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**Autor:** Bartolozzi, Luca

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## A new species of *Hoplogonus* PARRY, 1875 (Coleoptera, Lucanidae)

LUCA BARTOLOZZI

Museo Zoologico «La Specola», Sezione del Museo di Storia Naturale dell'Università, via Romana 17, I-50125 Firenze, Italy

*Hoplogonus bornemisszai* n.sp. from Tasmania is described and compared to *H. simsoni* PARRY, from which it differs in the habitus, the form of the mandibles, and the genitalia. A key is given for both species which are apterous and strictly endemic. Bird predation on *Hoplogonus* species is noted.

Keywords: Coleoptera, Lucanidae, *Hoplogonus*, Tasmania, taxonomy, bird predation.

### INTRODUCTION

During many years of field studies on stag beetles (Coleoptera: Lucanidae) on the Australian island of Tasmania, Dr. G. F. BORNEMISSZA, CSIRO, collected several interesting and rare species. He kindly forwarded to me specimens of the genus *Hoplogonus* PARRY, 1875, collected in the Weldborough area of NE Tasmania. Since the description of *H. simsoni* by PARRY (1875), this was a monotypic genus. However, a new species appeared in Dr. BORNEMISSZA's material, which is described below.

### DESCRIPTION

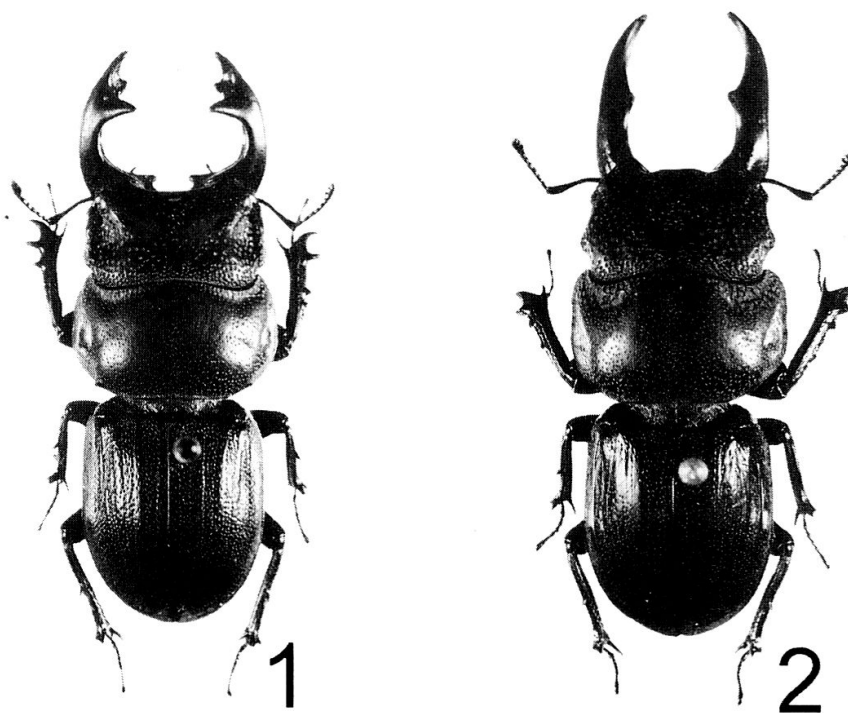
*Hoplogonus bornemisszai* n.sp.

Male. Body elongate, convex, uniformly black (Fig. 1).

Head transverse, about two times as long as wide, largely concave in front, with parallel sides, strongly depressed behind eyes; with large, irregular punctuations in the broad, oval depressions and punctured near base, almost smooth in front and on vertex, with a small depression in the middle of frons. Clypeus small, pointed. Mandibles strong, arcuate, longer than head in large males, as long as head in small ones; with a strong basal tooth directed downwards on inferior part of inner side (Fig. 5) in large males (smaller and directed inwards in small ones, Fig. 3), apical fork with three strong teeth, the first one directed upwards. Mentum semicircular, punctuate, strongly concave. Antennae 10-segmented; scape as long as remaining segments combined.

Pronotum wider and longer than head, convex; base straight, sides rounded, anterior margin slightly bisinuate; punctuation minute, stronger and deeper on sides, almost lacking on disc; with two small, semicircular, anterolateral depressions; each posterior angle with a small acute spine directed upwards.

Elytra convex, about as long as head and pronotum together, narrower than prothorax; base almost straight or slightly concave, sides parallel until middle, then regularly arcuate towards apex; humerus with a very strong sharp spine directed



Figs. 1-2. – 1: Habitus of a large male of *Hoplogonus bornemisszai* n.sp. – 2: Habitus of a large male of *H. simsoni* PARRY.

upwards; surface covered with longitudinally arranged punctuations, with three or four irregular, smooth discal costae; scutellum very small. Wings absent.

Protibiae straight, slightly longer than profemora, with two or three small teeth on outer margin, a strong apical fork and a spine on the inner side. Mesotibiae shorter than mesofemora, with strong submedial tooth, apex tricuspidate on the outer margin and with one smaller and one larger spine on inner side. Metatibiae about as long as metafemora, with strong medial spine and apex as mesotibiae. All tarsi slender.

Underside convex, strongly punctate.

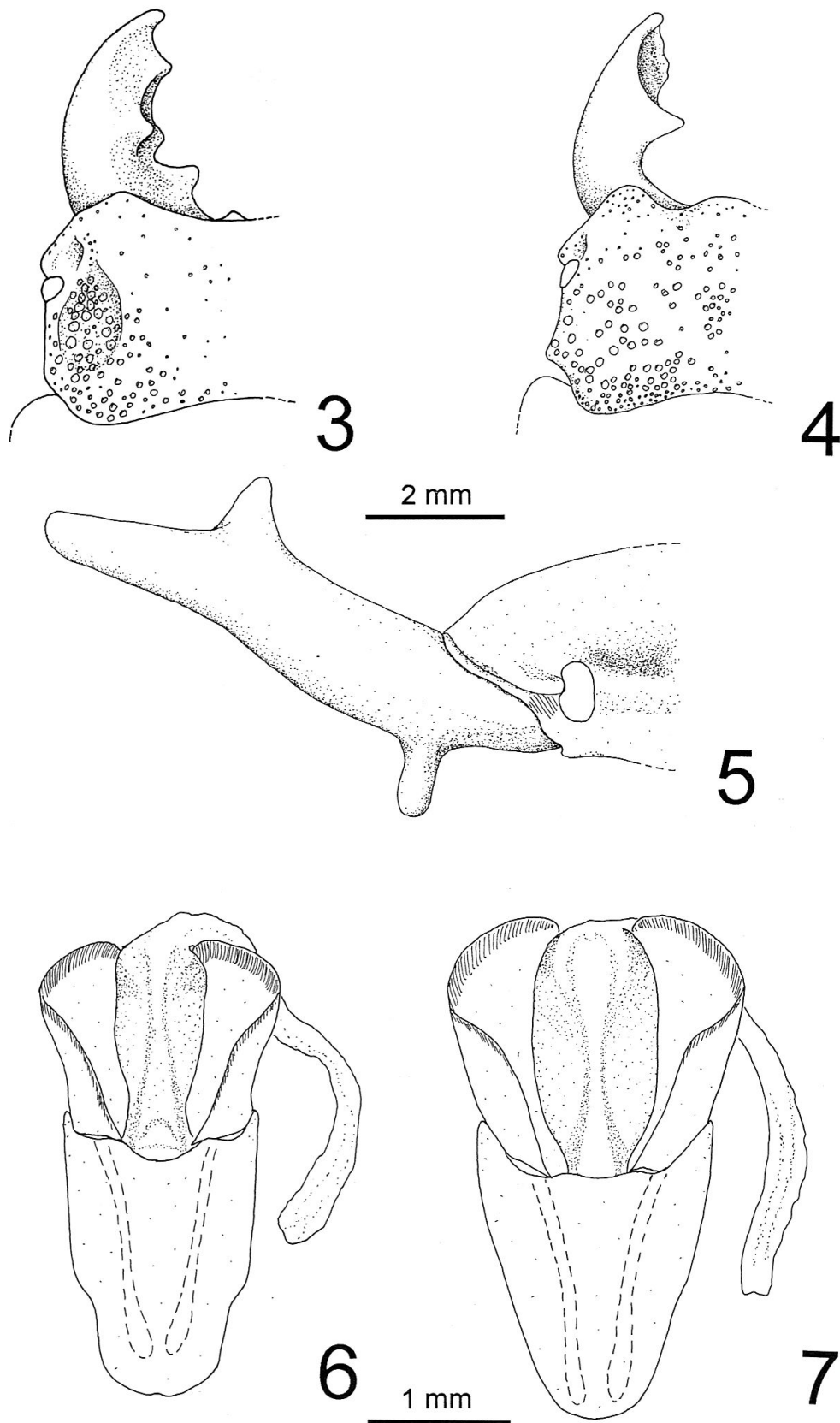
Aedeagus: Fig. 6.

Female. All characters as in male, but head about 1.5 times as long as wide, concave in front, slightly depressed behind eyes; with irregular punctuations. Mandibles shorter than head, pointed; sides regularly convex; inner margin with a small, medial, basal tooth and a small elevation on upper side. Mentum subrectangular, rounded laterally at anterior margin, laterally punctate, concave and smooth in middle.

Base and sides of pronotum rounded; punctuation minute.

Elytra convex, longer than head and pronotum together, slightly wider than prothorax; base slightly concave, sides regularly arcuate towards apex.

Protibiae slightly curved inwards, longer than profemora, with three small teeth on the outer margin, a very strong, large apical fork and a strong spine on the inner side. Mesotibiae as long as mesofemora, with an acute spine in proximal third, apex tricuspidate on the outer margin and with two spines, one smaller and one larger, on the inner side. Metatibiae longer than metafemora.



Figs. 3-7. – 3: Head and mandible of a small male of *Hoplogonus bornemisszai* n.sp. – 4: idem of *H. simsoni* PARRY. – 5: Lateral view of the mandible of a large male of *H. bornemisszai* n.sp. – 6: Aedeagus of *H. bornemisszai* n.sp. – 7: idem of *H. simsoni* PARRY.

Underside strongly convex, punctate.

Dimensions (in mm):

	holotype ♂	allotype ♀	paratypes ♂ ♂	paratypes ♀ ♀
total length	25.2	19.5	19.5–29.2	16.3–18.7
mandible length	6.2	1.8	3.4– 6.7	1.4– 1.8
pronotal width	9.1	7.5	7.8–10.7	6.3– 7.2
elytral width	8.0	7.8	7.4– 9.3	6.7– 7.4

Material. Holotype ♂, Australia, NE Tasmania, Goulds Country Area (site HT-9), 25.I.1995, G. F. BORNEMISSZA. Allotype ♀, same locality, 26.I.1995, M. BOUFFARD (found dead). Paratypes: 2 ♂ ♂, same locality, 26.I.1995, M. BOUFFARD; 2 ♂ ♂, same locality, 25–27.I.1995, G. F. BORNEMISSZA & M. BOUFFARD (found dead); 2 ♂ ♂ same locality, 25.I.1995, G. F. BORNEMISSZA (found dead); 5 ♂ heads, same locality, 25–27.I.1995, G. F. BORNEMISSZA & M. BOUFFARD; 1 ♂ head, same locality, M. BOUFFARD; 1 ♀, same locality, 25.I.1995, G. F. BORNEMISSZA; 24 ♂ ♂, 8 ♀ ♀, 19 ♂ heads, 5 ♀ heads, same locality, 27–29.X.1995, M. BOUFFARD & G. F. BORNEMISSZA. Holotype, allotype and 1 paratype ♂ to be deposited in the Australian National Insect Collection, CSIRO, Canberra; 8 paratypes in the author's collection; the rest of the type series in the collection of G. F. BORNEMISSZA (Hobart, Tasmania).

Etymology. It is with great pleasure that I name this species after Dr. George F. BORNEMISSZA, who collected the type material and contributed much to better knowledge of the Australian fauna.

#### REMARKS AND KEY

With the description of *H. bornemisszai* n.sp. there are two known species now of *Hoplogonus* which can be separated as follows:

- 1 Male: Mandibles straight in large males (Fig. 2), rounded in small ones (Fig. 4), with a strong submedial tooth, directed inwards and upwards, on upper margin of inner side. Head widest behind eyes, frons jutting out on clypeus (Figs. 2, 4). Pronotal sides subparallel. Aedeagus as in Fig. 7. – Female: Head not depressed behind eyes, with a post-ocular protuberance near base ..... *H. simsoni* PARRY
- Male: Mandibles regularly rounded, with three apical teeth (Figs. 1, 3) and a strong basal tooth on inferior margin of the inner side, directed downwards in large males (Fig. 5), inwards in small ones. Head subparallel, with a large, oval depression behind eyes. Frons concave (Figs. 1, 3). Pronotal sides rounded. Aedeagus as in Fig. 6. – Female: Head with a slightly depressed area behind eyes, sides subparallel, straight ..... *H. bornemisszai* n.sp.

The new species is known only from a very small area (4–5 acres) in a heavily logged forest area. The site is isolated from the area where *H. simsoni* occurs, but further research may expand its known range. Dr. BORNEMISSZA (pers. com.) found several heads of male specimens on treefern-stumps, probably remnants of avian predation. He also frequently observed those of *H. simsoni* on stumps in the Weldborough area. Bird predation on Lucanidae is not uncommon and has been reported, for instance, for Kestrels, Common Shrews, Jays, and Magpies on *Lucanus cervus* (LINNÉ) in Great Britain (HALL, 1969; VERDCOURT, 1988, 1990),

and for unidentified birds on *Sphaenognathus subtilis* LACROIX in Ecuador (BARTOLOZZI *et al.*, 1992) and on *Colophon westwoodi* GRAY in South Africa (K. WERNER, pers. com.).

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