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***Rhantus englundi* sp.n. from Tubuai Island, French Polynesia (Coleoptera: Dytiscidae)**

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Abstract

Rhantus englundi sp.n. (Coleoptera: Dytiscidae) is described from Tubuai Island, in the Austral Islands (Southern French Polynesia). It is the fourth endemic species of *Rhantus* DEJEAN from French Polynesia. *Rhantus englundi* sp.n. belongs to the *R. suturalis*-group and can easily be distinguished from all other known species through a diagnostic combination of body size, coloration and shape of male genital.

Key words: Coleoptera, Dytiscidae, Pacific Islands, endemism, aquatic diversity.

Introduction

Three species of Dytiscidae, all belonging to the genus *Rhantus* DEJEAN, 1833, were previously known from French Polynesia: *R. debilis* SHARP, 1882 (Tahiti), *R. intermedius* BALKE, 1993 (Tahiti), and *Rhantus schereri* BALKE, 1990 (Raiatea and Bora Bora in the Society Islands) (BALFOUR-BROWNE 1945, BALKE, 1993). A fourth species, *Rhantus englundi* sp.n., was discovered recently from Tubuai Island. All four of these species belong to the *Rhantus suturalis*-group proposed by BALKE (1993, 2001) for species possessing distally acute setae on the parameres as well as few ones with trumpet-shaped tips (cf. BALKE 2005: Fig. 7.6.3.N).

Three zoological expeditions, in 2002, 2003 and 2004, to the Austral Islands of French Polynesia have been made by the Pacific Biological Survey of the Bernice P. Bishop Museum, Honolulu (BPBM). To date, the islands of Rimatara, Rurutu, Tubuai, Raivivae, and Rapa Iti have been surveyed. A preliminary assessment of the biodiversity of the terrestrial and aquatic insect faunas and the level of endemism of that occurred on each of these islands and that of the overall Austral archipelago was estimated and presented by ENGLUND (2003, 2004). While the results are preliminary, the findings have been very promising, with the discovery of numerous undescribed species of Odonata, Hemiptera, Coleoptera, and Diptera (ENGLUND 2003, 2004). Plans are in preparation and funding has already been secured for additional expeditions to other islands and island groups in French Polynesia for the coming years.

***Rhantus englundi* sp.n.**

TYPE MATERIAL: **Holotype** ♂ (B.P. Bishop Museum, Honolulu, Hawaii): “French Polynesia: Tubuai Island, Tamatoa stream, in pool, 149.45245°W, 23.37716°S, 60-140 ft., 13. Nov. 2003, leg. R. Englund \ Rhantus sp. nov. ? nr. schereri, det. A.S. Ramsdale, 2004 \ HOLOTYPE *Rhantus englundi* Balke & Ramsdale, 2006”.

TYPE LOCALITY: French Polynesia, Austral Islands, Tubuai Island, Tamatoa stream.

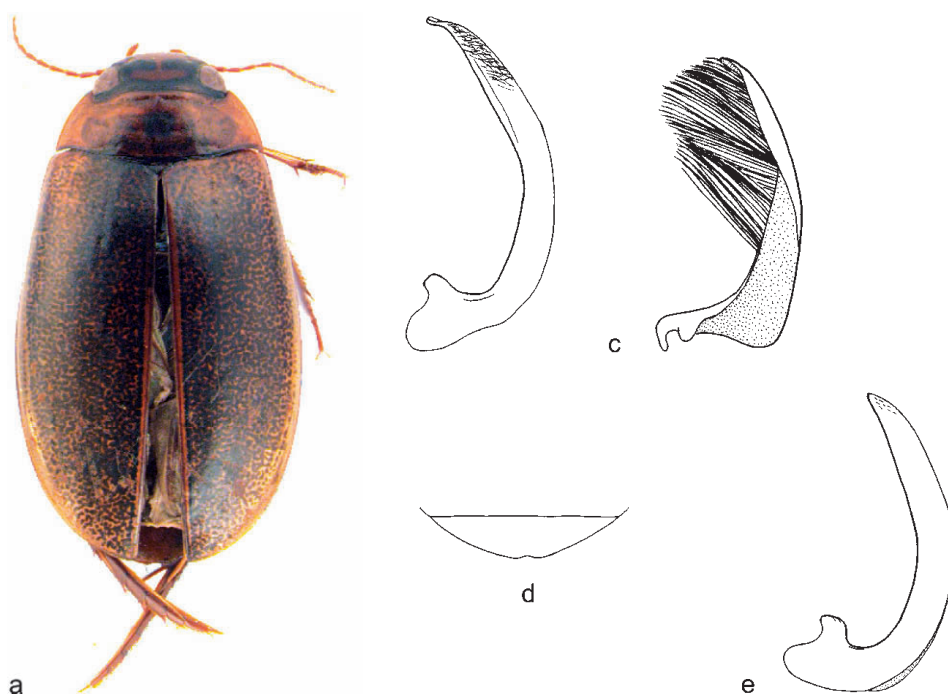


Fig. 1: a–d) *Rhantus englundi*: a) habitus; b) median lobe of aedeagus in lateral view; c) paramere, internal aspect; d) last ventrite; e) *R. schereri*: median lobe of aedeagus in lateral view.

DESCRIPTION: Measurements and habitus (Fig. 1a). A small *Rhantus*: total length of beetle 9.5 mm, total width 5.0 mm. Elongate oval in dorsal view; the posterior margin of the pronotum is medially convex and laterally slightly concave.

Colour: Head black, clypeus, a patch on frons as well as a line connecting these two dark orange. Pronotum orange with an almost square median black patch; anterior and posterior margin medially darkened. Elytron yellowish to orange with numerous black irrorationes and overall darker appearance. Body appendages, prothorax, prosternal process, epipleuron, coxae, and postcoxal process orange to dark ferruginous; rest of venter dark brown to blackish.

Surface sculpture: Head with irregular polygonal meshes and fine punctation; clypeus devoid of meshes but with dense double punctation. Pronotum and elytron with fine, in part double punctation and more-or-less defined, well impressed polygonal meshes; faint microreticulation (MR) visible laterally on pronotum. MR distinct laterally and distally on elytron, absent anteriorly along suture. Last ventrite with fine MR and punctures, with few longitudinal rugae laterally.

Structures: Pronotum with lateral bead almost reaching anterior angle. Prosternal process long, narrow, with ventral ridge, reaching almost the hind margin of mesocoxae; fitting into v-shaped counterpart of mesoventrite. Lateral processes of metaventrite (the metaventral “wings”) moderately broad (0.7 mm wide). Last ventrite medially emarginate (Fig. 1d).

Male: Protarsal and mesotarsal subequal in length and only slightly curved, shorter than fifth protarsomere. Pro- and mesotarsomeres 1–3 slightly expanded laterally, with four rows of stalked suction discs ventrally. Number of discs per transverse row (tarsomere on which row

occurs given in parentheses): 6 (1) – 7 (1) – 7* (2) – 6 (3) (* apparently 6 on mesotarsus). Median lobe of aedeagus as in Fig. 1b, surface of distal 1/2 to 2/3 distinctly wrinkled or rugose; parameres with dense and long setation, some setae distally trumpet shaped (Fig. 1c).

Female: Unknown.

DIFFERENTIAL DIAGNOSIS: A species of the *Rhantus suturalis*-group sensu BALKE (1993, 2001) due to possession of some distally trumpet-shaped setae on its parameres. It differs from other species by the following combination of characters (based on male): (1) fore and middle claws subequal in length and of simple structure, only slightly curved; (2) size; (3) pronotum with a median patch; (4) last ventrite medially emarginate; (5) form of median lobe of aedeagus; (6) the latter on distal 1/2 to 2/3 with rugose or wrinkled surface. *Rhantus schereri*, also from French Polynesia (Raiatea and Bora Bora), has a similar appearance, but the median lobe (Fig. 1e) is clearly different.

HABITAT: Collected with an aquatic net in a shallow pool along the slow moving low elevations of Tamatoa stream. The stream and pool area is dominated by a fine substrate, punctuated by larger gravel and cobble. The area is heavily shaded by *Hibiscus tiliaceus* where the water flows through masses of rootwads and along soil. See ENGLUND (2004) for information on all that is known about the habitat of *Rhantus englund*.

ETYMOLOGY: It is our pleasure to name this species in honor of Dr. Ronald A. Englund (BPBM), aquatic biologist, Odonata systematist and collector of the holotype of this new species.



Fig. 2: Habitat of *Rhantus englund*.

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