

SPIXIANA	40	1	37–40	München, August 2017	ISSN 0341–8391
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## A new species of the genus *Coptocarpus* Chaudoir, 1857 from northern Australia

(Coleoptera, Carabidae, Oodini)

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Baehr, M. 2017. A new species of the genus *Coptocarpus* Chaudoir, 1857 from northern Australia (Coleoptera, Carabidae, Oodini). *Spixiana* 40(1): 37–40.

A new species of the genus *Coptocarpus* Chaudoir is described from the northern part of the Northern Territory, Australia: *Coptocarpus oberprielerae*, spec. nov. It is distinguished from the nearest related species by the absolutely impunctate elytral striae and the differently shaped aedeagus.

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### Introduction

The Oodine genus *Coptocarpus* includes thirteen species, twelve of which occur in Australia and one in New Guinea. The genus can be distinguished from other Oodine genera occurring in this area by the asymmetrically arranged male protarsus, absence of abdominal ambulatory setae, straight basal part of the sutural stria, and absent or very weak parascutellary striole. Most species seem to be rare, which may depend on the absence of metathoracic wings in all except two species. Therefore, most species are recorded from but a small area, or even only from the type locality. The genus was revised by Erwin (1974), but since that time nothing else has been added to its knowledge. According to Erwin's paper and to material seen in some Australian museum collections, all species are only recorded from near coastal areas, almost around Australia, but not in Tasmania, whereas the vast interior of Australia apparently is devoid of any species.

In the course of the examination of the carabid species collected during the CSIRO Biodiversity Survey, carried out by Stefanie Oberprieler in 2014 and 2015 in Kakadu and Nitmiluk National Parks in far Northern Territory, Australia, I found a small

series of a *Coptocarpus* species which, according to the paper of Erwin (1974) and by comparison with a couple of species in my working collection, represents a new species which is described in the present paper.

### Methods

In the taxonomic survey standard methods are used. For dissecting the genitalia, the specimens were relaxed overnight in a jar under moist atmosphere, then cleaned for a short while in 10 % KOH. The habitus photographs were obtained by a digital camera using ProgRes CapturePro 2.6 and AutoMontage and subsequently were edited with Corel Photo Paint 14.

Measurements were taken using a stereo microscope with an ocular micrometer. Body length was measured from apex of labrum to apex of elytra, length of pronotum along midline, length of elytra in a straight line from the most produced part of the humerus to the most produced part of the apex.

The holotype of the new species is stored in the Australian National Insect Collection, Canberra (ANIC), paratypes are stored in the working collection of the author in Zoologische Staatssammlung, München (CBM).

## Taxonomy

### Genus *Coptocarpus* Chaudoir

*Coptocarpus* Chaudoir, 1857: 57. – Sloane 1910: 448; Erwin 1974: 2; Moore et al. 1987: 261; Lorenz: 2005: 324.

**Type species:** *Oodes australis* Dejean, 1831: 671, by monotypy.

**Diagnosis.** Genus of Oodini, characterized by the asymmetric male protarsus; absence of ambulatory setae on the 4<sup>th</sup> and 5<sup>th</sup> abdominal sterna, not or barely outturned sutural stria near base of elytra, and absent or very weak parascutellary stria.

### *Coptocarpus oberprielerae*, spec. nov.

Figs 1–4

**Types.** Holotype: ♂, “Australia, NT, Nitmiluk NP 14.17014699S, 132.3813219E Biodiversity survey No.2 Site 5B, April–May 2015” (ANIC). – Paratypes: 1 ♂, “Australia, NT, Nitmiluk NP 13.9119555S, 132.594004E Biodiversity survey No.2 Site 24B, April–May 2015” (CBM); 1 ♂, “Australia, NT, Nitmiluk NP 14.3716806S, 132.5532226E Biodiversity survey No.43 Site 40, April–May 2015” (CBM); 1 ♂, 1 ♀, “Australia, NT, Kakadu NP 13.7412335S, 132.623356E Biodiversity survey No.13 Site 133, Feb–Mar 2014” (CBM).

**Etymology.** The name is a patronym in honour of Stefanie Oberprieler (Darwin, Australia) who kindly let me examine her most interesting carabid samples from the CSIRO Biodiversity Survey.

**Diagnosis.** Distinguished from the nearest related species *C. doddi* Sloane, 1910, *C. nitidus* Macleay, 1873, and *C. chaudoiri* Macleay, 1873 by virtually impunctate elytral striae and by different structure and shape of the aedeagus and the sclerotized and denticulate parts in the internal sac. Also distinguished from *C. doddi* and *C. nitidus* by presence of remnants of the scutellary striole.

### Description

**Measurements.** Length: 9.1–11.1 mm; width: 4.2–5.0 mm. Ratios. Width/length of pronotum: 1.55–1.59; width base/apex of pronotum: 1.98–2.10; width pronotum/head: 2.30–2.42; length/width of elytra: 1.28–1.35.

**Colour (Fig. 1).** Mature specimens dark piceous to black, only labrum and mandibles slightly paler; palpi and antenna rufous. Legs black, but tibiae and tarsi usually very slightly paler. Lower surface dark piceous.

**Head (Fig. 2).** Small in comparison to pronotum. Eye large, but laterad little produced, orbit convex, c.  $\frac{1}{3}$  of length of eye. Labrum anteriorly slightly

excised, 6-setose. Clypeus straight, clypeal seta present. Mandibles short, apically incurved, dorsal surface with shallow furrow. Frons slightly convex, neck with a shallow but distinct transverse impression. Mentum with a triangular tooth. Palpi and antenna slender and elongate, median antennomeres c.  $3.5\times$  as long as wide, rather densely pilose from 4<sup>th</sup> antennomere. Dorsal surface with dense and fine punctation, less so on neck. Microreticulation on frons barely recognizable, posteriorly more distinct though very fine, about isodiametric. Surface very glossy, but labrum with superficial, but distinct, isodiametric microreticulation, therefore less glossy.

**Pronotum (Figs 1, 2).** Wide, triangular, but lateral margin gently convex; base twice as wide as apex, in males even wider; dorsal surface gently convex. Apex slightly excised, in middle straight, only laterally margined; apical angle rounded. Lateral margin with narrow marginal bead that almost attains the basal angle. Base very slightly bisinuate, not margined, basal angle obtusely rounded. Surface in basal third with a large, very shallow, irregularly oblique impression on either side. Median line extremely fine. Marginal setae absent. Surface with minute, very dense punctures and with extremely fine, isodiametric microreticulation, glossy.

**Elytra (Fig. 1).** Short, oviform, but with wide base, widest about at middle; dorsal surface convex. Humerus obtusely angulate, basal margin almost complete. All striae complete, well impressed, virtually impunctate. Sutural stria at base very slightly outturned, not attaining the parascutellary puncture. 2<sup>nd</sup> stria also slightly outturned, attaining the large and deep parascutellary puncture. Remnants of the parascutellary striole just visible. Two discal setiferous punctures present, situated at or slightly behind middle and about at apical eighth, both attached to the 3<sup>rd</sup> stria. Intervals at least in basal half gently convex, with minute, very dense punctures and with extremely fine, isodiametric microreticulation, glossy.

**Lower surface.** Impilose and glabrous. Metepisternum about as long as wide. Metepimeron, metepisternum and abdomen impunctate, but lateral part of prosternum coarsely punctate. 4<sup>th</sup> and 5<sup>th</sup> abdominal sterna without ambulatory setae. Terminal abdominal sternum in male bisetose, in female quadrisetose, punctures of setae inconspicuous.

**Legs.** Slender and elongate, particularly tibiae and tarsi. Tarsomere 1 of metatarsus slightly longer than the following three tarsomeres. Three basal tarsomeres of the male protarsus remarkably widened and on the lower surface densely squamose, in tarsomere 1 only the apical half squamose. Tarsomere 1 triangular, tarsomeres 2 and 3 about quadrangular and as wide as or slightly wider than



Fig. 1. *Coptocarpus oberprielerae*, spec. nov. Habitus. Length 9.5 mm.

long. Tarsomere 4 very asymmetrically inserted at the median part of the apex of tarsomere 3.

Male genitalia (Fig. 3). Genital ring delicate, regularly oval-shaped. Aedeagus rather elongate, wide in middle, very asymmetric, dorso-ventrally remarkably depressed, almost leaf-like; lower surface near base deeply concave, in apical part less so, but regularly concave. Apex strongly curved right, near tip deeply concave, tip slightly convex, on right side angulate. Orificium situated symmetrically on the dorsal side. Internal sac with a short spiniform plate in apical part, which is overlaid by a small, sclerotized, quadridentate plate. In basal half on left side with a narrow, curved, about 5-dentate plate, teeth small and short. Parameres very dissimilar,

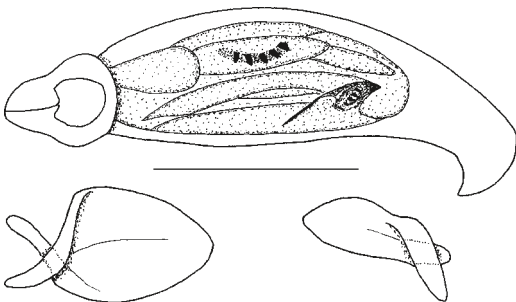


Fig. 3. *Coptocarpus oberprielerae*, spec. nov. Aedeagus, ventral view, left and right parameres. Scale = 1 mm.



Fig. 2. *Coptocarpus oberprielerae*, spec. nov. Head and pronotum.

the left one very large, convexly triangular, the right smaller, in apical part triangular.

Female gonocoxites (Fig. 4). Gonocoxite 1 elongate, without any setae at the apical rim. Gonocoxite 2 narrow and elongate, slightly triangular, in the lower part markedly curved, somewhat boomerang-shaped, with obtuse apex. With one or two narrow ventro-lateral ensiform seta(e), the lower one being slightly smaller, and with one narrow dorso-median ensiform seta; near apex with a fairly elongate nematiform seta, originating from a circular pit.

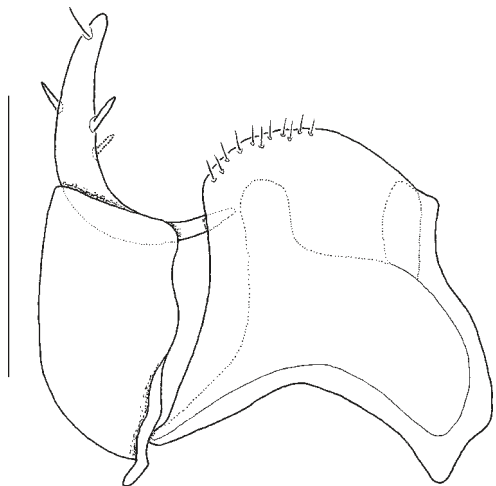


Fig. 4. *Coptocarpus oberprielerae*, spec. nov. Female gonocoxites 1 and 2. Scale = 0.5 mm.

Lateral plate large, partly sclerotized, apical margin in median part with c. 12 very short setae.

**Variation.** Some variation noted in relative width of pronotum and elytra. The single female is larger than the males, has shorter and wider elytra, and the apex of the pronotum is relatively wider.

**Distribution.** Kakadu and Nitmiluk (i. e. Katherine Gorge) National Parks in far Northern Territory, Australia.

**Collecting circumstances.** All specimens were collected by pitfall trapping.

**Relationships.** Probably most closely related to *C. doddi* Sloane, 1910, *C. nitidus* Macleay, 1873, and *C. chaudiroidi* Macleay, 1873, by virtue of the short, quadrate metepisternum, impunctate mesepisternum, metepisternum, and abdomen, and punctate prosternum.

### Remarks

From far Northern Territory so far only a single species of *Coptocarpus* was recorded, *C. doddi* Sloane, 1910. However, this species is well distinguished from *C. oberprielerae* by the character states mentioned in the diagnosis. As presently recorded, *C. oberprielerae* occurs in Nitmiliuk National Park and in the adjacent southern part of Kakadu National Park.

As explained in the introduction, except for two winged species from southern Australia, *Coptocarpus* specimens are rarely collected due to the absence of flight ability. Therefore it is not too surprising to detect an additional species in far Northern Terri-

tory. This area so far has been quite fragmentarily collected, therefore any more systematic surveys done in recent time have brought to light a multitude of new species, making this area one of very high species diversity, which probably also applies for other beetle and invertebrate groups. The CSIRO survey in Kakadu and Nitmiluk National Parks adds to the increase of this species diversity, not only with respect to the new *Coptocarpus* species, but also in certain other carabid groups which are presently examined.

### Acknowledgements

I am greatly indebted to Stefanie Oberprieler (Darwin, Australia) who collected the material and kindly sent it to me as a gift.

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