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A new species of *Synprosphyma* A. J. Wagner, 1920 from the Ailao Mountains, Yunnan, China (Stylommatophora: Clausiliidae)

Hui Zheng[1,4,#], Zhong-Guang Chen[1,5,#], Zhi-Yao Wang[2]
Hong-Quan Xiang[3] & Xiao-Ping Wu[1,6,*]

[1] *School of Life Sciences, Nanchang University, Nanchang 330031, PR China.*
[2] *College of Plant Protection, China Agricultural University, Beijing 100091, PR China;*
https://orcid.org/0009-0001-3113-4058
[3] *Department of Animal Science, Yuxi Agriculture Vocation-Technical College, Yuxi 653106, Yunnan, PR China;* *https://orcid.org/0009-0005-6737-3092*
[4] *https://orcid.org/0009-0004-5222-3975*
[5] *https://orcid.org/0000-0003-2689-3321*
[6] *https://orcid.org/0000-0002-8037-5640*

Abstract. A new species of the clausiliid genus *Synprosphyma* A. J. Wagner, 1920 was identified from land snail specimens collected in the Ailao Mountains, Yuxi City, Yunnan Province, China, and is described herein as *Synprosphyma heyuemingi* **sp. nov.** The new species is characterized by a spindle-shaped shell, a strong inferior lamella extending to the peristome, a weakly emerging subcolumellar lamella not visible in oblique view of the aperture. This discovery further enriches the known diversity of *Synprosphyma* in Yunnan.

Key words. Anatomy, land snail, new taxon, taxonomy, Yunnan-Guizhou Plateau

Introduction

The genus *Synprosphyma* A. J. Wagner, 1920 comprises a group of clausiliid snails that inhabit moist environments and is especially diverse in China (Heude, 1887; Bavay & Dautzenberg, 1909; Nordsieck, 2001, 2011, 2012; Grego & Szekeres, 2020). Recent molecular phylogenetic analyses have supported its elevation to an independent subfamily, Synprosphyminae Nordsieck, 2007 (Uit de Weerd *et al.*, 2023). By contrast, Magonyi *et al.* (2024) reassigned the taxon to Phaedusinae, although this placement has not yet been supported by clearly defined conchological or anatomical diagnostic characters. Hitherto, twelve species of *Synprosphyma* have been recorded from Yunnan Province, China: *Synprosphyma aegrota* Hunyadi & Szekeres, 2016, *S. abiens* Liu & Qiao, 2026, *S. jinhuo* Liu & Qiao, 2026, *S. muzzybbep* Liu & Qiao, 2026, *S. subserrata* Liu & Qiao, 2026, *S. wumeng* Liu & Qiao, 2026, *S. suilla* (Bavay &Dautzenberg, 1909) (Liu & Qiao, 2026), *S. segersi* Grego & Szekeres, 2017, *S. succinea* (Heude, 1887), *S. duplex* (Nordsieck, 2003), *S. thachi* Grego & Szekeres, 2019 and *S. yunlingi* Grego & Szekeres, 2020.

In this study, we describe a new species, *Synprosphyma heyuemingi* **sp. nov.**, from the Ailao Mountains, Yuxi City, Yunnan Province. Its discovery extends the previously documented distribution of *Synprosphyma* in Yunnan and further enriches the known diversity of the genus in the province.

[#]These authors contributed equally to this work.
*Corresponding authors: xpwu@ncu.edu.cn
http://zoobank.org/urn:lsid:zoobank.org:pub:BACE53AE-0CE1-4211-BCFE-BFABACF96D64

Materials and methods

Specimens used in this study were collected from the Ailao Mountains, Yuxi City, Yunnan Province, China, in December 2025 and preserved in 95% ethanol. Shell measurements were taken with digital callipers to the nearest 0.1 mm. The holotype is deposited in the Museum of Biology, Nanchang University (NCUMB). Photographs were taken using a SOPTOP SZX12 stereomicroscope equipped with an OD500F camera (Sunny Optical Technology, China).

Systematics

Family **Clausiliidae** J. E. Gray, 1855

Subfamily **Phaedusinae** A. J. Wagner, 1922

Genus ***Synprosphyma*** A. J. Wagner, 1920

Type species. *Clausilia suilla* Bavay & Dautzenberg, 1909, by subsequent designation.

Synprosphyma heyuemingi H. Zheng, Z.-G. Chen, Z.-Y. Wang & H.-Q. Xiang, sp. nov.

何氏瘤管螺 (hé shì liú guǎn luó)

(Figures 1–2)

Type materials. *Holotype.* NCULG251201, Ailao Mountains [哀牢山], Shimenxia [石门峡], Xinping Yi and Dai Autonomous County [新平彝族傣族自治县], Yuxi City [玉溪市], Yunnan Province, China, 23°58'N, 101°31'E, altitude 2190 m, leg. Yue-Ming He, December 2025. *Paratypes*. NCULG251202 (1 specimen), same data as holotype; NCULG251203 (1 specimen), ZGC (1 specimen), same location as holotype, leg. Yue-Ming He, Hong-Quan Xiang, Yu-Feng Zhou, May 2025.

Etymology. The new species is named after Mr Yue-Ming He (何岳铭), in recognition of his assistance in collecting the type materials of this new species.

Diagnosis. A *Synprosphyma* characterized by a spindle-shaped shell; a strong inferior lamella extending to the peristome and steeply ascending; a weakly emerging subcolumellar lamella that is not visible in oblique view of the aperture; and an elongate-ovoid, extremely inflated bursa copulatrix, which is simply coiled with the spermoviduct and nearly equal to it in length.

Description. *Shell* (Fig. 1) fusiform, sinistral, solid, light yellowish, with 10–10.5 whorls. Whorls surface smooth with thin and dense growth lines. Apex thick. Aperture projected, oblong. Peristome thick and reflexed. Superior lamella strong. Inferior lamella strong, extending to the peristome, steeply ascending. Subcolumellar lamella weakly retracted, oblique view not visible. Principal plica ending deep in the aperture. Lower palatal plica short, fused with lunella vertically. Upper palatal plica short, fused with lunella by a arch. Lunella long, shallow arc-shaped, lateral. Basal keel prominent, basal furrow distinct; teleoconch whorls densely and regularly rib-striated, neck before peristome more stronger and densely again. Shell height: 23.8–25.5 mm, shell width: 6.3–6.8 mm (3 specimens).

Genitalia (Fig. 2). Atrium short. Penis slender and externally simple. Epiphallus distinctly thickened, with no clear boundary between it and the penis. Penial retractor muscle relatively thick, attached at the middle of the epiphallus. Vas deferens long, thickened near penial-retractor muscle.

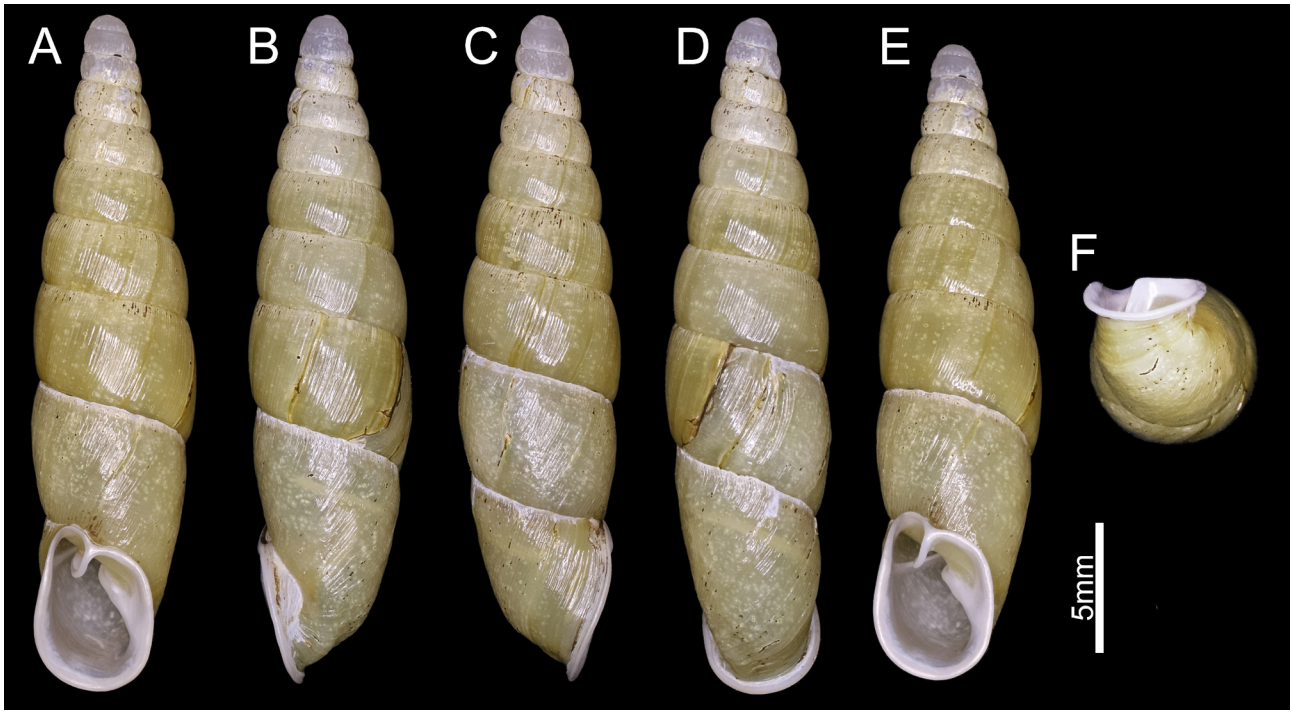

FIGURE 1. Shell of *Synprosphyma heyuemingi* **sp. nov. A–D.** Holotype, NCULG251201. **E–F.** Paratype, NCULG2512002.

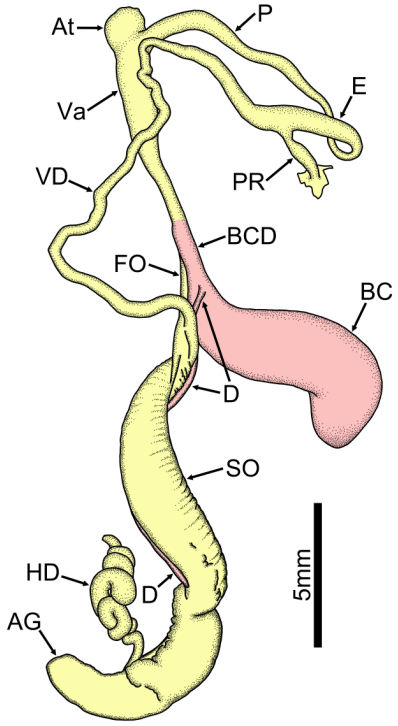

FIGURE 2. Genitalia of *Synprosphyma heyuemingi* **sp. nov.** Abbreviations: AG, albumen gland; At, atrium; BC, bursa copulatrix; BCD, bursa copulatrix duct; D, diverticulum; E, epiphallus; HD, hermaphroditic duct; P, penis; PR, penial retractor muscle; SO, spermoviduct; VD, vas deferens.

FIGURE 3. Habitat of *Synprosphyma heyuemingi* **sp. nov.**

Bursa copulatrix duct very short. Bursa copulatrix elongate-ovoid, extremely inflated, simply coiled with the spermoviduct, and nearly equal to it in length. Diverticulum arises from the distal end of the bursa copulatrix duct, about 13 mm long, with uninflated end, and attached to the spermoviduct by connective tissue. Albumen gland relatively small. Hermaphroditic duct convoluted.

Distribution. China: Yunnan. This new species is known from the Ailao Mountains.

Ecology. The new species inhabits decaying wood on damp hillsides (Fig. 3).

Remarks. The new species is similar to *S. thachi*, but can be distinguished from the latter by its weaker principal plica and higher number of whorls.

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云南省哀牢山脉瘤管螺属一新种（柄眼目：烟管螺科）

郑 辉[1,#] 陈重光[1,#] 王志遥[2] 向泓铨[3] 吴小平[1]

[1]南昌大学生命科学学院 南昌 330031 中国
[2]中国农业大学植物保护学院 北京 100091 中国
[3]玉溪农业职业技术学院动物科学系 玉溪 653106 云南 中国
（[#]共同第一作者）

摘 要

从采自中国云南省玉溪市哀牢山的陆生贝类标本中发现一瘤管螺属 *Synprosphyma* A. J. Wagner, 1920 新物种，本文将其描述为何氏瘤管螺 *Synprosphyma heyuemingi* **sp. nov.**。该新种以纺锤形贝壳、下板强壮并延伸至唇缘、下轴板弱显且在壳口斜视时不可见为主要特征。该发现进一步丰富了云南省瘤管螺属的多样性。

关键词：解剖学，陆生贝类，新阶元，分类学，云贵高原