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Two new *Sporades* (Coleoptera: Carabidae: Trechinae) from New Caledonia

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Abstract

Two new species of the genus *Sporades* FAUVEL, 1882 are described from New Caledonia: *S. schuhi* nov.sp. and *S. perileptoides* nov.sp.

Key words: Carabidae, Trechinae, Trechini, Trechodina, *Sporades*, new species, New Caledonia.

Zusammenfassung

Zwei neue Arten der Gattung *Sporades* FAUVEL, 1882 werden von Neukaledonien beschrieben: *S. schuhi* nov.sp. und *S. perileptoides* nov.sp.

Introduction

The genus *Sporades* FAUVEL, 1882 is a poorly known genus of the subtribe Trechodina (Trechinae: Trechini), endemic to New Caledonia. It is closely related to *Trechodes* BLACKBURN, 1901, which is distributed in tropical and subtropical Africa, Asia and

Australia. JEANNEL (1927) provided detailed information about the position of *Sporades* within the tribe Trechini from a worldwide perspective. Three similar species have been described so far, reviewed and figured in detail by UÉNO (1966). The main purpose of this paper is the description of additional two species collected by Rudolf Schuh in New Caledonia.

The members of *Sporades* live – like the majority of Trechodina – on the banks of running water between gravel and detritus. They have fully developed wings. No other genera of Trechini are reported from New Caledonia so far.

I am deeply indebted to Rudolf Schuh (Wiener Neustadt, Austria) for submitting these highly interesting specimens to me for taxonomic examination.

Abbreviations in UÉNO (1966): HW – head width; PA – width of pronotum at apex; PB – width of pronotum at base; PW – maximal width of pronotum; PL – length of pronotum; EL – length of elytra; EW – maximal width of elytra; M – mean.

Results

Sporades schuhi nov.sp. (Figs 1A-1C)

Type material: Holotype (♂ - coll. Donabauer) and paratypes 1♂ (coll. Schuh), 1♀ (coll. Donabauer): "NEW CALEDONIA: S-Prov. Riv. Dumbéa, 70-80m, ca. 10 km NNE Nouméa, 23.XI.2009 lg Schuh (6+7)".

Differential diagnosis: This strikingly distinct trechine species is placed within Trechodina because of the open basal part of the aedeagus and the complete basal border of elytra (as in *Trechodes*, *Paratrechodes*, *Thalassophilus*). It is assigned to *Sporades* based on the following combination of characteristics: solely the first tarsal segment enlarged in males (instead of normally two); pubescent elytra with very short apical striole, aedeagus of male characterized by small size, lack of copulatory pieces in the internal sack and unmodified apex (normally hooked in related genera); and also by distribution in New Caledonia. Within *Sporades*, *S. schuhi* nov.sp. is recognized by large body size, large head with pubescence on dorsal side; small eyes, convex, strongly developed, and densely pubescent genae; pronotum with strong microsculpture, matte; comparatively parallel-sided and elongate elytra; distinct shape of aedeagus. A confusion with any other known trechine beetle of the Australian and Oriental region is hardly possible.

Description: Length (from apical margin of clypeus to apices of elytra) 3.0-3.2 mm. Colour entirely reddish pale, moderately shiny and not iridescent; antennae, mouthparts and legs of same colour, not contrasting.

Head large, depressed, with significantly reduced eyes, eyes hardly protruding; frontal furrows deep and moderately curved; mandibles elongate; both frons and supraorbital areas rather flat; microsculpture consisting of strongly developed polygonal meshes, fairly wide on frons and vertex; head partly pubescent, especially on genae, eyes pubescent(!); genae strongly developed and convex, slightly shorter than eyes; antennae

very slender and long, reaching far behind middle of elytra, median segments about 3.5 times as long as wide.

Pronotum small, transverse, widest at about 85% of length from base, slightly convex at sides but depressed on disk; PW/HW 1.03-1.07 (M 1.05), PW/PL 1.30-1.35 (M 1.32), PW/PA 1.19-1.20 (M 1.20), PW/PB 1.35-1.36 (M 1.36); lateral sides very narrowly bordered throughout, moderately rounded in front, nearly straight behind and slightly sinuate before hind angles; front angles rounded and hardly advanced; apex wider than base, PB/PA 0.88; base briefly pedunculate at middle; hind angles nearly rectangular and pointed; median line shallow, reaching neither apex nor base; apical transverse impression vague, basal one superficial and merging on each side into basal fovea, which is also superficial; postangular carinae absent; surface matte due to very strong microsculpture, not pubescent.

Elytra elongate, narrow, flat and almost parallel-sided, not ovate, widest just before apex, slightly convex along sides but strongly depressed on disk; EW/PW 1.39-1.43 (M 1.42), EL/EW 1.65-1.70 (M 1.67); shoulders prominent though rounded; hind wings functional; basal border transverse; lateral channel narrow, not explanate, hardly emarginate before rounded apices; stria 1 entire, impunctate, very close to the suture both near base and near apex, no traces of other striae; apical striole very short and rudimentary; two dorsal pores at the area of supposed stria 3, not foveolate, at about 1/5 and 5/9 of length from base respectively; microsculpture developed, therefore elytra moderately shiny, irregularly punctate and pubescent.

Male genital small and weakly sclerotized as in all other *Sporades*, but of highly diagnostic shape; basal lobes well projecting; aedeagus length one fourth of EL, elongate and slender, broadest behind middle; viewed laterally apex elongate and turned down, simply rounded at tip and not knobbed; inner sac without visible copulatory pieces or scales (at 100x magnification). Styles elongate and long, half as long as aedeagus with four setae at apex.

D i s c u s s i o n : This species represents a new type of habitus within *Sporades* and therefore looks rather different to the hitherto known species of this genus. It looks more similar to representatives of the palaeartic trechine genus *Thalassophilus* – obviously a result of convergence.

E t y m o l o g y : This species is dedicated to Rudolf Schuh, collector of this new species and enthusiastic entomologist.

***Sporades perileptoides* nov.sp. (Figs 2A-2C)**

Type material: Holotype (♂ – coll. Donabauer) and 1♀ paratype (coll. Schuh): "NEW CALEDONIA: N-Prov. Riv. Népoui 110 m 5 km SW Ouaté, 17 km NNE Népoui, 4.XII.2009, leg. Schuh (31)". Paratype (1♀, coll. Donabauer): "NEW CALEDONIA: S-Prov. Riv. Dumbéa, 70-80 m, ca. 10 km NNE Nouméa, 23.XI.2009 lg Schuh (6+7)".

D i a g n o s i s : This distinct trechine species is placed within Trechodina because of the open basal part of the aedeagus and the complete basal border of elytra (as in *Trechodes*, *Paratrechodes*, *Thalassophilus*). It is assigned to *Sporades* based on the following combination of characteristics: solely the first tarsal segment enlarged in males (instead of normally two); pubescent elytra with very short apical striole, aedeagus of

male characterized by small size, lack of copulatory pieces in the internal sack and unmodified apex (normally hooked in related genera); and also by distribution in New Caledonia. This new species is recognized within *Sporades* by extremely small body size (ca. 2 mm); head, pronotum and elytra with pubescence on dorsal side; large and convex eyes; short genae; pronotum with strong microsculpture, matte; parallel and elongate elytra; distinct shape of aedeagus. A confusion with any other known Trechinae in the Australian region is not possible, except – perhaps on an superficial glance – with members of the otherwise distantly related genus *Perileptus* (Trechini: Perileptina).

Description: Length (from apical margin of clypeus to apices of elytra) 1.9–2.0 mm. Colour yellowish brown, moderately shiny and not iridescent, pronotum slightly darker than elytra, head dark between eyes; antennae brown, except basal segments yellowish; legs and mouthparts yellowish, slightly contrasting to elytra.

Head normal, transverse and slightly depressed, pubescent, with very large and protruding eyes; eyes shortly pubescent (hardly visible at 40x magnification); frontal furrows deep and moderately curved; both frons and supraorbital areas moderately convex; microsculpture strongly developed; genae short, rather transverse and slightly convex, one-third (or less) as long as eyes; antennae less slender than in other *Sporades*, reaching middle of elytra, median segments less than three times as long as wide.

Pronotum small, transverse, widest at about three fourths of length from base, convex at sides and moderately depressed on disk; PW/HW 1.05–1.11 (M 1.09), PW/PL 1.33–1.45 (M 1.38), PW/PA 1.25–1.33 (M 1.29), PW/PB 1.29–1.33 (M 1.32); lateral sides very narrowly bordered throughout, widened at base, moderately rounded in front, nearly straight behind and hardly sinuate before hind angles; front angles rounded and hardly advanced; apex as wide as base, PB/PA 0.94–1.00 (M 0.98); base pedunculate at middle; hind angles obtuse, with point always effaced; median line shallow, reaching neither apex nor base; apical transverse impression vague, basal one superficial and merging on each side into basal fovea, which is also superficial; surface moderately shiny, irregularly punctuate and pubescent; microsculpture present though rather indistinct.

Elytra elongate, narrow, moderately flat and almost parallel-sided, not ovate and widest just before apex, convex at sides but depressed on disk; EW/PW 1.32–1.40 (M 1.37), EL/EW 1.61–1.66 (M 1.64); shoulders prominent though rounded; hind wings functional; basal border transverse; lateral channel narrow, not explanate, hardly emarginate before rounded apices; stria 1 entire, impunctuate, very close to suture both near base and near apex; traces of striae 2 and 3 hardly visible, all other striae absent; apical striole very short and rudimentary; two small dorsal pores at striae 3, not foveolate, at about 1/5 and 5/9 of length from base respectively; microsculpture developed, therefore elytra moderately shiny, irregularly punctuate and pubescent.

Male genital very small and weakly sclerotized as in all other *Sporades*, but significantly shorter and thicker than in other species, basal lobes well projecting basad. Aedeagus length 33 % of EL, shape short and thick, not dilated behind middle; viewed laterally, apical part rather abruptly constricted before apex, which is unmodified and slightly turned down; inner sac without visible copulatory pieces but with extraordinary small scales (at 100x magnification); styles normal, two fifths as long as aedeagus with four setae at apex.

Discussion and etymology: This minute species represents another new type of habitus within *Sporades* and therefore looks different to the so far known species of this genus. It looks more similar to representatives of the well-known trechine genus *Perileptus* (derivatio nominis) – obviously a result of convergence.

***Sporades macrops* UÉNO 1966 (Fig. 3B)**

Material examined: 1♂: "NEW CALEDONIA: S-Prov., parc des Grandes Fougères, Col Ouano – Me Peou creek, 340-440 m, 5 km NNW Farino, 20.XI.2009 leg. Schuh"; 1♂: "NEW CALEDONIA: N-Prov. River Népoui 110 m, 5 km SW Ouaté, 17 km NNE Népoui, 4.XII.2009, leg. Schuh (31)".

Determination confirmed by genital examination (Fig. 3B). Immediately recognized by size (2.55-2.75 mm) and dark colour, shiny body, elytra with strong bluish lustre, head and pronotum not pubescent, elytra shortly and scarcely pubescent, elytra with dorsal pores foveolate. This and the following two species are similar to each other in any respect and can be distinguished by size, colour and by strikingly distinct shapes of aedeagus (UÉNO 1966).

***Sporades sexpunctatus* FAUVEL 1882**

Material examined: 2 ♀♀: "NEW CALEDONIA: S-Prov., River Pocquereux, 20 m, 7 km SE La Foa, 30.XI.2009 leg. Schuh (21)".

Determination slightly uncertain because no male specimens available. Length 2.95 mm, significantly larger than *S. macrops*, but still smaller than holotype of *S. sexpunctatus*, which measures 3.15 mm, otherwise very similar to the previous species, but with strikingly distinct aedeagus (UÉNO 1966: pg. 35).

***Sporades testaceus* UÉNO 1966 (Fig. 4B)**

Material examined: 1♂, 2♀♀: "NEW CALEDONIA: S-Prov. Riv. Dumbéa, 70-80 m, ca. 10 km NNE Nouméa, 23.XI.2009 lg Schuh (6+7)"; 2♀♀: "NEW CALEDONIA: S-Prov., Rivière des Pirogues, 100 m, ca. 30 km NE Nouméa, 23.XI.2009 lg. Schuh (8), 22°11'15"S/166°43'21"E".

Determination confirmed by genital examination (Fig. 4B). Similar to *S. macrops*, but with pale yellowish colour and significantly shorter aedeagus.

References

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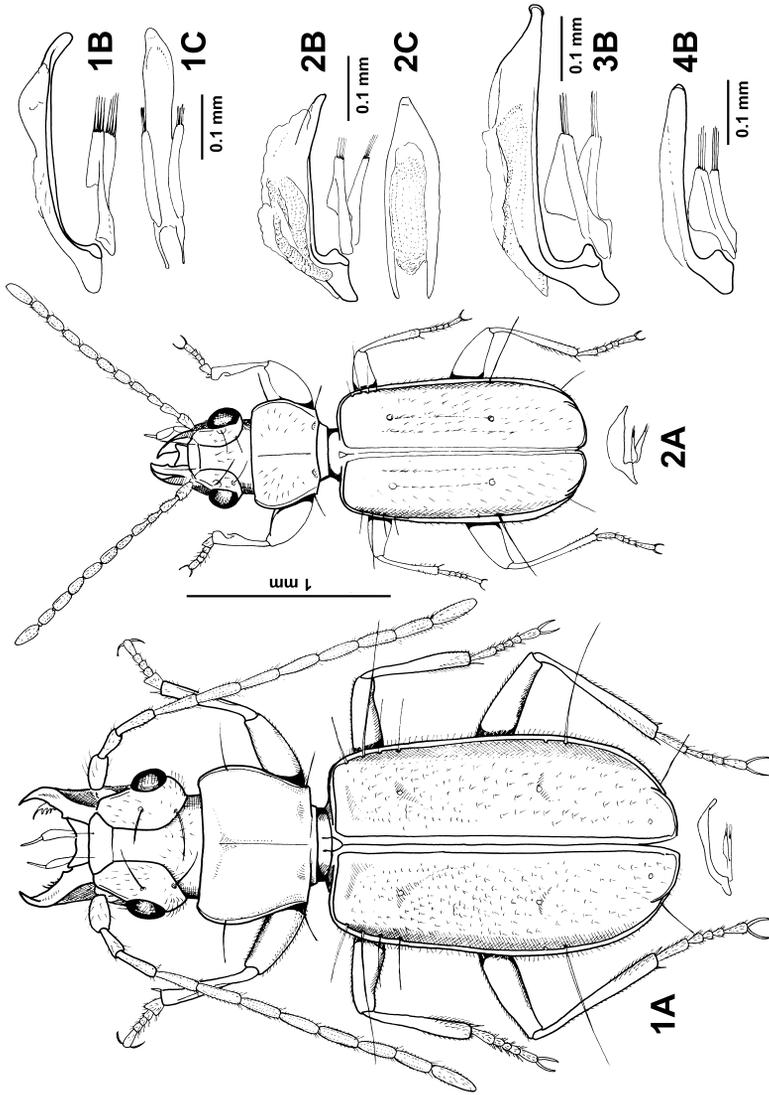


Fig. 1–4: Habitus (A), aedeagus in lateral (B) and dorsal view (C): (1) *Sporades schuhi* nov.sp.; (2) *S. perileptooides* nov.sp.; (3) *S. macrops*; (4) *S. testaceus*.

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