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A NEW SPECIES OF *PINCERNA* PRESTON, 1907 FROM CHINA (GASTROPODA: CAENOGASTROPODA: ALYCAEIDAE)

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ABSTRACT: *Pincerna yaanensis*, a new species of terrestrial microsnail, is described from Yaan City, Sichuan Province, China. It differs from its congeners in having the following combination of characters: denser ribs on region from the beginning of the teleoconch to the beginnig of the differently ribbed region along the suture, columellar lip reflected throughout, covering umbilicus, large shell size, differently ribbed area before the constriction and the breathing tunnels short. The discovery of this species has greatly expanded the distribution range of the genus *Pincerna* in China.

KEY WORDS: new species; shell morphology; Sichuan Province; taxonomy

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INTRODUCTION

Pincerna Preston, 1907 is a genus of land microsnails widely distributed in two disjunct Asian geographic regions: south-eastern Himalaya to northern Vietnam and northern Laos, and Sumatra, the southern part of the Malay Peninsula and northern Borneo (PÁLL-GERGELY et al. 2020). So far, three *Pincerna* species have been recorded in southern China: *P. costulosa* (Bavay et Dautzenberg, 1912) from Yunnan Province, *P. maolanensis* (Luo, Zhang et Zhou, 2009) from Guizhou Province and *P. vallis* Chen et Wu, 2020 from Hubei Province (LUO et al. 2009, PÁLL-GERGELY 2017, PÁLL-GERGELY et al. 2017, 2020, CHEN & WU 2020). The widely separated distributions of these species suggest that other undescribed species may exist in southern China.

Sichuan Province is located in southwest China, a region with a unique land snail fauna with many endemic species. Numerous land snail species from this region have been described in recent years, revealing that the species diversity was greatly underestimated in the past. Based on the material collected in March to April, 2022 at Yaan City, Sichuan Province, a new species of *Pincerna* is described herein.

MATERIAL AND METHODS

All specimens were collected by hand in Sichuan Province in March 2022. Measurements were taken with digital callipers and recorded to the nearest 0.1 mm. Whorls were counted as described by KERNEY & CAMERON (1979). Photographs were taken with a SONY A6500 and modified in Adobe Photoshop CC 2015.

Abbreviations: R1 (Region 1) – from the beginning of the teleoconch to the beginning of the differently ribbed region along the suture; R2 (Region 2) – the differently ribbed area before the constriction; R3 (Region 3) – from the constriction to the peristome; SAU – Sichuan Agriculture University (Yaan, Sichuan, China); MHLC – Collection of Mr. Menghua Li (Chengdu, Sichuan, China).

RESULTS

Family Alycaeidae W. T. Blanford, 1864

Genus *Pincerna* Preston, 1907

Type species: *Alycaeus* (*Pincerna*) *liratula* Preston, 1907

Pincerna yaanensis sp. nov.

Fig. 1

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Type material. Holotype: SAU 2203001 (fully mature animal), Bifengxia scenic spot [碧峰峡风景区], Bifengxia town [碧峰峡镇], Yaan City [雅安市], Sichuan Province [四川省], China, 102°59'23"E, 30°04'26"N, collected by Z. G. Chen in March, 2022; Paratypes: SAU 2203002–2203003 (fully mature animals), SAU 2204001–2204003 (fully mature animals), SAU 2203004–2203006 (juveniles), other information same as holotype, MHLC 2204001 (fully mature animal), Mengdingshan scenic spot [蒙顶山风景区], Mengdingshan town [蒙顶山镇], Yaan City [雅安市], Sichuan Province [四川省], China, 103°02'51"E, 30°4'45"N, collected by M. H. Li in April, 2022.

Measurements. Adults: Shell height 4.7–4.8 mm, shell width 4.6–4.7 mm (n=7). Juveniles: Shell height 2.7–2.8 mm, shell width 2.8–3.0 mm (n=3).

Diagnosis. Denser ribs on R1 (86–90 vs. ca. 70 in *P. costulosa*, ca. 50 in *P. maolanensis*, 60 in *P. vallis*). Columellar lip reflected, covering umbilicus (vs. not covering umbilicus in *P. costulosa*, *P. maolanensis*, and *P. vallis*). Large shell size (height 4.7–4.8 mm, width 4.6–4.7 mm vs. approximate height and width 3.5 mm in *P. costulosa*; height 3.5 mm, width 3.3 mm in *P. vallis*). R2 and breathing tunnels short (both 0.3–0.4 mm vs. both 0.83–1.00 mm in *P. maolanensis*).

Description. Shell dextral, conical ovoid, thick, solid, sub-glossy, orangish to yellowish when fresh, 3.5–3.75 convex whorls. Suture deep. Protoconch finely granulate, 1.5–1.75 whorls. R1 consists of 2 whorls, with regularly spaced 86–90 dense strong ribs. R2 and breathing tunnels very short, with 14–15 weaker and denser ribs. Constriction between R2 and R3 rather shallow. R3 slightly less than 0.25 whorls, with 4–5 sparse, weak and indistinct ribs close to the peristome. Aperture rounded and not descending. Peristome expanded and equally reflected, internally thickened, protruding, boundary between inner and outer peristomes visible. Columellar lip reflected, covering umbilicus. Operculum corneous, translucent, thin, concave, with spiral lines and central nucleus.

Etymology. The species is named after Yaan, its type locality, an adjective.

Distribution and ecology. This species is known from two adjacent scenic spots in Yaan City (Fig. 2); it was found under deciduous trees on moist moss. It often co-occurs with *Pseudopomatias nitens* Páll-Gergely, 2015, *Gastroptychia laurentiana* (Möllendorff, 1885), *Dicharax cristatus* (Möllendorff, 1886) and *Dioryx setchuanensis* (Heude, 1885) (see: Heude 1885, Möllendorff 1885, 1886, Páll-Gergely et al. 2015).

Remarks. Only three species of *Pincerna* have been recorded in China: *P. costulosa* (Bavay et Dautzenberg, 1912) from southern Yunnan Province, *P. maolanensis* (Luo, Zhang et Zhou, 2009) from southern Guizhou Province and *P. vallis* Chen et Wu, 2020 from south-western Hubei Province (Fig. 2). *P. yaanensis* sp. nov. can be easily distinguished from the three known species by the denser ribs on R1 and

Fig. 1. *Pincerna yaanensis* sp. nov. and its operculum (outside and inside). Holotype: SAU 2203001. Scale bar 1 mm

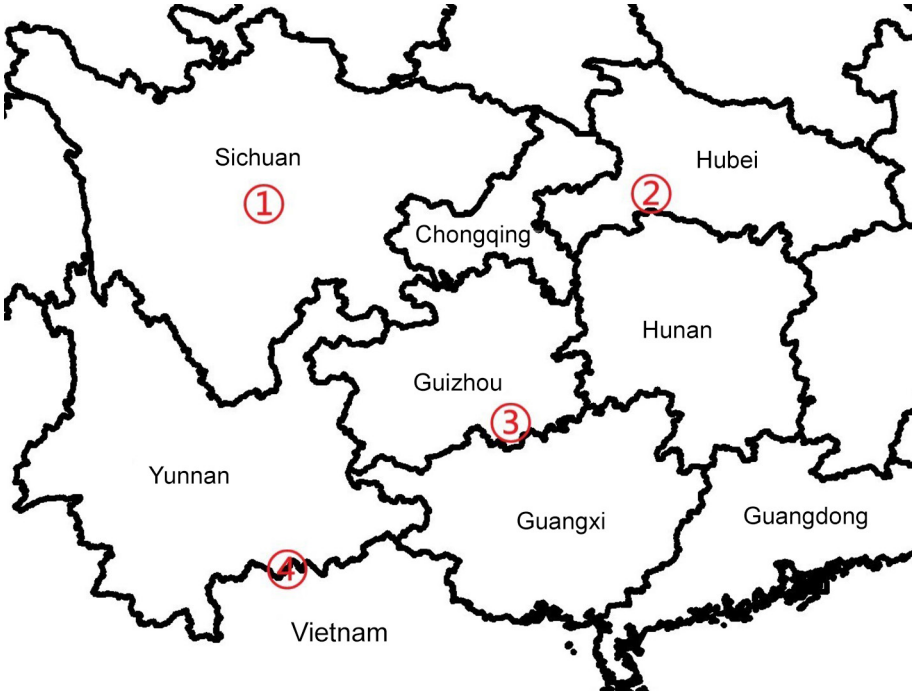

Fig. 2. Distribution of the genus *Pincerna* in China: 1 – type locality of *Pincerna yaanensis* sp. nov.; 2 – type locality of *P. vallis*; 3 – type locality of *P. maolanensis*; 4 – type locality of *P. costulosa*

Table 1. Comparison of major diagnostic characters for species of the genus *Pincerna* from China

	P. yaanensis	*P. costulosa*	*P. maolanensis*	*P. vallis*
Umbilicus	almost closed	open	open	open
Number of ribs on R1	86–90	ca. 70	ca. 50	ca. 60
Number of ribs on R3	4–5	0	4–5	5
Shell height (mm)	4.7–4.8	ca. 3.5	5.1	3.5
Shell width (mm)	4.6–4.7	ca. 3.5	4.1	3.3
R2 and breathing tunnels length (mm)	0.3–0.4	ca. 0.5	0.8–1.0	0.5

the reflected columellar lip that covers and almost closes the umbilicus. *P. yaanensis* sp. nov. differs from *P. costulosa* in having ribs on R3 (vs. absence of R3 ribs), larger size (shell height 4.7–4.8 mm, shell width 4.6–4.7 mm vs. approximate height and width 3.5 mm) and more convex body whorl; from *P. maolanensis* in having shorter breathing tunnels (0.3–0.4 mm vs. 0.83–1.00 mm) and smaller height-width ratio (1.0 vs. 1.2); from *P. vallis* in having larger size (shell height 4.7–4.8 mm, shell width 4.6–4.7 mm vs. shell height 3.5 mm, shell width 3.3 mm) and weaker ribs on R3 (Table 1). Furthermore, the localities of *P. yaanensis* are far from those of the other three species known from the region. Based on the scattered distribution pattern of *Pincerna* species in southern China, other undescribed species may exist within the known distribution range.

Vernacular name. 雅安平沟螺 (Pinyin: Ya An Ping Gou Luo)

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