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Descriptions and key to the larvae of the Tasmanian endemic genus *Hoplogonus* Parry (Coleoptera: Lucanidae), and comparison with the sympatric *Lissotes rudis* Lea

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Abstract

The stag beetle (Coleoptera: Lucanidae) genus *Hoplogonus* Parry is endemic to northeastern Tasmania and contains three recognised species. Descriptions of the imagines have been published previously, but not the larvae. Descriptions of the larvae of the three *Hoplogonus* species and the sympatric *Lissotes rudis* Lea (also Lucanidae) are presented and discussed, and a key to aid identification of *Hoplogonus* larvae is included. The classification of *Hoplogonus* within the tribe Platycerini is proposed, alongside *Lissotes*.

Key words: Lucanidae, Tasmania, *Hoplogonus*, *Lissotes*, edaphic, stridulatory apparatus, larvae, saproxylic

Introduction

Tasmania is home to a diverse stag beetle (Coleoptera: Lucanidae) fauna comprising five genera and more than 30 known species. Three of these genera, *Syndesus* MacLeay (Syndesinae), *Ceratognathus* Westwood (Aesalinae: Ceratognathini), and *Lamprima* Latreille (Lampriminae: Lamprimini) comprise alate species, which are widely distributed across much of Australasia. However, the other two genera, *Hoplogonus* Parry and *Lissotes* Westwood (both Lucaninae: Lucanini), are apterous and their species much more localised. *Lissotes* has undergone exceptional insular diversification in Tasmania with some 28 endemic species recognised across the state (Bomans 1986, Moore & Cassis 1992, Bartolozzi 2003), compared with just three species on the southeastern Australian mainland. *Hoplogonus* is endemic to Tasmania but is less speciose, comprising three species, all of which are restricted to a region of wet forest in the northeast of the island.

As with other Lucanidae, *Hoplogonus* imagos can be recognised on the basis of mandible shape. But the genus is distinct from all others in possessing obvious humeral spines on the posterior thoracic margin and on the anterior elytral margins. Until recently, the genus was considered to comprise the single species *H. simsoni* Parry; however, following surveys conducted in the 1990s, two further species, *H. vanderschoori* Bartolozzi and *H. bornemisszai* Bartolozzi were described (Bartolozzi 1996a, 1996b).

Hoplogonus species are restricted to a total area of less than 380 km². *Hoplogonus simsoni* has the widest range, occupying some 266 km² between the narrower ranges of *H. vanderschoori* and *H. bornemisszai*. *Hoplogonus vanderschoori* occupies 98 km², while *H. bornemisszai* occupies only 12 km². Within their respective ranges, the beetles are restricted to the wetter forests and to riparian zones in drier forests. Though the three species occur in relatively close proximity, range overlap has only been documented between *H. simsoni* and *H. bornemisszai* and is confined to an area of approximately 1 km² along the southwestern edge of the range of *H. bornemisszai* (Munks *et al.* 2004). All are listed as threatened on both the Tasmanian *Threatened Species Protection Act 1995*, and Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*, due to restricted ranges and perceived on-going threats to habitat.

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