



A review of the genus *Pupopsis* Gredler, 1898 (Gastropoda: Stylommatophora: Enidae), with the descriptions of eight new species from China

MIN WU¹ & LINHUI GAO²

¹School of Life Science, Nanjing University, Hankoulu 22, Nanjing 210093, China. E-mail: minwu1969@yahoo.cn

²College of Life Sciences, Hebei University, Wusidonglu 180, Baoding 071002, China

Abstract

The Chinese endemic enid genus *Pupopsis* Gredler, 1898 is revised based on the literature, museum collections and specimens recently collected in Sichuan, Gansu and Xinjiang, China. The differences among four presumably closely related genera, *Pupopsis*, *Clausiliopsis* Möllendorff, 1901, *Serina* Gredler, 1898 and *Holcauchen* Möllendorff, 1901 are scrutinized and discussed. The type species *Pupopsis pupopsis* Gredler, 1898 is studied anatomically for the first time. The reproductive organs of “*Pupopsis*” *soleniscus* display characteristics similar to bradybaenid genitalia and the species is excluded from the genus *Pupopsis*. Eight new species, namely *P. hendan* sp. nov., *P. maoxian* sp. nov., *P. rhodostoma* sp. nov., *P. subpupopsis* sp. nov., *P. subtorquilla* sp. nov., *P. yengiawat* sp. nov., *P. yuxu* sp. nov., and *P. zilchi* sp. nov., are proposed based on shell and/or genital features. The redefined genus *Pupopsis* comprises fourteen species after the present revision. A new record of *Pupopsis* in Sichuan extends the known distribution range of this genus to the South.

Key words: shell morphology, genital anatomy, distribution, Bradybaenidae, Gansu, Sichuan, Xinjiang

Introduction

The enid genus *Pupopsis* Gredler, 1898 is endemic to China. Previous to this study, it comprised six species (with “*Pupopsis*” *soleniscus* excluded, see in systematic account) known from Gansu and Xinjiang, which are more than 3,000 kilometres apart. The genus was defined by conchological characters, based on which the genus was temporarily placed in the subfamily Pseudonapaeinae Schileyko, 1978 (Schileyko 1998). The fact that the genus *Pupopsis* was erected based on the apertural barriers rather than anatomical features (Gredler 1898a; Gredler 1898b; Schileyko 1998), indicates that the status of this genus still needs verification. Being the first systematic treatment of the genus after more than a century of neglect, the present study provides new taxonomic, distributional and ecological data which might help to clarify the taxonomic status of *Pupopsis* in the future.

This study summarizes the current knowledge of the genus *Pupopsis*. We re-describe three previously described species, the type species, *P. pupopsis* (Gredler, 1898), *P. retrodens* (Martens, 1879) and *P. torquilla* (Möllendorff, 1901), with an anatomical description of the former two species. Eight new species are proposed based on conchological and/or genitalic features. “*Pupopsis*” *soleniscus* (Möllendorff, 1901) is moved to the helicoid family Bradybaenidae because of the presence of a dart apparatus.

Material and methods

Historic shell material was examined in the Natural History Museum, London and the Forschungsinstitut und Naturmuseum Senckenberg, Frankfurt a. M.

Rudolf Sturany, then employed at the K. K. Naturhistorisches Hofmuseum, Vienna (now: Naturhistorisches Museum Wien), states (1900: 17) that he had received the material “which the geologist Mr. W.A. Obrutschew had eagerly taken the opportunity to collect during the Expedition of the Imperial Russian Geographic Society to High Asia in the years 1892–1894” “to work on it” (translated from the German original). Sturany makes no indication,