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New records and a new species of the cavernicolous genus *Guiodytes* Tian, 2013 from Guangxi, China (Coleoptera: Carabidae: Scaritinae)

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Abstract

A new species of the genus *Guiodytes* Tian, 2013 is described from a limestone cave called Shuiku Dong in Huanjiang County of northernmost Guangxi, southern China. *G. deharvengi* n. sp. is the first depigmented species of *Guiodytes*. It is close to *G. cavicola* Tian, 2013, but easily recognized by its broader and yellowish brown body. In addition, new records for *G. cavicola* Tian, 2013 are provided from two caves in Du'an County of northern Guangxi, with description of the male genitalia. A key to all three known species and a distributional map of *Guiodytes* are also given.

Key words: ground beetle, Clivinini, subterranean

Introduction

The genus *Guiodytes* was established by Tian (2013) containing two blind clivinine species, *G. cavicola* Tian, 2013 and *G. bedosae* Tian, 2013, collected in limestone caves in Guangxi, southern China. Both species are monotypic, known by only the female holotypes. They are troglobites although their body is black.

In late 2012, an international symposium on cave biology and conservation was held in Nanning, organized by Guangxi Regional Biological Conservation Office. Achievements of biospeleological activities carried out in Guangxi from 2007 to 2012 which was a part of the huge project Guangxi Integrated Forestry Development and Conservation sponsored by the World Bank have been presented (Deharveng, 2012). During the period, a short visit to two caves was arranged in Huanjiang County, northernmost of Guangxi. In a limestone cave called Shuiku Dong in southern Huangjiang, four depigmented and eyeless clivinine specimens were collected. Further study confirmed that they are members of a new species belonging to the genus *Guiodytes*.

In 2013, several biospeleological surveys were made in Du'an Karst of northern Guangxi as the research activities of a biodiversity conservation project sponsored by Nanjing Institute of Environmental Sciences, Ministry of Environmental Protection and the Specialized Research Fund for the Doctoral Program of Higher Education of China. Six specimens of *G. cavicola* including male individuals were collected in two caves in Du'an County.

Based on the above findings, a new species is described in the present paper, together with additional records of *G. cavicola* and description of its male genitalia.

Material and methods

Thirteen specimens of the genus *Guiodytes* were studied, including the holotypes of *G. cavicola* Tian and *G. bedosae* Tian. Beetles were collected by hand or by using an aspirator on wall and ground of the caves and kept in 50% ethanol before study. Dissections and observations were made under a Leica S8AP0 stereo-binocular microscope. Male genital organs were put on small paper cards and then pinned beneath the specimens from which they were removed. Female genitalia were dipped in 10% KOH for one day before dissection, then cleaned in lactic

Elytra elongate ovate, wider than pronotum, EW/PW=1.34–1.35, mean 1.35, much longer than wide, EL/EW=1.76–1.79, mean 1.78; strongly convex; widest at about middle, gently contracted anteriorly and posteriorly, base finely bisinuate; shoulders broadly obtuse, with two large serrated projections; apex pointed; side not parallel-sided, distinctly crenulated from base to apical quarter; elytral striae punctate-striate, striae deep, intervals strongly convex; stria 1 with a small blunt tubercle at the base, just before scutellar pore; intervals 1–4 unbordered at base, other bordered at base; intervals 7 and 8 jointed before base, then jointed to interval 6 at base, all of them carinated near base; interval 3 with five foveolate setiferous pores at 8/9, 2/7, 1/2, 2/3 and 5/6 from base respectively; marginal channel with uninterrupted series of small setiferous pores and several large pores which bearing much longer setae; scutellar striae and scutellar pores present; hind wings reduced.

Underside of head covered with coarsely rugose and short wrinkles, proepisternum with dense isodiametric punctures, without wrinkle; pro-, meso- and metasterna smooth in middle portion, covered with small and sparse punctures at sides, pro-, meso- and metepisterna coarsely punctured, epipleuron with a few coarser punctures near base; abdominal ventrites sparsely punctured at sides, each of ventrites IV–VI bearing a pair of paramedial setae, and ventrite VII of both male and female with two pairs of paramedial setae.

Legs rather stout and short; fore leg stout, profemur simple, moderately dilated; protibia well developed, quadridentate on outer margin, dorsal carina and sulcus distinct; lateral upper spine elongate ensiform, blunt at apex, much longer and stouter than subapical spur; protarsi short, tarsomere 1 much longer than other, tarsomeres 2–4 flat and transverse; middle and hind legs slender.

Male genitalia (Figs. 5–6). Weakly sclerotized; median lobe of aedeagus stouter than in *G. cavicola*, strongly arcuated, ventral margin unisinate, gently enlarged towards apex which is very broad; basal orifice small; inner sac armed with longitudinal copulatory piece, apical one longer and broader; parameres similar to *G. cavicola*.

Female genitalia (Fig. 7). Similar to *G. cavicola* Tian, 2009 though gonocoxite and gonosubcoxite are slightly more slender; bursa copulatrix wide and folded, basally narrower; spermathecal gland very long and large, spermathecal gland duct wide and short.

Etymology. The name of this new species is dedicated to Prof. Dr. Louis Deharveng (MNHN, Paris), a well-known biospeleologist.

Remarks. *G. deharvengi* n. sp. is similar to *G. cavicola*, but it is easily distinguished from the latter by its depigmented and stouter body, as well as its broader pronotum. Furthermore, elytra interval 3 bearing five dorsal setiferous pores in *G. deharvengi* n. sp. (while four pores in *G. cavicola*).

Distribution. China (Guangxi: Huangjiang County) (Fig. 1). Known only from Shuiku Cave, the type locality. In this cave are living also two blind trechine: *Uenotrechus liboensis* Deuve & Tian, 1999 (in Deuve et al., 1999) and *Pilosaphaenops whitteni* Tian, 2009.

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