

## **Description of *Laius alfredpuchneri* sp.n. (Coleoptera: Malachiidae) from Thailand**

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### Abstract

The genus *Laius* GUÉRIN-MÉNEVILLE, 1830 (Malachiidae: Malachiinae: Apalochrini) is recorded from Thailand for the first time. *Laius alfredpuchneri* sp.n. from the Andaman Sea coast of Phuket island is described and illustrated.

Key words: Coleoptera, Malachiidae, *Laius*, taxonomy, new species, Andaman Sea, Thailand.

### Zusammenfassung

Die Gattung *Laius* GUÉRIN-MÉNEVILLE, 1830 (Malachiidae: Malachiinae: Apalochrini) wird das erste Mal für Thailand gemeldet. *Laius alfredpuchneri* sp.n. wird von der Küste der Andamanensee der Insel Phuket beschrieben und illustriert.

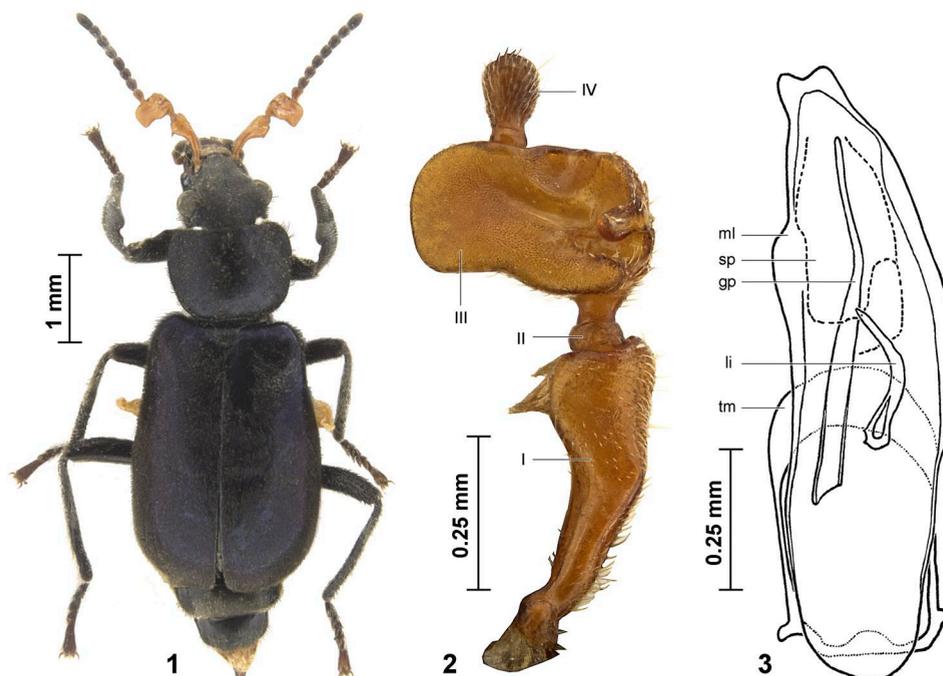
### Introduction

The genus *Laius* GUÉRIN-MÉNEVILLE, 1830, was erected by monotypy and rediagnosed by EVERS (1994). Species of *Laius* are supralittoral shore beetles (sensu JÄCH 1998) and inhabit rocky sea shores from East Africa to south-eastern Asia and of some islands in the western Pacific (CHAMPION 1921, YOSHITOMI 2010, and references therein). So far, no species was recorded from Thailand. In this paper, we describe a species as new to science based upon the knowledge of one male specimen from the Andaman Sea coast of Thailand.

### Material and methods

The unique male specimen is dry preserved and mounted on a rectangular paper card. Its dissected terminalia have been embedded in droplets of dimethylhydantoin formaldehyde resin on a transparent plastic card, which is affixed to the appropriate insect pin. The holotype will be deposited in the private research collection of Alfred Puchner in Grafenbach-Sankt Valentin, Austria.

For dissection of terminalia, the specimen was soaked in a fluid composed of distilled water and some drops of ethanol. After relaxation the abdomen was detached right behind the hind coxa, and treated in a 10% KOH solution for maceration of the fat body and connective membranes. The dissection was conducted with minutens mounted on wooden handles, and the specimen was manipulated immersed in some droplets of water to avoid rubdown of pubescence.



Figs. 1–3: *Laius alfredpuchneri* sp.n., holotype: (1) habitus; (2) basal antennomeres (I–IV) of left antenna; (3) aedeagus; dashed line indicating spinous area of endophallus; dotted line indicating covered parts of tegmen; gp – gonoporal piece, li – ligula, ml – median lobe, sp – spinous area, tm – tegmen.

Two optical tools were used in this study: Descriptive statements and measurements were conducted with a Leica Wild M3C, with oculars adjustable to the senior authors needs (Wild 445111, 10x/21B). Digital imaging was conducted with a Leica imaging system (Leica DFC450 camera; Leica Z16 APO optic carrier; Objective 2.0× Apo; Z6/Z16, f=39 mm), stacked with Leica Application Suite v3.8, and edited with GIMP v2.6.

Label data are cited under following conventions: Each label is enclosed within double quotes (“...”), a backslash (\) separates text lines.

For the species description, the scheme used by Hiroyuki Yoshitomi is used (cf. YOSHITOMI 2008, 2010, 2014, YOSHITOMI & LEE 2010). The terminology of endophallic sclerites follows YOSHITOMI (2014). Following acronymy is used in the text: AL = aedeagal length; EL = elytral length; EW = elytral width; GL = length of gonoporal piece; HL = head length; HW = head width; IOW = inter ocular width; LL = length of ligula; LW = width of ligula; PL = pronotal length; PW = pronotal width; TL = total length.

## Taxonomy

### *Laius alfredpuchneri* sp.n. (Figs. 1–3)

Type locality: Rock formation (7°46'2"N 98°18'20"E) next to the southern tip of Yanui Beach, Rawai subdistrict, Mueang Phuket district, Phuket province, Thailand.

Type material: Holotype (male, coll. Alfred Puchner): “THAILAND: Phuket: \ Yanui Beach \ N 7° 46' E 98° 18' \ 10.-17.03.2012 \ leg.: Alexander Puchner” (white paper, printed) “H O L O - T Y P U S \ *Laius* \ *alfredpuchneri* \ spec. nov. \ det. I. Plonski 2012” (red paper, printed).

Etymology: The species epithet is a patronym. Co-author A.P. and collector of the holotype dedicates the new taxon to his father, Alfred Puchner, a renowned Austrian carabidologist. This act is a small “thank you” for everything he did for him (see Acknowledgements below).

Description of male (holotype): Body (Fig. 1) oblong, rather mat, integument covered with short black setae. Coloration of body black except elytra with azure bluish hue, antennomeres I–IV rufotestaceous (but antennomere IV darkened towards apex), and head with saffron coloured spot on cheeks beneath antennal sockets. Head narrower than pronotum; vertex not flattened but evenly arched, closely set with fine punctures; fronto-clypeal region with a slightly raised epistomal plate region; cheeks slightly excavated and without punctures, thus shiny. Eyes moderate in size and protruding. Antennae stout; antennomere I as figured (Fig. 2), strongly curved laterally, with a thorn and a thornlike seta on underside; antennomere III as pictured (Fig. 2), transverse, concave at mid-length and with fine groove, margin with halfround impression next to insertion of antennomere IV, and transverse impression and spatula-like process next to latter; approximate ratio of each antennomere – length (wide) – as: 12 (2) : 1 (1) : 6 (4.2) : 3.5 (1) : 3 (1.1) : 2.5 (1.1) : 3 (1.1) : 2,5 (1.1) : 3 (1.1) : 2.5 (1.1) : 4.5 (1.1). Pronotum squared, widest near anterior margin, antero- and posterolateral angles rounded, puncturation as on vertex. Scutellum semicircular, puncturation as on pronotum. Elytra oblong, broadest at apical third, sides gradually expanded posterolaterally. Legs relatively long and stout; protibia at base slightly thickened and excavated on flexor side. Pygidium transverse, half as long as broad, caudal margin slightly concave. Aedeagus (Fig. 3): Tegmen a bit longer than median lobe’s half, with projections at basal corners; Median lobe broadest at the middle; sides subparallel; apex squared and concave in apical margin; Gonoporal piece almost straight, slender, converging conically towards tip; Ligula relatively long, rather strongly curved in half. Measurements: TL: 4.97 mm; HL: 0.90 mm; HW: 1.10 mm; IOW: 0.70 mm; PL: 1.07 mm; PW: 1.37 mm; EL: 3.00 mm; EW: 2.07 mm; AL: about 1.10 mm; GL: 0.73 mm; LL: 0.25 mm; LW: 0.07 mm. Aspect ratios: TL/EW = 2.40; PW/PL = 1.28; EL/PL = 2.80; EL/EW = 1.45; GL/AL = 1.50; LL/LW = 3.57; GL/LL = 2.92.

Female: Unknown.

Diagnosis: *Laius alfredpuchneri* sp.n. belongs into the species group with long gonoporal piece and short, incurved ligula (“group 3” sensu YOSHITOMI 2014). Its adelphotaxon is *L. andamanensis* YOSHITOMI, 2014, which also possesses a strongly transverse antennomere III in the male sex. The latter differs from the new taxon in coloration, build of antennomere I and III (cf. YOSHITOMI 2014: figs. 7B, 8B & 12B), and in the shapes of the two main endophallic sclerites (cf. YOSHITOMI 2014: fig. 3B).

Distribution: So far, only known from the type locality in southern Thailand.

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very own, is named after his father and wishes to express the following: “Since my early childhood, it has always been a big adventure for me to accompany my father, Alfred Puchner, on his excursions into the world of beetles. And over the years, I did not only collect beetles, but also many experiences. Experiences, which have marked my journey through life. With great patience and passion, my dad introduced me to the fascinating world of coleopterology. He did not only awaken my genuine interest in beetles, but also gave me an idea on what it takes to work in this field – and mostly anywhere else: Accuracy, exact observation, and wide knowledge. Nevertheless, as I learned from my father, ‘It is the small things, that can really bring joy to our lives’.”

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