


## A CONICAL NEW SPECIES OF *PUPOPSIS* GREDLER, 1898 FROM CHINA (GASTROPODA: STYLOMMATOPHORA: ENIDAE)

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**ABSTRACT:** A new enid species, *Pupopsis huangi* sp. nov. is described from northwest Sichuan (China) based on its conical shell and apertural barriers; it is the fifteenth species of the genus in China. Illustrations of the new species are provided.

**KEY WORDS:** shell morphology, systematic, new species, Sichuan

### INTRODUCTION

Chinese enid species have been well studied by previous researchers (WU & WU 2009, WU & ZHENG 2009, WU & GAO 2010, WU & XU 2013, WU 2018). Among them *Pupopsis* Gredler, 1898 is the only genus with complex apertural barriers in the region. As defined by WU & GAO (2010) and WU (2018), *Pupopsis* has solid and elongate ovate shell; angular tubercle strongly developed; 0–4 apertural barriers: one parietal plica, one columellar lamella present or absent, 1–2 palatal plicae present or absent (lower palatal

plica, when present, can be ridge-like and can extend inward up to an entire whorl); umbilicus minute, cylindrical or slit-like. This genus is known from SE. Gansu, N. Sichuan and NW. Xinjiang (WU & GAO 2010, WU 2018).

A new species, *Pupopsis huangi* sp. nov., was recognised among terrestrial molluscs collected by Mr. Bo Huang from Wenchuan, Sichuan. Its unique shell shape distinguishes it from any other known *Pupopsis*.

### MATERIAL AND METHODS

Observations and measurements were performed using an AmScope SF-2TRA stereo zoom microscope. The shells were measured with a digital vernier calliper to the nearest 0.1 mm. Whorls were counted as described by KERNEY & CAMERON (1979). Photographs of the shell were taken using a

Canon 5D Mark IV camera and modified in Adobe Photoshop CC 2018.

Abbreviation: HBUMM – mollusc collection of the Museum of Hebei University (Baoding, Hebei, China); HBc – Collection BO HUANG (Lanzhou, Gansu, China).

## TAXONOMY

Family Enidae Woodard, 1903

Genus *Pupopsis* Gredler, 1898

Type species: *Buliminus pupopsis* Gredler, 1898, by original designation.

*Pupopsis huangi* sp. nov.  
(Figs 1–4)

**Type material.** China, Sichuan Province, Tibetan Qiang Autonomous Prefecture of Ngawa [阿坝藏族羌族自治州], Wenchuan County [汶川县], 31°28.92'N, 103°35.22'E, alt. 1,300 m a.s.l., leg. BO HUANG, 2019–Jun–3. HBUMM 10027 spec.1 (empty shell, shell height – 5.8 mm, shell width – 4.5 mm) holotype;

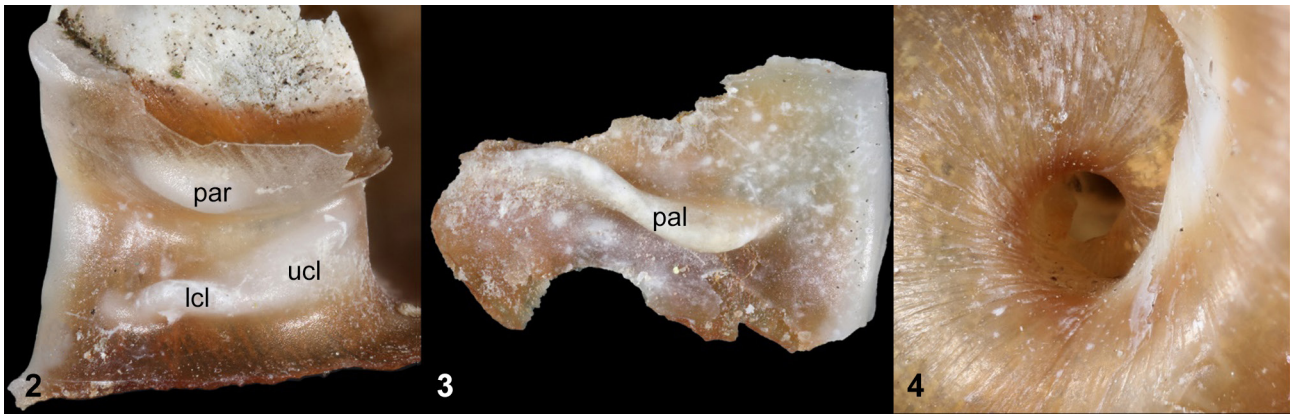
Paratypes: HBUMM 10027 spec. 2–5 (3 complete empty shells and one broken shell with only body whorl preserved), HBc/1 (empty shell).

**Measurements.** Shell height – 5.7–6.0 mm, shell width – 4.4–4.7 mm (n=4).

**Description.** Shell small, dextral, light-brownish, oblong-conical, of 5.5–5.75 convex and regularly increasing whorls (Fig. 1); protoconch consists of 1.5–1.75 matt whorls, without characteristic microsculpture; teleoconch gradually widening, with dense growth lines, more pronounced in the region of umbilicus; suture impressed; aperture nearly oval; peristome strongly expanded, partly detached from the body whorl; callus elevated or not; angular tubercle strongly developed; apertural barriers (Figs 2–3)



Fig. 1. *Pupopsis huangi* sp. nov., HBUMM 10027 spec. 1, holotype. Scale bar 5 mm. Photo: ZHE-YU CHEN



Figs 2–4. *Pupopsis huangi* sp. nov.: 2–3 – apertural barriers, 4 – umbilical area. Abbreviations: lcl – lower columellar lamella, pal – palatal plica, par – parietal plica, ucl – upper columellar lamella. Photo: ZHE-YU CHEN

do not reach the peristome; one parietal plica present, colliculus; one palatal plica present, roughly parallel with the suture, anterior end strongly developed, slightly bent downward, posterior end weaker than the anterior, extending inward to the dorsal side; two columellar lamellae present, parallel but situated at different depth; lower columellar lamella, shallow and strong, opposite to the top of palatal plica; upper columellar lamella deep-set, weaker than the lower; anterior end of lower columellar lamella and posterior end of upper columellar lamella in the same vertical plane; these two parts are connected by a thickening in some specimens; umbilicus open, cavernous (Fig. 4).

**Remarks.** The new species can be placed in *Pupopsis* based on its angular tubercle and identical apertural barriers, namely including a parietal plica and an extremely long palatal plica. As all the known species in the genus are pupoid-shaped, the new species is distinguishable from its congeners by the conical shell, the widely opened umbilicus and the double colu-

mellar lamellae. The above characteristics expand the diagnosis of *Pupopsis*.

**Etymology.** The specific epithet is dedicated to Mr. BO HUANG, the collector of this new species.

**Type locality.** China, Sichuan Province, Tibetan Qiang Autonomous Prefecture of Ngawa [阿坝藏族羌族自治州], Wenchuan County [汶川县], 31°28.92'N, 103°35.22'E, alt. 1,300 m a.s.l.

**Distribution.** This species is known from the type locality only.

**Vernacular name.** 黄氏蛹纳螺

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