



## Biodiversity research of darkling beetles on Socotra Island. Part I. The genus *Deretus* Gahan, 1900 (Coleoptera: Tenebrionidae)

LUBOŠ PURCHART

Mendel University in Brno, Department of Forest Ecology, Zemědělská 3, CZ- 613 00 Brno, Czech Republic.

E-mail: lubos.purchart@post.cz; lubos.purchart@mendelu.cz

### Abstract

As a result of biodiversity research on Socotra Island, four new species of the genus *Deretus* Gahan, 1900 are described—*D. bezdeki* **sp. nov.**, *D. hulai* **sp. nov.**, *D. necopinatus* **sp. nov.** and *D. maderai* **sp. nov.** *Deretus wraniki* Schawaller, 2004 is synonymised with *Deretus denticollis* Gahan, 1900. All known species are figured, keyed, and information about their biology and distribution is given.

**Key words:** Coleoptera, Tenebrionidae, Helopini, *Deretus*, Socotra Island, Yemen, taxonomy, new species, new synonym, description, biodiversity research

### Introduction

With the increasing risk of extinction faced by many animal and plant species due to human activities (Magurran & Dornelas 2010), biodiversity research studies have become highly important as many species are still undiscovered. Island species are often some of the most endangered. A sad but well known example is Madagascar, an island with extremely high species endemism that has been deforested by humans for decades. This activity leads to the destruction of biotopes and consequent extinction of species (Harper *et al.* 2007; Pollini 2011). Another example is Socotra Island (Yemen), which is threatened with intensive overgrazing of vegetation cover by introduced and uncontrolled goat and sheep populations. The vegetation cover disappears after grazing, which results in soil erosion (Van Damme & Banfield 2011). The animals also feed on tree saplings which die after grazing (Habrova 2004; Habrova *et al.* 2009). Therefore, no new trees will grow to replace old and dying individuals. Such trees are refuges for many insects which become endangered due to loss of suitable habitat.

In 2009 and 2010 a research team from Mendel University in Brno (Czech Republic) started two projects in collaboration with the Environment Protection Authority of Yemen to study the insect diversity of Yemen with a particular interest in the fauna of Socotra Island. This research resulted in the discovery of many species new to science, which are now being described. This paper presents a part of these results. It focuses on the genus *Deretus* Gahan (Coleoptera: Tenebrionidae), which represents a group of tenebrionid beetles commonly associated with plants, mainly trees.

The genus *Deretus* is endemic to Socotra Island. It was established by Gahan (1900) for *Deretus denticollis* Gahan, 1900 (by monotypy) and later figured by Koch (1970). Schawaller (2004) added two new species—*D. spinicollis* Schawaller, 2004 and *D. wraniki* Schawaller, 2004. The tenebrionid fauna of Socotra Island is presently comprised of 40 darkling beetles species. Some of which were described quite recently (Schawaller 2004, 2006; Novák 2007, Purchart 2009; Lo Cascio & Grita 2011) or are soon to be described (e.g. Novák & Purchart in prep.; Purchart & Schawaller in prep.). Thus the total number of tenebrionid species occurring on the island is still unknown. In this paper four new species of the genus *Deretus* are described.