

***Sericoderus brevicornis* Matthews (Coleoptera: Corylophidae) redescribed and new to New Zealand**

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**Abstract**

*Sericoderus brevicornis* Matthews, from the Australian fauna, is redescribed and identified as new to the New Zealand fauna. Type material of *Sericoderus brevicornis* Matthews and *Sericoderus coatesi* Lea are examined, lectotypes are designated, and a new synonymy is proposed based on internal and external characters. A diagnosis is provided and comparisons are made with the ubiquitous *S. lateralis* Gyllenhal and *S. apicalis* Lea.

**Introduction**

Following recent research on the Corylophidae of the Australasian region, AgriQuality New Zealand Limited, Auckland (AQNZ), contacted the author to identify a small corylophid beetle that was alighting on kiwifruit (*Actinidia chinensis*) at the time of harvest and appearing as a nuisance to farmers. Males and females of the same species were also collected from grass cuttings in the North and South Islands during a visit in 1996, and were determined to be very closely related to the ubiquitous parthenogenetic Palearctic species *Sericoderus lateralis* Gyllenhal. The pest species was determined as *Sericoderus brevicornis* Matthews, a poorly known Australian species known only from the holotype in the Matthews collection maintained by the British Museum of Natural History, London (BMNH). Interestingly, *S. brevicornis* has become one of the more common species of Corylophidae in New Zealand and it is one of three immigrant Australian species of *Sericoderus* to become established in the New Zealand fauna. All these species have a wide sutural interval to the elytra with two rows of punctures, compared with the endemic New Zealand species of *Sericoderus* (the synonymy of which is still the subject of my research) which have a narrow sutural interval with only one row of punctures. *Sericoderus brevicornis* is the only immigrant species that is unicolorous.

**Description**

*Sericoderus brevicornis* Matthews, 1890: 151 (Figs 1–6)

*Sericoderus coatesi* Lea, 1895: 310. **Syn. nov.**

Males: length 1.07–0.85 mm, width 0.70–0.62 mm. Females: length 1.03–0.86 mm, width 0.75–0.59 mm. Colour: almost unicolorous; pronotum and elytra varying from pale brown to slightly darker brown especially on elytra; antennae and legs pale testaceous. Habitus: a medium small weakly convex, elongate species with wide pronotum and long, only slightly acuminate elytra (Fig. 1). Pronotum at base wider than elytra; anterior margin elliptical; basal angles sharp and pointing to elytral apex; basal margin strongly sinuate. Elytra tapering towards apex and rather straight-sided (more pronounced in males Fig. 1); sutural stria long, sutural interval wide and prominent at suture apically, with 2 rows of punctures basally and 3 rows medially. Scutellum triangular with sides slightly rounded and apex bluntly pointed. Wings: fully winged. Microsculpture: punctures of pronotum fine, interspaces smooth and shining; punctures of elytra increasingly more marked from base to apex, often forming just traceable transverse wavy lines, from the slight prominences of which the long pale overlapping pubescence emerges (Fig. 1). Antennae: males 11-segmented, segment 3 shorter than wide, 4 quadrate, 5 and 6 slightly transverse, 7 wider than 6 and 8, 8 transverse, 9, 10 and 11 with vesicles and forming a club (Fig. 3); females 10-segmented, very characteristic with normal segments 3 and 4 fused, other segments as males (Fig. 2). Penis: habitus strongly sinuate ventrally, with apical 1/3 strongly angled with the tip elbowed ventrally in lateral aspect (Fig. 4); almost parallel-sided in ventral aspect (Fig. 5); internal armature with winged sclerites extending past apex of narrow flagellum (Fig. 5). Spermatheca: habitus very characteristic (Fig. 6); round body entered by a long apical lobe with a characteristic apical callosity, and long gland duct lobe which is

attenuated apically and has a marked constriction just before the apex; gland duct at the base of the gland duct lobe; body also entered by a sperm duct via a small blister-like sperm duct lobe (this may be difficult to see without exact orientation).

66 **Diagnosis**

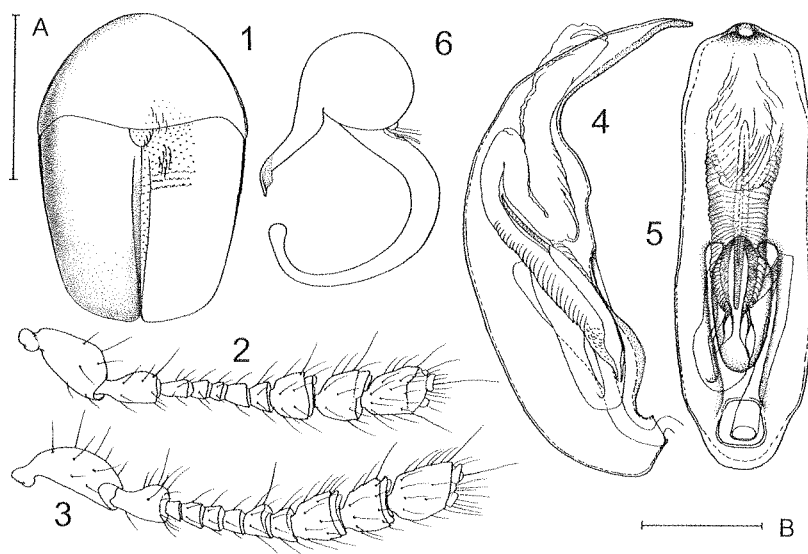
The characters of the antennae, with males 11-segmented (Fig. 3) and females only 10-segmented (Fig. 2), will separate this species from the other *Sericoderus* in the New Zealand fauna except *S. apicalis* Lea, 1895 (Kuschel, 1990:58), which is also in the *S. lateralis* group and has a similar spermatheca but with a longer gland duct lobe without a preapical constriction. It is easily separated by its dark apical margin to the elytra (unicolorous elytra in *S. brevicornis*). Identification should be confirmed by the shape of the scutellum and the sutural interval with two rows of punctures basally in order to separate this species from unicolorous examples of the endemic *Sericoderus* which have only one row of punctures on the sutural interval. This species closely resembles the cosmopolitan species *S. lateralis* (not yet known from the Australasian region) which is parthenogenetic and externally similar in form and microsculpture. *Sericoderus brevicornis* females differ from *S. lateralis* by the presence of a sperm duct which inserts into the body of the

spermatheca through a minute blister-like sperm duct lobe, and a marked constriction of the gland duct lobe just before its apex (Fig. 6). In *S. lateralis* the blister-like sperm duct lobe and sperm duct are absent and the apex of the gland duct lobe is without any marked preapical constriction (Bowstead, 1999: 171, Fig. 197). Males of *S. brevicornis* have a very characteristic penis with an elbowed, acuminate apical 1/3 in lateral aspect (Fig. 4) but accurate determination should rest on careful examination of the spermatheca.

**Type data**

*Sericoderus brevicornis* Matthews, 1890 (BMNH): holotype female, Australia: labelled 'type, J [on red paper], Mason number 365, Matthews coll. 1904-120, *Sericoderus brevicornis* (Jekel), Matthews number 178'. In the original description, Matthews gives the locality of the species as 'Habitat Europam? Exemplum unicum', but in the monograph (1899: 118), the editor PB Mason, in whose collection the specimen then resided, corrects this to Australia. I examined the spermatheca of this specimen and attached a holotype label.

*Sericoderus coatesi* Lea, 1895 South Australia Museum, Adelaide (SAMA): lectotype male (present designation), Australia: specimen in top right corner of card which also contains 2 paralect-



**Figs 1–6.** *Sericoderus brevicornis* Matthews, Mercury Bay. 1, habitus; 2, female antenna; 3, male antenna; 4, penis, lateral aspect; 5, penis, ventral aspect; 6, spermatheca, lateral aspect. Scale bars: A = 0.5 mm (Fig. 1) B = 0.1 mm (Figs 2–6)

totypes, labelled 'S. coatesei, Lea Tweed R (Lea's hand), cotype, *Sericoderus coatesi* Lea N.S.Wales' & 1 paralectotype male, without elytra and most of pronotum; labelled 'S. coatesei Lea type Inverell (Lea's hand), *Sericoderus coatesi* Lea N.S.Wales Type'. This type series contained some damaged specimens. To fix the identity of this species, I have selected an intact male as the lectotype and examined the spermatheca of the paralectotype female on the same card.

### Additional Material Examined

*S. brevicornis* Matthews: New Zealand: North Island: CL; 6, Mercury Bay, 25.1.1996, in grass cuttings, S. Bowstead (figured); 1, in hills North of Mercury Bay, in reed debris, S. Bowstead (S. Bowstead Collection, SBC); 1, Bay of Plenty, 4.5.01, C. Govan; 1, Bay of Plenty, 4.5.01, M. Brainers; 1, 4.5.01, E. Liisa; 1, Bay of Plenty, 13.6.01 collector not known; 17, Bay of Plenty, April – August, 01, various collectors (AQNZ). South Island: NN; 2, Tasman Bay, Upper Moutere, 25.1.1996, in grass cuttings, S. Bowstead (SBC).

*S. apicalis* Lea: New Zealand: North Island: CL; 3, in hills of Mercury Bay, in reed debris, S. Bowstead (SBC).

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