A cybertaxonomic revision of the micro-landsnail genus Plectostoma Adam (Mollusca, Caenogastropoda, Diplommatinidae), from Peninsular Malaysia, Sumatra and Indochina

Abstract

Plectostoma is a micro land snail restricted to limestone outcrops in Southeast Asia. Plectostoma was previously classified as a subgenus of Opisthostoma because of the deviation from regular coiling in many species in both taxa. This paper is the first of a two-part revision of the genus Plectostoma, and includes all non-Borneo species. In the present paper, we examined 214 collection samples of 31 species, and obtained 62 references, 290 pictures, and 155 3D-models of 29 Plectostoma species and 51 COI sequences of 19 species. To work with such a variety of taxonomic data, and then to represent it in an integrated, scaleable and accessible manner, we adopted up-to-date cybertaxonomic tools. All the taxonomic information, such as references, classification, species descriptions, specimen images, genetic data, and distribution data, were tagged and linked with cyber tools and web servers (e.g. Lifedesks, Google Earth, and Barcoding of Life Database). We elevated Plectostoma from subgenus to genus level based on morphological, ecological and genetic evidence. We revised the existing 21 Plectostoma species and described 10 new species, namely, P. dindingensis sp. n., P. mengaburensis sp. n., P. whitteni sp. n., P. kayiani sp. n., P. davisoni sp. n., P. relauensis sp. n., P. kubuensis sp. n., P. tohchinyawi sp. n., P. tenggekensis sp. n., and P. ikanensis sp. n. All the synthesised, semantictagged, and linked taxonomic information is made freely and publicly available online.