



A new species of the endemic genus *Hemicyrthus* Reiche (Coleoptera: Scarabaeidae: Dynastinae) from New Caledonia, with a revised key

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Abstract

Hemicyrthus bluffarti new species (Coleoptera: Scarabaeidae: Dynastinae) from the Parc Provincial de la Rivière Bleue in southern New Caledonia is described. It differs from the most similar species, *H. elongatus*, by the completely and sharply margined pronotal base, the presence of elytral micropunctures, shorter apical setae of the mesotibiae and metatibiae, and a different shape of the parameres. For the first time, a sexually dimorphic character is described in this genus: the median emargination of the last sternite has a developed margin in males, but not in females. A revised key for all *Hemicyrthus* species is given. *Hemicyrthus* as a genus of short-range endemics, and its biogeographical relationships are briefly discussed.

Key words: rhinoceros beetle, short-range endemics, Madagascar, Hexodontini, Oryctoderini

Introduction

New Caledonia is one of the 25 biodiversity hotspots on earth as identified by Myers *et al.* (2000). A high proportion of endemic taxa, which have undergone extensive radiation with species inhabiting very small areas (short-range endemics), is a common pattern of the New Caledonian flora and fauna (Grandcolas *et al.* 2008). This pattern is exemplified by *Hemicyrthus* Reiche in Montrouzier, 1860, a genus of rhinoceros beetles (Coleoptera: Scarabaeidae: Dynastinae) comprising six described species, most of which are known from singletons or only a few specimens (Dechambre 1982; Paulian 1991). During the last decade, one of us (J.T.) collected four males and six females, all dead, of a new *Hemicyrthus* species in the rainforest of the Parc Provincial de la Rivière Bleue, in the south of the island (Fig. 1). This species is here described and included in a revised key for all *Hemicyrthus* species.

Study area

Parc Provincial de la Rivière Bleue (22°03'–12'S, 166°33'–46'E; Fig. 1) is a 90-km² reserve located in southern New Caledonia. It was created in 1980, after forest exploitation of kauri (*Agathis lanceolata* Lindley ex Warburg, Araucariaceae) ceased. The region comprises part of the southern massif, a large expanse of ultramafic (ultrabasic) rock. Most soils in the area are highly weathered and poor in nutrients but with high heavy metal contents (Jaffré & Veillon 1991). In the valley of the Rivière Bleue, richer alluvial soils support lowland rainforest with a dense canopy and a height of roughly 20–25 m (Jaffré & Veillon 1991). The mean annual temperature in the forest is 18°C, and the mean annual rainfall in the Rivière Bleue valley is 3,181 mm, which makes it one of the wettest lowland areas in New Caledonia (Bonnet de Larbogne *et al.* 1991). There are three seasons in New Caledonia: the cool/rainy season (May–August), the warm/dry season (September–December) and the hot/rainy season (January–April). Main potential threats to Scarabaeidae in this area consist of little fire ants, *Wasmannia auropunctata*