



New Orthalicidae (Mollusca, Gastropoda) from Venezuelan Guayana: unravelling secrets from the Lost World

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Abstract

Land snails of the family Orthalicidae from Venezuelan Guayana are revised and the following new species are described: *Drymaeus (D.) rex*, *Plekocheilus (Eurytus) huberi*, *P. (E.) nebulosus*, *P. (E.) sophiae*, and *P. (E.) tepuiensis*. *Drymaeus (D.) griffini* Haas, 1955 is now placed in the synonymy of *D. (D.) extraneus* (Haas, 1955). In addition, the genitalia of *Plekocheilus (Eurytus) tatei* Haas, 1955 are described for the first time. *Plekocheilus (Eudolichotis) gibber* (Oberwimmer, 1931) is now considered a member of *P. (Eurytus)*. As a consequence, *Antitragus* Oberwimmer, 1931 is now regarded a junior synonym of *Eurytus* Albers, 1850. Of the 16 taxa treated here, 14 are endemic to the table-top mountains ('tepui') of this area. A Principal Component Analysis has been used to study the biotic and abiotic factors that may influence species diversity and distributions. Habitat diversity explained 65% of the variability and was mainly influenced by plant diversity, number of forest types, elevation and slope area of the tepuis.

Key words: Mollusca, Orthalicidae, Bulimulinae, *Plekocheilus*, *Drymaeus*, systematics, new species, new synonymy, endemism, distribution, Venezuela

Introduction

Venezuelan Guayana has long been a mysterious area, their table-top mountains ('tepui') considered sacred places by the indigenous Pemon communities (Huber 1995b). The area was the set of the adventure novel "The Lost World" by Arthur Conan Doyle (1912), who was inspired by the 1884 expedition of the Royal Geographical Society of London to climb Mount Roraima. From a malacological view, Venezuelan Guayana is poorly known and the goal of the present paper is to review the land snail fauna. Until now, 11 taxa have been described, all being members of the family Orthalicidae. During the preparation of this paper one new species was added, belonging to the family Clausiliidae (Thompson 2008). Due to the inaccessibility of the area, not more than about 55 specimens have been accumulated during the past 100 years.

The study area (Fig. 1) was explored initially by river expeditions, like the one by Humboldt and Bonpland in 1800, the brothers Schomburgk (1835–1844), Spruce (1853–1854) and Holt and others (1929–1931). Later, several expeditions organized by major museums gathered mainly botanical and ornithological data of the tepui biota (Huber 1995b). During recent years there were several herpetological and cave expeditions to Venezuelan Guayana, mainly to the eastern part. Huber (1995a; see also McDiarmid & Donnelly 2005) gives a detailed description of the geography and physical features of Venezuelan Guayana, including climatic data. He distinguishes between highlands (> 1500 m), uplands (500–1500 m) and lowlands (< 500 m). The highlands, collectively called Guayana Highlands or Pantepui, form loosely clustered groups of isolated mountains. Many (but not all) tepui summits are connected to the surrounding lowlands by valleys and ridges (Huber 1988); groups of nearby tepuis are referred to as massifs. On botanical grounds, Venezuelan Guayana can be divided into four districts (Huber 1995a, 1995c): Eastern Pantepui District (among others the Roraima and Chimantá massifs), Western Pantepui District (e.g. Sierra de Maigualida), Central Pantepui