

# FIRST RECORD OF *DIAPHERA* ALBERS, 1850 (GASTROPODA: EUPULMONATA: DIAPHERIDAE) FROM CHINA

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*Abstract* *Diaphera lini* n. sp. [林氏扭钻螺] is described from Guangxi Province, which represents the first record of *Diaphera* Albers, 1850 in China. The new species differs from the most similar, and geographically closely occurring *Diaphera* *densecostulata* by the larger, strongly ribbed shell, longer detached part of the last whorl, more conspicuously distinct sinulus, blunter upper palatal tooth and longer columellar lamella.

*Key words* Taxonomy, systematics, shell, new species

## INTRODUCTION

The family Diapheridae Panha & Naggs, 2010 has recently been introduced (Sutcharit *et al.* 2010) to include the former streptaxid genera *Sinoennea* Kobelt, 1904, and *Diaphera* Albers, 1850. The latter genus differs from the former by the formation of the body whorl, which is free from the penultimate whorl. *Diaphera* has been recorded from Borneo (Vermeulen 1990), northern Vietnam (Möllendorff 1901), Myanmar (Blanford & Godwin-Austen 1908) and Thailand (Sutcharit *et al.* 2010), although this genus reaches the highest diversity in terms of number of species in the Philippines (Zilch 1961, van Bruggen 1974).

Here we describe a new species of *Diaphera* from Guangxi Province, China, which represents the first record of this genus from the country.

## MATERIAL AND METHODS

The nomenclature for the internal structure of aperture follows Sutcharit *et al.* (2010). Shell whorls were counted following Kerney & Cameron (1979). The shells were measured with digital vernier callipers to the nearest 0.01mm.

We compared the new species with *Diaphera densecostulata* (Möllendorff, 1901): Tonkin, Lang Son, coll. O. v. Möllendorff ex coll. Fruhstorfer, SMF 43097 (holotype); MNHN-IM-2012-27290.

## Abbreviations

H	Shell height
D	Shell width
HBUMM	Mollusc collection of the Museum of Hebei University (Baoding, China)
MNHN	Muséum National d'Histoire Naturelle (Paris, France)
SMF	Senckenberg Forschungsinstitut und Naturmuseum (Frankfurt am Main, Germany)

## SYSTEMATICS

Family Diapheridae Panha & Naggs, 2010 in Sutcharit *et al.*, 2010

Type genus: *Diaphera* Albers, 1850 (original rank: subgenus of *Cylindrella*).

Genus *Diaphera* Albers, 1850

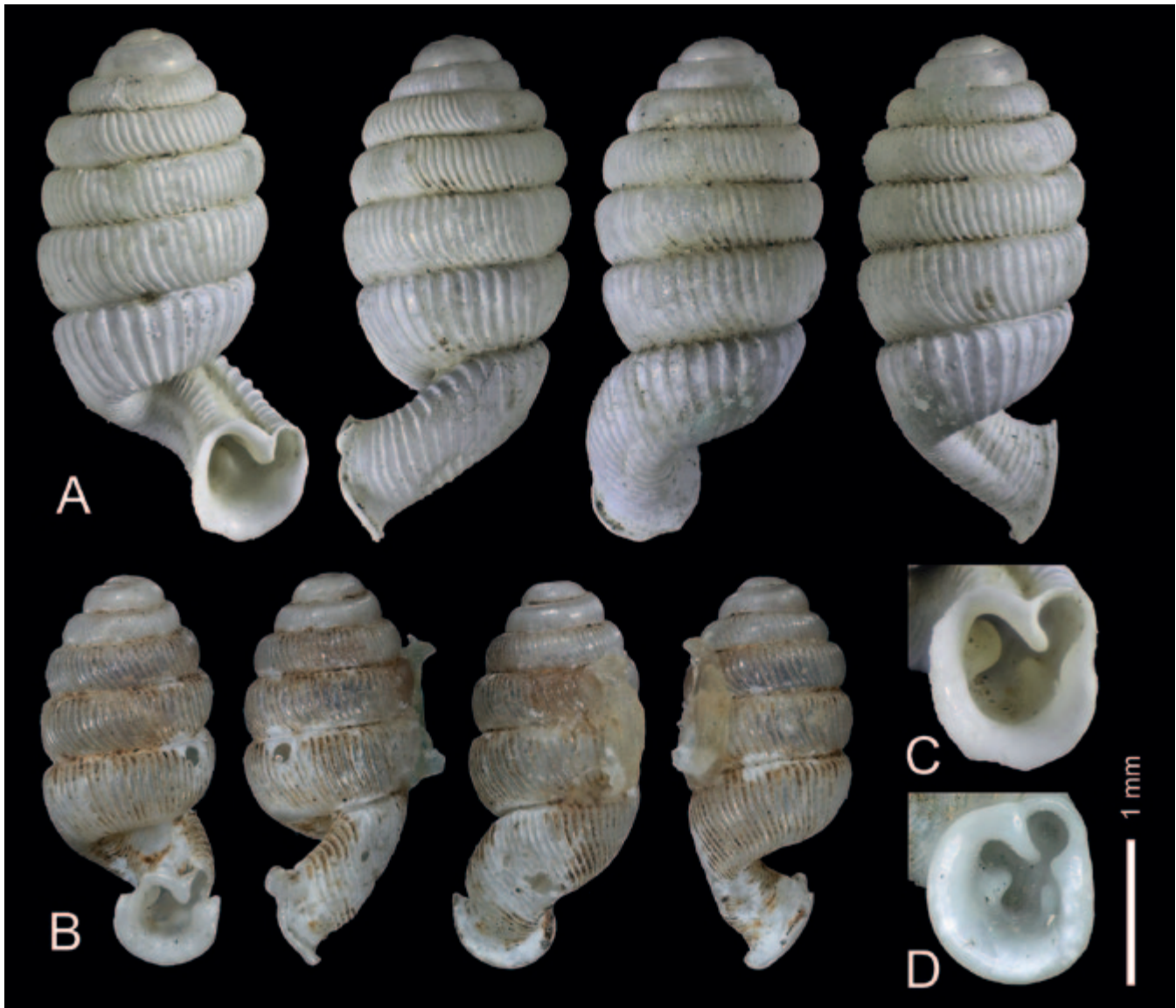
*Cylindrella* (*Diaphera*) Albers, 1850: 210.

Type species: *Cylindrella cumingiana* L. Pfeiffer, 1845, by monotypy

*Diaphera lini* Z.-Y. Chen & Páll-Gergely, n. sp.

*Holotype* China, Guangxi [广西省], Nanning Shi [南宁市], Binyang Xian [宾阳县], Litang Zhen [黎塘镇], Longyan Park [龙岩公园], 23°12'24"N, 109°07'59"E. 2019-I-27, leg. Ran-Xi Lin, HBUMM 10014, empty shell (H: 3.50mm, D: 1.56mm).

*Paratype* 1 empty shell: HBUMM 10015, same data as holotype.

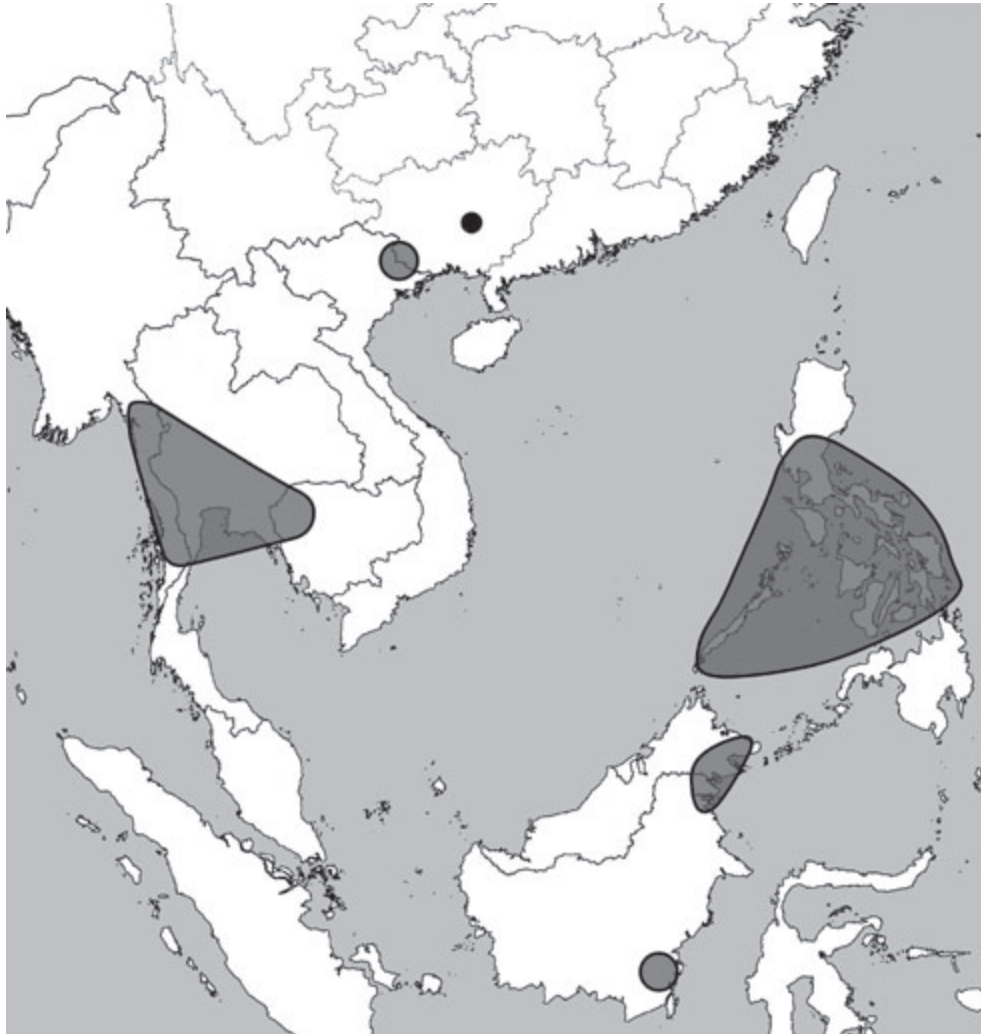


**Figure 1** **A & C** *Diaphera lini* n. sp. (holotype: HBUMM 10014). **B** *Diaphera densecostulata* (Möllendorff, 1901) (holotype: SMF 43097), **D** *Diaphera densecostulata* (MNHN-IM-2012-27290). Scale bar refers to Figs A–B only. Photos: Z.-Y. Chen (A, C), B. Páll-Gergely (B, D).

*Diagnosis* A small pupilliform diapherid species, with part of the last whorl detached, one parietal tooth, two palatal teeth and a columellar lamella present.

*Description* Shell small, pupilliform, 6.5 to 7 whorls, the last whorl partially detached. Protoconch smooth, hemispherical, with 1.75 to 2 whorls. Teleoconch with regular strong ribs without any additional sculptural elements. Suture depressed. Aperture rounded with conspicuous incision at the parietal side due to a deep suture, corresponding with the parietal lamella. Aperture slightly oblique to the shell axis,

slightly downward sloping. Peristome slightly thickened and expanded. Parietal lamella strong, elevated, long, curves towards the palatal wall. An inconspicuous, blunt palatal tooth sits on the palatal lip, another, more pointed palatal tooth is situated deeper and lower in position. The two palatal teeth are not in contact with each other. Columellar lamella strongly oblique, long, and relatively sharp, its outer end situated close to the peristome. Detached whorl accounts for half of the last whorl, with vallecular depression corresponding with parietal, palatal and columellar lamellae. Umbilicus cavernous, deep with intensive ribs.



**Figure 2** Distribution of *Diaphera* Albers, 1850. The solid black circle indicates the type locality of *D. lini* n. sp.

*Derivation of name* The new species is dedicated to Mr. Ran-Xi Lin, who collected this new species and sent the material for study.

*Geographic range* This species is known from the type locality only.

*Comparisons* *Diaphera densecostulata* (Möllendorff, 1901) is geographically the closest to the new species, and differs from the new species in being smaller, less rounded, having weaker ribs, shorter detached part of the last whorl, more rounded aperture with pointed upper palatal tooth and shorter columellar lamella.

*Ecology* The type specimens of *Diaphera lini* n. sp. were found under the moss on limestone. Two other carnivorous snails, *Gulella bicolor* (Hutton, 1834) and *Elma* cf. *sinensis* (Möllendorff,

1886) were sympatric with the new species (R.-X. Lin, personal comm.).

#### ACKNOWLEDGEMENTS

Thanks go to Ran-Xi Lin (Zhanjiang, China) for collection of type material. We are grateful to Ronald Janssen and Sigrid Hof (SMF) and Virginie Héros and Philippe Bouchet (MNHN) for granting access to their museum collections at their care. This study was supported by the National Natural Science Foundation of China (NSFC 31872196) for ZYC and the MTA (Hungarian Academy of Sciences) Premium Post Doctorate Research Program for BPG.

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