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## The genus *Notomicrus* in Guadeloupe, with description of three new species (Coleoptera: Noteridae)

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### Abstract

The genus *Notomicrus* Sharp, 1882 is recorded from Guadeloupe for the first time. Examination of recently collected material revealed the presence of four species, of which three are described as new species so far endemic to Guadeloupe. *Notomicrus sabrouxi* sp. n. is akin to the continental Neotropical species *N. gracilipes* Sharp, 1882 and *N. traili* Sharp, 1882. *Notomicrus chailliei* sp. n. and *N. femineus* sp. n. are sibling species which diverge from each other by 3.4% of observed distance in cytochrome oxidase 1 sequences. The latter species seems to be comprised of only females, and is suspected to reproduce by obligate parthenogenesis. The fourth species is *N. sharpi* Balfour-Browne, 1939. These species are morphologically described notably through scanning electron microscopy study, and data on their distribution in the Guadeloupe archipelago and habitat preferences are presented and discussed.

**Key words:** Coleoptera, Noteridae, *Notomicrus*, endemic, Guadeloupe, Lesser Antilles, new species, parthenogenesis

### Introduction

Aquatic beetles of the genus *Notomicrus* Sharp, 1882 are among the smallest members of Hydradephaga, with a size range of about 1.0 to slightly above 1.6 mm (Young 1978). Within the family Noteridae, *Notomicrus* belongs to the subfamily Notomicrinae and the tribe Notomicrini Zimmermann, 1919, together with *Speonoterus* Spangler, 1996, a monotypic genus of tiny eyeless stygobiontic beetles endemic to Indonesia (Nilsson 2011). The Notomicrini and the other stygobiontic genus *Phreatodytes* Uéno, 1957 (endemic to Japan) (subfamily Phreatodytinae) are thought to be positioned phylogenetically outside a clade containing all other noterid genera (subfamily Noterinae) (Beutel & Roughley 1987; Ribera *et al.* 2002; Beutel *et al.* 2006; Miller 2009; Kato *et al.* 2010; Gómez & Miller 2013).

Within the family Noteridae, members of the genus *Notomicrus* are characterised by the following combination of characters (Sharp 1882a; Young 1978; Pederzani 1995; Spangler 1996; Miller 2009): (i) scutellum concealed (as in all noterid genera except *Phreatodytes*); (ii) eyes present (absent in *Phreatodytes* and *Speonoterus*); (iii) protibia not expanded beyond base of first protarsomere, lacking an apical thick curved spine (or spur) and without a fringe of short marginal spines along its antero-dorsal margin; (iv) absence of a group of long setae at distal antero-ventral angle of metafemur; (v) “noterid platform” consisting only of the inner laminae of metacoxae, not extending anteriorly onto metaventricle; (vi) suture line between metaventricle and metacoxae indistinct (synapomorphy of Notomicrinae, Miller 2009); (vii) distance from anterior extremity of inner laminae of metacoxae to mesocoxal cavities larger than diameter of mesocoxae (shorter than diameter of mesocoxae in *Speonoterus*; this character from Spangler 1996); (viii) laterotergites short, extending posteriorly beyond bases of gonocoxae, the latter apically rounded and conjointly fused (for these features of female genitalia see Miller 2009); (ix) absence of midgular apodeme (see Beutel & Roughley 1987, Miller 2009). Many of the character states in this list are considered to be symplesiomorphic with respect to Noterinae (see Miller 2009 for the details).

Currently there are 11 known *Notomicrus* species (Nilsson 2011; Miller 2013). *Notomicrus tenellus* (Clark, 1863) is distributed from south-eastern Asia to Australia and *N. punctulatus* Fauvel, 1903 is endemic of New Caledonia. The remaining species are all American and are distributed from south-eastern United States to