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Review of the current knowledge of the systematics of Onchidiidae (Mollusca: Gastropoda: Pulmonata) with a checklist of nominal species

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Abstract

Because Onchidiidae (Mollusca: Gastropoda: Pulmonata) has been understudied since the last experts were active more than 70 years ago, systematics of this taxon is in a state of confusion: The nomenclatural status of most species names is unknown; the current supra-specific classification, largely based on Labbé's work, has not been revised since the 1930s and needs to be re-evaluated through a modern, phylogenetic approach. A checklist of all 143 species names available in Onchidiidae is provided, as a first step towards a systematic revision. In addition, type material information (all existing types were examined by the author), type locality, and comments on the current taxonomic status and classification are provided for each species name. Present state of knowledge of the higher-level systematics of Onchidiidae is also briefly reviewed. Species diversity based on traditional generic taxa is presented. Finally, type localities are listed by region, worldwide, and interesting questions of biogeography are mentioned.

Key words: Alpha taxonomy, biodiversity, nomenclature, systematic revision

Introduction

Onchidiidae, one of the nine major extant taxa of Pulmonata (Mollusca, Gastropoda), has been understudied since the last onchidiid experts were active more than 70 years ago (e.g., Plate 1893; Hoffmann 1928, 1929; Labbé 1934a, 1934b, 1934c, 1935). In fact, there is no living expert able to reliably identify species of onchidiids, and museum lots are often labeled as "Onchidiidae." A few large monographs focused on parts of European collections: London, Frankfurt, and Berlin (Plate 1893); Copenhagen and Stockholm (Hoffmann 1928); Paris (Labbé 1934a). However, a global revision based on all collections available has never been attempted: the nomenclatural status of most species names is unknown; as a result, the onchidiid species diversity is in a state of confusion, which in turn makes discovering new species difficult. The main goal of the present paper is to provide a checklist of all species names available in Onchidiidae, as a first step towards a systematic revision.

Onchidiids are true slugs: they lack an internal shell. Most species are marine and live in the upper intertidal zone, either in rocky, sandy, or muddy habitats, including mangroves. However, two species live in brackish habitats and tolerate fresh water: *Onchidium typhae* Buchannan, 1800, and *Labella ajuthiae* (Labbé, 1935). Also, three terrestrial species have been described from high-elevation rainforests: *Semperella montana* (Plate, 1893), from Sibugan Island, Philippines; *Platevindex ponsonbyi* (Collinge, 1901), from Borneo; and *Platevindex apoikistes* Tillier, 1983, from Mindoro, Philippines. The highest elevation record of terrestrial onchidiids found in the literature is the original description of *Platevindex ponsonbyi* (850–1060 m), although the author has undertaken the study of onchidiids collected up to 1850 m from Mindoro and Panay Islands (Phillipines). Most species tend to be seasonal with a population peak in the summer; when present, onchidiids can be very abundant (e.g., Dey 2006). Onchidiids have a worldwide distribution, with the exception of the Arctic and Antarctic (Hoffmann 1928, 1929).

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