



A review of the Chilean Egoliini (Coleoptera: Trogossitidae) with description of a new species of *Necrobiopsis* Crowson

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Abstract

The Chilean members of the little known tribe Egoliini (Trogossitidae, Trogossitinae) are revised, keyed and illustrated. The tribe is represented in Chile by three species of the genus *Acalanthis* Erichson, and a single species of *Necrobiopsis* Crowson (*N. shangrila* sp. n.), a genus known previously from Australia. All Chilean species of Egoliini occur in temperate forests and are often collected by canopy fogging.

Key words: Chile, Coleoptera, Trogossitidae, Egoliini

Introduction

Trogossitidae (known also under the names Peltidae, Temnochilidae or Ostomidae) is one of the larger families of Cleroidea studied by Crowson (1964, 1966, 1970), Slipinski (1992), and most recently Kolibáč (2005, 2006) who provided well illustrated descriptions of most genera and a phylogentic framework for the family. The tribe Egoliini, formerly considered to be a subfamily of Peltidae (Crowson, 1964) or Trogossitidae (Crowson, 1970, Slipinski, 1992), but reduced to a tribe within Trogossitinae by Kolibáč (2006), includes three Australian genera, *Egolia* Erichson, *Paracalanthis* Crowson and *Necrobiopsis* Crowson, plus the Chilean genus *Acalanthis* Erichson. The inclusion of the Neotropical genus *Calanthosoma* Reitter in this tribe (Kolibáč 2006) requires confirmation. Crowson (1964) considered the egoliines to be “an old, relict group” based on their austral distribution, and noted that the clerid-like facies was probably associated with carnivorous habits.

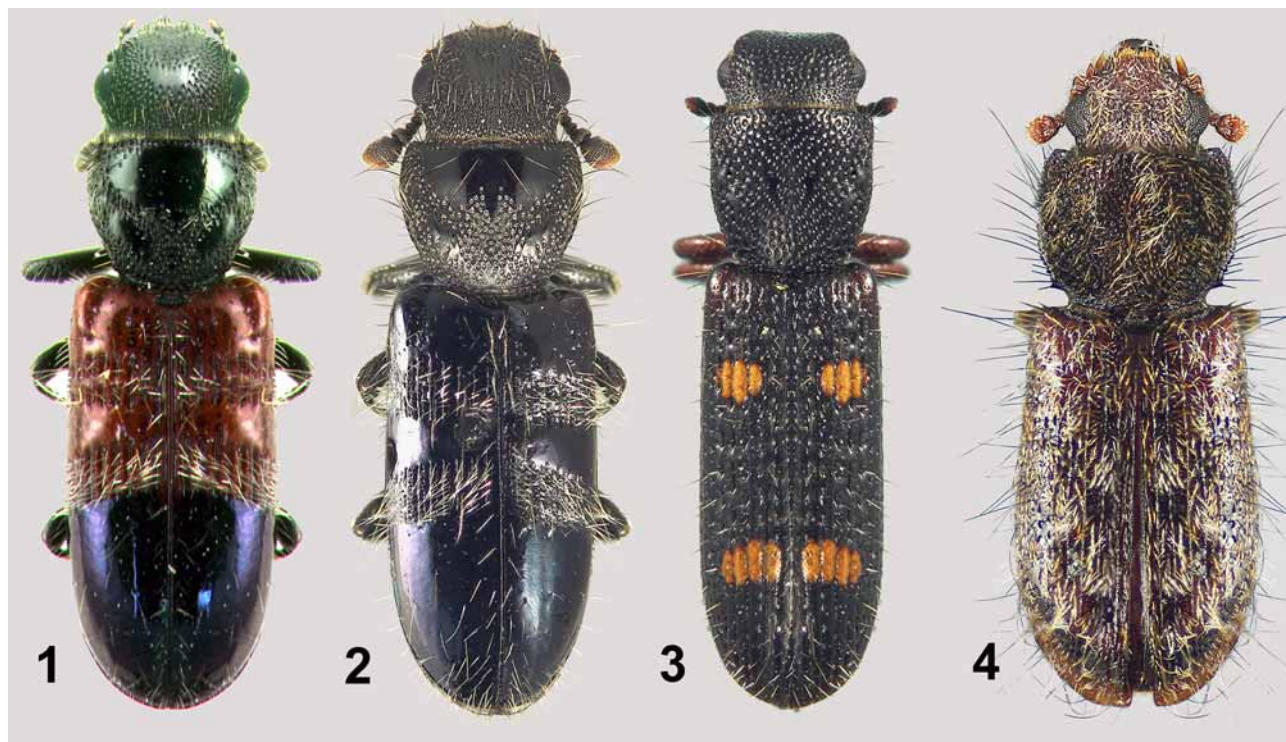
A major canopy fogging project conducted over several years in the temperate forests of central Chile (Arias, *et al.* 2008) turned up all three species of *Acalanthis* plus an undescribed species of Egoliini that has been identified as a member of hitherto monotypic Australian genus *Necrobiopsis* Crowson, stressing the close affinities between temperate trogossitid faunas of Australia and Chile (Austin, *et al.* 2004).

Material and methods

This study is based primarily on the specimens from multiple collecting trips of the Essig Museum of Entomology led by E. T. Arias. Specimens have been deposited in several institutions. Also type material and other holdings of the following collections have been examined:

ANIC	Australian National Insect Collection, CSIRO Entomology, Canberra, Australia;
BMNH	the Natural History Museum, London, UK;
CAS	California Academy of Sciences, San Francisco, California, U.S.A.;
CSCA	California State Collection of Arthropods, Sacramento, California, U.S.A.;
EMEC	Essig Museum of Entomology, University of California, Berkeley, California, USA;
FMNH	Field Museum of Natural History, Chicago, Illinois, U.S.A.;
MNHN	Muséum National d'Histoire Naturelle, Paris, France;
MNNC	Museo Nacional de Historia Natural, Santiago, Chile;
UMCE	Instituto de Entomología, Universidad Metropolitana de Ciencias de la Educación, Santiago, Chile;
USNM	US National Museum of Natural History, Smithsonian Institution, Washington, DC, U.S.A.;
ZMB	Museum für Naturkunde, Humboldt-Universität, Berlin, Germany.

Male and genitalia were dissected, cleared in 10% solution of KOH and examined and photographed in glycerol. After examinations they were mounted in a drop of DMHF (dimethyl hydantoin formaldehyde) on a card and pinned with the specimen. The photographs of the whole beetles, their genitalia, and other structures were executed on a digital camera attached to compound and dissecting microscopes. Composite images were generated using Auto-Montage software version 4.00 (Synoptics Ltd., <http://www.syncroscopy.com>).



FIGURES 1–4. Adult habitus, dorsal. 1. *Acalanthis semimetallica* (Fairmaire & Germain); 2. *A. mirabilis* Reitter; 3. *A. quadrisignata* Erichson; 4. *Necrobiopsis shangrila* **sp. nov.**

Key to the genera and species of Chilean Egoliini

- 1 Antenna 8-segmented, length 3–4 mm *Necrobiopsis shangrila* **n. sp.**
- Antenna 10-segmented, length 6–9 mm (*Acalanthis*)...2
- 2 Elytra with complete rows of punctures forming striae; each elytron with two amber colour spots (Fig. 3); head and pronotum entirely covered by coarse and dense punctures; dorsum mat *A. quadrisignata*
- Elytra mostly smooth with two transverse bands of reduced striae (Figs.); head with central, pronotum with large anteromedian and sublateral smooth areas among coarse and dense punctures; impunctate parts of dorsum strongly

shiny	3
3 Elytra uniformly bluish black (Fig. 2)	<i>A. mirabilis</i>
- Elytra bicoloured, red at base and black apically (Fig. 1)	<i>A. semimetallica</i>

***Acalanthis* Erichson**

Acalanthis Erichson, 1842: 446; Crowson, 1970: 13 (in key), 16 (larvae assigned); Kolibáč, 2005: 40.

Type species: *A. quadrisignata* Erichson 1842 (by monotypy).

Three known species of this genus are endemic to southern Chile and Argentina. They are relatively large, heavily sclerotised, somewhat clerid-like beetles, dorsally clothed with scattered long setae and with 10-segmented antennae bearing a two-segmented antennal club (but with antennomere 9 narrower than 10, so that the club may appear to be 1-segmented, Figs. 2, 6). This genus was redescribed by Kolibáč (2005) who illustrated the hind wing and mouth parts, but his illustration of the antenna (Pl. 1, fig. 5) is clearly wrong and belongs to a taxon of Trogossitinae.

Acalanthis is very similar to *Paracalanthis* Crowson described from southern Queensland (Lamington National Park) but is distinguished by a lack of a spine on external margin of hind tibia and a sparser clothing of long setae. The antennal club in *Paracalanthis* is also more clearly 1-segmented.

***Acalanthis quadrisignata* Erichson**

(Fig. 3)

Acalanthis quadrisignata Erichson, 1842: 446.

Psoa quadrinotata Blanchard, 1851: 436–437, 1854: pl. 26, fig. 7. Synonymized by Lacordaire, 1854: 336.

Diagnosis: This species is easily recognised by its relatively dull body with each elytron bearing 10 longitudinal rows of punctures forming distinctly impressed striae and two amber-colour spots; other diagnostic features include relatively small eyes, the pronotum widest at anterior angles, weakly and more or less evenly narrowing posteriorly, and the surfaces of head and pronotum entirely, coarsely punctate.

Description: Length 5.7–9.5 mm. Colour pitch black, legs and antennae somewhat lighter; each elytron with two amber colour transverse spots (Fig. 3); vestiture consists of moderately long, erect, yellow setae of variable lengths with the longest setae situated mostly along lateral parts of head and pronotum, elytral intervals and lateral margins.

Head, including eyes, as wide as pronotum at anterior angles; punctation very coarse and dense, covering entire head surface; interspaces densely reticulate and dull. Terminal maxillary palpomere, three times as long as wide and two times as long as penultimate. Antennal club 1.3 times as long as wide and two times as long as penultimate segment.

Pronotum 1.1–1.2 times as long as wide, widest at anterior angles or shortly behind, and weakly narrowing posteriorly; lateral margin complete, crenulated, without distinct bead. Disc evenly convex, without impressions or tubercles, entirely covered by coarse and dense punctation with punctures about as large as those on vertex; interspaces densely reticulate, mat or feebly shiny. Scutellum pentagonal, transverse and distinctly elevated.

Elytra 2.2–2.5 times as long as wide and 2.5–2.6 times as long as pronotum; sides parallel for most of the length with both elytra jointly rounded apically; disc evenly convex and feebly shiny at most. Each elytron with 10 complete rows of strongly elongate, somewhat continuous punctures, giving appearance of impressed lines or grooves; intervals flat, slightly wider than “striae” and sparsely setose.

Specimens examined: **Chile:** Talinay Coquimbo, 21.iv.1955, L. Peña (1, ANIC); Coquimbo, Talinay, 16.x.57, s/ *Drymis winteri*, G. Kuschel (1, MNNC); Coquimbo, Talinay, 16.10.57, ex *Rhaphithamnus*

spinosus, G. Kuschel (1, MNNC); Talinai, Coquimbo, 27.i.1969, J. Solervicens, en tronco olivillo (6, UMCE); Limarí, Talinay, 13.x.1976, J. Solervicens (1, UMCE); Limarí, Talinay, 25.x.89, J. Solervicens (7, UMCE); Limarí, Talinay, 26.x.1989, J. Solervicens (6, UMCE); Limarí, Talinay, 28.x.89, J. Solervicens (1, UMCE); Villa Alemana, Tranque Recreo, 18.ii.1974, J. Solervicens (1, UMCE); Laguna El Peral, 2. Jun. 1946, G. Kuschel, ex *Schinus latifolius* (1, MNNC); Talagante, Talagante, 6.viii.1992, J. Mondaca (2, MNNC); Santiago, Cerro Chena, 15.viii.1975, G. Arriagada (1, MNNC); Santiago, Cerro Cantillana, 15-16.xii.1979, J. Solervicens. 2100 m. En tronco roble (2, UMCE); Cardenal Caro, Quebrada El Roble, 28.i.89, J. Solervicens (1, UMCE); Curicó, Puente Quebrada Mala, 32 km interior Molina, 2.xi.91, J. Solervicens (5, UMCE); Talca, Altos de Vilches, 1.280 m. 26.i.69. Collector J. Valencia (1, UMCE); Altos de Vilches, Talca 1.280 mts., 25-26.xi.1970, J. Solervicens (1, UMCE); Talca, Altos de Vilches, 1.xi.1971, Col. C. Vivar T. (1, UMCE); Talca: Alto Vilches, 1100 m, 10-12.xii.1976, H.F. Howden (1, ANIC); Vilches Alto, x.1990 (1, ANIC); Chile Talca, Vilches, 10.ii.2007, Luis Flores (1, UMCE); Chile Linares, Estero Leiva, 8-12.i.1953, L. Peña (3, MNNC); VIII Region, N Los Lleuques/ Puente Marchant, 36°54.388'S/ 071°32.111'W, 1022 m, 2.xii.2001, Canopy fogging GT, *Nothofagus dombeyi*, Arias et al. UC Berkeley (7, EMEC); Concepción, Florida km. 40, 6.xii.89, J. Solervicens (1, UMCE); Lanalhue, Arauco, 10.x.1969, J. Solervicens (4, UMCE); Malleco: 20 km E Manzanar, 1100 m, 19-21.xii.1976, H.F. Howden (1, ANIC); IX Región Prov. Malleco, Malalcahuello, Feb. 2004, R. Barrera (1, MNNC); IX Region, Nahuelbuta NP exit, Pichinahuel Fogging, 05.i.2007, 1238 m 22°C, *A. araucana* 15 m, S37°49.041/ W73°00.214, Arias et al Berkeley (4, EMEC); Cherquenco, i-ii.1954, T. Ramirez (1, ANIC); Valdivia, Puerto Pirihueico, 6.ii.90, J. Solervicens (1, UMCE); Provincia Valdivia, Valdivia, 21.x.1971, E. Krahmer (1, MNNC); same, 28.x.1971, E. Krahmer (1, MNNC); Valdivia: 30.i.1975, L. Peña (1, ANIC); Puerto Varas, i.1924 (1, MNNC); Petrohue, Llanquihue, 24.ii.1969, J. Solervicens (1, UMCE); Chiloe, Archipiélago Guapiquilan, Isla Leguas, 26.i.87, J. Solervicens (1, UMCE); Chiloe, Isla Quilán, 21-25.i.87, J. Solervicens (1, UMCE); Osorno, Lago Puhue, 2 km W Termas de Puyehue, 40°42'S.72°22'W, 300 m, 13.xi.1994, R. Leschen, C. Carlton, #091, ex beating vegetation (R. Leschen, collection).

Distribution: **Chile.** Some specimens have been collected in bog forests with several species of Myrtaceae and *Drimys winteri* J.R. Forst. & G. Forst. (Winteraceae) (Solervicens & Elgueta, 1994).

Notes. Although the synonymy of *Psoa quadrinotata* with *Acalanthis quadrisignata* is a well established one, which has been recognized in several later works (Reed, 1876: 277; Philippi, 1887: 673; Lèveillé, 1889: 431; Lèveillé, 1910: 4; Blackwelder, 1945: 391), the name has been recently cited in error as a valid species of Bostrichidae by Borowski & Węgrzynowicz (2007).

Acalanthis mirabilis Reitter

(Fig. 2)

Acalanthis mirabilis Reitter, 1876: 10.

Diagnosis: This species is easily recognised by its strongly shiny, bluish-black body with each elytron bearing extensive smooth areas and the punctate striate visible only within two transverse bands near middle.

Description: Length 6-8 mm. Colour uniformly black with distinct bluish or purple tint (especially posteriorly on elytra), legs and antennae somewhat lighter but only tarsi dark brown; each elytron with two transverse whitish bands near middle formed by dense setae (Fig. 2); vestiture consists of long, sparsely distributed setae and moderately long and shorter, erect, whitish setae concentrated mostly on rugose areas and along lateral parts of head and pronotum and on transverse elytral bands and lateral edges of elytra.

Head, including eyes, as wide as pronotum at anterior angles; punctation very coarse and dense, covering entire head surface except of smooth and shiny central area in middle of frons; interspaces densely reticulate and dull. Terminal maxillary palpomere, three times as long as wide and two times as long as penultimate. Antennal club 1.1–1.2 times as long as wide and 2.6–2.8 times as long as penultimate segment.

Pronotum 0.7–0.8 times as long as wide, widest behind anterior angles with sides strongly, sinuately narrowing posteriorly; lateral margin complete, crenulated, without distinct bead. Disc evenly convex and smooth anteriorly with Y-shaped, shallow and densely punctate area, extending medially from pronotal base almost to middle and then anterolaterally reaching anterior angles (Fig. 2); narrow elongate area between median and lateral punctate surfaces smooth; coarse pronotal punctures about two to three times as large as those on vertex; interspaces densely reticulate and feebly shiny. Scutellum pentagonal, transverse and not distinctly elevated.

Elytra 1.9–2.1 times as long as wide and 2.7–2.8 times as long as pronotum; sides parallel for most of their lengths, with each elytron rounded apically; disc evenly convex and strongly shiny with 7–9 deeply impressed striae visible only as two transverse bands before and behind mid-length of elytron (Fig. 2); intervals in striate area, slightly carinate and densely setose.

Type: “Chili/ coll. Chevrolat D. Passor [illegible]/ Type” (1, MNHN).

Specimens examined: **Chile:** Chile (23, MNHN; BMNH, ANIC); VIII Region, N Las Trancas Puente Aserradero, 36°54.947’S/ 071°27.417’W, 1247 m, 30.xi.2001, canopy fogging GT, *Nothofagus dombeyi*, Arias et al. UC Berkeley (2, EMUC); Las Trancas, Shangrila, 16-30.iii.2005, Malaise Trap, S. Ocares & E. Arias (13, ANIC, BMNH, CAS, USNM); Las Trancas, Shangrila, 36°53’42’’S/71°28’49.5’’W, 1324 m, 1–15.xi.2006, Malaise trap 3, Ocares & Arias UCB (8, MNNC); VIII Region, Las Trancas, Shangrila, 36°53’42.9’’S/ 71°28’4.4’’W, 1336 m, 41-1. 16–30.xi.2006, Malaise trap 4, Ocares & Arias UCB (2, ANIC); VIII Region, Las Trancas, Shangrila, 3–12.xii.2005, Malaise trap, Ocares & Arias (7, EMUC, MNHN); IX Region Villarrica, Flor del Lago ranch 306 m, 39°12.201’S/ 72°08.107’W, 24.i.2003 Sheep Field 19:42 PM, Fogging 125 cc Roble-laurel, Arias *et al.* UCB (1, MNNC); Loncoche, Trampa funnel, i-2002, leg. M. Schafer (2, UMCE); Valdivia, 1871 (4, MNNC); Prov. Valdivia, Santo Domingo, 14.xii.1980, E. Kraemer (1, MNNC), Santo Domingo, 25.12.1980, E. Kraemer (1, MNNC).

Notes: This species is very similar to *A. semimetallica* in most respects, differing mainly in coloration, and it is possible that it represents a subspecies or colour variant. However, intermediates have not been seen and available material is not sufficient to assess the distributional ranges of the two forms.

Acalanthis semimetallica (Fairmaire & Germain)

(Fig. 1)

Clerus semi-metallicus Fairmaire & Germain, 1861: 3.

Acalanthis semimetallica: Lèveillé, 1909: 164; 1910: 4.

Diagnosis: The body shape and sculpture of this species almost identical to *A. mirabilis*, and include the relatively large eyes, the pronotum distinctly narrowing posteriorly, the surfaces of head and pronotum coarsely punctate but with extensive smooth, impunctate areas and the elytra with striae reduced to two transverse bands covered by dense setae. It is immediately recognised from *A. mirabilis* by its bicoloured red and purple elytra.

Description: Length 6.3–7.5 mm. Colour black, elytra in basal half red, apically black with bluish-purple tint, legs and antennae somewhat lighter but only tarsi dark brown; each elytron with two transverse whitish bands near middle formed by dense short and somewhat laterally pointing setae (Fig. 1); vestiture consisting of long and sparse setae and moderately long and shorter, whitish setae concentrated mostly on rugose parts and along lateral parts of head and pronotum, elytral transverse bands and lateral margins.

Head, including eyes, slightly wider than pronotum at anterior angles; punctation very coarse and dense, covering entire head surface except of smooth and shiny central area in middle of frons; interspaces densely reticulate and dull. Terminal maxillary palpomere, three times as long as wide and two times as long as penultimate segment. Antennal club 1.2 times as long as wide and two times as long as penultimate segment.

Pronotum 0.8–0.9 times as long as wide, widest slightly behind blunt anterior angles and strongly narrowing posteriorly; lateral margin complete, crenulated, without distinct bead. Disc evenly convex and smooth anteriorly with Y-shaped, shallow and densely punctate area, extending medially from pronotal base almost to middle and then anterolaterally reaching anterior angles (Fig. 1); elongate area between median and lateral punctate surfaces smooth; the coarse pronotal punctures about two to three times as large as those on vertex; interspaces densely reticulate and feebly shiny. Scutellum dark, pentagonal, transverse and not distinctly elevated.

Elytra two times as long as wide and three times as long as pronotum; sides parallel for most of the length with each elytron rounded apically; disc evenly convex and strongly shiny with nine deeply impressed striae limited to two transverse bands before and behind mid-length of elytron (Fig. 1); intervals in striate area, slightly carinate, dull and setose.

Material examined: **Argentina:** Pucará, 640 m.s.n.m., Neuquen, 1-i-74, leg. Schajovskoy (1, UMCE). **Chile:** “*Clerus semimetallica* F & G [Germain’s hand]/ 548 or 578 [Philippi’s hand]/ CHILE, Valdivia, 1871” [Kuschel’s hand] (1, MNNC); Chiloe I: Ahoni Alto, xii.1988, Mt primary forest, L. Pena (1, ANIC); Agoni Chiloe, Oct. 1989, leg. Sanchez (2, UMCE); Rfo Mañihuales, Provincia Aysen, 4/6.iii.1961, col. L. E. Peña (1, UMCE); Criadero Las Bandurrias – Coyhaique, 23.i.1971, J. Solervicens. *Acalanthis semimetallicus* Fairm. y Germain. Comparé au type par Solervicens (1, UMCE).

Necrobiopsis Crowson

Necrobiopsis Crowson, 1964: 293; Crowson, 1970: 30.

Type species: *N. tasmanica* Crowson, 1964 (by original designation)

Individuals belonging to the genus *Necrobiopsis* are always distinctly smaller than those of *Egolia*, *Acalanthis* or *Paracalanthis* (less than 4.2 mm in length) and have a more flattened body, laterally denticulate pronotum and an eight-segmented antenna with a large, somewhat flattened antennal club vaguely divided into three parts. Crowson (1970) in his generic key incorrectly stated that the antenna was 7-segmented, probably based on his earlier figure of the antenna (Crowson 1964, fig. 30) which did not include the scape. The genus also resembles *Larinotus* Carter & Zeck (placed in a separate subfamily by Ślipiński, 1992 and separate tribe of Trogossitinae by Kolibáč, 2006), but that genus is distinguished by the more convex form, two-segmented antennal club, concealed protrochantins and lack of tibial spurs.

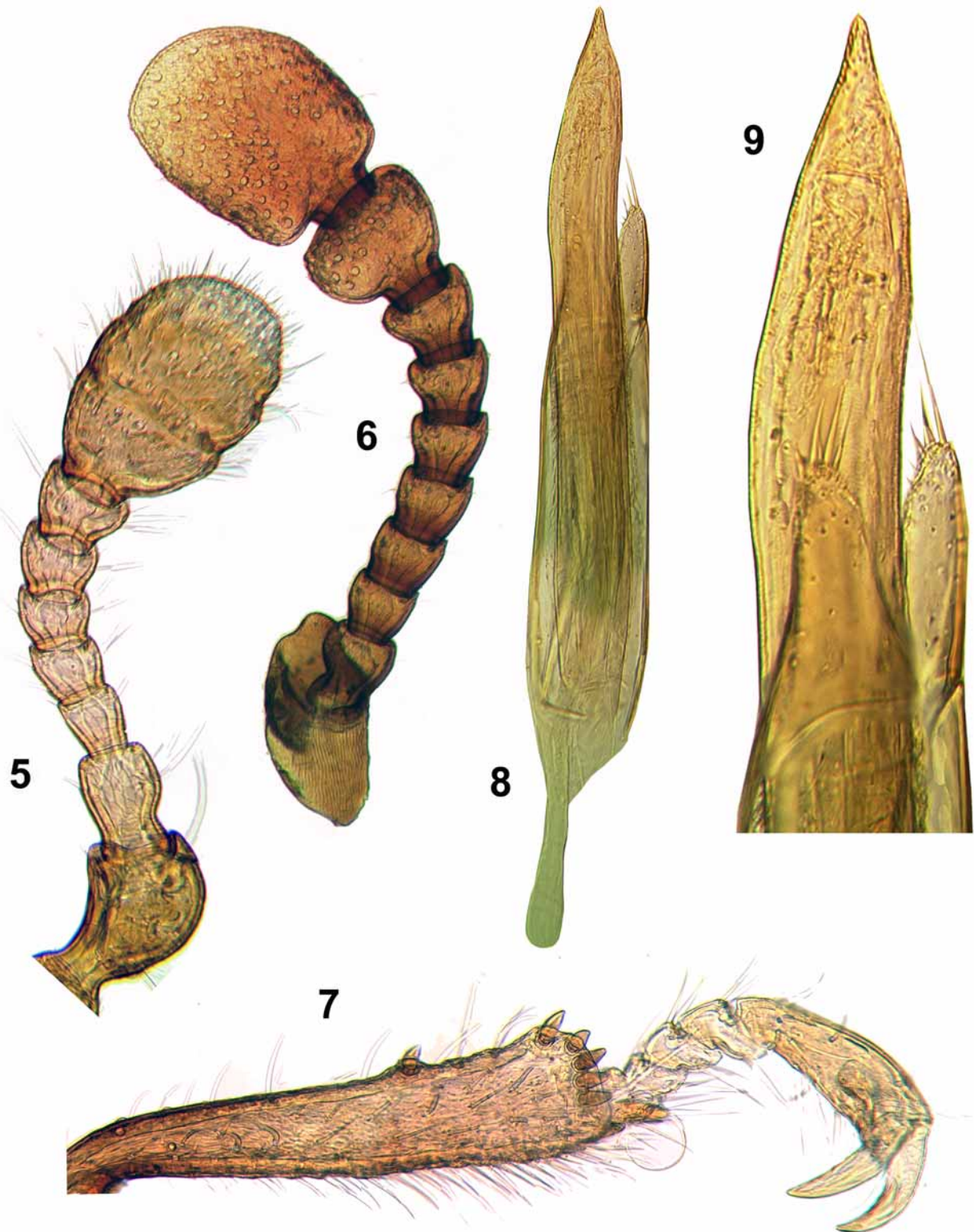
Necrobiopsis shangrila n. sp.

(Figs. 4–5, 7–10)

Diagnosis: This species is easily distinguished from the Australian *N. tasmanica* in having prominent tibial spines and lacking the weak but more or less continuous carinae formed in alternate elytral intervals. Also, the aedeagus in *N. tasmanicus* has longer and narrower paramere.

Description: Length 3.5–4.1 mm. Colour brown to almost black, legs and antennae lighter; vestiture complex and consists of golden or whitish decumbent or semi-decumbent relatively dense hairs covering surfaces of head, pronotum and elytra, and long, erect, darker pointed setae situated mostly along lateral parts of head, pronotum and elytral intervals.

Head, including eyes, narrower than the width of pronotum at anterior angles; anterior clypeal margin arcuate; eyes not emarginate, rather coarsely faceted with very short and sparse interfacetal setae. Upper surfaces of head coarsely punctate, punctures contiguous and several times larger than an eye facet, interspaces densely reticulate and dull; surfaces covered by moderately dense decumbent pubescence. Antenna eight-segmented; antennal club 1.2–1.3 times as long as broad, one-segmented, bearing two external constrictions and whorls of setae but without internal division (Fig. 5).



FIGURES 5–9. 5. *Necrobiopsis shangrila* sp. nov., antenna; 6. *Acalanthis mirabilis* Reitter, antenna; 7. *Necrobiopsis shangrila*, front tibia; 8. *N. shangrila*, aedeagus dorsal; 9. Same, apex of aedeagus, showing parameres.

Pronotum 0.7–0.8 times as long as wide, widest at anterior third and distinctly arcuate, narrowing anteriorly and posteriorly; lateral margin complete, regularly denticulate and with fringe of long setae, without distinct bead; anterior angles rectangular, posterior ones somewhat pointed. Disc weakly convex, with shallow elongate median impression and less defined impressions laterally; surfaces entirely covered by coarse and

dense tubercles bearing silvery or golden decumbent setae of somewhat variable length and thickness. Scutellum pentagonal, transverse and covered by dense silvery decumbent setae.

Elytra about 1.6–1.7 times as long as wide and 2.3–2.4 times as long as pronotum; sides parallel for most of the length with both elytra jointly rounded apically; disc somewhat flattened. Each elytron with 10 complete rows of deep, elongate and partially indistinct punctures obscured by irregular impressions (especially near apices), adpressed setae and tufts of white, semi raised setae laterally and apically adjacent to shallow impressions; elytral intervals distinctly wider than punctures, flat.

Outer edges of all tibiae with socketed spine at apical third and several socketed spines at apex (Fig. 7); protibial spurs unequal, one being longer and curved. Aedeagus as in Figs. 8–9.

Type specimens: **Holotype:** CHILE: VIII Region, Chillán Cordillera, Shangrila Way, 36°54.065'S/ 71°30.096'W, 1190.6 m, 12.iii.2005, canopy fogging, *Nothofagus dombeyi*, Arias & Andrews UC Berkeley (MNNC). **Paratypes:** same data as the holotype (25); VIII Region, N Las Trancas Puente Aserradero, 36°54.947'S/ 071°27.417'W, 1247 m, 30.xi.2001, canopy fogging GT, *Nothofagus dombeyi*, Arias et al. UC Berkeley (14); Termas de Chilan Road, Refugio Andino nr. Puente el Aserradero, 36°54.947'S/ 071°27.417'W, 1247 m, 30.xi.2001, canopy fogging, *Nothofagus*, Arias et al. UC Berkeley (11); IX Region, PN Nahuelbuta, Cañete Exit, 37°48.030'S/ 73°02.009'W, 1219m, 08.i.2003, canopy fogging, *Araucaria araucana*, Arias et al. UC Berkeley (14); IX Region, Curacautin Icalma Mapuche site, 38°45.269'S 71°13.683'W 1129 m, 17.xii.2001 canopy fogging GT, *Araucaria araucana* Female & Male, Arias et al. UC Berkeley (1). Paratypes deposited in ANIC, BMNH, CAS, EMEC, MNNC, USNM. VIII Region, N Las Trancas Puente Aserradero 36°55.028'S/ 071°27.069'W, 1312 m, 3.xiii.2001. Canopy Fogging GT, *Nothofagus dombeyi* Coigüe, Arias et al UC Berkeley (7, CSCA); VIII Region, N Las Trancas, Puente Aserradero, 36°55.028'S 071°27.069'W, 1312 m, 3.xii.2001. Canopy Fogging GT *Nothofagus dombeyi* Coigüe, Arias et al. UC Berkeley (12, CSCA); IX Region, Parque Nacionales Villarrica, 12.xii.2003, 39°21.428'S 71°58.157'W, Fred G. Andrews, 2765 (5, CSCA). Talca Pr.: R.N. Altos del Lircay, Sendero, Laguna del Alto, 1330m, 35° 36.9'S, 17°03.7'W, 26.xii.2002. *Nothofagus* spp., open to dense understory, pyr-fogging *Cyttaria* (Ascomycetes) fungi on large *Nothofagus*, Solodovnikov, Newton 1072 (7, FMNH).

Other specimens examined: CHILE: Region VIII, Termas de Chillan Road Los, Arenales 36°55.041'S/ 071°26.442'W, 1.xii.2001, 4350' (1326m), Arias et al. UC Berkeley (10, MNNC).

Etymology: the species epithet is derived from its type locality Shangrila.

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