



<http://dx.doi.org/10.11646/zootaxa.4032.2.1>

<http://zoobank.org/urn:lsid:zoobank.org:pub:26E6B554-D7F1-4125-AC40-E40D838354B9>

Three new species of tiger beetles and new data on *Cicindelina* species from Angola (Coleoptera: Carabidae: Cicindelinae)

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Abstract

Three new species of tiger beetles, two of the genus *Trichotaenia* Rivalier, 1957 and one of the genus *Cylindera* Westwood, 1831, subgenus *Ifasina* Jeannel, 1946 are described from Angola. An annotated list of species of *Cicindelina* sampled in this country is provided also. Records for three species previously unknown from Angola are given: *Ophryodera smrzi* Werner, 2005, *Lophyra clatharta* (Dejean, 1825) and *Lophyra sumlini* Cassola, 1976. Some considerations on the distribution and general ecology of these beetles in Angola are also presented. Further, two dichotomic keys are made available for the identification of *Trichotaenia* species with marked shoulders and *Cylindera* (*Ifasina*) species of western and southwestern Africa, respectively.

Key words: *Cicindelina*, *Trichotaenia*, *Cylindera*, new species, new records, Angola

Resumo

Três espécies novas de besouros tigre, duas do género *Trichotaenia* Rivalier, 1957 e uma do género *Cylindera* Westwood, 1831, subgénero *Ifasina* Jeannel, 1946 são descritas de Angola. Uma lista anotada de espécies de *Cicindelina* amostradas neste país é também apresentada. São dados registos novos de três espécies para Angola, a saber: *Ophryodera smrzi* Werner, 2005, *Lophyra clatharta* (Dejean, 1825) e *Lophyra sumlini* Cassola, 1976. São também feitas algumas considerações sobre a distribuição e ecologia geral destes coleópteros, nomeadamente em Angola. Além disso, são disponibilizadas duas chaves dicotómicas para a identificação respectivamente de espécies do género *Trichotaenia* com a região humeral dos élitros bem marcada e espécies de *Cylindera* do subgénero *Ifasina* da África ocidental e ocidental-meridional.

Palavras chave: *Cicindelina*, *Trichotaenia*, *Cylindera*, novas espécies, novos registos, Angola

Introduction

Tiger beetles due to their singular peculiarities concerning biology, behaviour and ecology, have attracted the curiosity and interest of professional scientists and amateurs. A synthesis on several aspects, such as their natural history, population dynamics, community composition, worldwide species richness patterns, and taxonomy is available (Serrano 2000; Pearson & Vogler 2001). Its comprehensive knowledge is an argument to support the use of tiger beetles as appropriate bioindicators (e.g. Cassola & Pearson 2000 and references herein). Tiger beetles are a speciose group and there are actually 2775 species of Cicindelidae known worldwide (J. Wiesner pers. comm.), and they are found all over the world land surface except Antarctica and some isolated oceanic islands (Serrano & Capela 2013).

Angola is the seventh largest country of Africa and is located in the southwestern part of the continent. Some insights on its orography, climate, major vegetation types and biodiversity threats can be found in Serrano and Capela (*op. cit.*). The tiger beetle fauna of Angola is one of the less known in the Afrotropical Region, with about