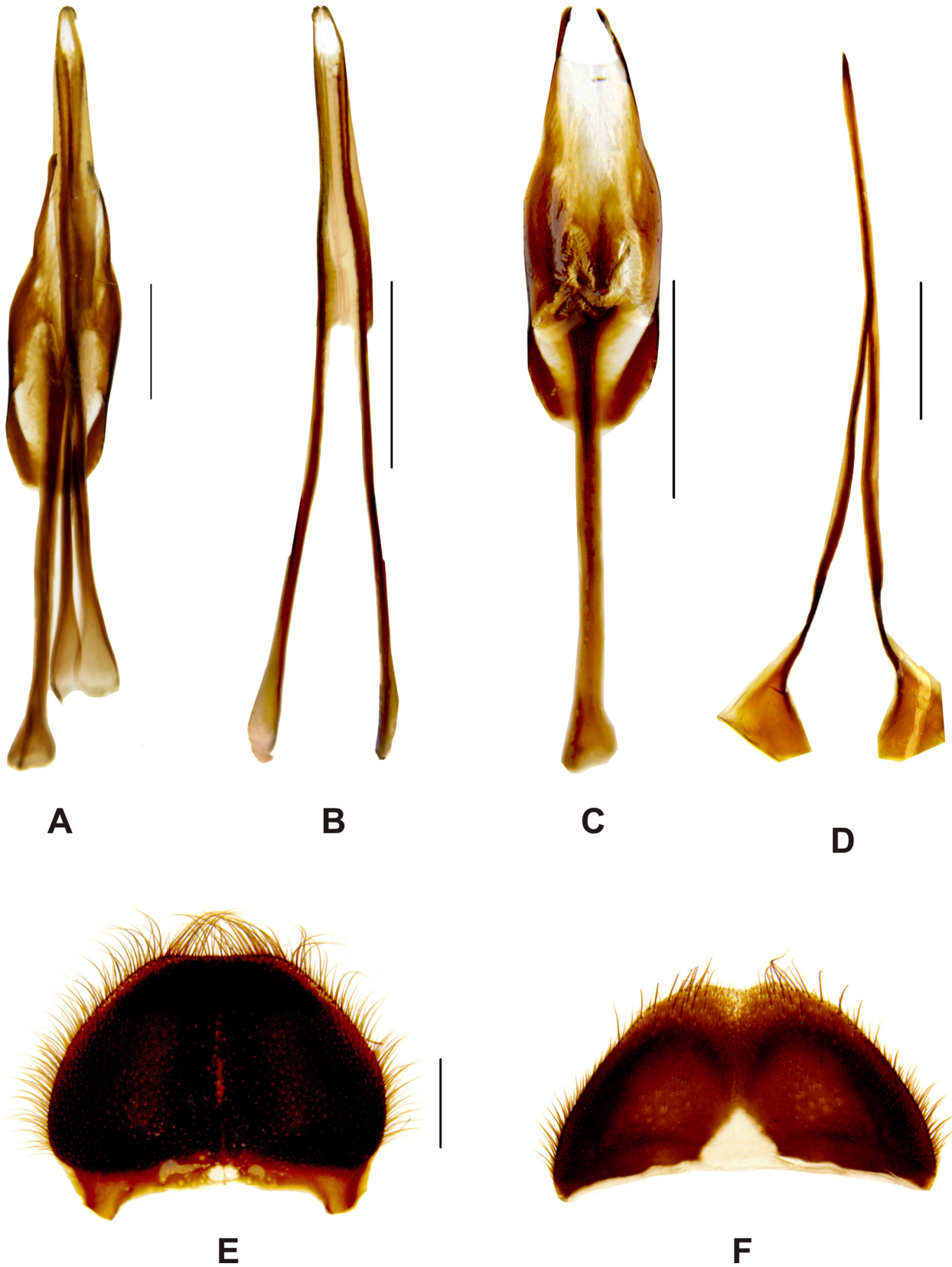
**Lower surface:** Dark brown to black, with dense pilosity; procoxal cavities slightly opened posteriorly.

**Legs:** Black, with dense pilosity mainly at the inner edge of femora, with dense punctation and wrinkles; mesotibiae conspicuously bent.

**Abdomen:** Tegmen closed ventrally, constricted conspicuously towards apex; phallic tip open; spicular fork fused halfway.

**Distribution:** New Guinea.

**Seasonal occurrence:** Collected during the whole year.



**FIGURE 27.** *Eunatalis laevis*: (A) Phallus lateral, (B) Phallus ventral, (C) Tegmen ventral, (D) Spicular fork, (E) Pygidium, (F) Ventrite VI.

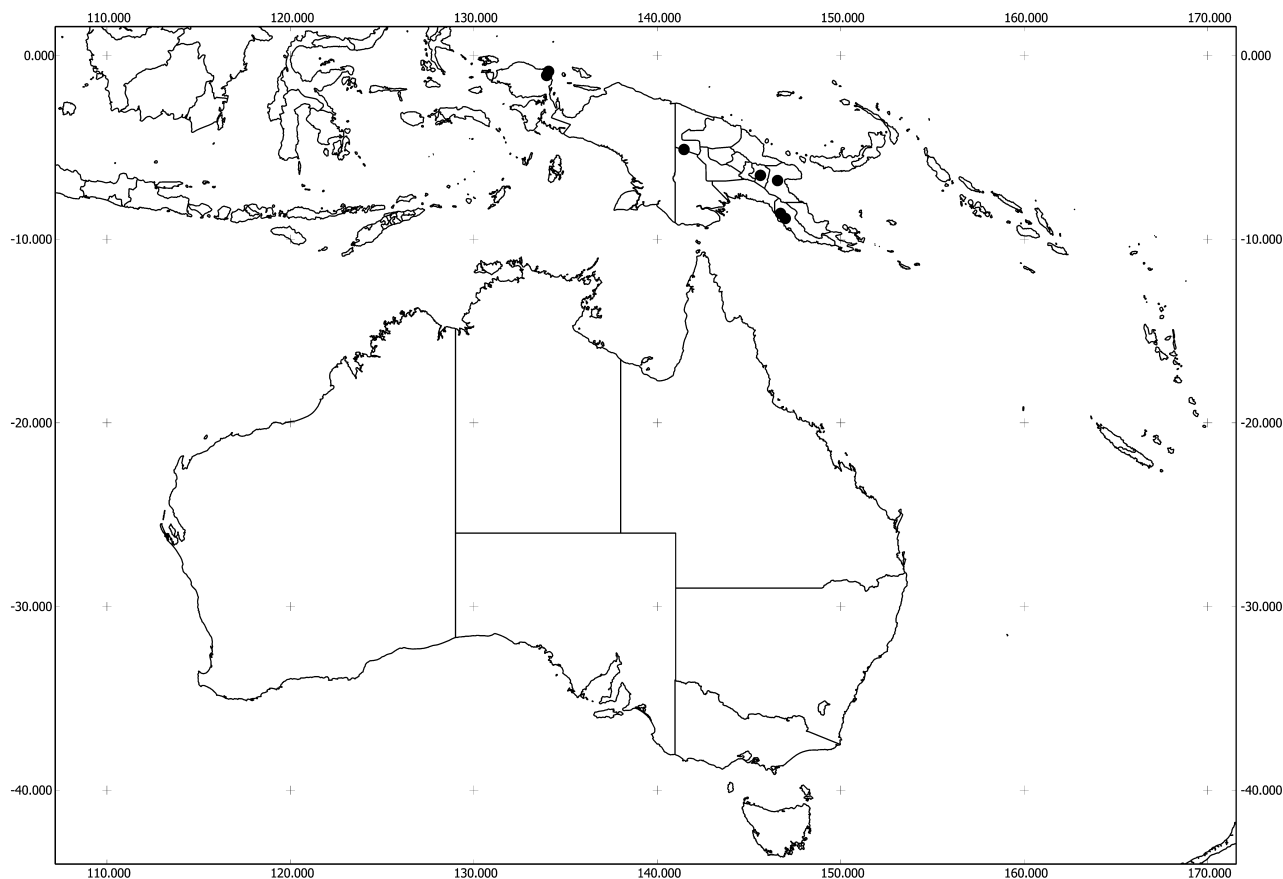


FIGURE 28. Distribution of *Eunatalis laevis*.

***Eunatalis lugubris* (Blackburn, 1890)**

(Figures 29–30, 56D)

*Natalis lugubris* Blackburn, 1890: 123; Blackburn 1899: 29, 31.

*Eunatalis blackburni* (Waterhouse, 1894): 286; Blackburn 1899: 29 **n. syn.**

**Specimens examined:** *Natalis lugubris*: **Holotype:** Type, Australia, Blackburn Coll., B.M. 1910-236; *Natalis lugubris* Blackb. (BMNH).

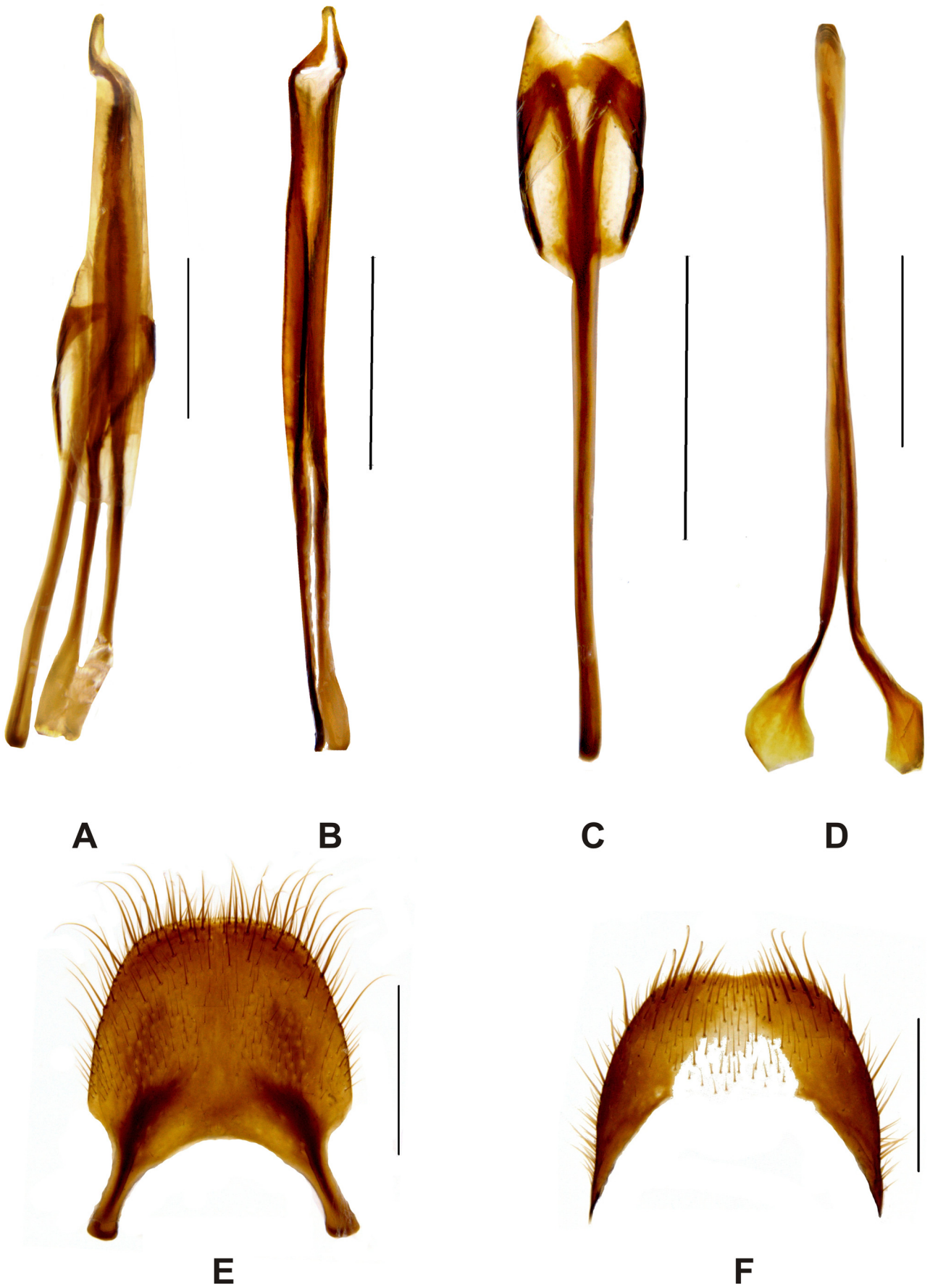
*Natalis blackburni*: **Lectotype** (designated here): Swan River, 75.12, *Natalis Blackburni*, (Type) Waterh., (TYPE) (♂, BMNH).

**Comment on the type specimens:** In stating "the example before me" in the original description, Blackburn (1890: 124) implied that the nominal species-group taxon, *Natalis lugubris*, was based on a single specimen. The 'type' located in the Natural History Museum, London (BMNH) is therefore considered the holotype, fixed by monotypy (ICZN 1999: Article 73.1.2). Waterhouse (1894), on the other hand, made no reference to specimens in his description of *Natalis blackburni*, so the 'type' specimen located in the Natural History Museum, London (BMNH) must therefore be considered a syntype (ICZN 1999: Article 73.2) and available for lectotype designation (ICZN 1999: Article 74.1).

**Others:** Bernborough Downs, via Winton, Qld, 24 December 1973, attracted to light, R. Patterson; 25-035945 (SAMA). Swan Riv. (MNHN). Mt. Tamborine, 27.12.50, C. Oke; Col-65727 (NMV). Pine Creek District, N. Territory; Col-02932 (SDEI). CEQ: Mt. Moffatt Nat. Park, 27 Nov.–2 Dec. 1997, J. Skevington, C. Iambkin, S.G. Evans, malaise 7, eucalypt grassland (QM). Qld: 26.357°Sx150.682°E, Barakula SF, site 4, 368m, 1–15 Dec 2009, Malaise, Monteith & Turco, 19182 (QM). CQ: 22°02'Sx148°03'E, Moranbah, 5km S, 240m, 20 Dec. 1997–26 Apr. 1998, G. Monteith, Fit. intercept, Bendee Scrub 5799, 2 ex. (QM). At light, 92mi S Nawha on Orroroo Rd, SA, 26



Oct. 1970, E.G. Matthews; 25-035891 (SAMA). MEQ: 22°36'Sx149°14'E, Mt. Bluffkin, 7km NNE, on road, brigalow, intercept, 16 Dec 1999–22 Mar 2000, Monteith, 160 m, 9230 (QM). Normanton, F.H.S. Roberts, May 1933; O-166573 (QDPC). Queensland. Cape Bedford (ZMB). QLD: 26°09'Sx148°41'E, Mt. Eumamurrin, 520m, 14 Dec. 2001–8 Mar. 2002, Monteith & Cook, FIT, cypress/ironbark, 10411 (QM). QLD: 26°01'Sx148°16'E, Mt. Hutton, 8.5 km SW, 15 Dec. 2001–6 Mar. 2002, Monteith & Cook, 550m, FIT, vine scrub, 10415 (QM). Qld: 26.434°Sx150.514°E, Barakula SF, site 1, 249m, 15–28 Dec. 2009, Malaise, Monteith & Turco, 19195 (QM). Victoria; *Natalis*, det. J. Frivaldszky (HNHM). Australia occid. 1192 (HNHM). SEQ: 25°12'Sx148°59'E, Expedition Ra NP, 5066, Amphitheatre camp, 560m, 17–19 Dec. 1997, Monteith, Cook, Thompson, Open for. (QM). Australia07, WA46, Ord R.Cr., nr. ivanhoe, 10km n. Kununurra, 15.41.40S, 128.41.31E, 35 m, 14.–15.11.2007, M. Baehr (RGCM). Australien, WA, Kimberley Region, Kununurra, 11/1989, leg. Lamond (RGCM). "Wingham Br???", 30 Dec. 1984, NSW, on dead standing tree, G. Hoye (ANIC). Launceston; *Natalis cribricollis*, Tasmania (ANIC). Moolooloo N.T., 22 SEPT 1972., D. Watson (ANIC). SEQ:25°37'Sx149°47'E, Taroom, 5km N, on Hwy, 17 Dec. 1997–4 Apr. 1998, G.B. Monteith. Brigalow, intercept. 200m 5796 (QM). Theodore., 6.1.33, 0-166571 (QDPC). CEQ: Mt. Moffat Na. Park, 27 Nov. –2 Dec 1997, J.Skevington, C.Lambkin, S.G.Evans, malaise 7, eucalypt grassland (QM). Qld:26.298°Sx150.876°E, Barakula SF, site 10., 420 m., 8–22 Jan. 2010., G.B. Monteith & F. Turco., Malaise., 19514 4 ex. (QM). Fortis Greek SF, N Grafton NSW, 4.iii.97, mv light, 97:450 Watkins (ANIC). QLD:24°48'Sx149°47'E, Brigalow Res.Stn., site 4, 16 Dec. 2000–28 Mar. 2001, Cook&Monteith., 170 m, FIT.brigalow.10018 (QM). Monsmont Rock shelter, east bank of Ord River, 7 mi WSW Argyle Downs Stn, W.Australia, mid October 1971, M. & E. Archer (WAMP). Qld:26.24°Sx150.81°E, Barakula SF, site 8., 424 m., 15–28 Dec. 2009., Malaise., Monteith & Turco., 19205 (QM). S.AUST., Cullyamurra WH, Cooper Creek, 140 50'E, 27 42'S, 21 Sept. 1990, J.Shaw, ANZSES survey, No. 25-035930 (SAMA). Qld:26.298°Sx150.876°E, Barakula SF, site 10., 420 m., 8–22 Jan., G.B. Monteith & F. Turco., Malaise., 18681 2 ex. (QM). HATTAH, VIC., C. OKE, COL-65754 (NVM). Queensland, Arnout, *Eunatalis laevicollis* 85, Ginter Ekis det. 19; Col- 02941 (SDEI). Millmerran, 27-11-26, J. Macqueen (ANIC). CPT.BEAMISH, 27.ii.67, DERBY, W.Australia (WAMP). WA: Kalbarri Caravan Park, 27°41'58"S, 114°10'16"E, 7 February 2004 /elev. 20 m), G. Byrne #339, 8:30am calm attracted to light (WAMP). D. D. Giuliani, 21.ix.1969, Broome, W. Australia (WAMP). QLD:26°01'Sx148°16'E, Mt. Hutton 8.5 km SW., 15 Dec. 2001–6 Mar. 2002., Monteith&Cook., 550 m., FIT. vine scrub. 10415, 2 ex. (QM). Qld:26.32°Sx150.72°E, Barakula SF, site 6., 378 m., 15–28 Dec. 2009., Malaise., Monteith & Turco., 19202 2 ex. (QM). SEQ:25°12'Sx148°59'E, Expedition Ra NP, 5735, 'Amphitheatre' camp, 560 m, 18 Dec. 1997–5 Mar. 1998, Cook&Monteith., Open for.intercept (QM). Coomoo, 1.4.85; Comp Type, E. lugubris Black., J.J.M. 1988. (BMNH). MEQ:22°36'Sx149°14'E, MtBluffkin, 7kmNNE, on road.brigalow,intercept, 22 Mar.–2 Jun. 2000., 160 m, Monteith & Cook., 9412 (QM). Qld:26.298°Sx150.876°E, Barakula SF, site 10., 420m., 23 Jan.–10 Feb. 2010., G.B. Monteith & F. Turco., Malaise., 19528, 3 ex. (QM). QLD:22°47'Sx149°54'E, Malborough Stn, 5km SW of Malborough., 15Nov2001, GN Batianoff & W. Stacey, Under Bark of E. fibrosa suspecies nov. (QM). Qld:26.298°Sx150.876°E, Barakula SF, site 10., 420m., 1–15 Dec 2009., G.B. Monteith & F. Turco., Malaise., 19190 3 ex. (QM). Forrest R., N. W. Australia, W. Crawshaw, *Eunatalis semicostata*. Blk., N.W. Australia (BMNH). AUSTRALIEN, WA, Kimberley Region, Kununurra, 1/1989, leg. Lamond (RGCM). Neu-Holland, Queensland, Laue S. Rolle V., 75468 (ZMB). C.QLD:22°02'Sx148°03'E, Moranbah, 5km S., 5642, 25 Jun.–20 Dec. 1997, G.Monteith & E.Kruck, Intercept, Bendee Scrub 2 ex.(QM). Qld:26.242°Sx150.824°E, Barakula SF, site 11., 450m., 1–15 Dec. 2009., G.B. Monteith & F. Turco., Malaise., 19192 (QM).Qld:26.24°Sx150.817°E, Barakula SF, site 8., 424m., 8–22 Jan. 2010., Malaise., Monteith & Turco., 19511 (QM). QLD:26°16'Sx148°43'E, Gubberamunda SF,site2., 14 Dec. 2001–6 Mar. 2002., Monteith&Cook., 350 m., FIT. cypress. 10413 (QM). N.Qld, COL-65733 (NMV). CQ:22°02'Sx148°03'E, Moranbah, 5kmS, 240 m, 20 Dec. 1997–26 Apr. 1998, G.Monteith.Fit.intercept, Gravel Ridge., 5801 (QM). SEQ:25°34'Sx151°42'E, Wetheron, 3kmSW.150m, 19 Dec. 1998–27 Jan. 1999, Monteith&Goug. vine scrub.intercept, 7585 (QM). Fowlers GAP NSW, Jan. 1981, D.G.Read, ex light trap, *Eunatalis* sp., det.T.A.Wier 1981 (ANIC). CQ:22°02'Sx148°03'E, Moranbah, 5kmS, 240 m, 20 Dec. 1997–26 Apr. 1998, G.Monteith.Fit.intercept, Bendee Scrub., 5799 (QM). Qld:26°298°Sx150°876°E, Barakula SF, site 10., 420m., 10–30 Nov. 200., G.B. Monteith & F. Turco., FIT. 18682 (QM). QLD:26°03'Sx150°49'E, "Wonga Hills" , site 4., 11 Dec. 2001–4 Mar. 2002., Monteith&Cook., 470 m., FIT. Brigalow., 10403 (QM). 77 km. S of Jericho, Qld. T.M. Hanlon, ex. *Bursaria incana*, K 324504 (AM). Tammin, W.A.W.D.B., COL-65734 (NVM). Leigh Ck., Ca.A., No. 25-036116 (SAMA). CQ:22°16'Sx147°16'E, MazeppaNP.S.end. 240 m, 24 Oct.–18 Dec. 2000.



**FIGURE 29.** *Eunatalis lugubris*: (A) Phallus lateral, (B) Phallus ventral, (C) Tegmen ventral, (D) Spicular fork, (E) Pygidium, (F) Ventrite VI.

Cook & Monteith. brigalow. FIT Intercept trap., 9829 (QM). Qld: 26.298°S x 150.876°E, Barakula SF, site 10., 420 m., 8–22 Jan. 2010., G.B. Monteith & F. Turco., FIT. 19515 (QM). south boundary, Fortis Creek NP, north of Grafton NSW, 20.xii.1998, mv light, Watkins, elev.: 50 metres (ANIC). MOGRIGRAY, 20-1-1979, N.S.W., K 324471 (AM). Marloo Stn., Wurarga, W.A., 1931–1941, A.Goerling (ANIC). CQ: 22°16'S x 147°16'E, Mazeppa NP. S.end., 18 Dec. 2000–26 Mar. 2001. Cook & Monteith. 240 m, FIT brigalow, 10003 (QM). Kimberley, West Aust., W. Crawshaw, K 324402, *Neutalis semicostatus* Bl., 1942, Id. By A.H.Elston (AM). Titana Th., Victoria Müller 85, n.titana thoms. 290. Victoria v.müller 85 (SMNS). Coen Queensland Col-02933 (SDEI). Retvo Station, 20 Mi. W. of Capella, Queensland, Austr., Dec. 1936 (JRCP). W Australia, Mc Dermid Rock, 20.x.2001, S. Bily leg.; ex. I. XII.2002, *Acacia lasiocalyx* (JRCP).

**Diagnosis:** The pronotum of *E. lugubris* is as long as wide, not conspicuously sinuate and only slightly wrinkled laterally; the apex is characterized by an oblique fovea at each side. The tegmen is, in comparison to phallus, very short and the phallic tip is slightly Z-shaped. The spicular fork is fused to four-fifths its length.

**Length:** (109 specimens measured) Total length: 18–33 mm.

**Head:** Black, with isolated pilosity; with dense, small punctation and isolated large punctures; epistomal suture distinct; interocular space about one eye width or only slightly more.

**Thorax:** Pronotal length to width ratio 1.0:1; pronotum dark brown to black, with isolated pilosity and punctation, wrinkled laterally; slightly convergent towards apex; apex with an oblique fovea at each side; grooves of sub-basal collar fused or separated. Scutellum dark brown to black, with weak punctation.

**Elytra:** Elytral length to width ratio 2.42:1; elytra dark brown to black, with isolated pilosity; base of elytra slightly broader than pronotum, subparallel or broader behind the middle; elytral punctation oblong in basal half, diameter of punctations as wide as interstices, abruptly decreasing behind the middle, towards apex almost becoming extinct; punctations of tenth stria distinct up to middle; punctations of ninth stria vestigial; elytral punctation with three nodules; interstices 2 and 4 ridged shortly behind base, interstices 6 and 8 weakly ridged behind the middle, interstices with conspicuous microsculpture.

**Lower surface:** Dark brown to black, with dense pilosity; metaventrite with dense punctation, weakly wrinkled; abdominal ventrites 2 and 3 with dense, light pilosity in the middle; procoxal cavities slightly opened to closed posteriorly.

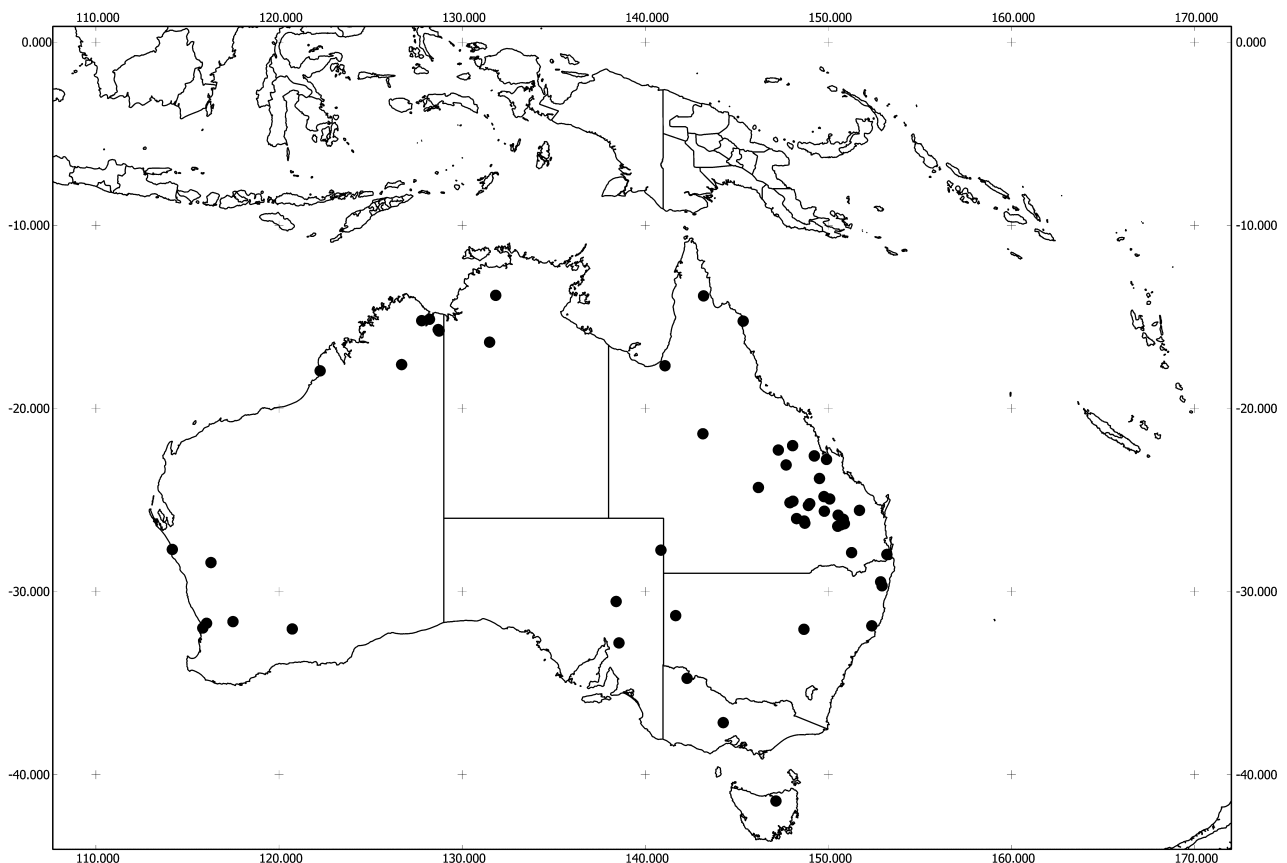


FIGURE 30. Distribution of *Eumatalis lugubris*.

**Legs:** Black, with dense pilosity and with dense punctation, with fine wrinkles; mesotibiae conspicuously bent.

**Abdomen:** Tegmen slightly opened ventrally, tegmen in comparison to phallus very short; phallic tip slightly bent Z-shaped, open; spicular fork fused to four-fifth.

**Distribution:** Mainly in Queensland, with further single locations in Western Australia, Northern territory, South Australia, New South Wales and Tasmania.

**Seasonal occurrence:** Collected in November and December.

**Remarks:** *E. lugubris* shows no morphological differences to *E. blackburni* and therefore *E. blackburni* was synonymized with *E. lugubris*. There is a hook-like structure at the ventral sides of the tegmen of *E. blackburni*, but this seems to be in the shape of variation.

### ***Eunatalis mastersii* (MacLeay, 1873)**

(Figures 31–32, 56E)

*Natalis mastersii* MacLeay, 1873: 269.

**Specimens examined: Lectotype** (designated here): *Natalis mastersii* fab., Gaynda, K34049, K 209225; TYPE (♂, AM).

**Comment on the type specimen:** As Macleay (1873: 269) made no reference to specimens in his description it cannot be assumed that the nominal species-group name, *Natalis mastersii*, is based on a single specimen. Despite being labelled 'holotype' (a recent, not original, label) the 'type' located in the Australian Museum, Sydney (AM) must be considered a syntype (ICZN 1999: Article 73.2) and is therefore available for lectotype designation (ICZN 1999: Article 74.1).

**Others:** Belgrave. V., 22.11.19, C. Oke (NVM). *Natalis mastersii* fab., Gaynda, K34049, K 209225; TYPE (AM). Noble Park, V., 30.8.1919, F.E. Wilson, 1881, COL-65737 (NVM). Mallee Dist., V., E.T. Smith (NVM). N.S.W. n.Holl. (MNHN). NATALIS PORCATA-FAB., MELBOURNE. Vic, Coll. & det. W.W. Froggatt (ANIC). Australia, occid. 1192, det. CORPORAL 1988, *Eunatalis fasciata* Blackb. (HNHM). Emu Vale Q, 25.7.23 (QM). S. Aust. Eyre Pen., Lake Gilles Nat.Pk., At light., 13 Nov. 1975., J.A. Herridge. (SAMA). N.S.W. Ourinbah, Ch. Schindler, 1905 (MNHN). 35.30 S 150.18 E, Kioloa SF 15km NE, Batemans Bay, NSW, Oct.86 M.G. Robinson flight interc.trap (ANIC). Australia, Victoria (ZMB). F.H. du Boulay, Beverley, W.A., No. 25-035843 (SAMA). 43-435, Wamenusking, Reg no. 83271 (WAM). Reedy eK., New South Wales., 2:10:1972, D.A. Doolan., K-324463 (AM). Galston Gorge, New South Wales., 29:9:1963, D.A. Doolan, K-324430 (AM). AUSTRALIA. NSW, 15 km n, Armidale, 28.11.1990, leg. R. Gerstmeier (RGCM). Northampton Umg. W. Austral., Demarz, 16.8.59 (RGCM). N.Holland (NMPC). Noble Park, V., 30.8.1919, F.E. Wilson, K324342 (AM). 10.5KM SOUTH PEATS RIDGE SYDNEY, N.S.W, 26 SEPT 1987, R. DE Keyrer, K 324488 (AM). Black Mt. A.C.T. light trap 23.i.68, M.S. Upton (ANIC). Staatl.Mus.F.Tierk.Dresden, Australia, Victoria (MTD). WATERFALL, 8-9-1956, N.S.W., K 324425 (AM). Australien, Sydney 3181, leg. Wachtel, *Eunatalis porcata* (RGCM) . SA. Chowilla CK., 9–11 Apr. 1966, R. Edwards, No. 25-035974 (SAMA). Black Mt. A.C.T. light trap 19.ii.68, M.S. Upton (ZMB). Enfield, NSW., K 28974, E.P.Ramsay, K 324419 (AM). Mallee Dist., V., E.T. Smith (MVM). Victoria, Australia N.S. Wales, *Natalis porcata*. 7 (BMNH). Black Mt. A.C.T. light trap, 26 i 68, M.S. Upton (ANIC). Mus. Western.; N. porcatus, Diemans Land, Lyell (ZMUC). 17801; Port Phil. Coul; Hist.-Coll. (Coleoptera) Nr. 17801, *Natalis constrictus* N. Pt. Philipp, Coulon (ZMB).porcata F. Vict. Müller 70 (SMNS). Beaumaris (MVM). Parramatta, K-324379 (AM).

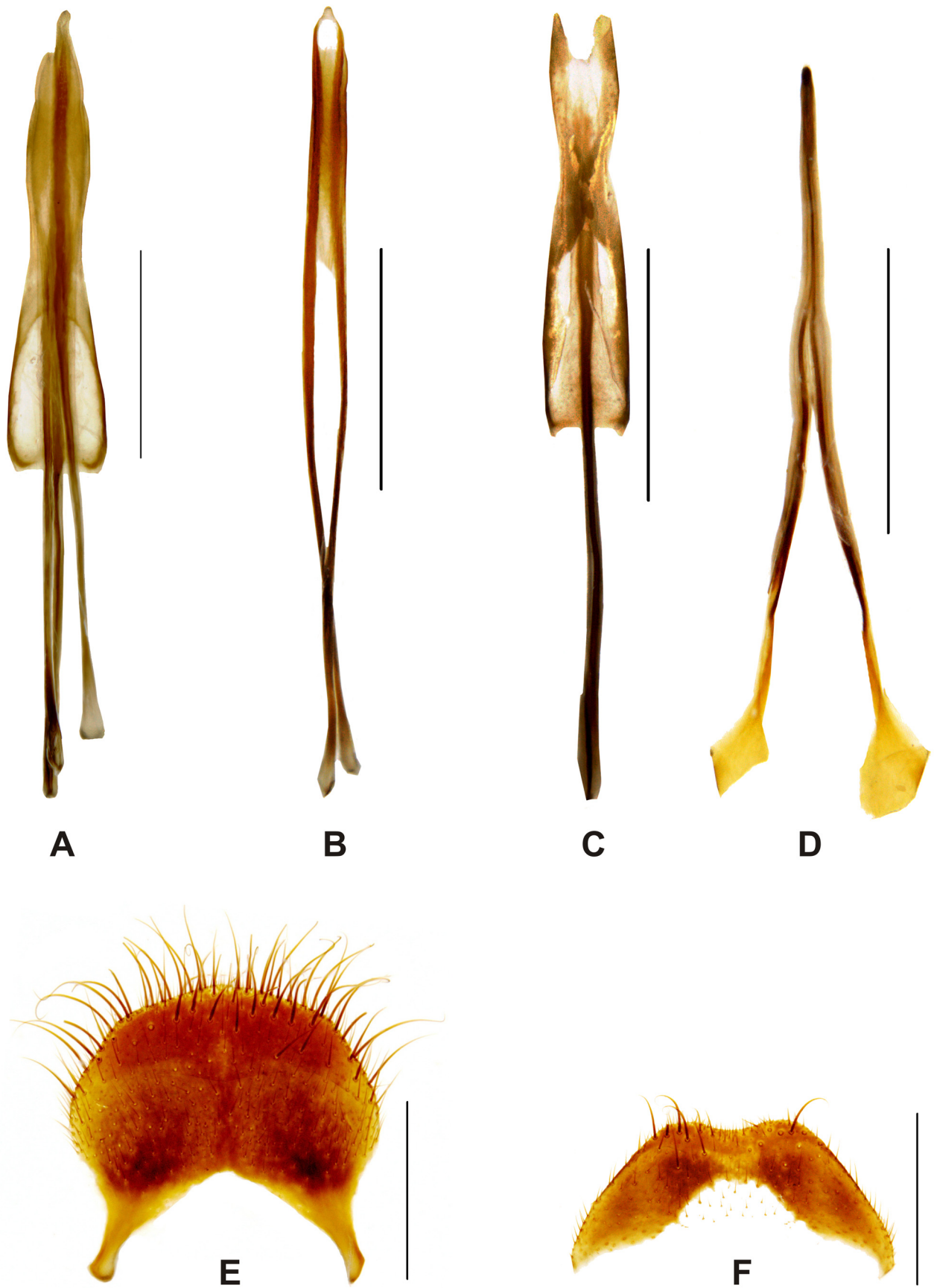
**Diagnosis:** The pronotum of *E. mastersii* is longer than wide, conspicuously sinuate and convergent towards apex. The tegmen is conspicuously narrower in the middle than basally and apically.

**Length:** (49 specimens measured) Total length: 12–23 mm.

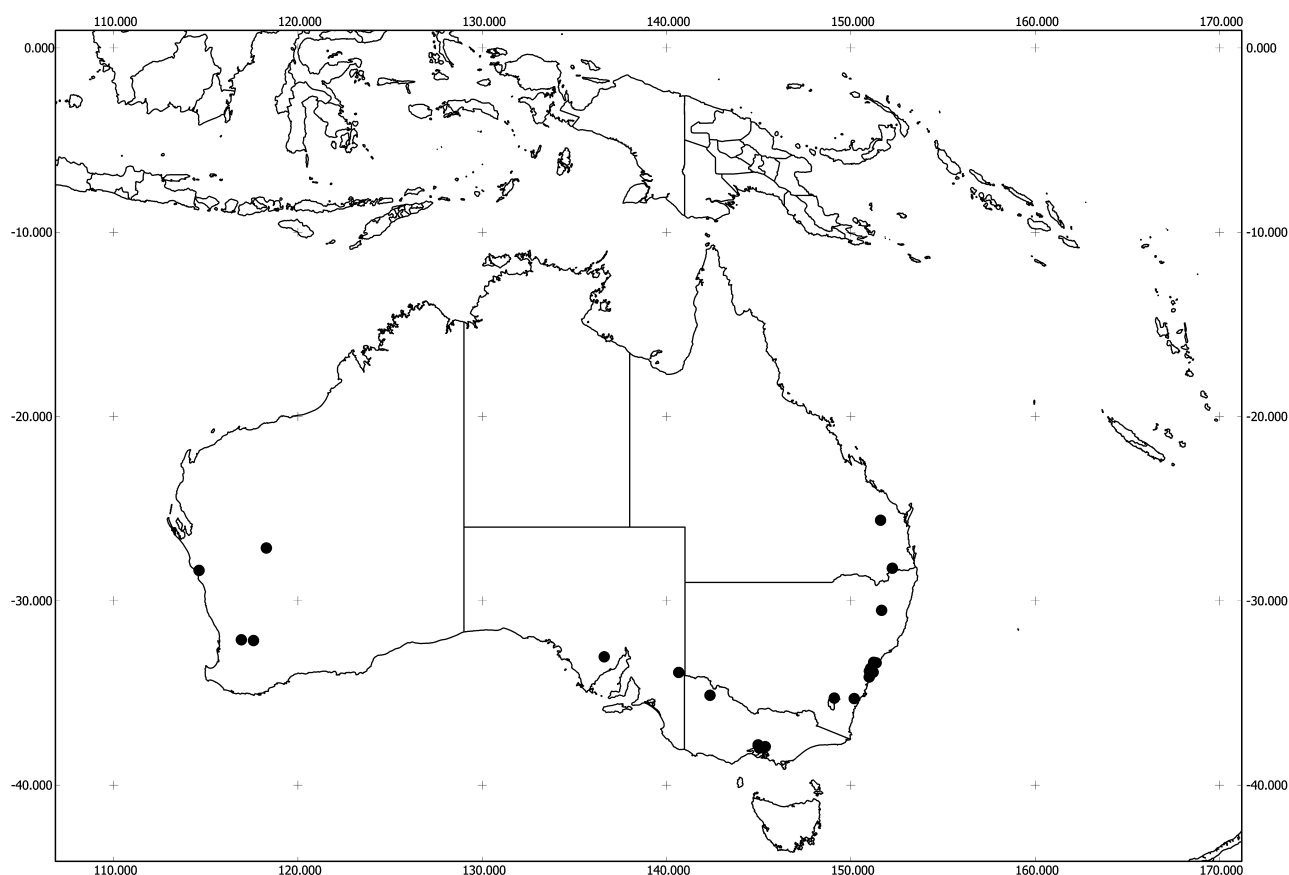
**Head:** Black, with isolated pilosity; with dense punctation and fine wrinkles; epistomal suture distinct; interocular space about one eye width.

**Thorax:** Pronotal length to width ratio 1.15:1; pronotum dark brown to black, with isolated pilosity and dense punctation, conspicuously sinuate, wrinkled (but not deeply) laterally; convergent towards apex; longer than broad; grooves of sub-basal collar separated by a wide, distinct bar. Scutellum black, with isolated pilosity and punctation.

**Elytra:** Elytral length to width ratio 2.58:1; elytra dark brown to black, partly shining reddish in basal half, with isolated pilosity; elytral base less broad than pronotum, slightly wider behind the middle; diameter of punctations slightly broader than interstices, punctations of striae 1 to 4 conspicuously decreasing from the middle,



**FIGURE 31.** *Eunatalis mastersii*: (A) Phallus lateral, (B) Phallus ventral, (C) Tegmen ventral, (D) Spicular fork, (E) Pygidium, (F) Ventricle VI.



**FIGURE 32.** Distribution of *Eunatalis mastersii*.

diameter of striae 5 to 8 conspicuously decreasing just before apex; punctations of tenth stria distinct up to shortly behind middle; punctations of ninth stria vestigial; elytral punctation with three nodules; interstices 6 and 8 weakly ridged from shortly behind the middle; interstices with weak microsculpture.

**Lower surface:** Dark brown to black, with isolated pilosity and punctation; procoxal cavities closed posteriorly.

**Legs:** Dark brown, with isolated pilosity and fine punctation; pro- and mesotibiae conspicuously bent.

**Abdomen:** Tegmen in the middle conspicuously narrower than basally and apically; closed ventrally; spicular fork fused up to middle.

**Distribution:** Mainly in the southern parts of Australia.

**Seasonal occurrence:** Collected from August to April.

***Eunatalis ninae* Gerstmeier & Seitner 2013, n. sp.**

(Figures 8, 33–34, 56F)

**Specimens examined: Holotype:** Sydney, C. Gibbons; K 324377 (AM).

**Paratypes:** Brisbane 1/33; longicollis 24.B1kb (ANIC). Brisbane, Hacker; coll. Hacker; Schenkling det.; Col-02906 (SDEI). Brisbane; 25-035872 (SAMA). Host-Ancita, marginicollis, Forest Hill, Dec 1933, A.R.B.; O-166580 (QDPC). Kenmare, Qld., 14.i.1967, J.F. Donaldson; O-166578 (QDPC). Quaibray Bay, NSW 22-I-83, S. Watkins (ANIC). Rockhampton (MTD) + (MNHN). Australia: Swansea, NSW, XI-50, J. Sedlacek (MZM). Sydney district, NSW, J.J.W., 12/1900, 4 ex. (HEC). Sydney, N.S.W., J.J. Walker; *Natalis* nov.spec.; *Natalis* n.sp., S. Schenkling det. (CMSD). Sydney (QM). N. Holl, Sidney (MNHN). 34°20'0"Sx140°34'1", Eckerts Creek, S.A., 25-Sep-1998, Glossop, High ex: Black Box pitfall; *Cormodes* sp., det. T.A. Weir 1999 (ANIC). Redhead, SE of Tere, NSW, emerged, 29–31 Dec. 1983, G. Williams, Acacia branch (ANIC). Redhead, SE of Tere, NSW, emerged, 20–

26 Jan. 1984, ex *Acacia longifolia* branch; branch collected dead in woodland—littoral rainf. interface; predated on small *Melobasis* buprestids in captivity (ANIC). Hornsby, C. Gibbons; K 324378 (AM). approx. 3km NE. of Harrington, N.S.W., G. Williams, ex malaise trap, 6 Feb.–26 Feb. 1998, ex littoral rainforest margin; K 324492 (AM). NSW: 5–7 km NE of Harrington, 14–20-x-1988, littoral r. for G. Williams; K 324476 (AM). QLD, 26°42'S 150°25'E, Goombi, via Chinchilla, Grace Lithgow (QM). Mittagong, Feb 9.07, N.S. Wales; Col-02903 Gayndah, old collection; K 324352 + K 324350 (AM). Qld., Gayndah, old collection; K 324350 (AM). Helensburgh, 21-1-1973, N.S.W.; K 324465 (AM). S.Qld., Gemell (ANIC). N.S. Wales, W. du Boulay (NMV). SEQ, 25°10'Sx150°0'E, IslaGorge lookout, 3.6km NE, vinescrub, 250m, 5731, 15 Dec. 1997–4 Mar. 1998, Monteith & Cook, intercept (QM). SEQ, 25°10'Sx150°1'E, IslaGorge NP, NEcnr, 250m, 15 Dec. 1997–4 Mar. 1998, Monteith & Cook, 5712, vinescrub, intercept (QM). Qld, 26.434°Sx150.514°E, Barakula SF, site 1, 249m, 15–28 Dec 2009, malaisde, Monteith & Turco 19195 (QM). Townsville, Q'd; 25-035961 (SAMA). Gregory Development Rd., 14km NW Clarke Riv., 394m, 17 Dec. 2006–15 Feb. 2007, Monteith & Cook, intercept, vinescrub/limestone, 14732 (QM). Qld, 19°7.8'Sx145°20.2'E, Gregory Development Rd., 14km NW Clarke Riv., 394m, 17 Dec. 2006–15 Feb. 2007, Monteith & Cook, intercept, vinescrub/limestone 14732 (QM). QLD, 22°14'S 147°15'E, Mazeppa NP, N end, 18 Dec. 2000–26 Mar. 2001, Cook & Monteith, 240 m FIT, Brigalow 10001 (QM). Qld, 26°1'S 148°16'E, Mt. Hutton, 8.5km SW, 15 Dec. 2001–6 Mar. 2002, Monteith & Cook, 550m, FIT, vine scrub 10415 (QM). Ch. Towers, Q., 14-1-36, A.K. Ross; O-166581 (QDPC). Byfield, Q., (Yeppon), X/24, H.J.C. (ANIC). Gawler; N. Holland (NMPC). Qld., 26.323°S 150.174°E, Barakula SF, site 7, 378m, 1–8. Jan. 2010, Malaise, Monteith & Turco 19233 (QM). Australien, Lina Rasim, ded, 15.VII.1927 (SMNS). New South Wales, V.J. Robinson 1971 (ANIC). NSW (MNHN). CQ., 22°2'S 148°3'E, Morambah, 5kmS, 240m, 20 Dec. 97–26 Apr. 1998, G. Monteith, fit intercept, bende scrub, 5799, 2 ex. (QM/RGCM). Windsor, Aug. 1904, NSW, H.T. Carter; *Natalis cribricollis* Spin.; Col-65735 + 65736 (NMV). Mt. Kaputar, N.S.W., 16 Jun 1965, 4000ft, C.W. Frazier (CMSD). NSW, Myall Lakes NP, 32:37:56 152:12:27, 31-May-97, L. Wilkie, MLI 01/03; K 135599 (AM). Gust Crowns Nest, Q., 27.16S 152.03E, 17.ii.1988, N. Gough, Malaise trap, O-166579 (QDPC). QLD, 26°3'Sx150°49'E, "Wonga Hills", site 4, 11 Dec. 2001–4 Mar. 2002, Monteith & Cook, 470m, FIT. brigalow 10403 (RGCM). 11,12 Combined St, Wingham, NSW, J. Stockard coll., 4 XI 91, 2 ex. + Jan 93, 3 ex. (ANIC). Stanthorpe, Q., January 1928, H.J. Carter (ANIC). Willi Creek, Earlwood, NSW, emerged 10.II.85, S. Watkins; reared from *Acacia longifolia* bin.no. 23 (ANIC). Mooney Ck., New South Wales, 21:1:1967, D.A. Doolan; K 324432 (AM). Dawson distr., Barnard Coll. (MNHN). Warringa (ANIC). S.Aust., dead on Salt Lake nr 'Sinclair Gap', 33.1250°S 137.0522°E, July 1998, P. Hudson; 25-035922 (SAMA). Ryde, 28.7.40, Campbell (ANIC). Ryde, 11.8.40 (ANIC). SEQ, 26°12'Sx151°44'E, Keysland, 5 Dec. 1994–26 Jan. 1995, G. Monteith, intercept trap, open forest (QM). QLD, 25°58'S 148°59'E, Mt. Moffatt NP, Fly Hill, 10–13 Feb. 2004, malaise, 880–900m, S. & J. Wright, 51950 (QM). SEQ, 24°48'Sx149°47'E, BrigaloRes., Stn., site 4, 16 Dec 2000, G. Monteith, Pyrethrum-trunks & logs, 170m, 9861 (QM). Eastwood, New South Wales, 10:6:1962, D.A. Doolan; K 324418 + 28:8:1965; K 324431 (AM). Under bark, *Eucalyptus* spp.; Australia: NSW, Parramatta Lake, 3.6.62, M.I. Nikitin; *Eunatalis* det. G. Ekiş (BMNH). Moreton Bay (BMNH). Australia (JRCP).

**Diagnosis:** *E. ninae* n. sp. differs from all other species by the pronotum which is distinctly longer than wide and the head which is characterized by a more or less deep, short, longitudinal groove between the eyes which are strongly convex. The phallic tip is spatulate and bent.

**Length:** (93 specimens measured) Total length: 9–15 mm.

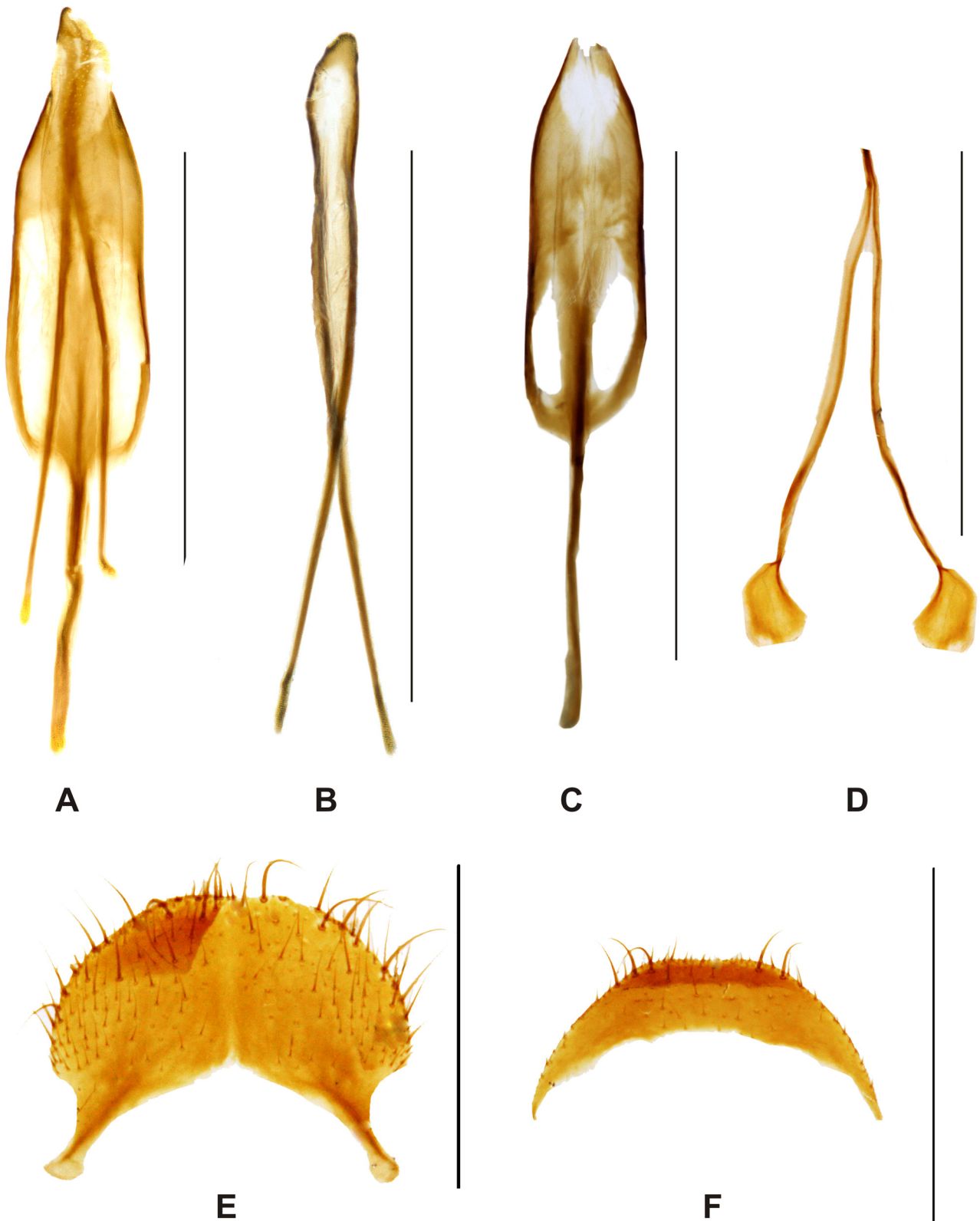
**Head:** Black, with dense, erect yellow pilosity; with dense punctation and wrinkles; with a more or less deep, short, longitudinal groove between eyes; eyes strongly convex, interocular space about 1.5 to double eye width.

**Thorax:** Pronotal length to width ratio 1.23:1; pronotum dark brown to black, darker around dorsal longitudinal groove; with dense, erect, reddish-yellow pilosity; with more or less dense punctation, sides conspicuously wrinkled, partly dorsally with transverse wrinkles; grooves of sub-basal collar distinct, separated by a wide bar. Scutellum dark brown, with a fine fringe of hairs, with weak punctation.

**Elytra:** Elytral length to width ratio 2.72:1; elytra rust-brown or dark brown, with dense, erect, reddish-yellow pilosity; elytral base as wide as pronotum, broader behind middle; diameter of punctations in basal half as wide as interstices, towards apex slightly decreasing; punctations of tenth stria distinct towards apex; punctations of ninth stria vestigial or with slight punctations near apex; elytral punctation with three nodules; interstices 4 shortly behind base and interstices 6 ridged from the middle.

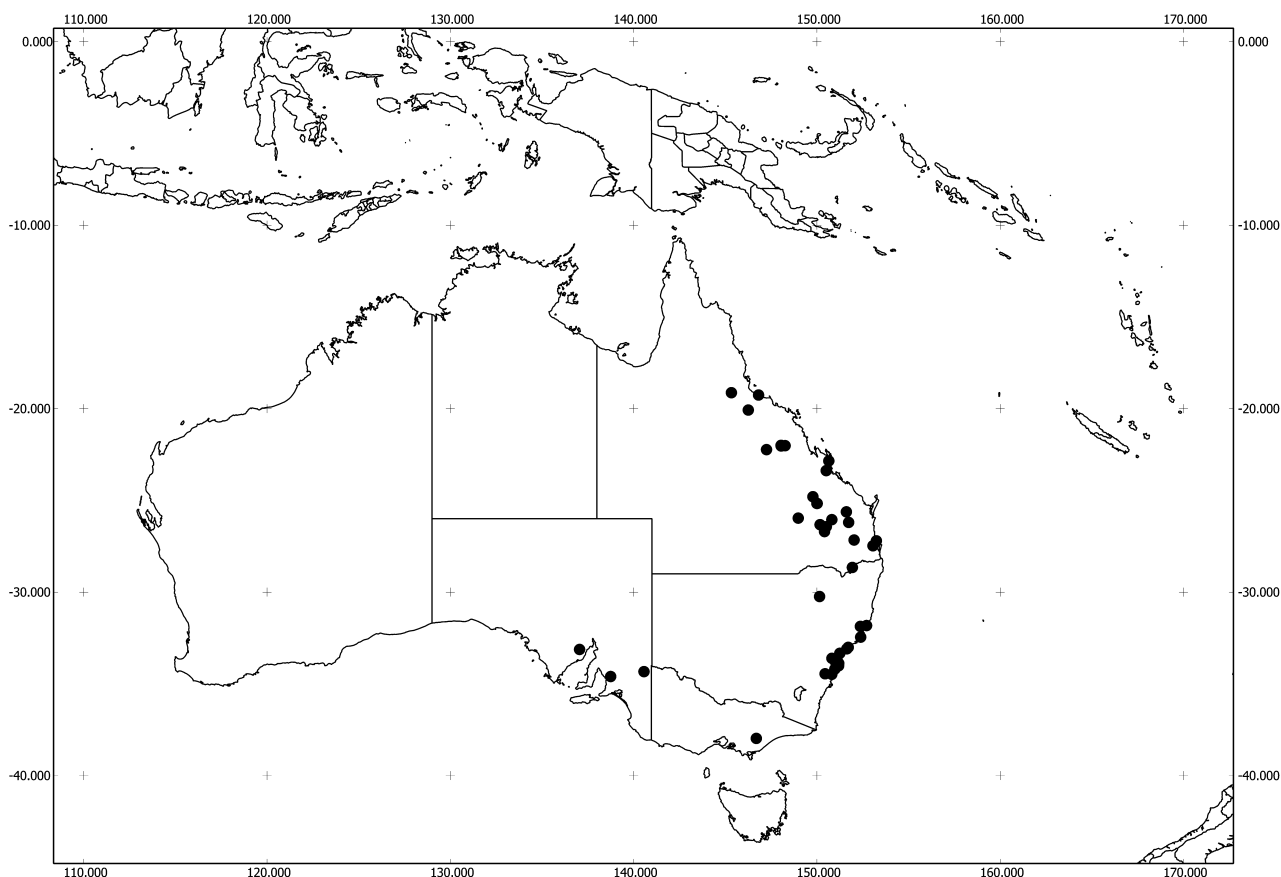
**Lower surface:** Black, densely covered with white pilosity; procoxal cavities slightly opened to closed posteriorly; posterior part of mesepisternum wrinkled; metaventrite with dense punctation and fine wrinkles.

**Legs:** Black, with dense, white pilosity and dense punctation; finely wrinkled; mesotibiae conspicuously bent.  
**Abdomen:** Tegmen ventrally open; phallic tip spatulate and bent; spicular fork fused only at base.  
**Distribution:** Mainly at coastal regions in eastern and southern Australia.  
**Seasonal occurrence:** Collected from October to June.  
**Etymology:** Named after Nina Ableitner, the friend of the junior author.



**FIGURE 33.** *Eunatalis ninae* n. sp.: (A) Phallus lateral, (B) Phallus ventral, (C) Tegmen ventral, (D) Spicular fork, (E) Pygidium, (F) Ventrte VI.





**FIGURE 34.** Distribution of *Eunatalis ninae* n. sp.

***Eunatalis pernodulosa* Gerstmeier & Seitner 2013, n. sp.**

(Figures 10, 35–36, 57A)

**Specimens examined: Holotype:** Greenough, 28.57S 114.44E, Western Australia, 26–29 Aug. 1979, R.P. McMillan; Dune system, Western Australia, Reg. 83282 (WAMP).

**Paratypes:** 8 mi W. of Warung, H.S., N. of Cloncurry, Qld, 16.xi.1966, A.&R. Mesa (ANIC). 3km N. Lansdowne, via Tarree, N.S.W., G. Williams, 22 Feb.–Mar. 1987, ex Malaise trap on rainforest margin; K 324487 (AM). on sand dunes; W. Australia: Drummond Cove, 7 km N. of Geraldton, on coast, 8.v.1973; D.C. 8. May 1973, N.V.N.MoF. (BMNH). 11km N of Geraldton, W.A., at Drummond Cove, 2-11 v.73, uv. light, N. McFarland (ANIC). Bessie Spring, 16.40S 135.51E, 8 km ESE of Cape Crawford, NT., 26 Oct. 1975, M.S. Upton (RGCM). 51km, 17°E of N from Kalbarri on VP Fence, W.A., 27°15'19"S, 114°19'58"E, 16–19 November 1998, T.F. Houston 978; Reg.no. 83289 (WAMP). N. Queensland, Porcupine Gorge NP, Hovorka leg. (JRCP). Australia, Victoria, 10.2.1992, Mitcham, G.T. Crake (RGCM). N Queensland, 13.2.2000, Undara, Sv. Bily leg.; 2 ex. (JRCP).

**Diagnosis:** Differs from all other species by the conspicuously emarginate and black nodules of elytral punctation.

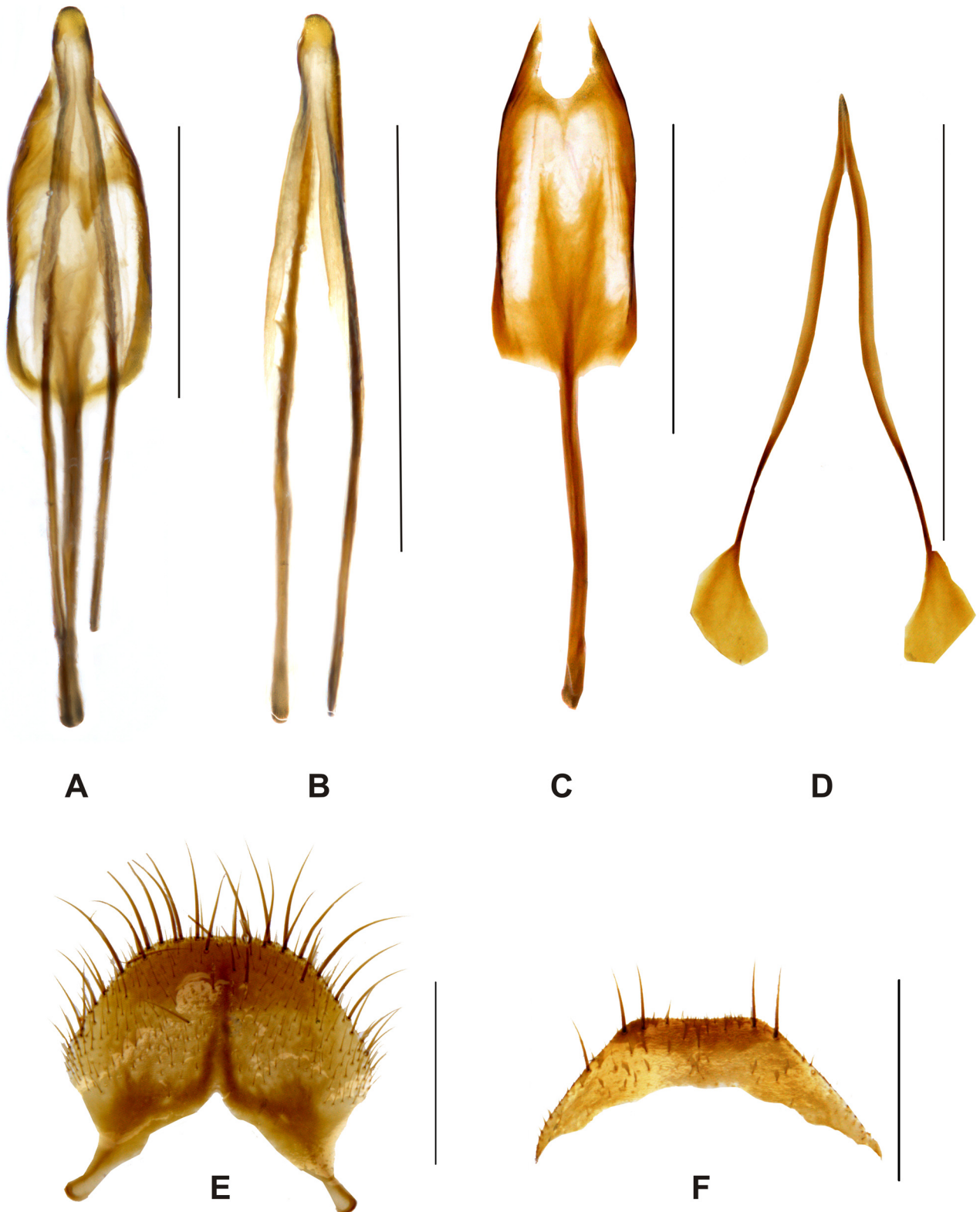
**Length:** (8 specimens measured) Total length: 14–17 mm.

**Head:** Dark brown to black, with dense, fine yellowish pilosity; with dense punctation and wrinkles; epistomal suture more or less distinct; eyes partially with metallic sheen; interocular space about one to 1.5 eye width.

**Thorax:** Pronotal length to width ratio 1.06:1; pronotum dark brown, with dense, fine yellowish pilosity, with dense punctation, sides with distinct wrinkles; slightly convergent towards apex; grooves of sub-basal collar distinct, separated by a wide bar or fused. Scutellum dark brown, with isolated pilosity.

**Elytra:** Elytral length to width ratio 2.60:1; elytra light brown to dark brown, basally darker than in apical half,

partially with a light transverse fascia, with isolated, fine, yellowish-white pilosity; elytral base slightly wider than pronotum, broader towards apex; diameter of elytral punctation in basal half as wide as interstices, slightly decreasing towards apex; punctations of tenth stria distinct almost towards apex; elytral punctation with three conspicuously emarginate, black nodules; interstices 4 and 6 slightly ridged behind middle, all others flattened; interstices with a conspicuous microsculpture.



**FIGURE 35.** *Eunatalis pernodulosa* n. sp.: (A) Phallus lateral, (B) Phallus ventral, (C) Tegmen ventral, (D) Spicular fork, (E) Pygidium, (F) Ventricle VI.

**Lower surface:** Dark brown to black, with light white pilosity; procoxal cavities slightly opened posteriorly.

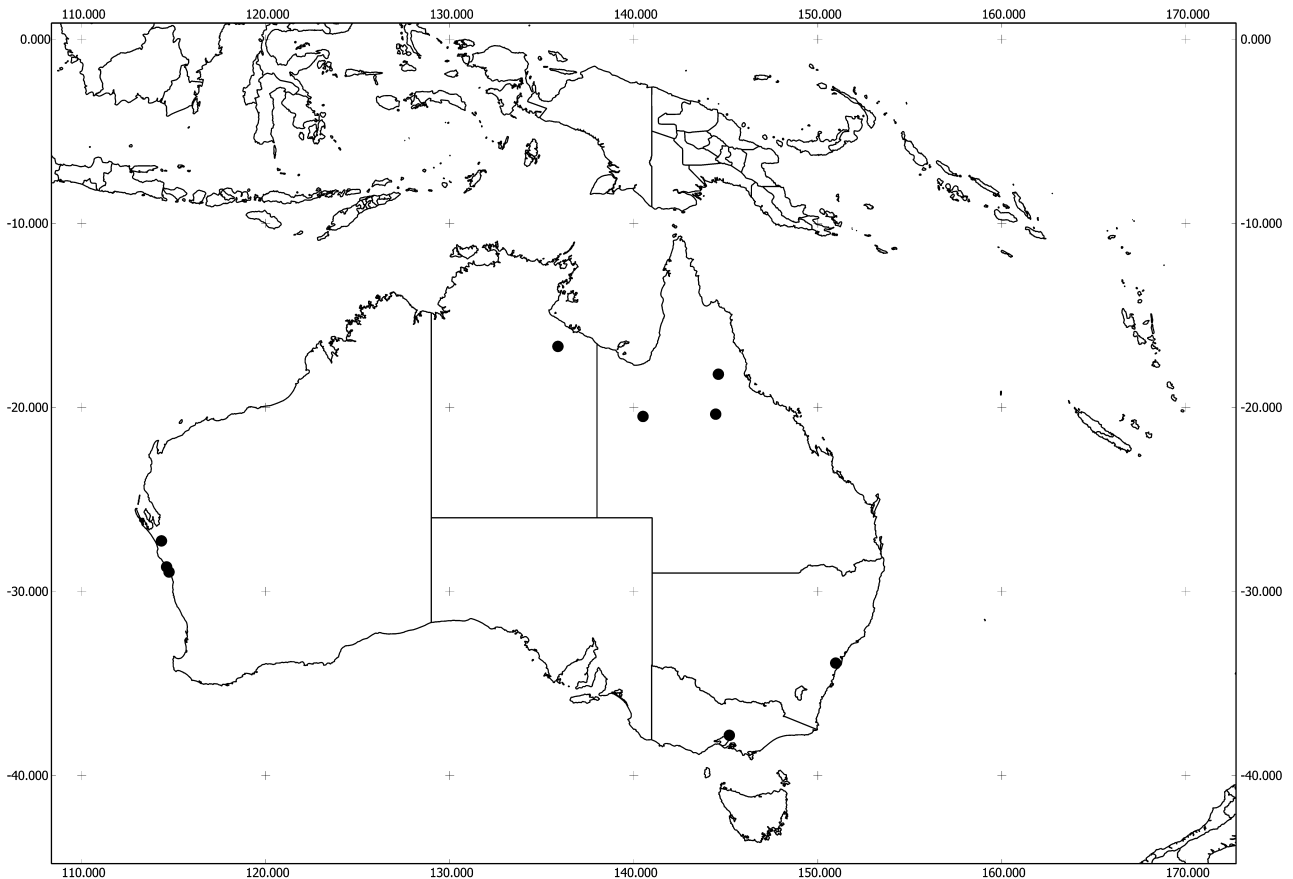
**Legs:** Light brown to dark brown, densely covered with white hairs; finely punctate and wrinkled; mesotibiae bent.

**Abdomen:** Tegmen ventrally closed, sides open; phallic tip spatulate, bent and slightly notched; spicular fork fused only at base.

**Distribution:** Occasional in coastal regions of West Australia and New South Wales, in the interior of Northern Territory and North Queensland.

**Seasonal occurrence:** Collected from August to May.

**Etymology:** The specific epithet, *pernodulosa*, a Latin adjective refers to the conspicuous nodules of the elytral punctations.



**FIGURE 36.** Distribution of *Eunatalis pernodulosa* n. sp.

### *Eunatalis planipennis* (Blackburn, 1899)

(Figures 37–38, 57B)

*Natalis planipennis* Blackburn, 1899: 30, 32.

*Natalis porcata* Spinola (non Fabricius, 1787) 1844: 201 (t. 16, f. 2); Blackburn 1899: 32.

**Specimens examined:** *Natalis planipennis*: **Lectotype** (designated here): Type; 880 T.; Australia, Blackburn Coll., B.M. 1910-236; *Natalis planipennis*, Blackb. (♂, BMNH). **Paralectotype** (designated here): SAMA Database No. 25-035804; *Natalis planipennis*, Blackb., Cotype; *Natalis planipennis* Bl., aus Tas., 9586 Cotype (SAMA).

**Comment on availability:** *Natalis planipennis*: Although Blackburn (1899: 32) did not provide a description of *N. planipennis* its differentiation from twelve other *Natalis* species within an identification key, and from a closely related species (*N. fasciata*) within comparative notes, is enough to satisfy the terms of ICZN (1999) Article 12.1 regarding it being an available name. Additionally, in stating that *N. planipennis* "*= porcata* Spinola

nec Fab." Blackburn implied an indirect reference to Spinola's (1844: 201) published description (see ICZN 1999: Article 12.2.1) of specimens misidentified as *Natalis porcata* (Fabricius). *Natalis porcata*, sensu Spinola, is not an available name.

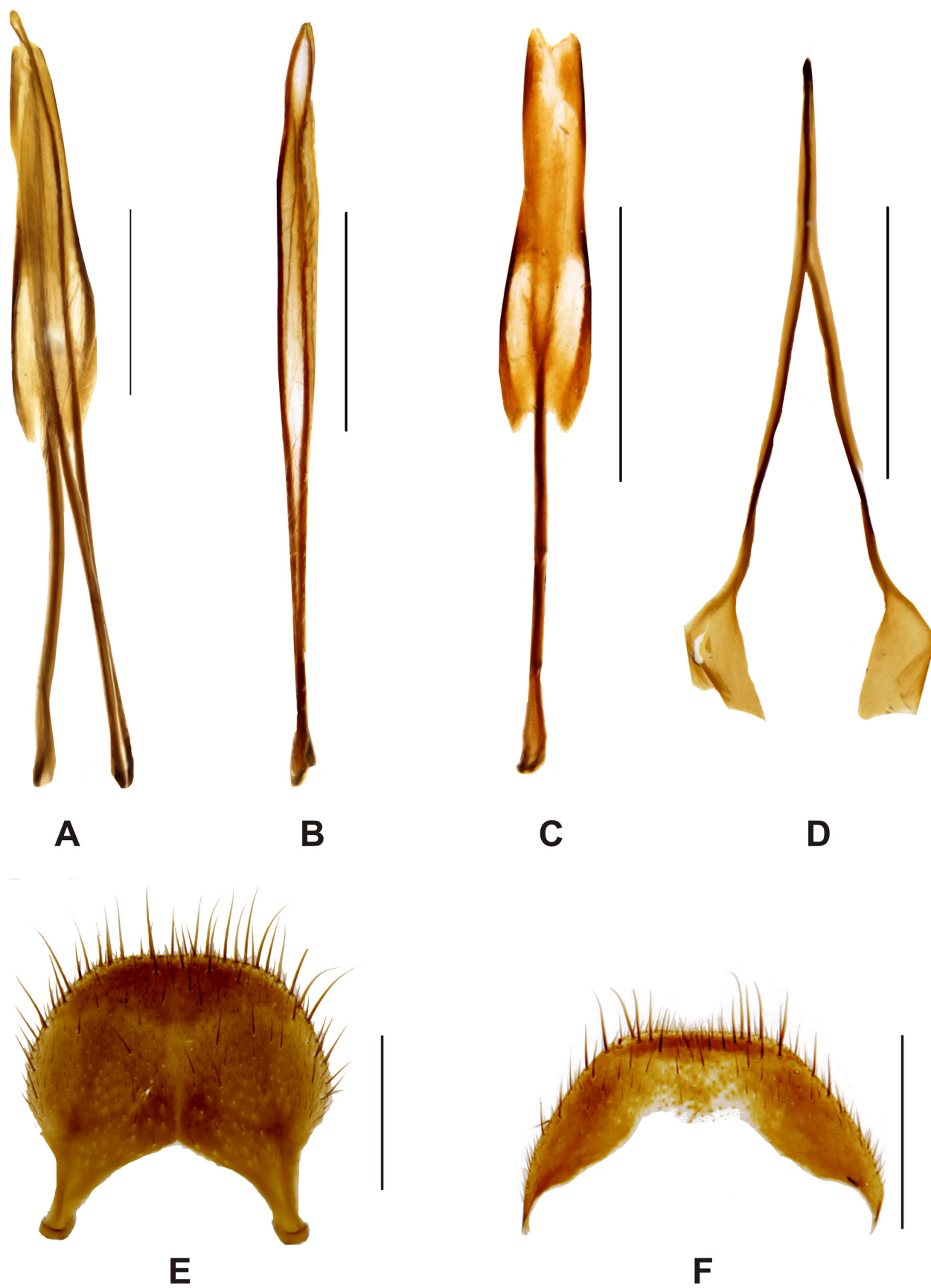
**Comment on the type specimens:** As Blackburn (1899) made no explicit reference to specimens, all *N. planipennis* 'type' material should be treated as syntypes (ICZN 1999: Article 73.2) and, as such, are available for lectotype designation (ICZN 1999: Article 74.1). Following Recommendation 74D (ICZN 1999) we have designated the BMNH syntype the lectotype because the majority of Blackburn's types are held in that institution (Lea 1912). The SAMA syntype is designated a paralectotype.

**Others:** Drummond Cove, 12 km N Geraldton, Western Australia, May 1973, N. McFarland; collected at ultra-violet light; Reg.no. 83279 (WAMP). Gallangowan S.F., 26.XI.1993, R.A. Yule, Dept. For. Qd.; O-166592 (QDPC). Stanthorpe, Qld, 2.X.1971, J.F. Donaldson; on Eucalyptus sp.; O-166575; 2 ex. (QDPC). Stanthorpe Q., January 1928, H.J. Carter; *Eunatalis hirta* Blkb (ANIC). Stanthorpe, QLD, Jan 61, C. Watts; 25-036029 (SAMA). Braemar S.F. QLD, W of Dalby, 5 Oct. 1994, F.R. Wylie, F.J. King, M. DeBaar; present in *Coptocercus aberrans* hole—*Euc. maculata* (QDPC). Braemar S.F., W of Dalby Qld., emerg. 24 July 1990, F.R. Wylie, M. DeBaar, Accn.No. 6535-8; ex tunnels, *Tryphocaria mastersi*, ex trunk, standing *Euc. maculata*; O-166590 (QDPC). Tasmania, (Simson) (MNHN). Victoria; CNHM 1955, Karl Brancsik Colln., ex Eduard Knirsch (FMNH). N.S. Wales, A. Böttcher, Berlin (ZMB). Australia; *Porcata* ♀; Ex Musaeo James Thomson (MNHN). Lilyvale, New South Wales, 8:8:1971, D.A. Doolan; K 324454 (AM). Australia: QLD, -27°30' 153°4'59", White's Hill, Brisbane, 28.vi.1915 CH. Tyron, & Bridwell, C. 2857; O-166596 (QDPC). Broadwater, 9-6-25; O-166594, O-166595 (QDPC). Warragul, Vic., 5.1.63; E.C. Vallis, Bequest, Don.-Aug. 1965 (QM). Merimbula, 14.2.50, N.S.W., F.E. Wilson; F.E. Wilson Collection (NMV). Kimberley, West. Aust.; Coll. Hacker (SDEI). Lucindale, S.A., Feuerneerdt; 25-036118 (SAMA). Adelaide; 25-036010, 25-035903 (SAMA). Adelaide; 1932 vid. J.B. Corporaal (ZSM). Australia, Blackb's Coll.; 25-036117 (SAMA). 1932 vid. J.B. Corporaal; Adelaide (ZSM). Adelaide, July 1955; C.H.S. Watts; 25-036031 (SAMA). Adelaide, S. Australia, A.H. Elston; K 324389 (AM). Dividing Rge., V, Blackb's Coll.; Field Museum 1970, exch. South Australian Museum (FMNH). Australie; *Porcata* Fab; Ex Musaeo Mniszech (MNHN). N.Guinea (MNHN). N.Guinea, Coll. Sayer (BMNH). Found dead in fire wood, (*Eucalypt*), Newstead, Laun. Tas. 9-10-80 S.F. (ANIC). Australie; coll. A. Sicard 1930; *Natalis cribricollis* (MNHN). Victoria; coll. Sedillot 1935 (MNHN). T'Fielp., 12/43; J.G. Brooks, Bequest. 1976 (ANIC). New Glenelg., S.A., S.A. White, June 1880; Ex Capt. S.A., White Coll.; 25-035992 (SAMA). Australia Tas., Hobart Mt. Nelson, January 1965, G.F. Bornemissza (SMNS). Melbourne; Pascoe, Coll., 93-60; Homotype *Eunatalis fasciata* Blackburn (BMNH). 622, 18; Melbourne (MCSN). Sydney district, N.S.W., J.J.W. (HEC). Blue Mts., N.S.W., 3,000-3,500ft., J.J.W. (HEC). Hobart, Tas. 1.1903, J.J. Walker (HEC). Austral., Victoria; Sammlung J.N. Ertl; 1938 vid. J.B. Corporaal, 2 ex. (ZSM). *porcata* F., Vict. Muller 70 (SMNS). Tasmania; *Eunatalis porcata* (RGCM). Hobart, Tas, Griffith; Griffith Collection, Id. by A.M. Lea, 25-035820, 6 ex. (SAMA). Hobart, Tasmania, J.J. Walker (BMNH). Outside light, St. John Fisher College, Hobart, TAS, 14/11/85, S. Fearn (ANIC). TAS: Westbury, 10km N., 15Aug1996, A.I. Knight, under Gum tree bark, 2ex. (QM). Ulverstone; 25-035794, 25-035817 (SAMA). Tasmania; Andrewes, Bequest., B.M. 1922-221 (BMNH). Ringwood, 9.2.(?), H. Pottinger (QM). Dark Corner, 27.1.1969, N.S.W.; K 324444, K 324447, K 324449, K 324440, K 324442, K 324441, K 324443, K 324445, K 324446, K 324448 (AM). Helensburgh, New South Wales, 20:12:1970, D.A. Doolan; K 324451 (AM). Kuranda, Queensland (MNHN). Kuranda, Queensland; Museum Paris, E. de Moults 92 (MNHN). Box Hill 20.12.60, in house, E.B.S. NMV). Australia, Canberra ACT, 5 km s Cotter River, 100m 11.12.1987, leg. M. Baehr; unter *Eucalyptus*-Rinde (RGCM). Australien; Guta NSW, Coll. Dr. Reitter (RGCM). Australien; *Natalis porcata* (RGCM). Australien, QLD, New England Range, SE, Glen Innes 10.12.1990, leg. F. Wachtel, 4 ex. (RGCM). Australia NSW, Glen Innes, leg. Wachtel, 12.92, 3 ex (RGCM). Glen Innes, 26-10-1957, N.S.W.; K 324423 (AM). Prison Farm, Glen Innes, July 1969-Dec. 1970 (ANIC). NSW 30km S of Glenn Innes, 28 Dec. 1982, J. Doyen coll. (ANIC). Mansfld. (Vict.), Australia, ex coll. F. Schneider; *Natalis porcata* (RGCM). Australien Vic., Casterton, 9.XI.1961, leg. H. Demarz (RGCM). Umgeb. Sydney, N.S.W. Austral., leg. Nikitin, 1960, 2 ex. (RGCM). Aus/S.A./Umg. Kangaroo Isl., 12/97 leg. Roppel, 4 ex. (RGCM). S. Australia; 25-035832 (SAMA). Kangaroo Is., J.G.O. Tepper; 25-035827 (SAMA). Australien NSW, Armidale Umg., 1.2.1962, leg. H. Demarz (RGCM). N.S. Wales; det. Corporaal 1938, *Eunatalis porcata* F. (ZSM). Australia, NSW, 15 km n Armidale 28.11.1990, leg. R. Gerstmeier (RGCM). Armidale, N.S.W., 20-XII-1983, M. Goombs (QM). Armidale, N.S.W., 4-VIII-1983, M. Goombs, 2 ex. (QM). Australia, Barretts Bay, SE Tas. 11.1.83, G.F. Bornemissza; *Natalis porcata* (F), 3 ex. (ZSM). 088; Victoria,

Blackburn; 25-035807 (SAMA). Goulburn; 25-035848 (SAMA). S. Australia, Rev. A.P. Burgess; 25-035866 (SAMA). Mt. Lofty 7.2.87, a. Bukin; 25-035854 (SAMA). Mt. Lofty Rgs, S. Australia, A.H. Elston; *Eunatalis porcata* Fab., W. Australia (BMNH). Mt. Lofty R., S. Australia, A.H. Elston; K 324369 (AM). Launceston; 25-035853, 25-035816 (SAMA). Launceston (FMNH); Launceston, Tasmania (QM). Tasmania, Launceston; A.H. Elston Collection; K 324346 (AM). Launceston, Tasmania; 268, 2 ex. (QM). Swifty Ck, V., Jan. 1935, F.E. Wilson; F.E. Wilson Collection; Col-65440 (NMV). Bendoc. V., Jan. 1938; F.E. Wilson; F.E. Wilson Collection (NMV). Cooma, NSW-Australien (RGCM). Australien, NSW, Sydney 3/1981, leg. F. Wachtel (RGCM). Sidney; Mus. Hauschild, 12-9-1914 (ZMUC). Australien, E-Tasmania, Freycinet Pen., 8.11.1972, leg. Baehr (RGCM). Australia, Brisbane Q, leg. Wachtel, 1.91 (RGCM). Australia, NSW, 65 km SW Walcha, 2.12.1990 leg. M. Baehr (RGCM). Australien, NSW, Kew 1/1997 Lamond (RGCM). Australia '11, TAS 84, 7km ne. Huonville, 192m, 42°58'39"S, 147°06'52"E, 9.2.2011, M. Baehr (RGCM). Australia, Victoria, Heathcote, 25.11.2006, At light, Heathcote Motor Inn, L. Hendrich leg (RGCM). Australia '11, TAS 83, 1km n. Geeveston, 31m, 43°09'11"S, 146°56'59"E, 9.2.2011, M. Baehr (RGCM). Australia '11, TAS 32, 15km sw Gladstone, 41°01'56"S, 147°57'269"E, 81m, 25.1.2011, M. Baehr (RGCM). Forest Reefs, N.S.W., Lea; 25-035860, 4 es. (SAMA). Lawson, N.S.W. Lea; 25-036121 (SAMA). Mt. Buffalo, Victoria, 30-1-33, Ad. Turner, 2 ex. (QM). Newnes, 25-1-1969, N.S.W.; K 324439 (AM). NSW: 33°10.62'Sx150°14.2'E, Newnes, 15 Nov 2008, G. Monteith, Hand coll. (QM). Noble Park, V., 5.10.18/9, H. Pottinger (QM). N.S.W., Liverpool; 1919, 14 (MTD). Australia: Bruny Is., SE Tas. 31.XII.81, G.F. Bornemissza (SMNS). Australia, Blackmans Bay, Tas., January 1984; G.F. Bornemissza (SMNS). Australia, Hobart, Mt. Nelson, Tas., November 1984; G.F. Bornemissza (SMNS). Tasmania, leg. Bornemissza; Hobart/Mt. Nelson/300m, 31.X.1981 (HNHM). 35°30'S; 150°24'E (GPS), NSW: Bawley Point, 21–23 September 2000 DCF (ANIC). 35.30S 150.24E, Bawley Point, NSW, 31 Dec 98, D.C.F. Rentz (ANIC). Victoria: Westburton (GPS), 37°45'15"S 145°41'09"E, 22 December 2002, under bark of *Eucalyptus regnans*, M.S. Harvey, M.E. Blossfelds (WAMP). Talbot Victoria, 20 October 1979, under eucalyptus bark (iron Bark), R. Patterson F 102; K 324472 (AM). Black Mt. F.C.T., 4.5.30, W. Rafferty (ANIC). 35.17S 149.07E, ACT: Canberra, Black Mountain, 21 Dec. 1988, M. Hauser; at light, 2 ex. (ZMUC). 35.17S 149.07E, ACT: Canberra, Black Mountain, 4 Nov. 1988, A. Calder, W. Dressler; at light (ZMUC). Black Mt. A.C.T., light trap, 14.xi.65, I. Common (ANIC). Brighton; *Natalis porcata* Fab, Tasmania; 25-035864 (SAMA). Adaminaby, S.E. N.S.W., 2:xii:1955, I.G. Filner; About 3000ft, under bark (QM). Old Adaminaby, N.S. Wales, 24 Jan.1967, T.G. Campbell (ANIC). Jindabyne, N.S.W., 3000ft, Helms III.89; Australie; *mastersi* (MNHN). NSW, Waste Point, 8.3km N Jindabyne, Kosciuszko NP, 36.347S, 148.606E, 08 Dec 2007, D.R. Britton, D.J. Smith, P. Hinton, BRITTON, 2007040 (M.V. Lamp); K 324506 (AM). Nunawading, Vic., 2.Nov.1957, Neboiss (NMV). C 4162; Australia: QLD, -26°49', 152°51', Candle Mountain, FieldNat. excursion, 6.v.1918, H. Tyron, C:4162; O-166597 (QDPC). Hazelwood V., Nov. 16th 1961, C.G.L. Gooding (ANIC). Chillagoe Qld., July 1921 (NMV). Ridgeway, Tas., C. Oke, 2.3.48; 1.3.48 (NMV). Mt. Gambier, Jan. 1940, S.A.; F.E. Wilson; F.E. Wilson Collection (NMV). S. Australia: Deep Creek, Waitpinga, I.iii.1949, E.B. Britton (BMNH). Australia: NSW: Murramarang NP., Pebbly Beach, 35°36'27,2"S 150°19'38,3"E, (± 130m), 0m, 14.XII.2008, *Eucalyptus* forest, dry stream, handpick, leg. A. Schomann & J. Pedersen (ZMUC). Omeo, Vic., Jan. 1935, F.E. Wilson; F.E. Wilson Collection (NMV). Grampians, Vic., C. Oke (NMV). Grampians, Vic., 2.63, CW; 25-036036 (SAMA). Myponga, S. Australia, A.H. Elston; K 324388 (AM). West Pymble, near Sydney, N.S.W., 5.11.1984, D.J. Scambler; K 324400 (AM). S. Aust., Blackwood—uv. light, 11 Dec. 66, 16 Oct. 66, 26 Oct. 66, 25 Nov. 66, Noel McFarland; 25-036110, 25-036107, 25-036109, 25-036108 Blackwood, 850 ft, S. Austr., at light, 24 Sep. 65, N. McFarland; 25-035941 (SAMA). Blackwood, S. Australia, E. Ashby; 25-035956 (SAMA). S. Aust., Blackwood—uv. light, 11 Dec 66, 4 Jan 67, mid Mar 67, 15 Oct 68, Noel McFarland; 25-035940, 25-035942, 25-035943, 25-035944; (SAMA). Australia-Vic., Moorooduc, D.R. Holmes lgt. (MZM). Trentham, Victoria, E.T. Smith (MZM). You Yangs V, 21.10.56, E. Smith (MZM). Australia, Victoria, Red Hill, D.R. Holmes leg. (JKCB). Australia, Victoria, Lake Entrance, D.R. Holmes leg. (JKCB). 35.30S 150.18E, Kioloa SF, 15 km NE Batemans Bay, NSW, Nov. 86, M.G. Robinson, flight interc. trap (ANIC). Toowoomba Q, 12.3.1964, G. Shaw; O-166593 (QDPC). Bathurst, N.S.W., Feb 1932, W.W. Froggatt; K 324360 (AM). Moe, Vict., 9-9-1955, C.G.L. Gooding (ANIC). 2 mls. E. Nelligen, N.S.W. 2.11.1949, Cane & Gemell (ANIC). Dorrigo (QM). Legume, N.E., N.S.W. Feb:78 (QM). Mt. Ainslie, ACT., 18.8.66, K. Pullen (ANIC). Mt. Panorama, New South Wales, 24.11.1968, D.A. Doolan; K 324438, K 324436, K 324437 (AM). Lane Cove, N.S.W., June 1947, N.W. Rodd; K 324397 (AM). Jamberoo, N.S.W., Jany. 1949, N.W. Rodd; K 324398 (AM). Bargo, New South Wales, 2:12:1967, D.A. Doolan; K 324435 (AM). St. Albans, New South Wales, 5:7:1980, D.A. Doolan; K 324475 (AM). Canberra, A.C.T., -1-1960,

D.P. Carne (ANIC). Canberra, A.C.T., 25 Feb. 1962, R.V. Southcott; 25-035980 (SAMA). Broulee, NSW, 27.iv.66, M. Upton, 2 ex. (ANIC). Mt. Franklin, 27.1.1959, D.P. Carne (ANIC). Enfield, NSW, 12.89, E.P. Ramsay (AM). Yass, 17-4-65, J. Varley; K 324415 (AM). Mittagong, K9872; K 324423 (AM). Bent's Basin, New South Wales, 29:10:1967, D.A. Doolan; K 324434 (AM). Gippsland, Victoria (SDEI). Ourimbah, Australie, (N.S.W.) (MNHN). N.S.W., Ourimbah, Ch. Schindler, 1905 (MNHN). Bulga, NSW 1926, 2 ex. (ANIC). Kardella, S. Gippsland, Victoria, 2 ex. (ZMB), 1 ex. (MTD). Taralga, N.S. Wales, Dr. Broom, 99–130 (BMNH). VIC: Shepparton, *E. grandis* (Tall) Jan 1995, Emerged Oct 1995 (ANIC). Shepparton, May 59, F.E. Wilson; F.E. Wilson Collection (NMV). Eltham V., 23.II. (?), H. Pottinger S. Australia, Mount Barker, 19.iv.1949, F.B. Britton, 3 ex. (BMNH). Chiswick, nr., Armidale, NSW, 21.xi.65, E. Britton (ANIC). Chiswick Experimental Station, near Armidale, N.S.W. at light 12.xii.67 (ANIC). S. Australia, Bridgewater, Cox's Creek (BMNH). Australia: N.S.W., Cabramatta, 18-xi-1964, M.I. Nikitin, B.M. 1965-258 (BMNH). M.F.L. 1935, Evansford (BMNH). Mt. Moffatt NP, S.C. QLD, Consueolo Tableland, 1000m, 20–27 Sept. 1986, Monteith, Yeates & Thompson (QM). S. Australia: Hindmarsh Falls, 23–24.xii.1961; At light (BMNH). Kurnell, 30.12.1955, N.S.W.; K 324424 (AM). Rokeby V., Nov 5th 1963, C.G.L. Gooding (ANIC). *Natalis porcata* Fab, Orange N.S.W., Coll. & det. W.W. Froggatt (ANIC). Q.M., Blackall Range, 1/4/11 Wild. (QM). Labertouche V., Jan 9th 1958, C.G.L. Gooding (ANIC). 49km NE of Tumut, WSW, 6.xi.72, S. Misko (ANIC). Glenfyne: V., 21.XI.1964, wad. Starre (QM). Gibraltar Falls, nr Tharwa, NSW, 23.xii.73, E. Britton, 2 ex. (ANIC). 23.41S 134.15E, 39 km E of Alice Springs NT, 26 Sep. 78, Upton & Barrett, 3 ex. (ANIC). Picadilly Circus, Brindabella Range, under bark, 3.ii.66, E. Britton (ANIC). Mt. Kaputar, N.S.W., 3000FT., 18 Nov 1968, C.W. Frazier, At Light (ANIC). Belconnen ACT, 14 Nov. 1991, K.R. Pullen; Kim Pullen Collection (ANIC). 35.34S 149.15E NSW, Urila Rd, 10.9km E of Williamsdale, 20 Nov.–19 Dec 2004, C. Lambkin & N. Starick; malaise trap ANIC, -2561 old acacia regrowth, between waterholes (ANIC). In Firewood, Liftey Valley, TAS Sep. 84, S. Fearn, 4 ex. (ANIC). Outside light, Sandy Bay, McBart TAS, March 1985, S. Fearn (ANIC). Under bark on dead Eucalypt Stump, Greensbead, TAS 11/2/86, S. Fearn (ANIC). P. Zborowski; Wahroonga, NSW/Nov. 1971; K 324458 (AM). Braidwood, 22.12.1973, N.S.W.; K 324469 (AM). Emmaville, 27.3.1973, N.S.W.; K324466, K 324468 (AM). Tarana, K9359; K 324362 (AM). NSW, Pumphouse Track nr Sawpit Creek, Kosciuszko NP, 36.353S, 148.558E, 09 Dec 2007, 1260m, D.R. Britton, D.J. Smith, P. Hinton, BRITTON, 2007054 (M.V. Lamp); K 324507 (AM). QLD, Fanning River (18°45'S, 148°27'E), 16 August 1994, Vine Thicket, Patch 1, coll. J. Loughlan, black light trap; K 324499 (AM). Lansdowne, NSW, 10.i.1981, G.+T. Williams; in dry sclerophyll forest; K 324477 (AM). Clarendon; 25-035838 (SAMA). Galston, Dumbrell; 25-035964 (SAMA). Glenunga, 23/5/32; 25-036015 (SAMA). Robe SA, Jan 1959, C. Watts; 25-036032 (SAMA). Mt. Crawford, Williamstown, 3 Oct. 1987, Eunatalis; 25-036048 (SAMA). Swansea, Tas. Jan., C. Watts; 25-036033, 25-036040 (SAMA). S. Aust., KI Flinders Chase, 5km N Ravine des Casoars, 6 Nov 1990, under Eucalypt bark, E.G. Mathews; 25-036027 (SAMA). S. Aust., Nairne, Oct 1987 + 20 Oct 1987, A. Stolarski; 25-035933, 25-035938 (SAMA). Pt. Noarlunga, N.B. Tindale, 30.12.1919; 25-035967 (SAMA). Mt. Magnificent, S.A., 15 Oct. 1955; 25-035987, 25-035988, 25-035997, 25-036017, 20 Oct. 1955; 25-036029 (SAMA). Sleaford Bay, Pt. Lincoln S.A., Jan.-March 1962, J. Casanova; 25-035927 (SAMA). S. Aust., Ferries, McDonald C.P., 24 Dec. 1988, A. Stolarski; 25-035929 (SAMA). K.J. Sandery, Highbury East, 31-1-60, STH. Aust; 25-035952 (SAMA). Mt. Rosea, Vic, Nov. 1950, N.B. Tindale; 25-035990 (SAMA). Reed Beds, "Holmfirth", Pulham, Nov 1889, J.W. Mellor; 25-035989 (SAMA). Mallee and Gum, 6 mls N.W. Keith, 27 December 1955, J. Baldwin; 25-035923 (SAMA). Vic., 18kms NE of Cavendish, 10 Mar. 1978, A.A. Calder (NMV). Tubrabucca, N.S.W., Jan. 10–23.1948, R.T.M.P.&A.N.B. (NMV). Otway Ranges, Vic., Jan. 1960 (NMV). Warburton District, Victoria, Jan 1920 (NMV). Launching Place, J.W., 9.11.03 (NMV). Mordialloc (NMV). Lakes Entrance, October 1919, V.; F.E. Wilson; F.E. Wilson Collection; Col-65739; Col-65741 (NMV). Traralgon, Feb 68, Vic, F.E. Wilson; F.E. Wilson Collection; Col-65719 (NMV). Gellibrand, Vic., 19–23 Jan. 1932; F.E. Wilson; F.E. Wilson Collection; Col-65738 (NMV). Caulfield, V., 10.10.17; F.E. Wilson; F.E. Wilson Collection; Col-65721 (NMV). Snowy Mtns., N.S.W., Cawpit Creek, 30 Dec. 1984, leg. G. Hangay (HNHM). Australia, NS Wales, betw. Canberra and Mount Franklin, 31.VII.1968; leg. Dr. J. Balogh (HNHM). Australia, Canberra, A.C.T., XI.1964, leg. Bornemissza (HNHM). Australia, N.S.W., Coricudgy, 600m, 1999 II.8–9., Leg. A. Podlussány, 2 ex. (HNHM). Australia, N.S.W., Wingello, Manor Park, 1999 II. 2.–3., leg. A. Podlussány (HNHM).

**Diagnosis:** *E. planipennis* is characterized by the strongly protruding wrinkles at the sides of the pronotum. The habitus is long and slender and the elytra is almost parallel with only interstices 4 and 6 slightly ridged from the middle onwards (all others are flattened). The tegmen is constricted in the middle.



**FIGURE 37.** *Eunatalis planipennis*: (A) Phallus lateral, (B) Phallus ventral, (C) Tegmen ventral, (D) Spicular fork, (E) Pygidium, (F) Ventricle VI.

**Length:** (827 specimens measured) Total length: 15–26 mm.

**Head:** Black, with isolated greyish pilosity; with dense punctation and wrinkles; epistomal suture distinct; interocular space from one to 1.5 eye width.

**Thorax:** Pronotal length to width ratio 1.13:1; dark brown to black, with isolated pilosity; slightly convergent towards apex; pronotum with dense small punctation, sides with strongly protruding wrinkles; grooves of sub-basal collar distinct, fused. Scutellum dark brown to black.

**Elytra:** Elytral length to width ratio 2.80:1; elytra dark brown to black, with isolated pilosity; elytral base slightly broader than pronotum, slightly broader behind middle; elytral punctation basally as large as interstices, punctations conspicuously decreasing behind middle, and becoming extinct before apex; punctations of striae 7 and 8 only slightly decreasing behind middle, conspicuously decreasing just shortly before apex; punctations of tenth stria distinct towards middle; punctations of ninth stria vestigial; elytral punctation with three nodules; interstices 4 and 6 slightly ridged from middle onwards, all others flattened; interstices with more or less conspicuous microsculpture.

**Lower surface:** Dark brown to black, with dense pilosity; metaventricle densely punctate and finely wrinkled; procoxal cavities slightly opened posteriorly.

**Legs:** Black, with dense pilosity and wrinkles; mesotibiae slightly bent.

**Abdomen:** Tegmen ventrally closed, sides open, in the middle constricted; spicular fork fused to one-third.

**Distribution:** Mainly in coastal regions of South Queensland, Victoria, South Australia and Tasmania, occasionally in the interior and with a single location in New Guinea.

**Seasonal occurrence:** Collected during the whole year.

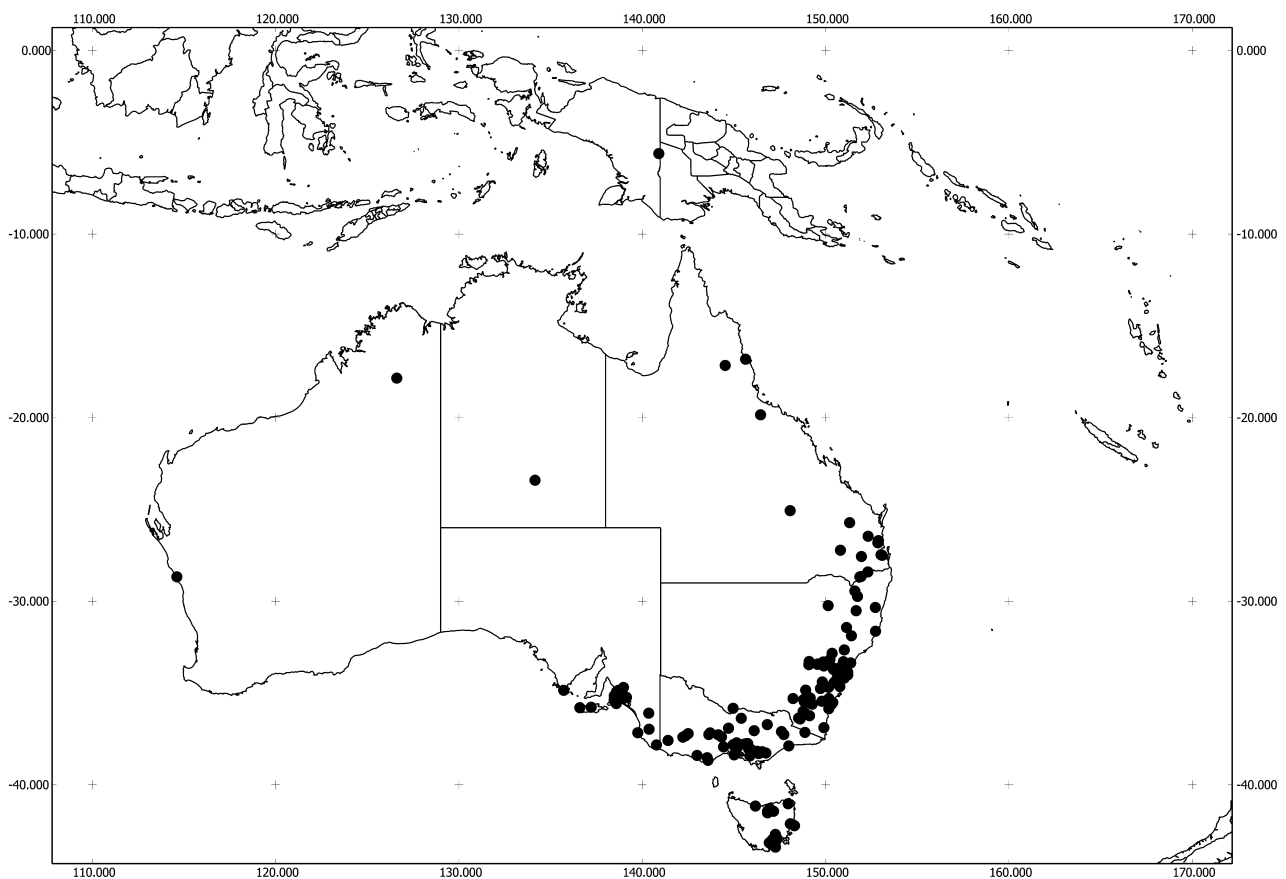


FIGURE 38. Distribution of *Eunatalis planipennis*.



## ***Eunatalis porcata* (Fabricius, 1787)**

(Figures 39–40, 57C)

*Notoxus porcatus* Fabricius, 1787: 127; *Opilus porcata* Klug, 1842: 318; *Natalis porcata* Waterhouse, 1894: 286; Ekis 1975: 23.

*Natalis cribricollis* Spinola, 1844: 203 (t. 16, f. 4); Chevrolat 1876: 4; Gorham 1876: 71; Blackburn 1899: 32.

*Natalis inconspicua* Blackburn, 1890: 124; Blackburn 1899: 34.

**Specimens examined:** *Notoxus porcatus*: **Lectotype** (designated here): Not. Porcatus, F. Mant. Ins. n. (BMNH).

*Natalis cribricollis*: **Holotype**: Holotype, *Eunatalis cribricollis* (Spinola); MRSN—Torino Coll., Spinola Coleoptera box 419 (MRSN).

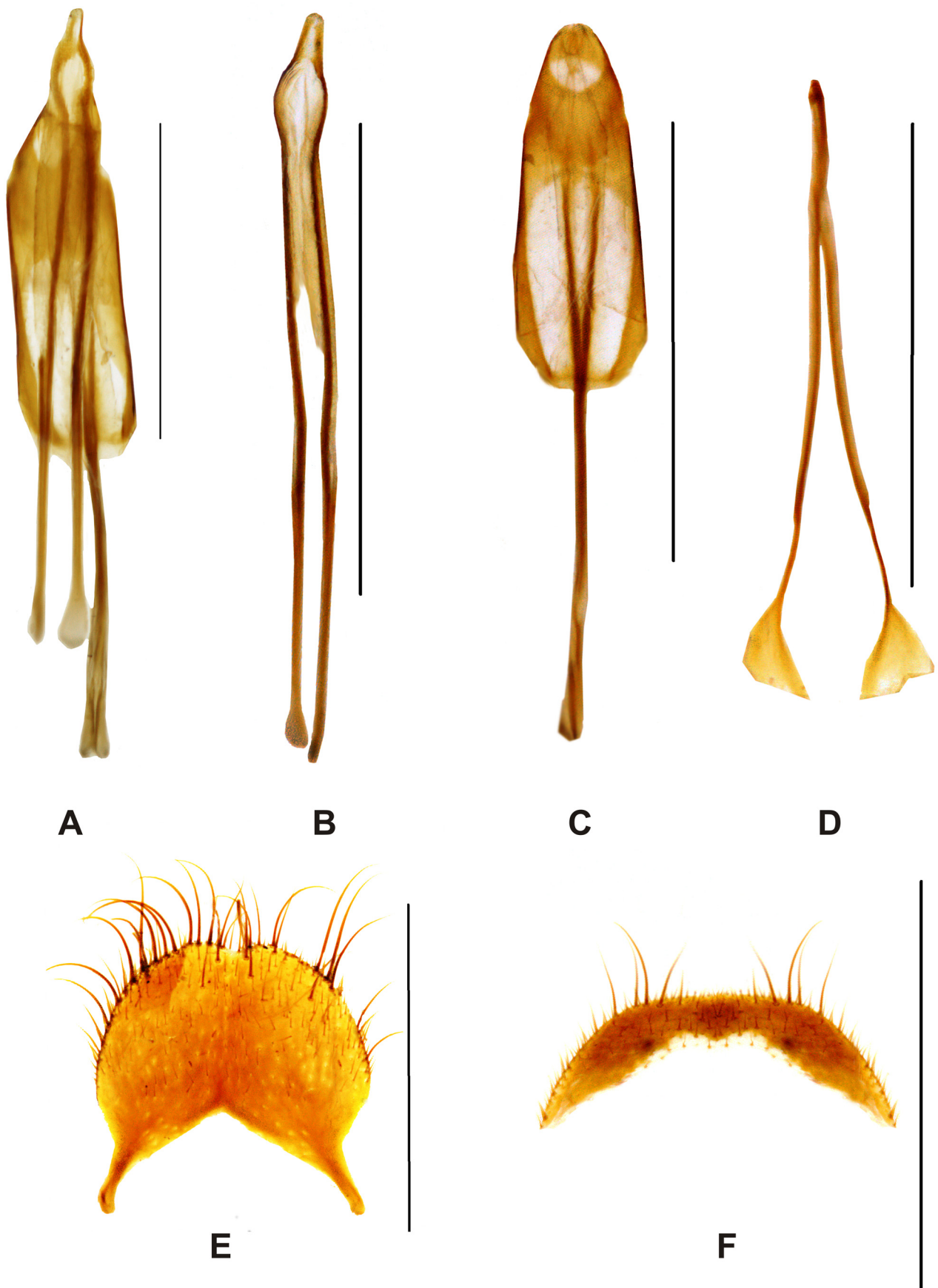
*Natalis inconspicua*: **Lectotype** (designated here): *Natalis inconspicua*, Blackb.; Australia, Blackburn Coll., B.M. 1910-236; P. 4ine (TYPE) (BMNH).

**Comment on the type specimens:** *Notoxus porcatus*: As Fabricius (1787) made no reference to specimens in his description it cannot be assumed that the nominal species-group name, *Notoxus porcatus*, was based on a single specimen. The 'type' specimen located in the Natural History Museum, London (BMNH) must therefore be considered a syntype (ICZN 1999: Article 73.2) and available for lectotype designation (ICZN 1999: Article 74.1).

*Natalis cribricollis*: At the end of his description Spinola (1844: 203) writes "Une femelle, de la collection Dupont. Mâle, inconnu" (i.e. one female/male unknown), implying that the nominal species-group name, *Natalis cribricollis*, was based on a single specimen. The 'type' specimen lodged at the Museo Regionale di Scienze Naturali, Turino (MRSN) is therefore considered the holotype, fixed by monotypy (ICZN 1999: Article 73.1.2). Ekis (1975), correctly, recognised this specimen as a holotype.

*Natalis inconspicua*: As Blackburn (1890) made no reference to specimens in his description it cannot be assumed that the nominal species-group name, *Natalis inconspicua*, was based on a single specimen. The 'type' specimen located in the Natural History Museum, London (BMNH) must therefore be considered a syntype (ICZN 1999: Article 73.2) and available for lectotype designation (ICZN 1999: Article 74.1).

**Others:** *Natalis porcata* Fab, Tasmania; 25-035861, 3 ex. (SAMA). Hobart, Tas., Lea; A.H. Elston Collection; K 324384 (AM). Museum Paris, Tasmanie, J. Verreaux 1844; *Natalis porcata* F., nec. Spin., Schenkling vid, 1901 (MNHN). Museum Paris, Tasmanie, Verreaux 3–47; *Natalis porcata* F., nec. Spin., Schenkling vid, 1901 (MNHN). Hobart, Tas., 28.2.20 (NMV). Terra Van Diemen, *Notoxus porcatus* F. (MNHN). Hobart, Tasmania, 1913-117 (BMNH). G.H. Hardy, Hobart, 17.8.13/15 (QM). Hobart, Tas., 1.1903, J.J. Walker (HEC). Launceston, Tasmania (QM). Launceston, T., F.M. Littler, 18\_1\_16, 2 ex. (QM). Launceston, Tasmania, 2 ex. (QM). Launceston, Tasmania, J.J. Walker, 2 ex. (BMNH). Emu Bay (MNHN). Lake Broadwater, At light, Via Dalby, SE. Qld., site 6, 22–25 Feb 1986, G. Monteith & G. Thompson (QM). Flew to outside light, Warm Stn, Newstead, Laun. TAS, Feb. 80 (ANIC). Flew to outside light, 11 pm overcast, humid, still, Newstead, Laun. Tas., 29-12-79 (ANIC). Australia, Tas, Apsley Gorge, Douglas Apsley National Park, 41°52'S 148°10'E; 6 December 1993, D.S. Horning, Jr., Under bark, *Eucalyptus* sp., TAS-126, 2 ex. (ANIC). Canberra, F.O.T., 1.2.1949, G.F. Hill (ANIC). Dorrigo, N.S.W., C. Oke (NMV). Victoria; *Natalis cribricollis* Du (MNHN). Emu Bay, Tasmania (MNHN). Australia, Tas., 2km NW Derwent Br., 730m, 24–28 Jan. 1980, wet sclerophyll, A. Newton, M. Thayer; pyrethrum spray, tree bark, at night (ANIC). Moe, Vict., 16-9-1945, 4-9-1945, 10-6-1946, C.G.L. Gooding (ANIC). Bendoc, V., Jan. 1938, F.E. Wilson, F.E. Wilson Collection (NMV). 4km E of Guyra, NSW, 4.x.1971, S. Misko (ANIC). 8km NW of Walcha, NSW, (30.59S, 151.36E), on Rd to Wollum-Walcha, 3.x.71, S. Misko, 2 ex. (ANIC). Outside light, Beechford, TAS., 19/12/1983, S. Fearn (ANIC). Hopetoun, W.A., 6 Sep.–25 Oct. 1984, A. Farman (ANIC). Ridgeway, Tas., 10/48, Co. (ANIC). Ridgeway, Tas., C. Oke, Oct. 1948 (NMV). 43.22S 146.08E, TAS, Clayton, Bathurst Harbor, 15 Jan.–20 Feb. 1991, A. Calder, W. Dressler, malaise '3, closed forest, ANIC Database No. 25 029657 (ANIC). 43.25S 146.10E, TAS, Melaleuca, near Bathurst Harbour, 20 Feb.–15 Mar. 1991, M. Horak, P. McQuillan, malaise #1, closed forest (ANIC). 43.25S 146.10E, TAS, Melaleuca, Bathurst Harbour, 25–29 Nov. 1991, E. Nielsen, G. Clarke, at light (ANIC). Gawler (NMV). Mt. Buffalo; Australia, C.E. Clarke Collection, B.M. 1957-24, 2 ex. (BMNH). Mt. Buffalo, V., Blackburn; 25-035815 + 25-035826 (SAMA). Mt. Wellington, S. Tasmania, 15 Jan.–6 Feb. 1913; 1,300–2,300 ft, R.E. Turner, 1913-212 (BMNH). Victoria, Hauschild; Coll. S. Schenkling; *porcata* Fab.; Blackburn, Oct. 1904; Col-02928 (SDEI). Blue Mts., N.S. Wales, G.E. Bryant, 3.1.09 (BMNH). Blue Mts., N.S. Wales, G.E. Bryant, 1.1904 (BMNH). Tas., 4 km ESE of Richmond, 27 Mar. 1977, A.A. Calder (NMV). Harrietville, Jan 1920 (NMV). Kelso (QM). Australia-Vic., Baxter 29.9.57, D.R. Holmes lgt.



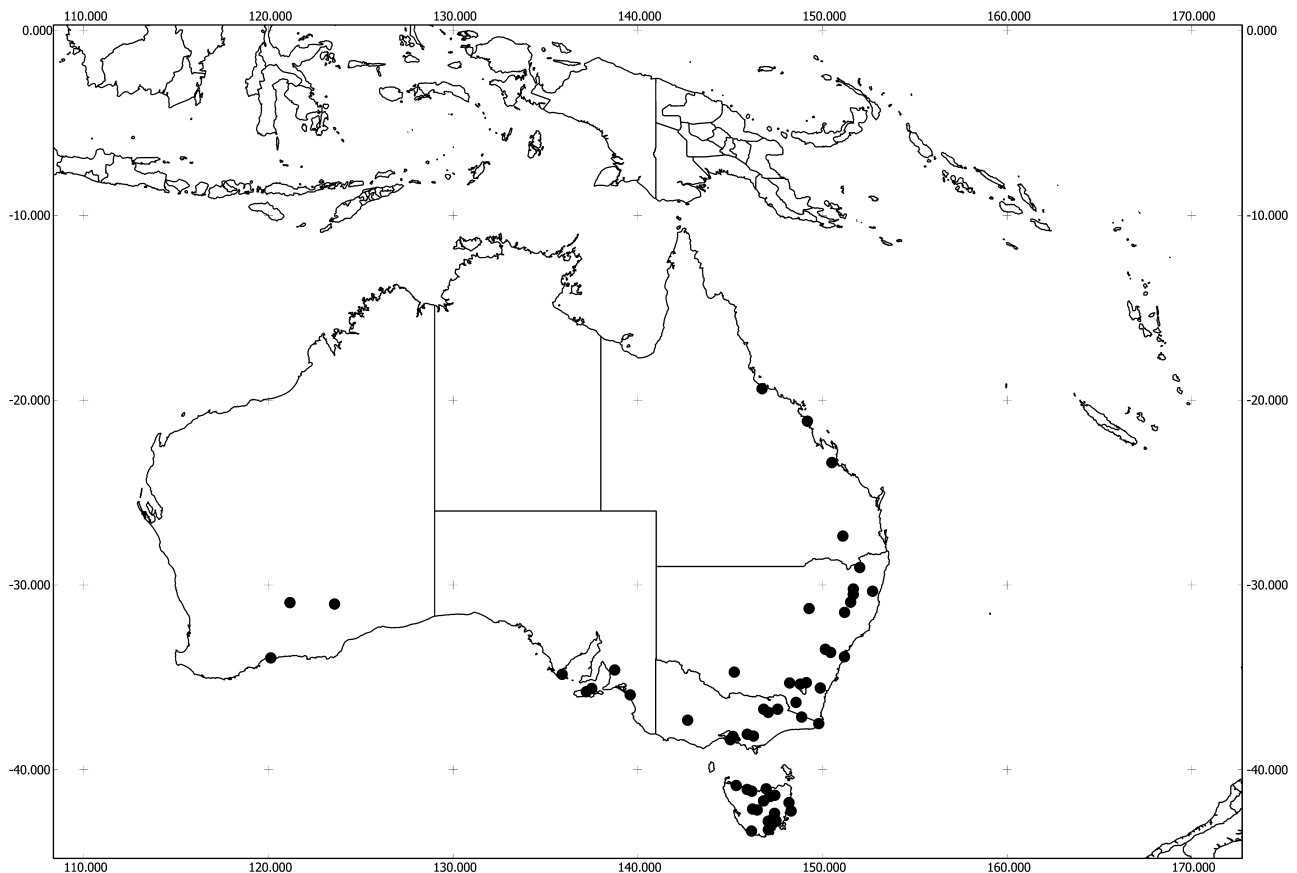
**FIGURE 39.** *Eunatalis porcata*: (A) Phallus lateral, (B) Phallus ventral, (C) Tegmen ventral, (D) Spicular fork, (E) Pygidium, (F) Ventrite VI.

(JKCB). Australia, ne. Tasm., Mt. Barrow, I.II.1972, 40km e Launceston, leg. M. Baehr, 3 ex. (RGCM). Australia, NSW, Aspley Gorge NP, 1.–2.12.1990, leg. M. Baehr (RGCM). Victorian Alps, Blackburn; 25-035954 (SAMA). Armidale, N.S.W., 10-V-1984, M. Coombs (QM). Rockhampton, Heyne Broth.; Col-02927 (SDEI). Australia-Vic., Red Hill, D.R. Holmes lgt. + 20.2.60, 2 ex. (JKCB). Australia, e. Tasmania, Freycinet Pen., 8.11.1972, leg. Baehr (RGCM). Murrumbidgee R., N.S. Wales, H.J. Carter; K 324381 (AM). Australia '11, TAS67, Peggs Beach Cns. Area, 8km e. Stanby, 18m, 40°50'59"S, 145°19'44"E, 25m, 3.2.2011, M. Baehr (RGCM). Ulverstone, T., Xmas 1924, R. Blackwood; K 324363 (AM). Lithgow, N.S.W., June 1924, H.E.P. Bracey; K 324357 (AM). Huon R., Tas., Lea (MTD). Franklin, Huon River, Tasm., J.J.W. (BMNH). Australia, N. Queensland. Mackay, D.S. North (BMNH). Parattah, Tas: Lea (QM). Liffey Valley, Tas., under bark on eucalyptus, 5.10.80, S. Fearn (ANIC). Under bark on standing dead eucalypt, Liffey Valley, Tas., 6/9/1981, S. Fearn (ANIC). Victoria, Barton, 2 ex. (MNHN). Rokeby. V., Nov-1965, C.G.L. Gooding (ANIC). Australia, NSW, Hanging Rock, 31°29'S, 151°12'E, 8 June 1992; D.S. Horning, Jr., Under bark Eucalyptus sp., NSW-8 (ANIC). 3km W Monga, NSW, 25 Nov. 1995, ex bark & soil at base of trees, G.W. Ulrich coll. (ANIC). Picadilly Circ., Brindabella Rng., ACT, 22 Nov. 1982, under Eucalyptus bark, J.&N. Lawrence (ANIC). Tasmania, Brighton; K 324385 (AM). Australia, SA, Pt. Lincoln NP, September Beach, 20.1.2004, M. Baehr (RGCM). Kangaroo Is, J.G.O. Tepper; K 324390 (AM) + 25-035972 (SAMA). W. Australia, Zanthus, 5.11.2001, L. Hovorka leg. (JRCP). W. Australia, Coolgardie leg., 18.X.2001, Hovorka (JRCP).

**Diagnosis:** The long, slender habitus with subparallel elytra is very similar to *E. planipennis*, but *E. porcata* differs from *E. planipennis* by the dense and large pronotal punctation; the pronotal sides are only slightly wrinkled or with coarse punctation. The tegmen is broad and not constricted in the middle, the phallic tip is round, then constricted

**Length:** (247 specimens measured) Total length: 11–19 mm.

**Head:** Dark brown to black, with dense pilosity; with dense small and large punctation; epistomal suture more or less distinct; interocular space about 1.5 one eye width.



**FIGURE 40.** Distribution of *Eunatalis porcata*.

**Thorax:** Pronotal length to width ratio 1.15:1; pronotum light brown to dark brown or black; with isolated pilosity; conspicuously longer than wide; with dense, large punctation; sides slightly wrinkled or with coarse punctation; grooves of sub-basal collar less distinct, separated by a bar. Scutellum light brown to dark brown, with isolated pilosity.

**Elytra:** Elytral length to width ratio 3.10:1; elytra light to dark brown, with isolated pilosity; elytral base slightly wider than pronotum, subparallel; diameter of punctations in basal half slightly smaller than interstices, punctation decreasing behind middle; punctations of tenth stria distinct almost towards apex; punctations of ninth stria distinct from middle towards apex; elytral punctation with three nodules; interstices 4, 5 and 6 slightly ridged in apical half; mostly without microsculpture, partially with very weak microsculpture.

**Lower surface:** Dark brown to black, with dense pilosity; metaventrite and abdominal ventrites with dense punctation; procoxal cavities opened to closed posteriorly.

**Legs:** Light brown to dark brown, with dense pilosity and punctation, with fine wrinkles; mesotibiae bent.

**Abdomen:** Tegmen ventrally closed, sides open; phallic tip round, then constricted; spicular fork fused to one-fourth.

**Distribution:** Tasmania and mainly in coastal regions of southern Australia, with a single location in Western Australia.

**Seasonal occurrence:** Collected during the whole year.

### ***Eunatalis punctata* Gerstmeier & Seitner 2013, n. sp.**

(Figures 41–42, 57D)

**Specimens examined: Holotype:** 50mLs., N.E. of Mullewa, W.A., May. 1958, A. Snell (NMV).

**Paratypes:** Australia: WA, Comet Vale, 130k N of Kalgoorlie, A. Sundholm/J. Bugeja, to MV light (ANIC). Austl: W. Austl., 13km NE Giles, Glen Gerald, 16-V-1983, FMHD#83-661, L.E. Watruss (FMNH). 25km E Wahroonga, HS, 25°29'22"S 114°38'41"E, WA, 15–16 July 2007, T.F. Houston 1217-5 & E.G. Cunningham; TFH1217-5, gas lantern/pitfall trap on dune crest, 6 pm–9.30 am (WAMP). 73 miles N. of Northampton, WA., 22 April 1968, I.F.B. Common & M.S. Upton (ANIC). Australia, N.S.W., Euabelong, WEST, 1.1998, leg. Anderson (CMLN). Station Ck., N.Q., Mulligan H'way, 9m S. of Mt. Carbine, 28.11.70, m.v.l., R. Hardy (ANIC). Station Ck., N.Q., 1/70, GB. (RGCM). N Queensland, 5.2.2000, Ravenshoe, Sv. Bily leg. (JRCP).

**Diagnosis:** Pronotum with dense, large and small punctation, which is similar to *E. debilis* (though *E. debilis* is much more slender with extended pronotum and elytra). Pygidium compact, with very short and broad processes, ventrite VI deeply emarginate; phallobase dilated.

**Length:** (9 specimens measured) Total length: 15–17 mm.

**Head:** Black, with isolated pilosity; with dense large and small punctation; epistomal suture not distinct; interocular space about one to 1.5 one eye width.

**Thorax:** Pronotal length to width ratio 1.07:1; pronotum black, with isolated pilosity; conspicuously sinuate, slightly convergent towards apex; with dense, large and small punctation, sides wrinkled; grooves of sub-basal collar distinct, separated by a wide, distinct bar. Scutellum dark brown to black, with weak punctation.

**Elytra:** Elytral length to width ratio 2.54:1; elytra dark brown to black, with isolated pilosity; elytral base slightly broader than pronotum, elytra subparallel to slightly broader behind middle; elytral punctation at base conspicuously broader than interstices, punctations decreasing towards apex; punctations of tenth stria distinct almost towards apex; punctations of ninth stria vestigial (in one specimen with isolated small punctation); elytral punctation with three nodules; interstices flattened and almost not ridged, microsculpture weak or absent.

**Lower surface:** Dark brown to black, with isolated pilosity, especially metaventrite with dense punctation and fine wrinkles; procoxal cavities slightly opened posteriorly.

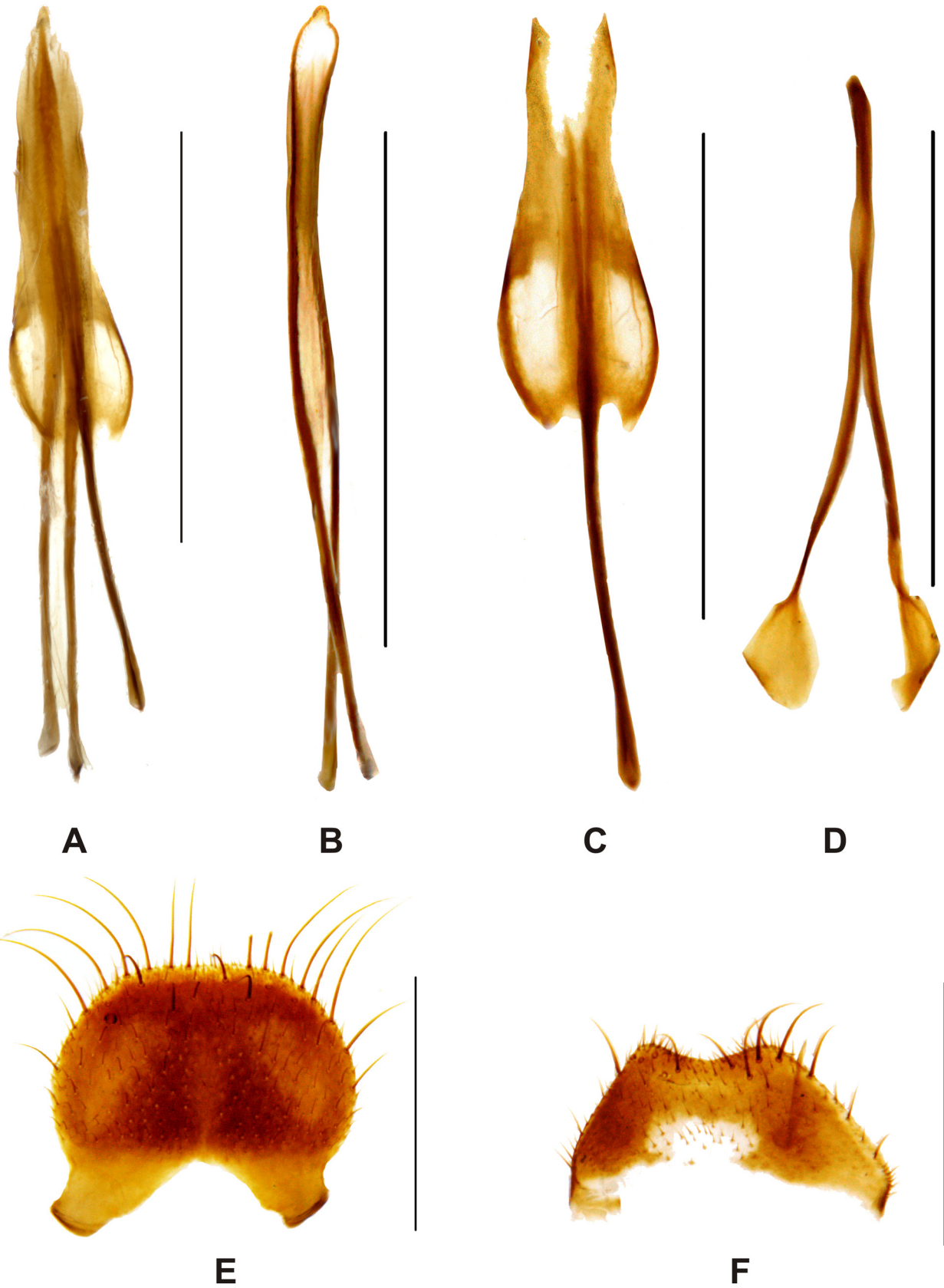
**Legs:** Black, with isolated pilosity, with dense punctation and fine wrinkles; mesotibiae bent.

**Abdomen:** Tegmen ventrally closed, sides open; phallobase dilated; spicular fork fused to halfway.

**Distribution:** Mainly Western Australia, one locality in New South Wales.

**Seasonal occurrence:** Collected from November to July.

**Etymology:** The specific epithet, *punctata*, a Latin adjective refers to the dense punctation of pronotum.



**FIGURE 41.** *Eunatalis punctata* n. sp.: (A) Phallus lateral, (B) Phallus ventral, (C) Tegmen ventral, (D) Spicular fork, (E) Pygidium, (F) Ventricle VI.

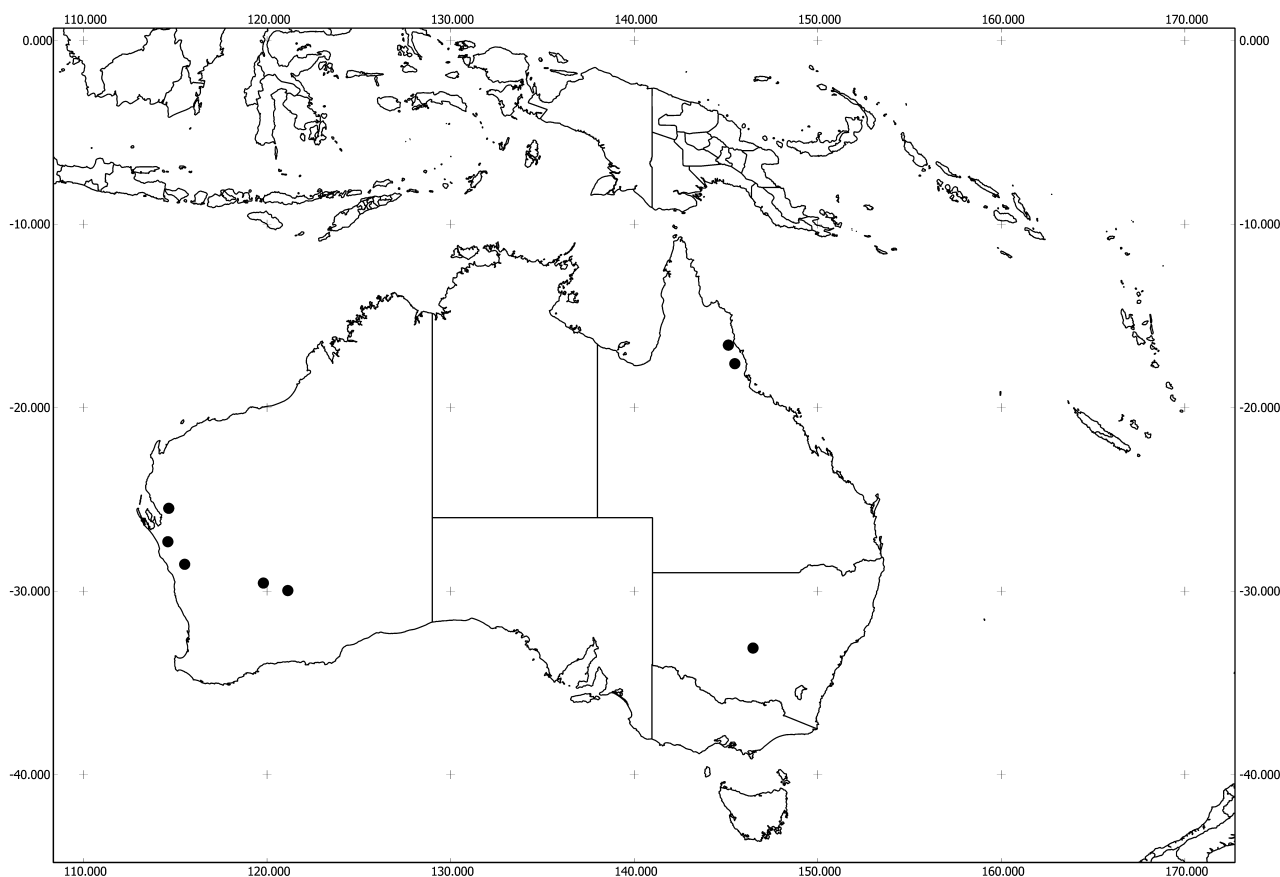


FIGURE 42. Distribution of *Eunatalis punctata* n. sp.

***Eunatalis schopfi* Gerstmeier 2013, n. sp.**

(Figures 43–44, 57E)

**Specimens examined: Holotype:** Armidale, N.S.W., 16 Dec. 1960, J. Frazier, at light (ANIC).

**Paratypes:** Austral., Victoria, CNHM 1955, Karl Brancsik Colln., ex Eduard Knirsch (FMNH). Adelaide, Blackburn; 25-035799 (SAMA). 36.37S 141.39E, 31km S NHill, VIC, 26 Oct. 1983, D. Rentz, M. Harvey, Stop41 (ANIC). Yarrowyck, Bundarra Road, 5 Aug. 1962, C.W. Frazier (ANIC). Black Mt, ACT, light trap 24.XII.65, I.F.B. Common (RGCM). Blackheath (NMV). BATH K324370 (AM). Austral, *Natalis fasciata* Blackb., S. Schenkling det. (BMNH).

**Diagnosis:** *E. schopfi* n. sp. is clearly recognizable by the extended pronotum and elytra. The metatibiae are conspicuously extended and there are fine wrinkles around the elongated pronotal groove. The phallic tip is notched, with a spoon-like structure; the spicular fork is only fused for less than one-sixths of its length.

**Length:** (9 specimens measured) Total length: 17–21 mm.

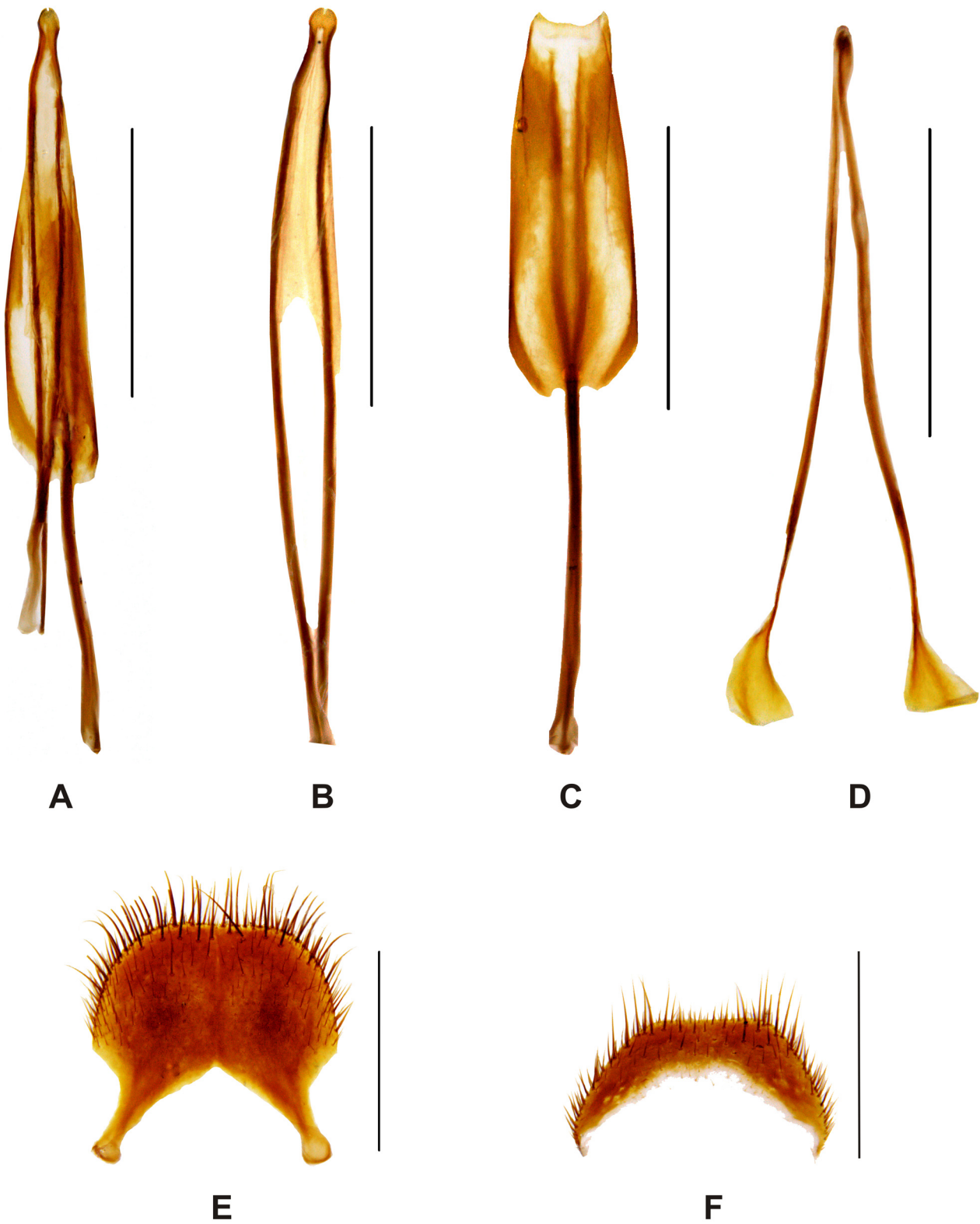
**Head:** Black, with isolated pilosity; with very dense punctation, fine wrinkles; epistomal suture very distinct; interocular space about one to 1.5 one eye width.

**Thorax:** Pronotal length to width ratio 1.15:1; pronotum black, with isolated hairs, dense punctation and fine wrinkles; sides sinuate, slightly convergent towards apex, conspicuously longer than broad; grooves of sub-basal collar not very distinct, separated by a bar. Scutellum black, with dense punctation.

**Elytra:** Elytral length to width ratio 3.02:1; elytra black, in the middle with a reddish or yellow transverse fascia; with isolated pilosity; elytral base slightly wider than pronotum, slightly broader behind the middle; elytra three times as long as wide; diameter of punctations in basal half wider than interstices, towards apex smaller, diameter of punctations in striae 1 to 4 conspicuously smaller, diameter of punctations in striae 5 to 8 slightly smaller than interstices, punctations of tenth stria distinct almost towards apex; punctations of ninth stria vestigial;

elytral punctation with three nodules; interstices 2, 4, 6 and 8 slightly ridged from middle, interstices with distinct microsculpture.

**Lower surface:** Black, with isolated pilosity; especially metaventrite with very dense punctation and fine wrinkles; procoxal cavities closed posteriorly.



**FIGURE 43.** *Eunatalis schopfi* n. sp.: (A) Phallus lateral, (B) Phallus ventral, (C) Tegmen ventral, (D) Spicular fork, (E) Pygidium, (F) Ventrte VI.

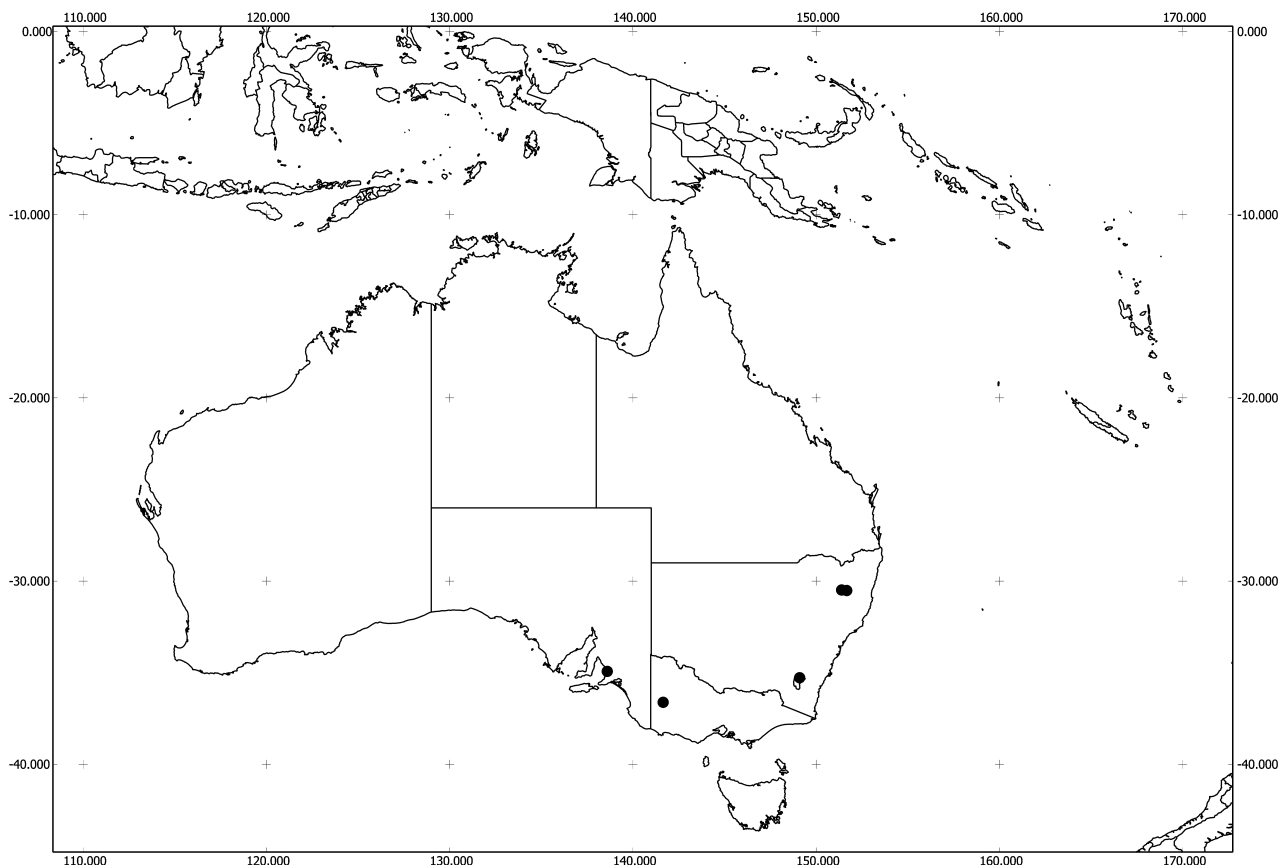
**Legs:** Black, with dense pilosity, with very dense punctation and fine wrinkles; mesotibiae slightly bent, metatibiae conspicuously extended.

**Abdomen:** Tegmen ventrally open; phallic tip with a notched, spoon-like structure; spicular fork fused for less than one-sixth.

**Distribution:** New South Wales and Victoria.

**Seasonal occurrence:** Collected in August, October and December.

**Etymology:** Named after Prof. Dr. Reinhard Schopf, a colleague of the senior author at the Department of Animal Ecology.



**FIGURE 44.** Distribution of *Eunatalis schopfi* n. sp.

***Eunatalis semicostata* (Blackburn, 1889)**

(Figures 45–46, 57F)

*Natalis semicostata* Blackburn, 1889: 1427; Blackburn 1899: 29, 31.

*Eunatalis alternicostata* (Kuwert, 1893): 484; Blackburn 1899: 29, n. syn.

*Eunatalis lata* (Waterhouse, 1894): 287; Blackburn 1899: 29, n. syn.

**Specimens examined:** *Natalis semicostata*: **Lectotype** (designated here): *Natalis semicostata*, Blackb., Australia., Blackburn Coll., B.M. 1910-236., 2421 T.; Type (BMNH).

*Natalis alternicostata*: **Lectotype** (designated here): *Natalis alternicostatus* Kuw., New Holland, ? TYPE; (TYPE *Alternicostatus*) (MNHM).

*Natalis lata*: **Lectotype** (designated here): Moreton Bay; *Natalis latus*, (Type) Waterh. (Type) (BMNH).

**Comment on the type specimens:** *Natalis semicostata*: In stating "the examples before me", Blackburn (1889: 1428) indicated that the nominal species-group taxon, *Natalis debilis*, was based on more than one specimen. As there is nothing in his paper indicating which specimen Blackburn considered the 'type', the specimen



located in the Natural History Museum, London (BMNH) is therefore considered a syntype (ICZN 1999: Article 73.2) and available for lectotype designation (ICZN 1999: Article 74.1).

***Natalis alternicostata*:** As Kuwert (1893) made no reference to specimens in his description it cannot be assumed that the nominal species-group name, *Natalis alternicostata*, was based on a single specimen. The 'type' specimen located in the Muséum National d'Histoire Naturelle, Paris (MNHN) must therefore be considered a syntype (ICZN 1999: Article 73.2) and available for lectotype designation (ICZN 1999: Article 74.1).

***Natalis lata*:** As Waterhouse (1894) made no reference to specimens in his description it cannot be assumed that the nominal species-group name, *Natalis lata*, was based on a single specimen. The 'type' specimen located in the Natural History Museum, London (BMNH) must therefore be considered a syntype (ICZN 1999: Article 73.2) and available for lectotype designation (ICZN 1999: Article 74.1).

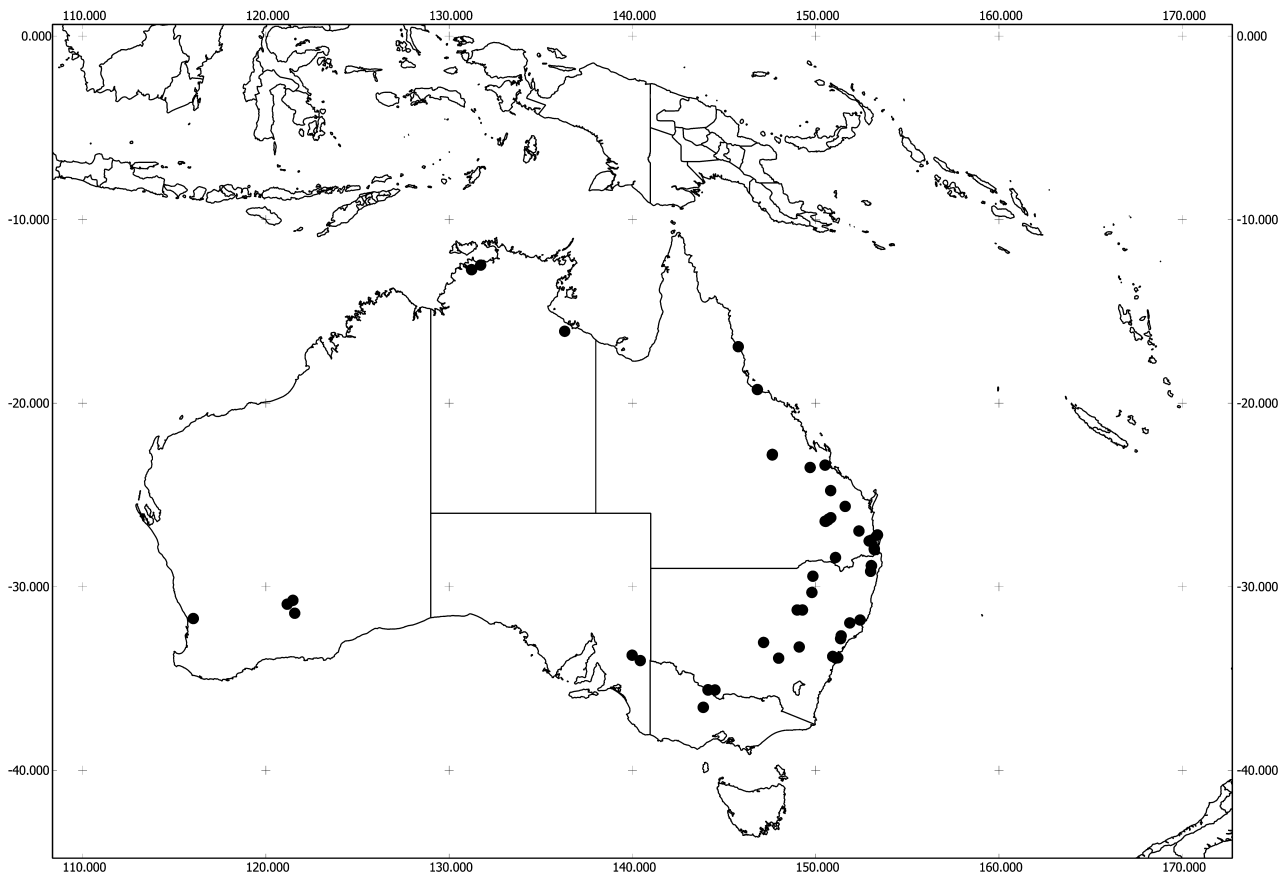
**Others:** Clermont, Queensland, Nov 17–29, Dr. K.K. Spence; K-324338; *Eunatalis hirta* Bl. (AM). 3255 Relton Bequest (QM). Coomingleh St.For., QLD.22 km NW Monto, 23 Dec. 1982, J.T. Doyen coll. (ANIC). west boundary, Yarratt SF NSW, 2.XI.95, 95:864, S. Watkins (ANIC). AUSTRALIEN, WA, Kalgoorlie, 2/1987 leg. Lamond (RGCM). Yaneo, N.S.W., 26 Spt.26 Oct '32, K.C.McKeown, K-324361 (AM). Harlin, 26.7.38, A. May, 0-166572 (QDPC). NEW SOUTH WALES, BARHAM, January 1969, Coll. Rudolf KOHOUT (ANIC). Qld:26.242°Sx150.824°E, Barakula SF, site 11., 450 m. 15–28 Dec 2009., G.B. Monteith & F. Turco., Malaise. 19210 2 ex. (QM). Australia, Northern Territory, Mary River 115 km e Darwin 29.7.1995, leg. M. Baehr (RGCM). Inglewood, Dec. 1920, Y., COL-65732 (NMV). Brisbane, 20.3.32, *Eunatalis lata*, Det. JS Bartlett, 19 June 2009, 0-166560 (QDPC). Warrumbungle National Park, N.S.W., 13–18 December, 1977, G.A. Holloway (AM). Qld:26.434°Sx150.514°E, Barakula SF, site 1.249m., 15–28 Dec. 2009., Malaise., Monteith & Turco. 19195 (QM). W.-Australien, Coolgardie, 3.2.67, leg.H.Demarz (ZSM). Qld:26.32°Sx150.72°E, Barakula SF, site 6. 378m., 15–28 Dec. 2009. Malaise., Monteith & Turco. 19202 2 ex. (QM). Townsville., Qld., G.F. Hill., COL-65728 (NMV). S. AUST Gluepot Res., 33°44'00"S 139°59'05"E, 1–8 Dec. 2000 malaise, trap Gluepot Surv., No. 25-036025 (SAMA). Qld:26.357°Sx150.682°E, Barakula SE, site 4. 368m., 1–15 Dec. 2009. Malaise., Monteith & Turco. 19182 (QM). Gayndah, Queensland, Masters., *Natalis porcata* Fab (MNHN). AUSTRALIA, Qld, Foleyvale Aboriginal Reserve, 20–25.I.1968, leg. G. Hangay (HNHM). Weddin Mtns NSW 15–17 km W of Grenfell, 31 Oct. 1982, J.T. Doyen coll., in nest of small ants (ANIC). Daly R, N.T., H. Wesselman, No. 25-03584 (SAMA). Qld:26.357°Sx150.682°E, Barakula SF, site 4. 368 m., 1–15 Dec. 2009. Malaise, Monteith & Turco. 19182 3 ex. (QM). Queensl., Dec. 1883 (MNHN). 9 km of Coonabarabran, NSW 23 Oc. 1980, E.B. Britton (ANIC). Daly R, N.T., H. Wesselman, Ditto N. Territory, No. 25-035783 (SAMA). Brisbane, 18-12-36 (QM). AUSTRALIA, NSW, 15 km sw Cessnock, 4.12.1990, leg. R. Gerstmeier (RGCM). Qld:26.439°Sx150.556°E, Barakula SF, site 2. 351 m., 15–28 Dec. 2009., Malaise., Monteith & Turco. 19196 2 ex. (QM). AUSTRALIA: Queensland env. Rockhampton, 10.–11. III. 1965, Exp. Dr. J. Balogh (HNHM). N.S. Wales (MNHN). *Natalis alternicosdatus*, Kuw. Neuhall. (MNHN). S.A., Australia, B. Mörner (NRM). Sydney, *Eunatalis Lata.*, Westw (QM). Greta, N.S.W., J.S. (ANIC). Victoria, *Natalis*, det.J.Frivaldszky (HNHM). Prospect, N.S.W. 3rd Jan. '31., K.C.McKeown., K324358 (AM). Qld:26.439°Sx150.556°E, Barakula SF, site 2. 351 m., 1–15 Dec. 2009., FIT., Monteith & Turco. 19179 (QM). Condobolin, New South Wales., 8:11:1972, D.A. Doolan., K 324464 (AM). Ennfield, NSW., K-8974, E.P. Ramsay, K324422 (AM). Caldwell, N.S.W., V. Robb, K 324399 (AM). Brookfield, 16-3-27, Hhacker, *Eunatalis lata*, Det. JS Bartlett, 19 June 2009 (QDPC). AUSTRALIA, NSW: Orange, 20 Jan 1992, R. de Keyzer (ANIC). Swan R., W. Australia, J. Clark, Brit.Mus. 1927-139., *Eunatalis hirta*, Tolk., W. Australia, *Natalis hirta* Al, Id. By A. M. Lea, NOT *E. hirta*. J J.R. 1988 (BMNH). NEW SOUTH WALES, BARHAM, January 1969, Coll. Rudolf KOHOUT (ANIC). AVS MCAL., NSW, Casino 1. 1978, 1497 KAP + (NRM). Neu-Holland, Queensland, Laue S. Rollet V., 75469 (ZMB). Queensland, n. Holl (MNHN). Inglewood Vic., 26.12.48, e. Oke. (NMV). Clermont, Queensland, Dr. K. K. Spence, 26130, K 324337, *Eunatalis Fasciata* Bl. (AM). Inglewood, 13.12 20 (NVM). 34.03S 140.43E (GPS), Calperumg HS, 15 km NNW Renmark S.A., 7–8 Nov 1995 At light, M.Dominguez & K. Pullen, Calperum Station/Bookmark Biosphere Reserve, Invertebrate Survey (ANIC). Inglewood, VIC, 26.12.1945, C. OKE, COL-65731 (NVM). Cairns dist., F. P. Dodd, No. 25-035791 (SAMA). Mt. Tamborine, 29-12-56, S.Q., C. OKE., COL-65729 (NVM). AUSTRALIE: N.S.W. (18m) surroundings of Glouchester (S 31°58'21.0"–E 151°51'32.3") 29.XII.2003 L. & M. Bartolozzi legit (MZUF) (2). Narrabri, N.S.W. 5 Nov. 1932, K.C.McKeown, K 324373 (AM). N.S. WALES, A. Böttcher.Berlin 2 ex. (ZMB). Moree, N.S.W, 21-3-01, W.W.F., K 324416 (AM). Inglewood Vic., 26.12.1948, e. Oke., COL-65730 (NMV). N.S.WALES, ,MUSEUM PARIS, New South Wales, H.Donckier.1927 (MNHN). Olives Swamp, Myrtle SF NSW, 2.ii.97 mv light, S Watkins coll.

(ANIC). Wyvern Bringagee, N.S.W., Nov. '46, V. Robb., K 324396 (AM). Boorooloola., 27.10.11.N.Terr., G.F. Mill, E. lata wath, COL -65726 (NVM). FAIRFIELD, NOV 1927, M.Fuller (ANIC). W.AUST. 12 mi N. Widgiemooltha, 31 Oct 1968, under bark, N.McFarland, No. 25-03594 (SAMA). Moreton Bay; Bowring 6347 (BMNH). Austral. NSM, Casino, 1. 1978; 1497 Kap (NRM).

**Diagnosis:** In combination, the narrow interocular space and the almost straight mesotibiae are the best characters for recognizing *E. semicostata*. The phallic tip is triangular and slightly emarginate; the spicular fork is only fused basally.



**FIGURE 45.** *Eunatalis semicostata*: (A) Phallus lateral, (B) Phallus ventral, (C) Tegmen ventral, (D) Spicular fork, (E) Pygidium, (F) Ventrte VI.



**FIGURE 46.** Distribution of *Eunatalis semicostata*.

**Length:** (83 specimens measured) Total length: 16–25mm.

**Head:** Black, with isolated pilosity; with dense punctation and fine wrinkles; eyes strongly convex; interocular space about one eye width (or slightly more).

**Thorax:** Pronotal length to width ratio 1.10:1; pronotum light brown to dark brown, with more or less distinct pilosity; pronotum with distinct punctation, sides with conspicuously protruding wrinkles; grooves of sub-basal collar distinct, separated by a wide, flattened bar or almost fused. Scutellum dark brown, with weak punctation.

**Elytra:** Elytral length to width ratio 2.16:1; elytra light brown to dark brown, sometimes with a dark fascia in the middle; with isolated pilosity; elytral base slightly wider than pronotum, conspicuously broader behind middle, apex broadly rounded, lower lateral margin conspicuously protruding behind middle; diameter of punctations in basal half double as wide as interstices, first to fourth row of punctations abruptly decreasing behind middle, becoming extinct towards apex, fourth to eighth row of punctations only slightly decreasing behind middle; punctations of tenth stria distinct towards middle; punctations of ninth stria vestigial; elytral punctation with three nodules, basal nodule less distinct; interstices flattened in basal half, interstices 4, 6 and 8 conspicuously ridged shortly before middle, the others more or less flattened.

**Lower surface:** Light brown to dark brown, with dense pilosity, procoxal cavities opened posteriorly; mesoventrite weakly punctate, metaventrite slightly punctate and wrinkled, posterior part of mesepisternum impunctate; second and third abdominal ventrite with dense pilosity in the middle.

**Legs:** Dark brown, with isolated pilosity, fine punctation; mesotibiae almost straight.

**Abdomen:** Tegmen ventrally and laterally broadly closed; phallic tip triangular and slightly emarginate; spicular fork fused only basally.

**Distribution:** Mainly coastal regions and inlands of East and South Australia, isolated localities in Northern Territory and Western Australia.

**Seasonal occurrence:** Collected from October to March.

**Remarks:** The type specimens of *E. alternicostata*, *E. lata* and *E. semicostata* did not show any differences in

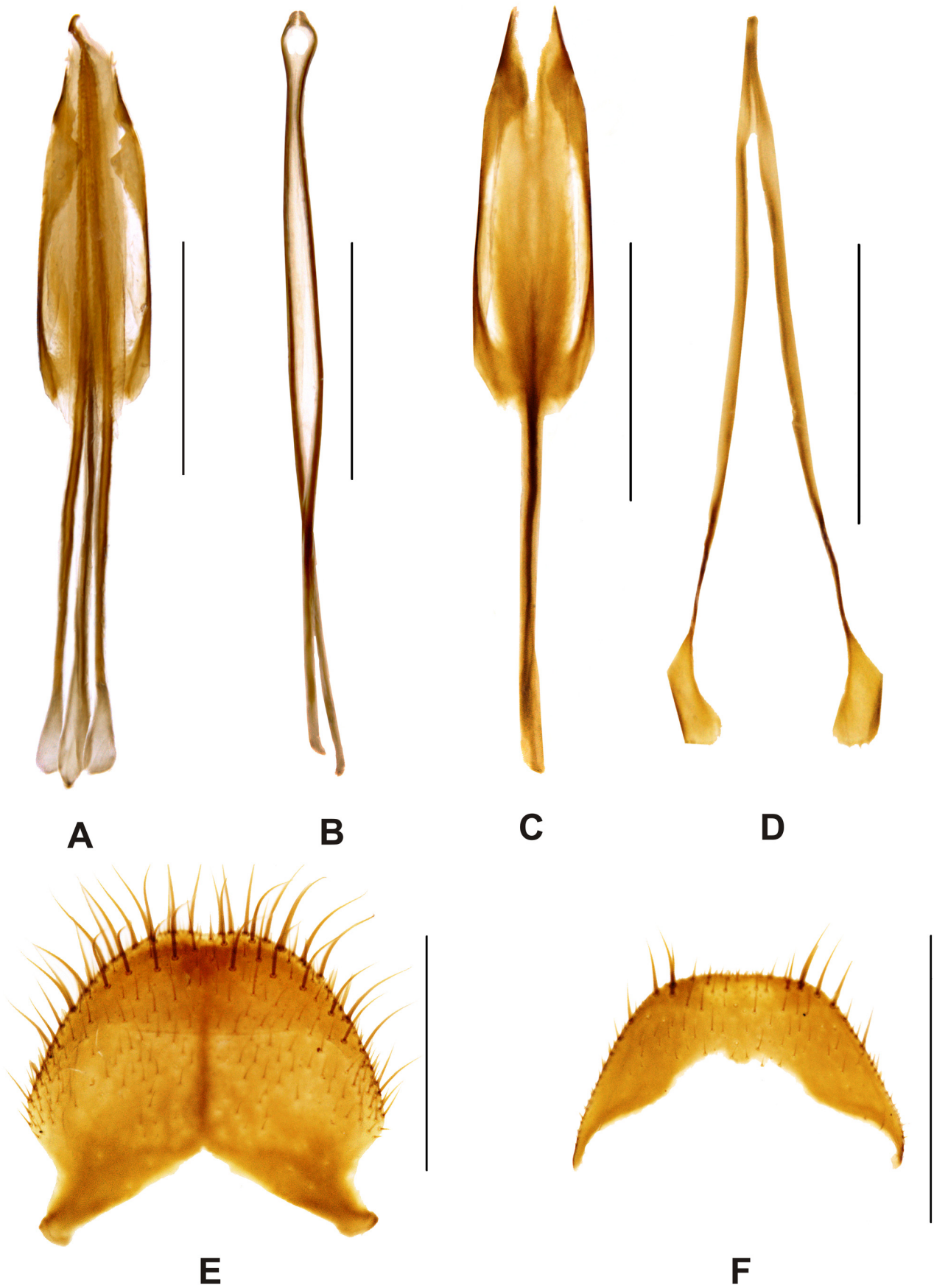
aedeagus, pygidium and sixth abdominal ventrite, therefore the species *E. alternicostata* and *E. lata* were synonymized with *E. semicostata*. The detailed descriptions of Blackburn (1889, 1890) for *E. semicostata* agree with our description above, except the typical shape of the first antennal segment.

***Eunatalis spadicea* Gerstmeier & Seitner 2013, n. sp.**

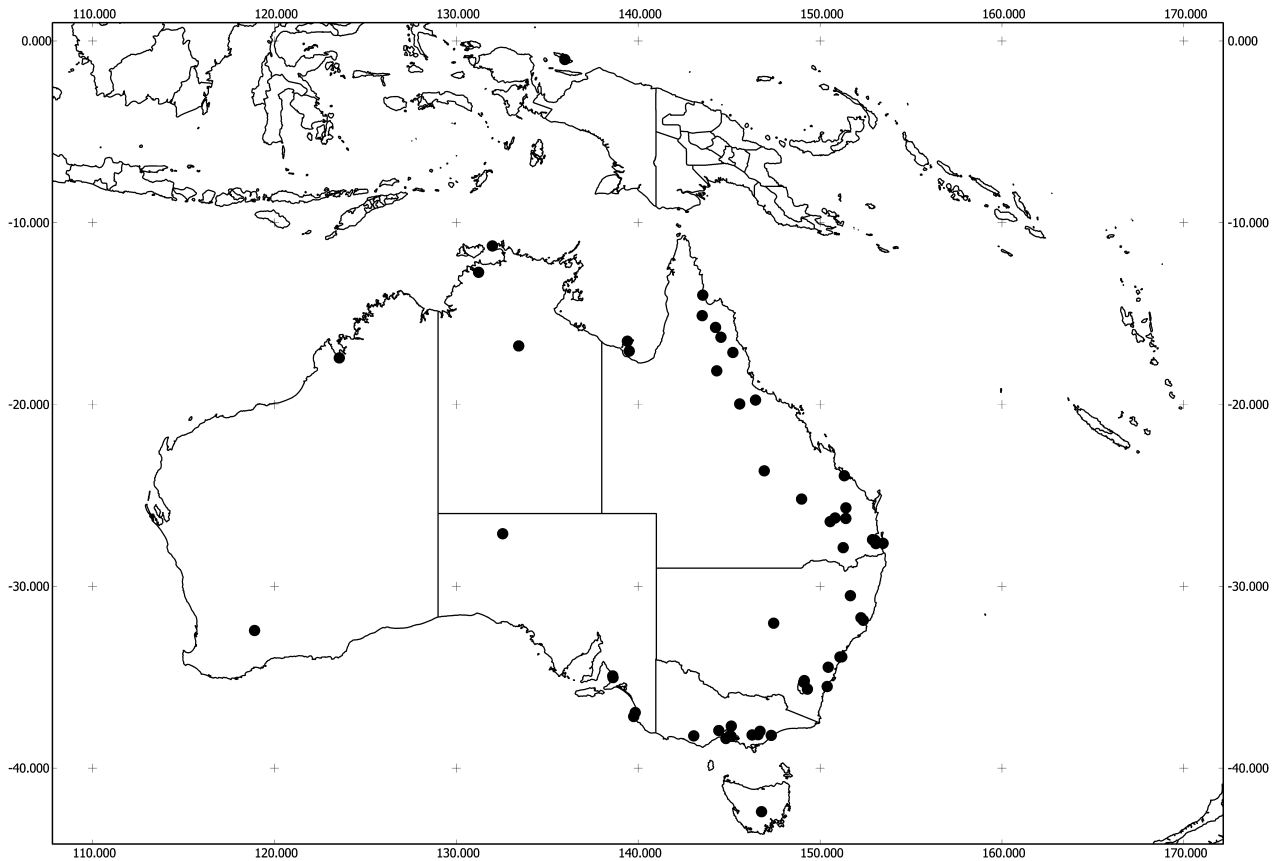
(Figures 47–48, 58A)

**Specimens examined: Holotype:** S. Aust., Blackwood-uv light, 4 Oct 68, Noel McFarland; 25-035947 (SAMA).

**Paratypes:** SEQ: 26°16'Sx151°25'E, Koy Property at Brigooda (Top site), 15 Dec. 1994–26 Jan. 1995, G.B. Monteith, intercept trap, vine scrub (QM). East Hyden, 19-XII-1972, WA, K.G. Barneby (ANIC). Latrobe R., Survey S.T., 8/7 Feb. 1973, U/S Morwell R., light trap (NMV). QLD: 27°39'Sx153°04'E, Illaween St., Drew Vale, 17 Feb. 2004, 11554, G. Monteith, MV lamp (QM). 167m N of Taringa Rail, Taringa, Brisbane Qld, 27°29'S 152°58'E, 14.ix.2005, V.L. Knutson (QM). QLD: 26.439°Sx150.556°E, Barakula SF, site 2, 351 m, 15–28 Dec. 2009, Malaise, Monteith & Turco, 19196 (RGCM). Coll. Hacker; Brisbane, Hacker; Schenkling det; Col-02916 (SDEI). 16.30S 144.55E, Desailly Ck., 10 km WbyN of Mt. Carbine, QLD, 19–21 May 1981, A. Calder; at light (ANIC). Enfield, NSW, K/28974, E.P. Ramsay; K 324417 (AM). Australia-Vic., Moorooduc, D.R. Holmes lgt., 17.9.55 (JKCB). Corangamite, V., June-1970, C. Elton (ANIC). Urella, NSW, SE of Burra, 2 July 1989, R. Farrow (ANIC). Armidale, N.S.W. (ANIC). Robe, S. Australia; 25-035962 (SAMA). Bogan, R., N.S.W., J. Armstrong (MZM). 35.17S 149.07E, ACT: Canberra, Black Mountain, 3 Dec. 1988, M. Hansen, at light; + 25 Dec 1988 (ZMUC). 35°16'57S 149°06'22E, Black Mountain, CSIRO, site ACT, 4 Feb. 1998, M. Neave & S. Grosse (ANIC). 35.17S 149.06E, Black Mt, ACT 9.1.87, D.C.F. Rentz (ANIC). 35°16'57S 149°06'22E, Black Mtn, SE slope, light trap ACT, 19 Jan. 1988, A.A. Calder + 18 Dec 1987 (ANIC). 35°16'57S 149°06'22E, Black Mountain, CSIRO, site ACT, Dec. 1998, M. Neave, M. Yee & K. Hebbard (ANIC). QLD: 19°58.1'Sx145°34.8'E, "Toomba", site 1, 390 m, 14–16 Dec. 2006, 14652, Monteith & Wright, MV light; vinescrub, edge/paddock (QM). Queensland; Museum Paris; Schill/Donckier 1909 (MNHN). Everard Rgs, S.A., to Warburton Rgs., W.A., A. Brumby 1931–1932; 25-035924 (SAMA). QLD: 27°29'Sx152°57'E, Mt. Coot-tha, 260m, 10 Jan 2002, MV light, G.B. Monteith, open forest 10350 (QM). SEQ, 25°42'Sx151°26'E, Nipping Gully, site 6, 18–19 Dec. 1998, 200 m, G. Monteith, C. Gough & G. Maywald 7532 (QM). 35°30'S 150°24'E (GPS), NSW: Bawley Point, 18–20 Jan. 2002, DCF Rentz; K 324505 (AM). Lots 72, 73, 148, Caparra NSW, 7.x.1995, m.v. light, S Watkins (ANIC). Milmerran, 5-11-26; K 324359 (AM). Qld: 19°45.2'Sx146°27.1'E, Fanning Riv. HS, 3.3 km SE, 9 Dec. 2006–10 Feb. 2007, Monteith & Cook, intercept, vinescrub, 290 m, 14585 (QM). Mutchilba, N.Q., Apr. 1937, A.D. Selby (NMV). Wattle Glen, V., 29.11.37, F.E. Wilson, F.E. Wilson Collection (NMV). Stradbroke Is-Q., 20.9.54, A.N.B. + 14.9.54 (NMV). Australien, WA, Fitzroy River, 11/1989 Lamond leg. (RGCM). Indonesia, Irian Jaya, Biak, 10m N Bosnik, 136°20'E, 01°05'S UWP, 13.II.1998, leg. A. Weigel (RGCM). Rye, Vic, 24.5.88, F.E. Wilson, F.E. Wilson Collection (NMV). Vic, Mornington, 24 Nov 1986, D. Johnson (NMV). Dutson Downs, V., Aug-1970, G.T. Coulson (ANIC). Sydney district, N.S.W., J.J.W. (HEC). Qld, Bentinck Is., "Ninyilki", 4–5 Jun. 1963, P. Aitken, N.B. Tindale; 25-035950 (SAMA). CQ, 23°55'Sx15°20'E, Boyne Island, via Gladstone, 5022, 1995, CQ University (QM). S. Aus., Blackwood, UV light, mid Mar.68, Noel McFarland; 25-035939 (SAMA). 11,12 Combined St, Wingham NSW. J. Stockard coll., 2. Jan. 1994 + Sept. 1991 (ANIC). QLD, 27°26'Sx152°53'E, Mt. Nebo Road, 250m, 31 Jan 2003, 11293, G. Monteith, MV light (QM). You Yangs V., 21-2-34, E. Smith; + 21-10-56 (NMV). Tasmania, Heyne Broth. (SDEI). Moe, Vict., 15-2-1946, C.G.L. Gooding (ANIC). Mittagong, N.S.W., 2000–2200 ft, 2/1901 J.J.W. (HEC). Australia, Leybold, coll. Oberthur (MNHN). Dawson distr., Barnard coll. (MNHN). Australia, QLD, Mt. Surprise, 3.1993, Lamond, 2 ex. (RGCM). Australia: N.T./ca. 30 km S Daly Waters und ca. 90 km N Elliot, am Stewart Hwy, 04.IV.2011, LF, H.= 269m, S16°46'38.8" E133°25'53.8", leg. Michael Langer (CMLN). Australia, A.C.T., Gungahlin, 22-XII 1958, light, W.J.M. Vestjens (ANIC). 15.45S 144.15E, QLD-GPS, 2 km NNW "Jowalbinna", 19 Jan 1994, at light, P. Zborowki & E.D. Edwards; + 17. Jan 1994 (ANIC). 12 km S. Kingston S.A., 7 Jan. 1998, M.S. Moulds; K 324491 (AM). 30 km W of Alpha Qld., T.M.S. Hanlon, ex dead standing Acacia; K 324503 (AM). Australien, Lina Rasim ded., 15.VII.1927 (SMNS). SEQ, 25°12'S 148°59'E, Expedition Range NP, 'Amphitheater', Camp560m, 17 Dec. 1997, Evans Burwell Ewart, mv lamp, open for (QM). Adelaide, Aug. 1954; 25-036046 (SAMA). 11.09S 132.09E, Blackpoint, Coburg, Pen., N.T., 15–23 Feb. 1977, T.A. Weir; ex light water trap (ANIC). Qld, 26.242°Sx150.824°E, Barakula SF, site 11, 450m, 1–15 Dec.



**FIGURE 47.** *Eumatalis spadicea* n. sp.: (A) Phallus lateral, (B) Phallus ventral, (C) Tegmen ventral, (D) Spicular fork, (E) Pygidium, (F) Ventrte VI.



**FIGURE 48.** Distribution of *Eumatalis spadicea* n. sp.

2009, G.B. Monteith & F. Turco, malaise, 19192 (QM). Qld, Mornington Island, Mission, 6 June 1960, P. Aitken, N.B. Tindale; 25-035935 (SAMA). Daly R., N.T., H. Wesselman; *Natalis hirta* Blkb. (QM). 15.11S 143.52E (GPS), Hann River, Qld, 14 Jan 1994, at light, P. Zborowski, E.D. Edwards (ANIC). Silver Plains, Homestead, N.Q., at light, 29.X.64, J.L. Wessel (ANIC).

**Diagnosis:** It is not easy to separate *E. spadicea* n. sp. from *E. punctata*, but *E. spadicea* n. sp. has the elytra light brown to dark brown, with the apical half reddish-brown; *E. punctata* is much darker, almost black. Ventricle VI is almost straight, whereas in *E. punctata* it is emarginate. The phallic tip is more-or-less Z-shaped, with a conspicuous groove.

**Length:** (80 specimens measured) Total length: 13–20mm.

**Head:** Dark brown to black, more or less densely vested with fine, whitish-grey, depressed setae; with dense punctation and fine wrinkles; epistomal suture not distinct; interocular space about one to 1.5 one eye width.

**Thorax:** Pronotal length to width ratio 1.08:1; pronotum black, more or less densely vested with fine, whitish-grey, depressed setae; pronotum slightly constricted towards apex; with weak punctation, sides wrinkled; grooves of sub-basal collar distinct, separated by a bar. Scutellum dark brown to black, with isolated pilosity and light punctation.

**Elytra:** Elytral length to width ratio 2.64:1; elytra light brown to dark brown, apical half reddish-brown, with isolated white pilosity; elytral base slightly broader than pronotum or equal, subparallel to slightly broader towards apex; diameter of punctations in basal half as wide as interstices, decreasing conspicuously behind middle; punctations of tenth stria distinct to shortly behind middle; punctations of ninth stria vestigial, sometimes with fine punctation near apex; elytral punctation with three weak nodules; interstices 4 and 6 slightly ridged behind the middle, without microsculpture.

**Lower surface:** Light brown to dark brown, with isolated white pilosity; procoxal cavities opened to closed posteriorly.

**Legs:** Dark brown, with dense, white pilosity, fine punctation and wrinkles; mesotibiae bent.

**Abdomen:** Tegmen ventrally and laterally open; phallic tip with groove; spicular fork fused only basally.

**Distribution:** In the south of West and South Australia, south-east Queensland and Biak (Irian Jaya).

**Seasonal occurrence:** Collected from October to January.

**Etymology:** The specific epithet, *spadicea*, a Latin adjective refers to the reddish-brown apical half of the elytra.

### ***Eunatalis spinicornis* (Blackburn, 1890)**

(Figures 49–50, 58B)

*Natalis spinicornis* Blackburn, 1890: 123; Blackburn 1899: 29.

**Specimens examined:** **Lectotype** (designated here): Australia., Blackburn Coll., B.M. 1910-236, *Natalis spinicornis* Blackb.; Type (BMNH). **Paralectotype** (designated here): Adelaide, Blackburn; *Natalis spinicornis* co-type; *Natalis spinicornis* Bl, S. Australia, Cotype; No. 25-035814 (SAMA).

**Comment on the type specimens:** Although the BMNH specimen is marked with Blackburn's distinctive "T" (indicating the holotype) it must be, along with the SAMA specimen, considered a syntype because Blackburn (1890: 123) failed to designate type status to either specimen within in his published description. Both specimens are available for lectotype designation (ICZN 1999: Article 74.1).

**Others:** Lake King (Strandline), West Aust., 8. Feb. 2000, P. Hutchinson; Reg.no. 833303 (WAMP). WA: State Library, Northbridge (Perth), 31°56'56"S, 115°51'37"E, 22 March 2011, via S. Crockett, Reg.no. 83313 (WAMP). M.L. July 35, Evansford; Brit. Mus. 1947-431; *E. spinicornis*, J.J. Menier '88 (BMNH). *Natalis porcata* F., Gawler (NMPC). Broken Hill., 16.3.(?), C.E. Chadwick; *Eunatalis porcata* Fabr., Det. by K.C. McKeown (ANIC). Australia., H.J. Nillier., 1905-232; Killalpanima., 100 miles E. of L. Eyre; *Natalis spinicornis* Blackb., S. Schenkling det. (BMNH). *Natalis psp.*, Id. by R. Harvey; 201; Ex. Coll. R.V. Southcott; No. 25-036016; Glenunga, 26.8.37 (SAMA). Rockhampt., Heyne Broth.; Coll. S. Schenkling; Schenkling det; Col-02898, 3 ex. (SDEI). Rockhampton (ZMB), (MNHN). Rockhampton, Queensland; 25-035878 (SAMA). VIC: Koorlong, Plot B from Trap Logs, 21 Feb 1995, Emerged 26 Jul 1995; *Eunatalis spinicornis* Blackburn, det. T.A. Weir 1996 (ANIC). Adelaide, Aug. 1956; C.H.S. Watts; *Natalis spinicornis* B., id. by C. Watts; No 25-035892 (SAMA). Adelaide, Fren (?); Schenkling det; *Eunatalis spinicornis* (Blackb), Ginter Ekis det. 1985 (SDEI). Adelaide, SA 1906; Coll. Hacker; Schenkling det; Col-02896 (SDEI). Adelaide; *Natalis spinicornis* Blackb. (BMNH). Adelaide, July 1955; No. 25-036034 (SAMA). Adelaide; No. 035894 (SAMA). Adelaide, June 1955; C.H.S. Watts; No. 25-035889 (SAMA). Adelaide, A.M. Lea; No. 25-035883 (SAMA). Murray. R., S.A., E.R. Zietz; A.H. Elston Collection; K 324408; *Natalis spinicornis* Bl., Id. by A.H. Elston (AM). Australia: W.A., New Norcia, IV-18-1964, H. Demarz leg; 8 ex. (FMNH). Corrigin, Valema Farms, W.A., P#3, active 14 Oct. 2001, caught in net Golding/Pitman; Reg.no. 83306, 83307, 83308; 3 ex. (WAMP). Murrumbateman, NSW, E.C. Zimmermann, 29-IV-89; Brit. Mus. 1989-119 (BMNH). Kellerberrin, W.A., H.M. Gilles, 3.2.07 and 6.2.07; G. Bryant Coll. 1919-147; 2 ex. (BMNH). Kellerberrin, W.A., H.M. Gilles, 4.2.07; *Natalis spinicornis* Blackb. (BMNH). Kellerberrin, W.A., H.M. Gilles, 1.2.07; *Natalis spinicornis* Blackb.; 2 ex. (BMNH). Black Mt. A.C.T., light trap, 2.2., 19.2., 22.2., 4.3., 31.3.68, M.S. Upton; 5 ex. (ANIC). Black Mtn. ACT, 28 Dec. 1967, K. Pullen (ANIC). Mt. Lofty Rgs., S.H. Curnow; A.H. Elston Collecton; K 324404 (AM). Mount Lofty; S.H. Curnow Collection; No. 25-035951 (SAMA). Mt. Lofty Rgs., S.H. Curnow; No. 25-035982 (SAMA). Mt. Gambier; Mus. Paris, Coll. Castelnau, Coll. Sedillot 1935 (MNHN). WA: Kalbarri Caravan Park, 27°41'58"S, 114°10'16"E, 5 March 2004 (elev. 20m), G. Byrne '455; 5:30 pm, fine, hot windy, under gas stove, in dark; Reg.no. 83311 (WAMP). S. Australia: Robertstown, Brady Creek, iv.1936, T. Honeychurch (BMNH). Marloo Stn., Wurarga, W.A., 1931–1941, A. Goerling; 2 ex. (ANIC). S. Aust., 36 km ESE Amata, Malaise Trap 21–24 Oct. 98, 26°16'12"S 131°28'36"E, Pitjantjatjara Land Surv YUROS; *E. camaldulensis*, Melaleuca glomerata creekline, No. 25-035901 (SAMA). S. Aust., Tarlee, 17 Feb. 1974, for P.B. McQuillan; No. 25-035916 (SAMA). N.H. Swan R. (BMNH). Hermannsburg, N.T., S. Australia, H.J. Nillier, 1907-283 (BMNH). Melbourne, D str ct V, R. Blackwood; K 324380, 324367; 2 ex. (AM). Melb.; *spinicornis* Bl; Col-65749 (NMV). Rockingham: Titana Thoms. (ZMB). Barakula, april 1939; *Eunatalis spinicornis*, det. J.S. Bartlett 15. Aug. 2008; QDPC O-166562 (QDPC). Winston Hills, NSW, 16.iii.1996, C.A.P. Vranhurst, K 324483 (AM). Dunmore, via Dalby QLD., 4.iii.1980, 20.iii.1980, M. De Baar S. Fatt; Ex Malaise Trap, Accn.No. 1818-33;

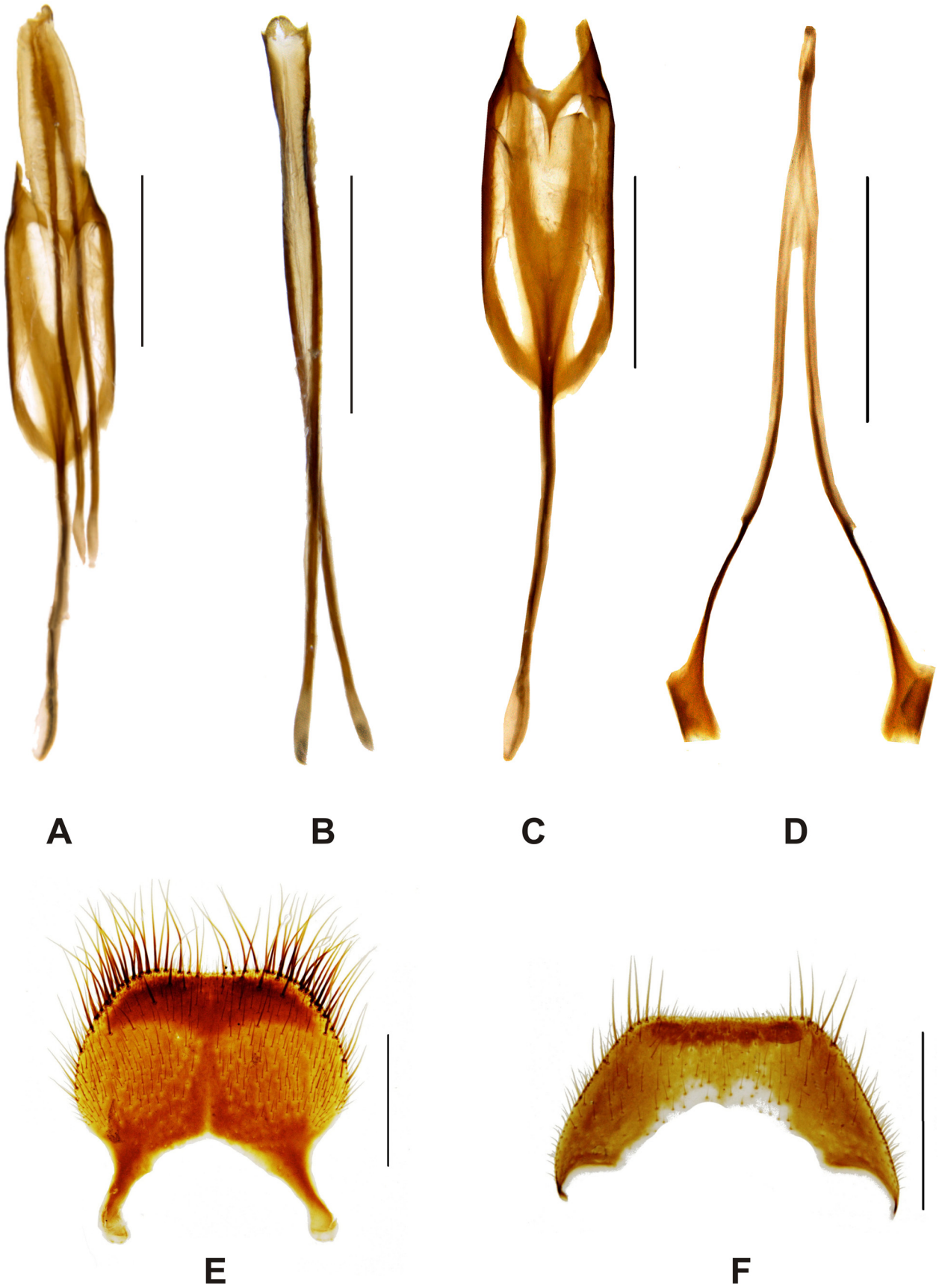
QDPC O-166583; 2 ex. (QDPC). *Natalis fasciata*, Kunwarara, 6-5-35; S.R.E. Brock Collection donated to ANIC 1987; 2 ex. (ANIC). W.-Australien, Coolgardie, 5.II.67, leg. H. Demarz (ZSM). Coolgardie; No. 25-035851 (SAMA). Dawson distr., (Barnard coll.) (MNHN). Launching Place V., C. Oke, Col-65748 (NMV). Bendigo, Vic, C. Oke; Col-65749 (NMV). Heyfield 23.3.18; Col-65755 (NMV). Alice Springs, N.T., Demarz, 8.1965; Australien, leg. Demarz (NHMB). near Alice Springs, M.W. Mules; No. 25-035928 (SAMA). New South Wales, Barham, January 1969, Coll. Rudolf Komout (ANIC). 35°16'57S 149°06'22E, Black Mountain, CSIRO, site ACT, 4 Feb 1998, M. Neave & S. Grosse; 2 ex. (ANIC). 31.11S 121.38E WA, W. of Norseman, 1–17 Nov. 2003, C. Lambkin & J. Recsei, Eucalyptus woodland; ANIC bulk sample 2183 (ANIC). 1.1.1972, Australia-A.C.T., Canberra-Yarralumla Stirling Park, Coll. R. Kohout; 2 ex. (ANIC). S. Aust. Narrina Stn, 2 km SW Molkegna Bore, 30°57'22"S 138°45'12"E, 15–25 Mar. 1999, Flinders Ra surv PAT camp; openherbland/Grassland; No. 25-035902 (SAMA). 31°10'S 138°32'E, bet. Angorichina & Parachilna s.A., 23 Sept. 78 J.G.; crawling on the ground at night; No. 25-035931 (SAMA). Athelstone S.A., 24 Oct. 67, 7 pm–2 am UV light, J. Szent Ivany; No. 25-035976 (SAMA). K.J. Sandery, Highbury East, Sth. Aust., Nov 1967; No. 25-036021, 25-035975; 2 ex. (SAMA). S. Austr., Hilmfirth, Fulham..., Jan. 1908, JW Mellor; No. 25-036008 (SAMA). Sth. Aust.—Swan Reach, 1.7k WSW Kroehs Landg., 34°41'54"S 139°35'04"E, Pitfall 24–28 Aug. 2004, DEH, SWA 02402; Tussock Grassland-F/P, Phrabmites australis, Schoenopectus validus, Agrostis avenacea var.; No. 25-036047 (SAMA). Dalby Q., Mrs. F.H. Hobler; No. 25-035887, 035881; 2 ex. (SAMA). Beverley, W.A.; Ditto W. Australia; No. 25-035886 (SAMA). Bowen, Queensland, A. Simson; No. 25-035890 (SAMA). Australia: St. Albans, Vic. 11.V.58, B.P. Moore (ANIC). Auburn, NSW (ANIC). At light, Innamincka S.A., 18 Oct. 1962, J. Audley; No. 25-035932 (SAMA). W. Australia, Lancefield Gold Mines, Laverton, Dr. W.H. Ince, 1906-5 (BMNH). 39-920, Salmon Gums; Reg.no. 83262 (WAMP). R.P. McMillan, Spencers Brook, 20.7.48; Reg.no. 83264 (WAMP). 34-920, W. Midland; Reg.no. 83261 (WAMP). Norseman, W. Austr.; F.E. Wilson Collection; Col-65723 (NMV). NSW, Narrabri, Jan. 1990, leg. A. Smith, Hangay collection; *Eunatalis lugubris* Blackburn, 1890, det. K. Markó, 2002 (HNHM). Cap York, Austral.; *N. porcata* F., det. J. Frivaldszky (HNHM). Australia, QLD, Dawson River/Kreuzung Capricorn HWY 11.11.1991, leg. R. Gerstmeier (RGCM). W-Australia, 8.11.1987, Station Creek, 127 km s Leinster, leg. R. Gerstmeier (RGCM). Mackay; Collect. Plason (RGCM). S.-Australien, Herrmannsburg a. Finkefluss, v. Leonhardi V.G. (ZMB). 85750; Hamb. S.-W. Austr. Exped. 1905, Stat. 95, Boorabbin, 3. VII.; 22; *Natalis spinicornis* Bl. (ZMB). N.W. of S.A., H. Basedow; *Natalis spinicornis* Blackb.; K 42987, K 324405; 2 ex. (AM). B. Australia, A.H. Elston; A.H. Elston Collection; K 324407; *Natalis spinicornis* Bl., Id. by A.H. Elston, 550 (AM). *Natalis* n.g. *porcata*, Spinl N. Holl. (NMPC). *Natalis spinicollis* Blackb., S.-W. Aust. (QM). Australien, N.S. Wales, Febr. 1903; Coll. C. le Deus; det. Corporaal 1946, *Eunatalis spinicornis* Blackb. (ZMUC). NS Wales, Heyne; Mus. Rothschild, 12-9-1914; *Spinicornis* Black., N.S. Wales (ZMUC). Australia; Coll. D. Ach., 1.90; P. de Bosse (MSCN). Austral. mer., Victoria (ZMB). Australia, occid. 1192; Mus. Hauschild, 12-9-1914 (ZMUC). Australia, Old Coll.; K 324406, K 42987; 2 ex. (AM). N. Holl., (?); *Natalis spinicornis* Blackb. (ZMB). N. Vict.; Mus. Hauschild 12-9-1914 (ZMUC). Vict., Mus. Hauschild 12-9-1914 (ZMUC). Victoria; Museum Paris, (Coll. C.H. Schill), H. Donckier 1909 (MNHN). Australia mer., Coll. Kirsch (MTD). S. Australien, Gomolka. 75 467 (ZMB). Vict.; *Natalis porcata* F.; Andrewes, Bequest., B.M. 1922-221 (BMNH). Victoria, Barton; Museum Paris, Coll. Gorham, 1914; 3 ex. (MNHN). Queensland, *Natalis spinicornis* Blackb.; Ex Museo E. Hintz; Museum Paris, ex Coll. R. Oberthür (MNHN). Nov: Holl.; Ex coll. Janson (MNHN). Australie; Museum Paris, Coll. M. Pic (MNHN). Victoria, Australie; Museum Paris. Coll. M. Pic (MNHN). Herrmannsburg, Central Australia, H.J. Nillier, 1911-311 (MNHN). Nat. Mus. Victoria, W. Australia; *Natalis spinicornis* Blackb., N.W. Australia; Nat. Mus. Victoria, C. French's Coll. 5.11.08; Col-65757, 65752; 2 ex. (NMV). S. Australia; *Natalis spinicornis* Blkb., Id. by A.H. Elston; F.E. Wilson Collection; Col-65756 (NMV). Australia, W. White; No. 25-035977 (SAMA). Guta, NSW (MZM). (?)Melton (MZM). 17802 (ZMB). Coolamundra; No. 035879 (SAMA). N.S. Wales; No. 25-035885; 2 ex. (SAMA). 42-456, Perth; Reg.no. 83263 (WAMP). Perth, April 1913, 7090; Reg.no. 83260 (WAMP). Sydney district, N.S.W., J.J.W. (HEC).

**Diagnosis:** *E. spinicornis* differs from all other species by the dentate elytral apices and a distinct longitudinal groove on the mesoventrite.

**Length:** (186 specimens measured) Total length: 20–31mm.

**Head:** Dark brown, with more or less short setae; with dense punctation and fine wrinkles; epistomal suture distinct; eyes very large and flattened; interocular space about one eye width; A11 acuminate.





**FIGURE 49.** *Eunatalis spinicornis*: (A) Phallus lateral, (B) Phallus ventral, (C) Tegmen ventral, (D) Spicular fork, (E) Pygidium, (F) Ventrite VI.

**Thorax:** Pronotal length to width ratio 1.09:1; pronotum light brown to dark brown, with isolated pilosity; with weak punctation, sides wrinkled, dorsally partly with transverse wrinkles; grooves of sub-basal collar distinct, separated by a wide bar. Scutellum light brown to dark brown, with weak punctation.

**Elytra:** Elytral length to width ratio 2.71:1; elytra light brown to dark brown, basal half darker than apical half, with a light transverse fascia in the middle, with isolated pilosity; elytral base broader than pronotum, broader behind the middle, apex dentate; diameter of punctations in basal half double as wide as interstices, decreasing behind middle; punctations of tenth stria distinct up to shortly behind middle; punctations of ninth stria vestigial; elytral punctation with three nodules; interstices 4 and 6 conspicuously ridged behind the middle.

**Lower surface:** Light brown to dark brown, with dense pilosity and weak punctation; procoxal cavities opened posteriorly; metaventrite with an oblique row of weak wrinkles; mesoventrite with a distinct longitudinal groove; abdominal ventrites laterally with a light or yellowish impression.

**Legs:** Dark brown, with isolated pilosity, weak punctation and weak wrinkles; pro- and mesotibiae slightly bent.

**Abdomen:** Tegmen ventrally closed; phallic tip with a weak hook-like structure; spicular fork fused less than one-fifth.

**Distribution:** Mainly in the southern parts of Australia.

**Seasonal occurrence:** Collected throughout the year.

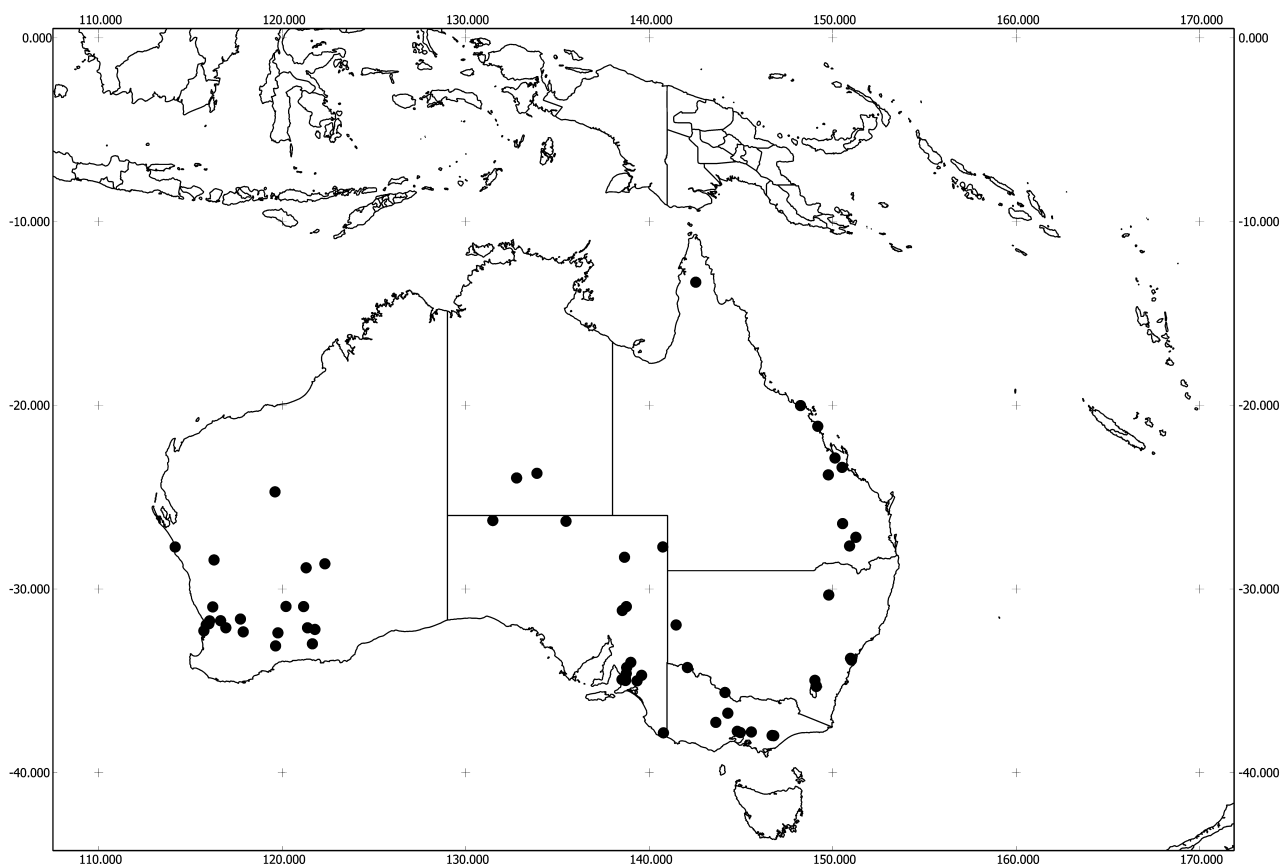


FIGURE 50. Distribution of *Eunatalis spinicornis*.

### *Eunatalis titana* (Thomson, 1860)

(Figures 51–52, 58C)

*Natalis titana* Thomson, 1860: 56; Blackburn 1899: 29; Schenkling, 1903: t3, f3.

**Specimens examined:** **Holotype:** *Titana*, Thoms. Mus.Sci. II 60.56, Typus, Nov. Hollan.; ex Museo James Thomson; Type (MNHN).

**Comment on the type specimen:** In stating "Spec. unie. in mus. nostro", (i.e. one specimen in my collection) Thomson (1860: 56) indicated that the nominal species-group taxon, *Natalis titana*, was based a single specimen. The 'type' located in the Muséum National d'Histoire Naturelle, Paris (MNHN) is therefore considered the holotype, fixed by monotypy (ICZN 1999: Article 73.1.2).

**Others:** Macedon, Vic., C. Oke; Col-114653 (NMV). Newstead, Victoria; Col-65765 (NMV). League Scrub FR., SE sect. Oakes SF., NSW, 20 Dec. 1998, G. and B. Williams; ex subtropical rainforest, at u/v light; K 324502 (AM). Launching Place, Vic., C. Oke; *Eunatalis titana* Thoms; (MZM). Wide Bay; K 34051; Australian Museum, K 324410 (AM). NSW: Helensburgh, Railway Stn. at light, Nov. 2011, C. Reid; Australian Museum, K 324414 (AM). 159, Dawson; Museum Paris, (coll. C.-H. Schill), H. Donckier 1909, 2 ex. (MNHN). Warragul, Victoria; F.E. Wilson Collection; Col-65768 (NMV). Emerald, Vic., C. Oke; Col-65767 (NMV). Macksville, N.S.W. 12.85, Australia (RGCM). Australia Q, Main Range, Mt. Steamers, leg. Wachtel 1.95 (RGCM). Richmond R., N.S. Wales; F.E. Wilson Collection, Col-65761 (NMV). Richmond R., N.S. Wales; 1909-174; *Natalis titana* Thoms., 3 ex. (BMNH). N. Galles du Sud, Richmond Riv.; Museum Paris, ex coll. R. Oberthur (MNHN). Richmond R., N.S. Wales, W:W: Froggatt; *Natalis titana* Thoms. (HEC). 18.55S 149.09E QLD, Mt. Spec 53 880m, 6 Dec. 1994–10 Jan. 1995 M. Cermak, FI Trap JCU 5m (ANIC). 19.00S 146.11E QLD, Mt. Spec St 875m, 6 Dec. 1994–10 Jan. 1995, M. Cermak, FI Trap JCU 10m (ANIC). SEQ 25°12'Sx149°11'E, Expedition Ra. NP 0II Bose, Rd. 520m, Open forest, 17 Dec 1997, D.&I. Cook 5061 (QM). NSW: Dorrigo NP, 18 Feb. 1981, ex pupa; R.H.Mulder collection, Australian Museum K 324481 (AM). Dorrigo, NSW (SAMA). Dorrigo, 10.10.1981, N.S.W., K-324413 (AM). Dorrigo, 14.(?)4.11, R.J.T.; H.J. Carter Col, P. 20.4.22; Col-65759 (NMV). Brisbane, Q., 17.XII.1969, I. Naumann; ex UQIC (QM). Brisbane, Q., 4.2.62, V. Cribb (QM). Brisbane, 26.4.59, A. Brimble; Under bark of Eucalypt sp., From Pupa; QDPC 166564 (QDPC). Woori Yallock, Dec 52. V, R.Ls.Rossignot; F.E. Wilson collection; Col-65764 (NMV). Landing Place, V., C. Oke; Col-65769 (NMV). QLD: 26°04'Sx150°49'E, Wonga Hills, site 3, 520m, Monteith, Cook & Wright (QM). VIC, Tennyson Creek, 5 km NW of Buldah, 37°14'S 149°07'E, 10–16 Jan. 1982, ANZSES Expedition; *Natalis titana* Thoms.; Lot 108 (NMV). Mordialloc, Vic. 21.05. J.C.G., Lot 108 (NMV). VIC., Black Soll Gully., 18 km NW of Licola, 1 Dec. 1976, A.A. Calder, Lot 108 (NMV). Moorilla, 1.(?) 08, Young, N.S.W. (ANIC). Botany Bay, N.S. Wales (BMNH). Drouin V., Nov. 8<sup>th</sup> 1961, R. Dawson (ANIC). Mizpah Rd., Shady Creek V., Dec. 8-1969, C. Elton (ANIC). Ferntree Gull., V., 21.10.27, A.H. Westley (QM). S.Aust., Abminga WH, 26°08'S 134°51'E, at light, 17 March 1993, J.A. Forrest, D. Hirst; Sama Database No. 25-035908 (SAMA). S.QLD.: 25°14'Sx153°10'E, Fraser Is. Coomboo Lake, Nov 1992, ANZSES Exped., Rainforest (QM). SEQ: 25°40'Sx151°26'E, Nipping Gully, Site 2, 9 Oct. 1998, G.B.&S.R. Monteith, 200m, 7276 (QM). Mt. Glorious, S.E.Q., 21.xii.70, A. Hiller (QM). Bowen, Queensland, A. Simson; SAMA Database 25-035897 (SAMA). Duaringo, Queensland; K 34051; K324409 (AM). Forest Reefs, N.S.W. Lea (SAMA). New South Wales (MNHN). Ex Museo, Mniszech (MNHN). Australia, 2 ex. (MNHN). NSW; (Barnard coll.)(MNHN). *Natalis laevis* Wat.; *Natalis titana* Thoms, P. Lesne vid. 09; Museum Paris, Collection Leon Fairmaire 1906 (MNHN). N. Holl., Q'land; Ex coll., Janson (MNHN). Australia; 75466 (ZMB). Ex Museo James Thomson (MNHN). N Queensland, E. Weiske; 14898 (MTI). N.S. Wales (MTI). N.S. Wales; *laevis* Waterh. (ZMB). N.S. Wales; E. *titana* (MNHN). Nat. Mus. Victoria, N.S. Wales; 3 ex. Col-65762, Col-65760, Col-65763 (NMV). Nat. Mus. Victoria, C. French's Coll., 5.11.08; Col-65771 (NMV). Queensland, 85.44; 2 ex. (BMNH). VIC.; Lot 108 (NMV). Australien, Lina Rasim ded., 15.VII.1927, 2 ex. (SMNS).

**Diagnosis:** *E. titana* is a larger species. The pronotal disc is characterized by isolated fine punctation, the pronotum is coarsely wrinkled laterally and the procoxal cavities are mostly open. The phallus is triangular, with a rounded tip.

**Length:** (94 specimens measured) Total length: 24–46mm.

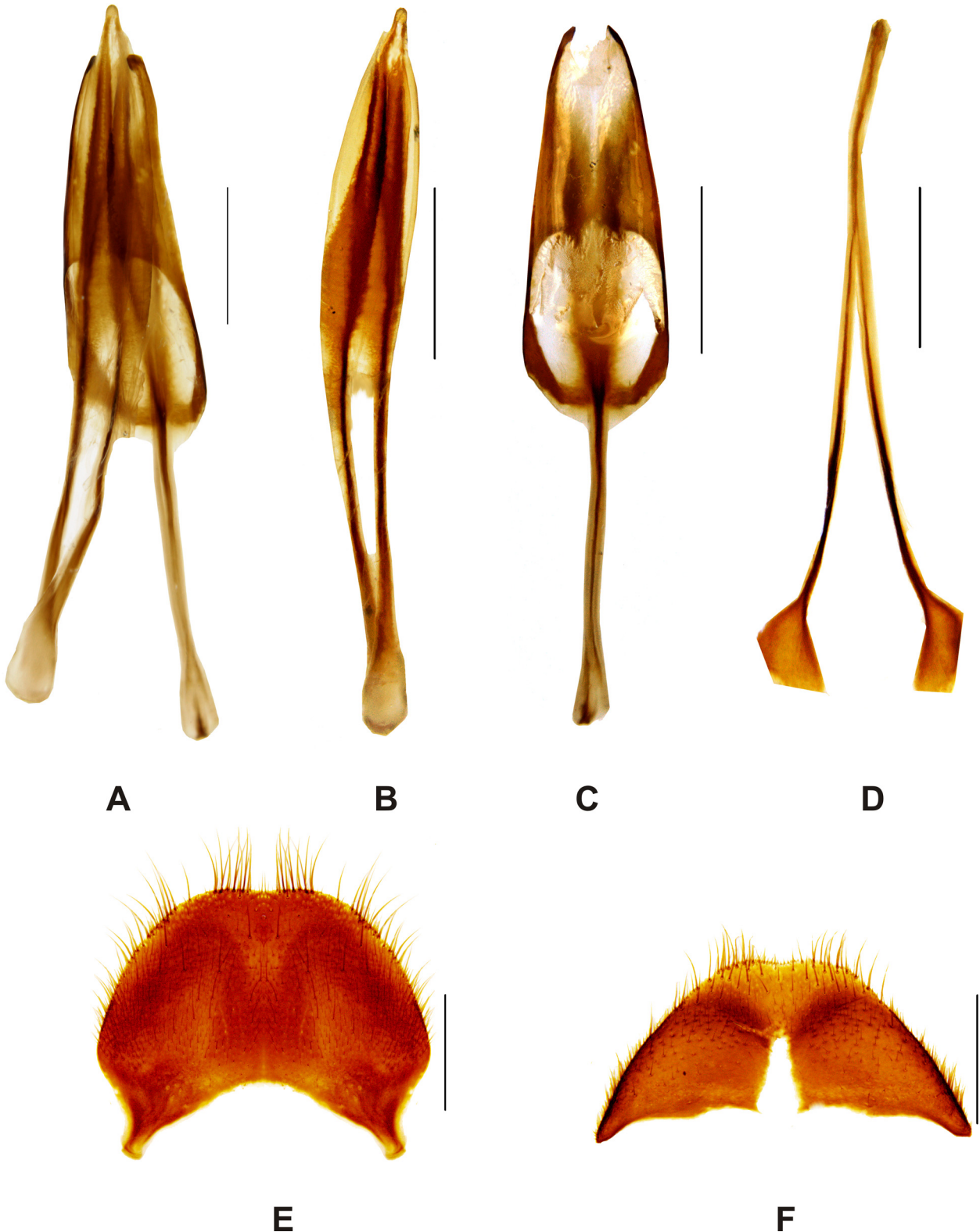
**Head:** Black, with isolated pilosity and weak punctation, with fine wrinkles; epistomal suture distinct; interocular space about one eye width (or smaller).

**Thorax:** Pronotal length to width ratio 1.00:1; pronotum black, with isolated pilosity and weak punctation, sides with strongly protruding wrinkles (some specimens also dorsally, behind the middle, strongly wrinkled); strongly convergent towards apex; longitudinal groove weak; grooves of sub-basal collar indistinct, fused. Scutellum dark brown to black, with weak punctation.

**Elytra:** Elytral length to width ratio 2.53:1; elytra dark brown to black, basal half darker than apical half (one specimen with a light transverse fascia in the middle), with isolated pilosity; elytra subparallel to broader behind middle, apex partly conspicuously bevelled to slightly emarginate; elytral punctation strongly oblong, in basal half

as wide as interstices, decreasing behind the middle, punctations of tenth stria conspicuous behind middle; punctations of ninth stria vestigial; elytral punctation with two laterally conspicuously protruding nodules; interstices 2, 4 and 6 slightly ridged, the other interstices flattened, with distinct microsculpture.

**Lower surface:** Dark brown to black, with dense pilosity, mesoventrite with distinct transverse convexity; metaventrite with dense pilosity and wrinkles; posterior part of mesepisternum not depressed; procoxal cavities slightly opened posteriorly.



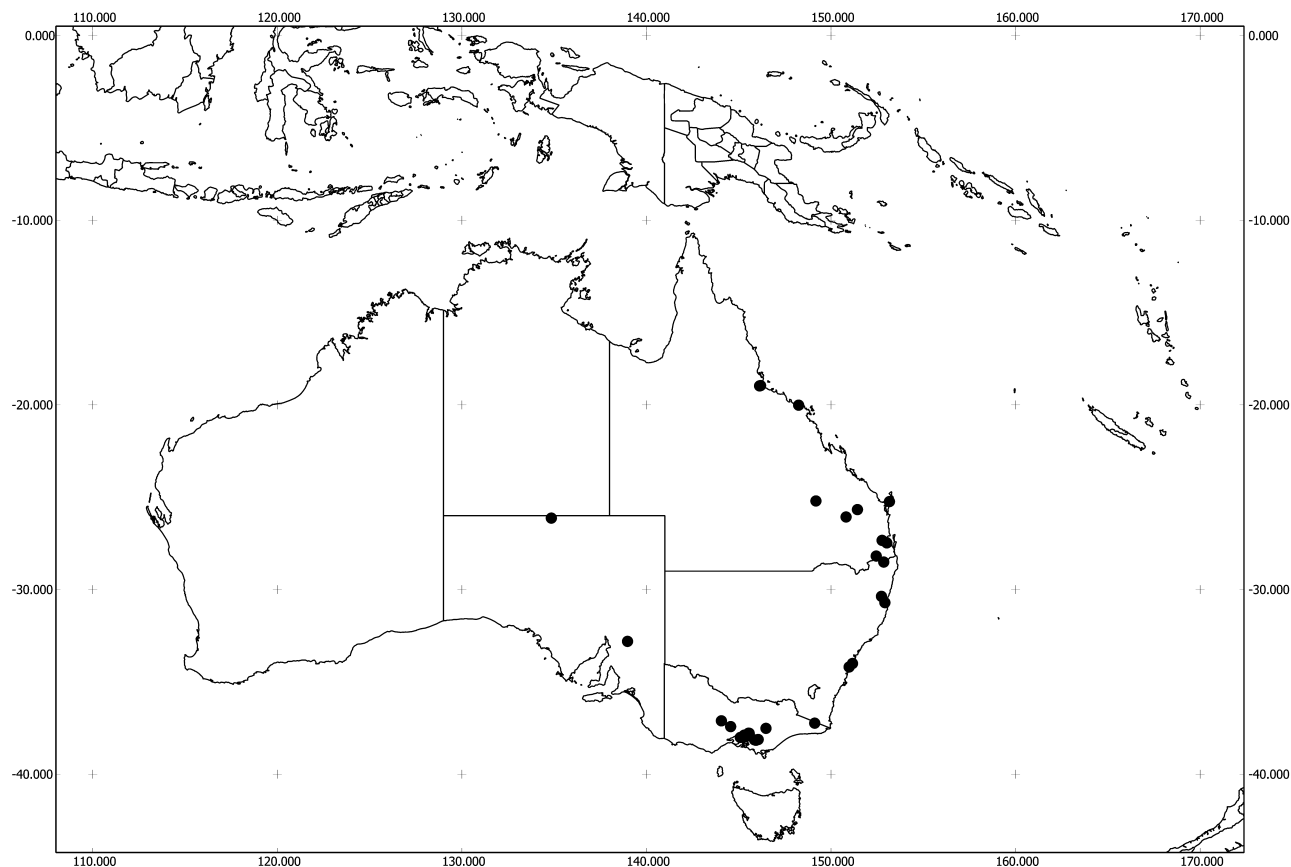
**FIGURE 51.** *Eunatalis titana*: (A) Phallus lateral, (B) Phallus ventral, (C) Tegmen ventral, (D) Spicular fork, (E) Pygidium, (F) Ventrite VI.

**Legs:** Black, especially tibiae and inner edges of femora with dense pilosity, with dense punctation and wrinkles; mesotibiae bent.

**Abdomen:** Aedeagus, spicular fork, pygidium and sixth ventrite relatively large and deeply emarginate triangularly; tegmen ventrally closed, dorsally only base closed; phallus triangular with rounded tip; spicular fork fused to one-third.

**Distribution:** Mainly in eastern part of Australia and South Australia.

**Seasonal occurrence:** Collected from November to April.



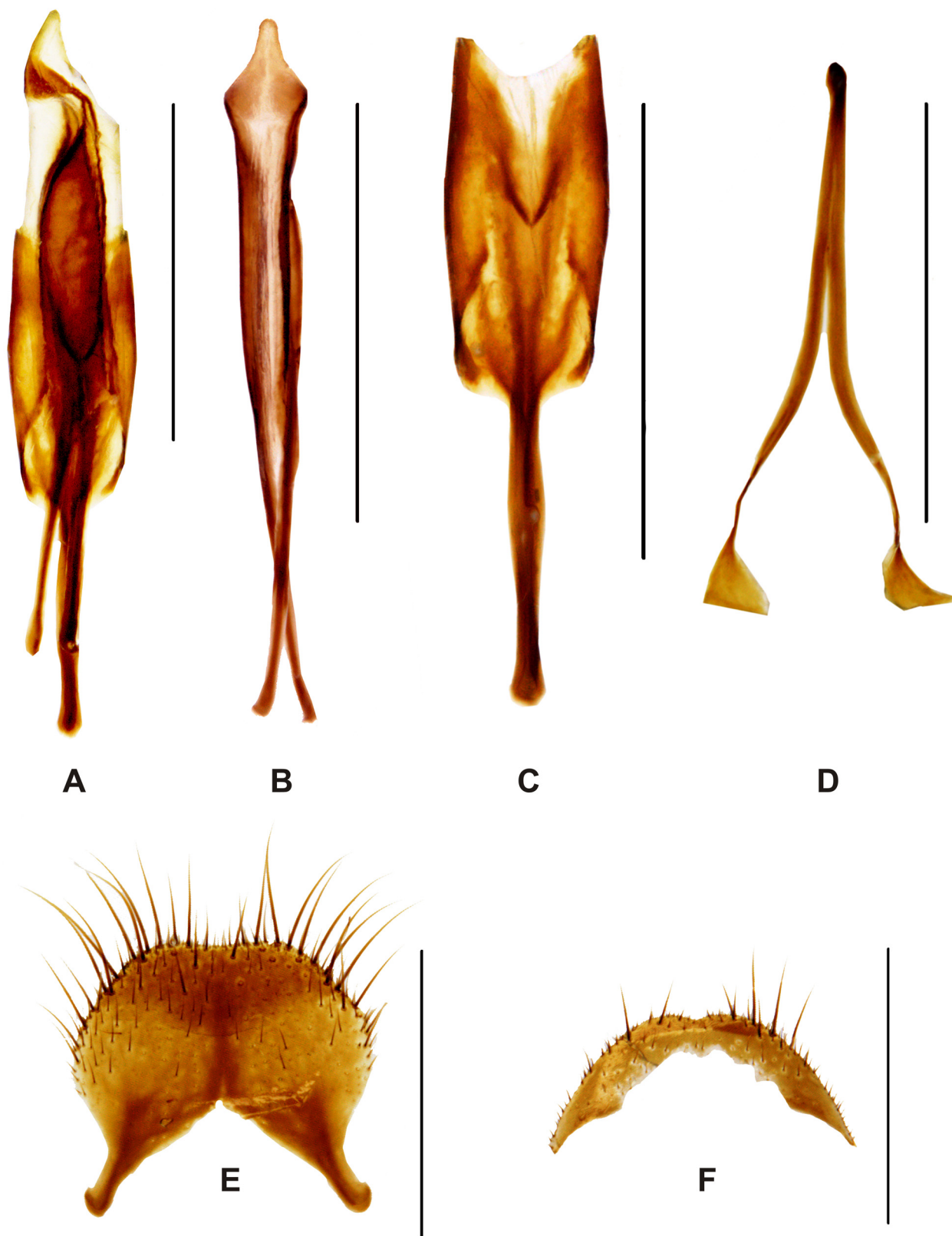
**FIGURE 52.** Distribution of *Eunatalis titana*.

***Eunatalis villosa* Gerstmeier & Seitner 2013, n. sp.**

(Figures 53–54, 58D)

**Specimens examined: Holotype:** Lynd R., X-ing, ESE Highbury, N.Q., 23.iv.1983, J.F. Donaldson, J.F. Grimshaw, at light; O-166588 (QDPC).

**Paratypes:** 9/06 N-Austr, NT, Bingbong, Mulecreek Rd, 16.05.2006, S15°37'50,6", E136°23'06,6", 16M at light, 17 ex. (CDW/RGCM). Mt. Mataranka, H'stead, 8 km E of Mataranka, 8 May 1983, 4 ex. (ANIC). Qld, Greenvale, 70 km SW, at light, 8 ex. (SAMA). at light, Normanton Qld, 5 May, 1963, P.F. Aitken & N.B. Tindale; 25-035937 + 4 May, 1963; 25-036019 (SAMA). Batten Point, 15.54S 136.32E, 30 km NE by E of Borroloola, N.T., 18.iv.1976 + 16.iv.1976, at light, J.E. Feehan, 4 ex. (ANIC). at light, Mornington Is. Mission, Qld., 12th May, 1963, P.F. Aitken and N.B. Tindale; 25-036004 (SAMA). at MV lamp, Mornington Is. Mission, Qld., 15 May 1963, N.B. Tindale and P.F. Aitken, 9 ex. (SAMA). Domadgee, Qld, 29 Nov. 1963, L. Fawcett; 25-035995 (SAMA). 34.43S 143.36E, Younga Lake, NSW, 16 May 1984, T. Weir, bark of *Eucalyptus camaldulensis*, 2 ex (ANIC). Australia: Nangalala, N.T., vi.12, H. Reeve, 2 ex. (ANIC). C. Qld, 22°2'Sx148°3'E, Moranbah, 5 km S, 5642, 25 Jun.–20 Dec. 1997, G. Monteith, E. Kruck, intercept, bandee scrub, 2 ex. (QM). 17.35S 145.44E, Palmerston, N.P., 26 km, EbyN of Ravenshoe, Qld, 14 Nov 1981, J. Balderson (ANIC). Townsville, N.Q., light trap, 26.iv.–10.v.68, P. Farrar (ANIC). Australia: Queensland, Townsville, 16.–22.3.1965, exp. Dr. J. Balogh (HNHM). 8/06, N-Austr.,



**FIGURE 53.** *Eunatalis villosa* n. sp.: (A) Phallus lateral, (B) Phallus ventral, (C) Tegmen ventral, (D) Spicular fork, (E) Pygidium, (F) Ventrte VI.

NT, 40 km V. Port Roper, 15.05.2006, S14°54'04,8" E153°03'24,7", 134m LT (CDW/RGCM). 7/06, N-Austr., NT, 80 km W Roper Bar, 14.05.2006, 8m, S14°54'18,8" E133°57'28,1", light LG. (CDW/RGCM). Victoria, Australia, 3 ex. (MNHN). Station Ck, W.a., 9/13, J.G. Brooks (ANIC). 16.08S 136.06E, 22 km WSW of Borroloola, N.T., 16.iv.1976, at light, J.E. Feehan (ANIC). Australia occid., 1192; *Eunatalis* ?*integra* Blkb., det. Corporaal 1938

(HNHM). Australia, Qld., Mt. Surprise, 3/1993, Lamond (RGCM). Australien, WA, 33, 26 km e Napier Downs, 175 km Derby, 23.–24.11.1984, M.+B. Baehr (RGCM).

**Diagnosis:** *E. villosa* n. sp. is distinguished by the wide interocular space, in combination with subparallel elytra (in contrast to the dilated elytra of *E. hirta*) and the diameter of elytral punctation not decreasing towards apex. The ridged elytral interstices 2, 4, 6, and 8 are particular of *E. hirta*. Although the aedeagi of *E. villosa* n. sp. and *E. hirta* are similar, the spicular fork of *E. villosa* n. sp. is fused to one-third its length (one-fifth in *E. hirta*).

**Length:** (63 specimens measured) Total length: 11–17mm.

**Head:** Dark brown to black, with dense pilosity; with dense punctation and fine wrinkles; epistomal suture distinct; interocular space about 1.5 to double eye width.

**Thorax:** Pronotal length to width ratio 1.13:1; pronotum dark brown to black, with dense pilosity; pronotum parallel towards apex; with dense, large and small punctation, sides inconspicuously wrinkled or without wrinkles; grooves of sub-basal collar less distinct, separated by a wide bar or fused. Scutellum dark brown to black, with dense punctation and pilosity.

**Elytra:** Elytral length to width ratio 2.36:1; elytra dark brown to black, with dense pilosity; elytral base slightly broader than pronotum, sub-parallel towards apex; elytral punctation in basal half as wide as interstices, not decreasing towards apex; elytral punctation with three nodules; punctations of tenth stria distinct almost towards apex; punctations of ninth stria vestigial; interstices 4 and 6 slightly ridged behind the middle, all other interstices flattened, with distinct microsculpture.

**Lower surface:** Dark brown to black, with dense pilosity; mesoventrite, metaventrite and abdominal ventrites with dense punctation; procoxal cavities slightly opened to almost closed posteriorly.

**Legs:** Dark brown to black, with dense pilosity, with dense punctation and fine wrinkles; mesotibiae bent.

**Abdomen:** Tegmen ventrally closed; phallic tip Z-shaped; spicular fork fused to one-third.

**Distribution:** Mainly in northern parts of Australia and some localities in the south.

**Seasonal occurrence:** Collected from November to March.

**Etymology:** The specific epithet, *villosa*, a Latin adjective refers to the dense pilosity.

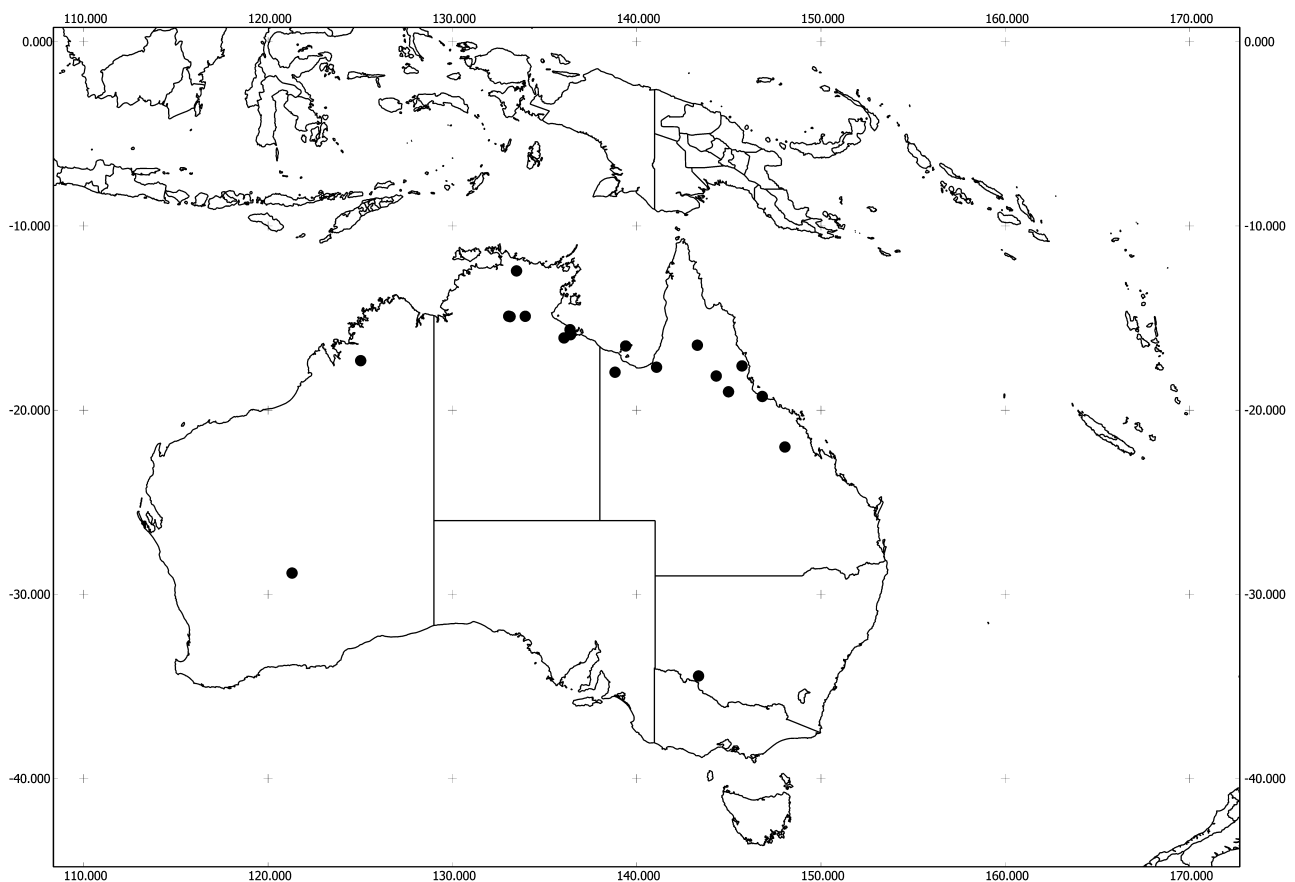
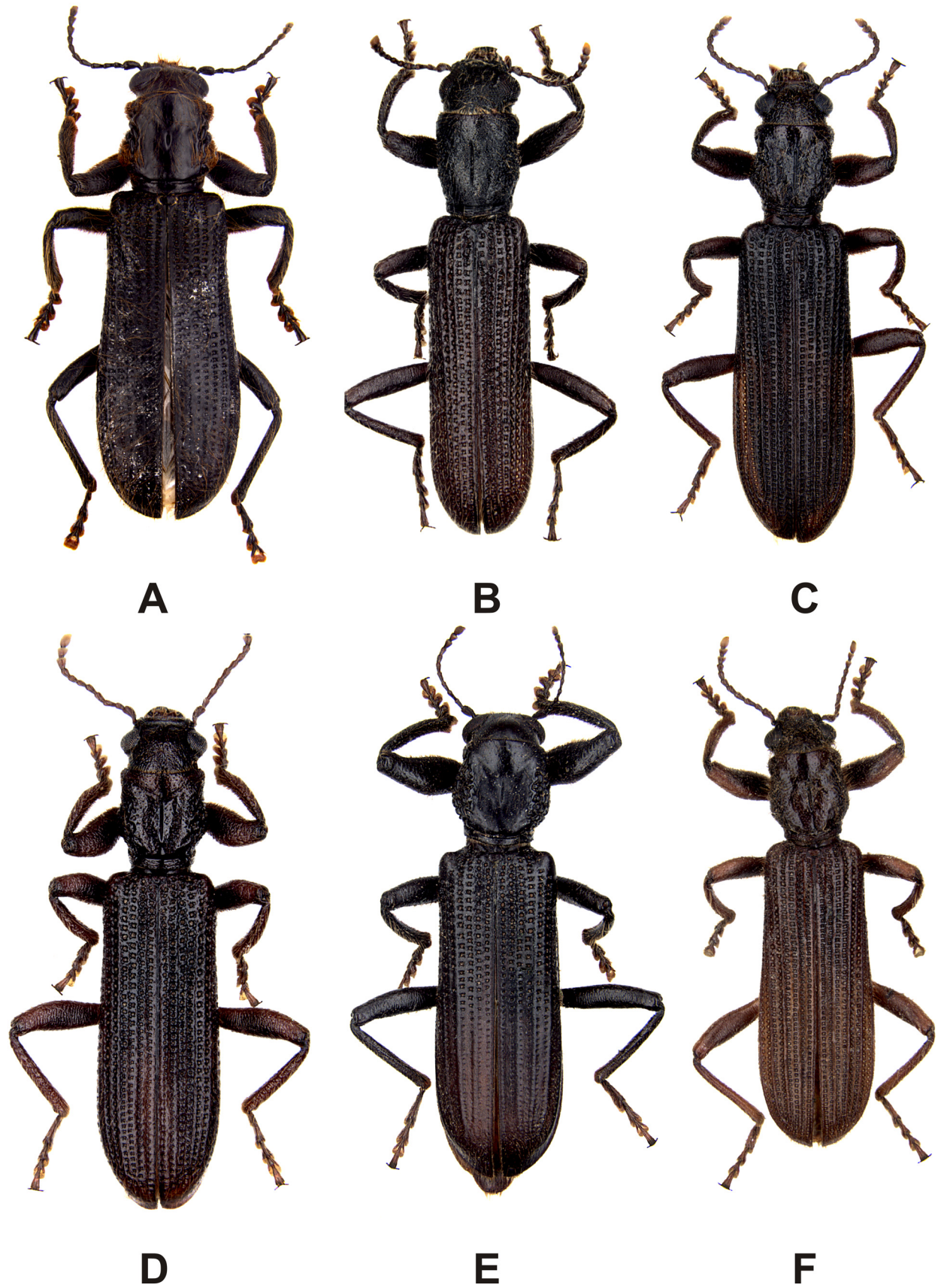
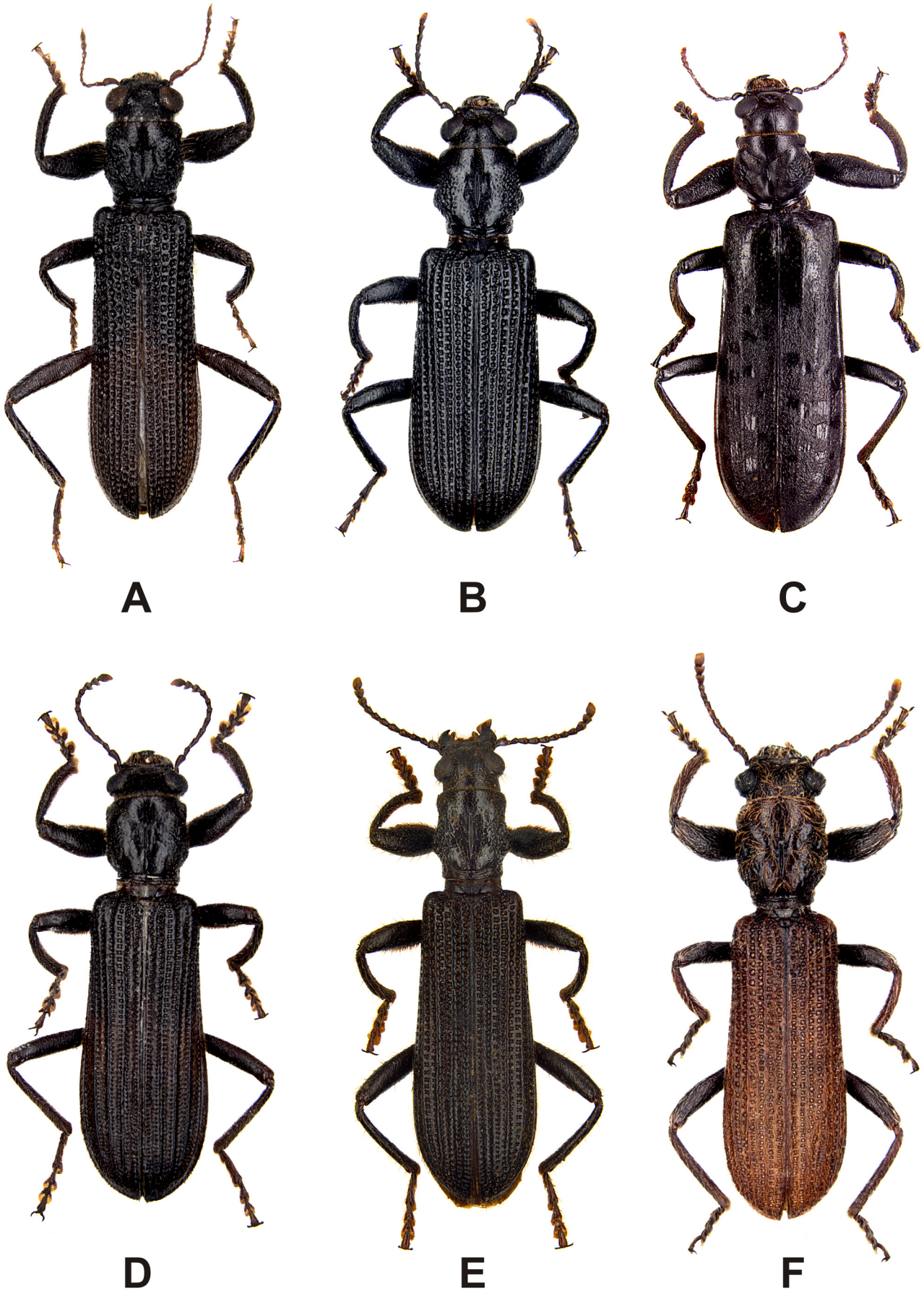


FIGURE 54. Distribution of *Eunatalis villosa* n. sp.

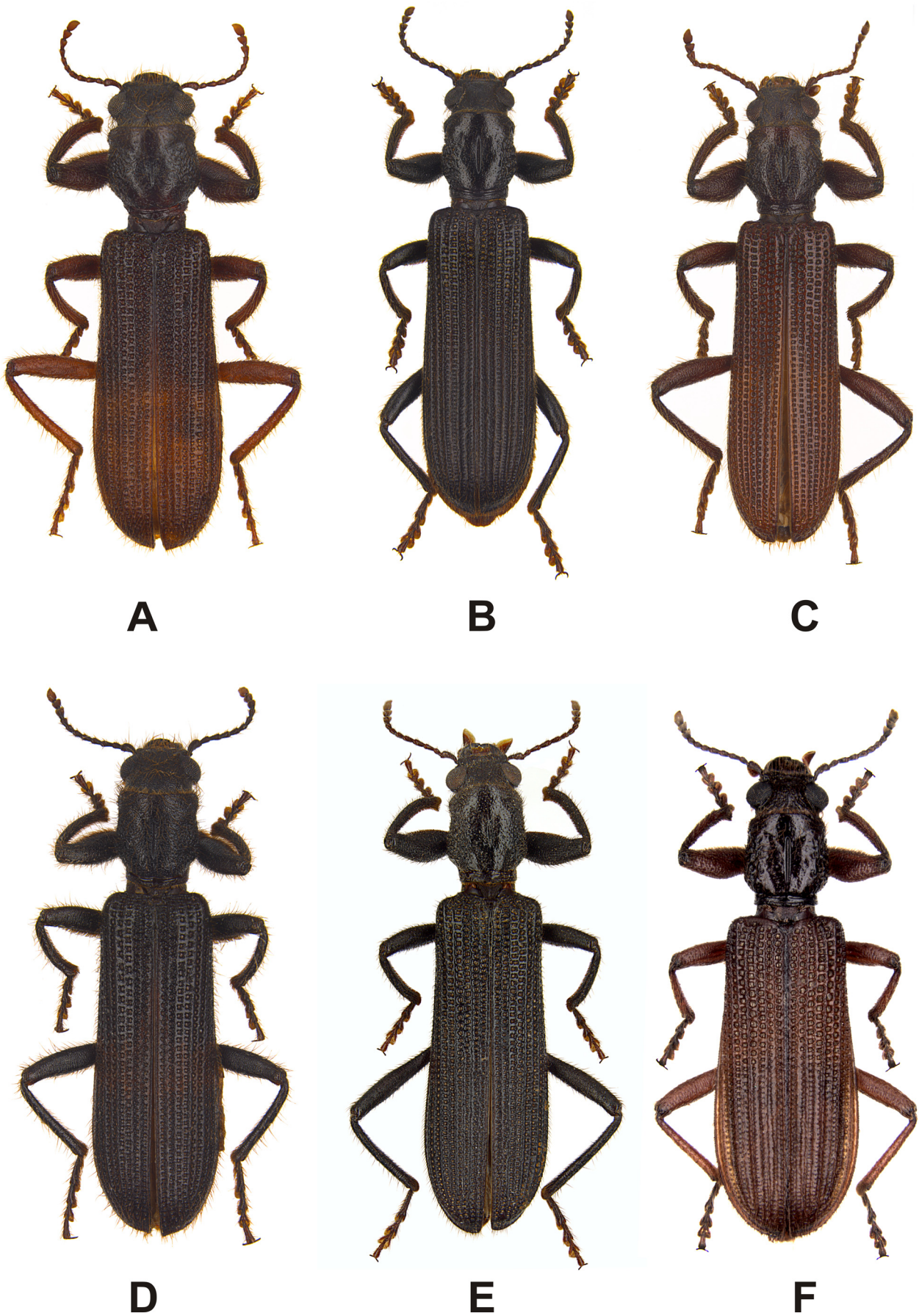


**FIGURE 55.** (A) *Eunatalis auricoma* n. sp., (B) *Eunatalis debilis*, (C) *Eunatalis fasciata*, (D) *Eunatalis flavopilosa* n. sp., (E) *Eunatalis foveata* n. sp., (F) *Eunatalis hirta*.

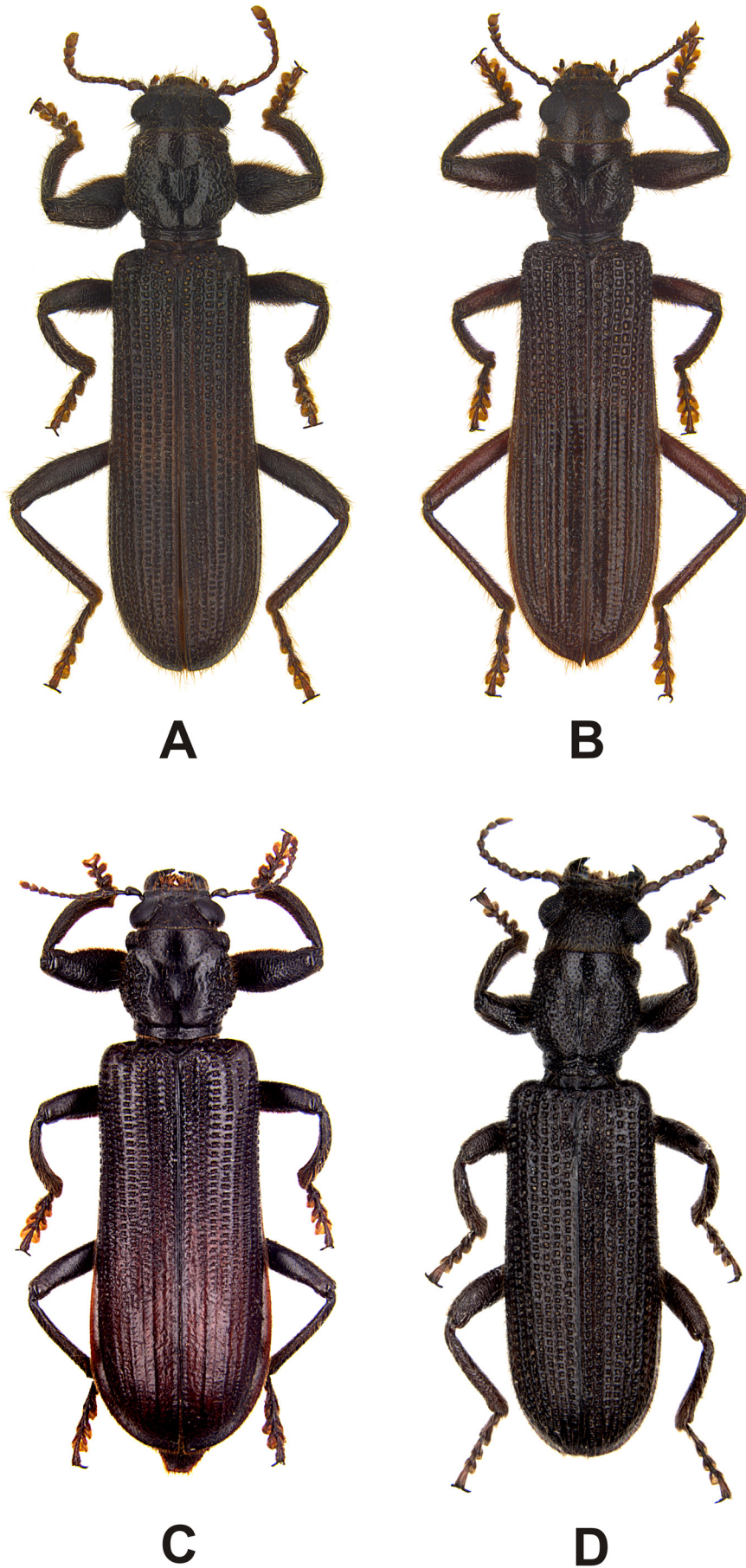




**FIGURE 56.** (A) *Eunatalis integra*, (B) *Eunatalis laevicollis*, (C) *Eunatalis laevis*, (D) *Eunatalis lugubris*, (E) *Eunatalis mastersii*, (F) *Eunatalis ninae* n. sp..



**FIGURE 57.** (A) *Eunatalis pernodulosa* n. sp., (B) *Eunatalis planipennis*, (C) *Eunatalis porcata*, (D) *Eunatalis punctata* n. sp., (E) *Eunatalis schopfi* n. sp., (F) *Eunatalis semicostatata*.



**FIGURE 58.** (A) *Eunatalis spadicea* n. sp., (B) *Eunatalis spinicornis*, (C) *Eunatalis titana*, (D) *Eunatalis villosa* n. sp.

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