Description of *Odontolabis kirchneri* new species of stag beetle from Sumatra

(Coleoptera, Lucanidae)

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Abstract

A new species of stag beetle from Sumatra (Indonesia), *Odontolabis kirchneri* n. sp., is described and compared to the closely related species *O. castelnaudi* PARRY, 1862.

Introduction

Thanks due to the kindness of Mr. Andreas Kirchner (Reichertshofen, Germany) and Mr. Karl Werner (Peiting, Germany) we were able to study a small collection of Lucanidae recently collected in the Island of Sumatra (Indonesia). Among the specimens a new species was present, whose description is given below.

Description

Male (Fig. 1).

Body large, elongated, moderately convex; mandibles, head, pronotum and legs dull black; elytra light chestnut brown, with base, lateral border and sutural stripe black; in some specimens the sides are also black and the basal and sutural dark stripes are much larger.

Head transverse, flat; surface finely and densely granulose; frons almost straight with an elevated convex carina in large specimens; anterior angle obtuse; canthi parallel-sided totally dividing eyes. Postocular process triangular, strong, more or less rounded apically, directed downwards. Mandibles very variable in shape and size. In prionodont specimens (Fig. 2) they are shorter than head, large, flat, rounded externally, irregularly serrate at the inner margin. In mesodont specimens (Fig. 1) the mandibles are larger than head, less rounded externally, slenderer with a very strong basal tooth on the inner margin, followed by a few small denticules, by a very strong double anteapical tooth and then by one or two small teeth before the apex, which is sharp and pointed. In telodont specimens (Figs 3 and 4) the mandibles are much larger than head, slender, almost straight externally; the basal tooth, if present, is very small, but it totally disappears in very large specimens. The anteapical tooth is well developed, slender, flat, bicuspidated, directed inwards and forward. The apex is sharp and pointed. Some small teeth are sometimes present before the anteapical

one, but in very large specimens they totally disappear, and the only tooth which is present on the inner side is the large anteapical one.
Antennae normally shaped as in the other species of the genus.
Prothorax transverse, shorter than head, surface finely and densely granulose, anterior margin bisinuated, lateral margins regularly rounded for 3/4, then strongly concave backwards to the base, which is bisinuated; a row of short golden pubescence is present at the anterior margin and at base.
Scutellum small, shiny.
Elytra oval, longer than head and prothorax together, smooth and shiny; base straight, sides regularly rounded.
Legs long and slender, protibiae longer than profemora, slightly curved inwards, unarmed externally, sometimes with a very small denticule on the distal third of the external margin; meso- and metatibiae unarmed.
Mentum slightly bilobed, covered with dense short reddish pubescence. Underside of the head laterally covered with strong punctuation. Prosternal apophysis triangular. Abdominal segments smooth and opaque.

Female
Body oval, convex; mandibles, head, pronotum and legs dull black; elytra light chestnut brown, with base, lateral border and sutural stripe black; in some specimens the elytra are almost black in colour, with brownish tints on the disc.
Head (Fig. 5) transverse, straight in front with clypeus slightly bilobed. Canthi strongly rounded, temples almost lacking, base straight, vertex convex with two lateral depressions near the eye borders. Surface strongly punctuated. Mandibles shorter than head, strongly rounded externally, sharply pointed at apex, inner margin irregularly toothed in the distal half.
Prothorax transverse, longer than head, surface with very small scattered punctures, more dense laterally and on the margins; anterior margin straight; sides regularly rounded for $^3/_4$ of their length, then strongly concave towards the base, which is almost straight; a row of short golden pubescence is present at the anterior margin and base.
Scutellum small, shiny.
Elytra oval, longer than head and prothorax together, smooth and shiny; base straight, sides regularly rounded.
Protibiae slightly longer than profemora, enlarged distally, with five irregular teeth externally; meso- and metatibiae unarmed.
Mentum semicircular, strongly punctured, slightly elevated laterally. Underside of the head laterally covered with strong punctuation. Prosternal apophysis rounded, short. Abdominal segments smooth and opaque.

Dimensions (in mm)

Holotype. Total length: 61.8; mandible length: 13.3; maximum width at elytra: 22.2. Allotype. Total length: 35.5; mandible length: 3.2; maximum width at elytra: 15.6. Male paratypes. Total length: 48.6-67.0; mandible length: 8.6-19.0; maximum width at elytra: 19.2-23.6. Female paratypes. Total length: 32.1-37.8; mandible length: 2.9-3.2; maximum width at elytra: 15.2-15.6.

Material

Holotype: 1 male, Indonesia, W-Sumatra, Gunung Talang, I-II.1998, local collectors; allotype: 1 female, same data; paratypes: 9 males, 6 females, same data. Holotype (coll. number 10633), allotype (10634) and 1 female paratype (10635) in the Zoological Museum „La Specola" of the University of Florence; the other paratypes in the private collections of Mr. Andreas Kirchner and Mr. Karl Werner.

Derivatio nominis

This new species is dedicated to Mr. Andreas Kirchner, Reichertshofen (Germany), owner of one of the biggest Lucanidae collection of the world.

Remarks

This species is closely related to *Odontolabis castelnaudi* PARRY, 1862. The body colour is the same, but *O. castelnaudi* is a more massive and large species. In this taxon the male body length varies from 52 to 79 mm, following LACROIX (1984), with an average length of 65.5 mm; or from 53.7 to 84.4 mm, following NAGAI (1986), with an average of 69.0 mm, or from 52 to 94 mm, following MIZUNUMA & NAGAI (1994), with an average of 73 mm. In *O. kirchneri* n. sp. the male body length goes from 52 to 67 mm, with an average length of 59.5 mm and thus this species is comparatively much smaller than the preceding one.

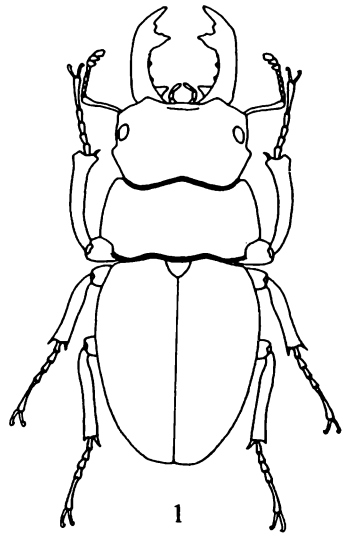
One of the main morphological differences between *O. castelnaudi* and *O. kirchneri* n. sp. is the shape of the male mandibles, mainly in the telodont forms. In *O. kirchneri* n. sp. the mandibles are more straight externally, with a reduction of the inner small teeth; in a large specimen of the typical series all the small inner teeth are lacking, even the basal one, and this does not happen in *O. castelnaudi* telodont males (Fig. 6). Another difference is the shape of the post ocular process, which is small, rather sharp and directed downwards in *O. kirchneri* n. sp., whilst it is larger, rounded and less directed downwards in *O. castelnaudi*. The protibiae are similar in shape in both species, but in most of the specimens of the typical series of *O. kirchneri* n. sp. the external denticule is very reduced or missing, whilst it is present in all the specimens of *O. castelnaudi* we have examined. The females mainly differ in having the lateral apical dilatation of the protibiae more developed in *O. kirchneri* n. sp. than in *O. castelnaudi*, and the lateral elevations of the mentum less developed.

Recently two subspecies of *O. castelnaudi* have been described: *O. castelnaudi in-*

omatai MIZUNUMA, 1994 from Simeulue Island, and *O. castelnaudi mentawaiensis* MIZUNUMA, 1994 from the Mantawai Archipelago, but *O. kirchneri* n. sp. does not show the characters of these two taxa.

Aknowledgements

We are grateful to Mr. Karl Werner for giving us the opportunity of describing this new species; to Mr. Andreas Kirchner for the loan of the material and for the donation of holo- and allotype to the Zoological Museum of the University of Florence; to Ms. Rossella Poggesi (Florence) for the drawings of this paper.



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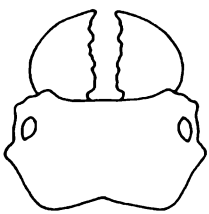

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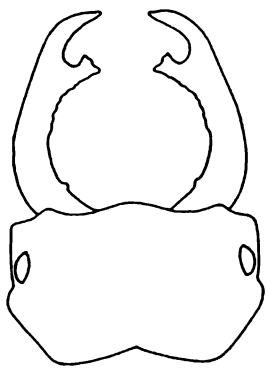

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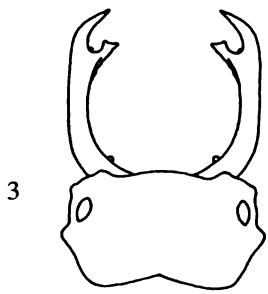

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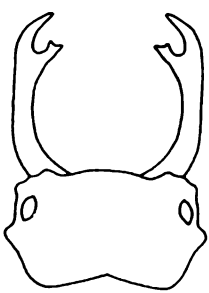

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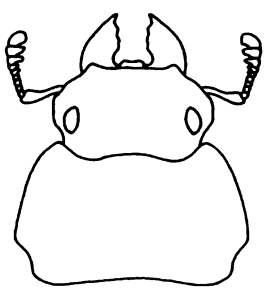

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Fig. 1. Habitus of *Odontolabis kirchneri* n. sp., male (holotype)

Fig. 2: *Odontolabis kirchneri* n. sp., male, prionodont form

Figs 3, 4: *Odontolabis kirchneri* n. sp., male, telodont forms

Fig. 5: *Odontolabis kirchneri* n. sp., female

Fig. 6: *Odontolabis castelnaudi*, male, telodont form

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Insektenbörse in Ingolstadt

Die 26. Ingolstädter Insektenbörse findet am
17. Januar 1999 von 9.00 bis 16.00 Uhr
in der Leo-v.-Klenze-Schule,
am Brückenkopf (alte Donaubrücke) in Ingolstadt statt.