A NEW SPECIES OF *ENDOTHYRELLA* ZILCH, 1960 FROM NEPAL (GASTROPODA: STYLOMMATOPHORA: PLECTOPYLIDAE)*

BARNA PÁLL-GERGELY[1], JOZEF GREGO[2]

[1]Centre for Agricultural Research, Plant Protection Institute, Eötvös Loránd Research Network, H-1022 Budapest, Herman Ottó út 15, Hungary
[2]Horná Mičiná 219, SK-97401 Banská Bystrica, Slovakia

Abstract *A new species of Plectopylidae,* Endothyrella prembudhai *n. sp. is described from the Tinjura Dara mountain range in eastern Nepal. The new species is known from the holotype only, but its conchological characters clearly differ from all congeners reported from Nepal and Bhutan. A new locality of* Endothyrella *nepalica Budha & Páll-Gergely, 2015 is also published.*

Key words *Taxonomy, systematics, shell, Himalaya*

INTRODUCTION

The Plectopylidae Möllendorff, 1898 is a stylommatophoran family currently possessing nine genera and ca. 130 species, and is distributed in Asia from Nepal to southern Japan (Gude, 1899; Páll-Gergely & Hunyadi, 2013; Páll-Gergely *et al*., 2015, Sawada *et al*., 2021). Although the genus *Chersaecia* Gude, 1899 reaches Nagaland and Manipur in Northeastern India (Páll-Gergely, 2018), the southern slopes of the Himalaya are inhabited by a single genus, *Endothyrella* Zilch, 1960 (Páll-Gergely *et al*., 2015; Gittenberger *et al*., 2018). The range of *Endothyrella plectostoma* (Benson, 1836) reaches Pathein in Myanmar, while *E. inexpectata* Páll-Gergely, 2015 was described from Sichuan, China. All remaining 24 species are known from the southern slopes of the Himalaya, and neighbouring northeast Indian states (Assam, Manipur, Meghalaya, Nagaland). Historically, Indian territories were more intensively researched (i.e. Benson, 1836; Godwin-Austen, 1879; Gude, 1915), but recent investigations discovered several new species in Nepal and Bhutan (Páll-Gergely *et al*., 2015; Gittenberger *et al*., 2018).

In the present paper we describe a new *Endothyrella* species that is represented by a single shell and was collected by Jochen Martens in 1983. In his material there was a sample of *Endothyrella minor* (Godwin-Austen, 1879) from the Phulchowki Hill, which was already a known locality for that species, and a shell of *Endothyrella nepalica* Budha & Páll-Gergely, 2015 from a new locality.

Contact author : pallgergely2@gmail.com
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MATERIALS AND METHODS

The holotype was imaged and measured via a Nikon SMZ25 digital microscope with Nikon Nis-Elements software and Keyence VHX 5000 microscope. The map was prepared using Google Earth.

ABBREVIATIONS

SMF: Senckenberg Forschungsinstitut und Naturmuseum (Frankfurt am Main, Germany)
AH: aperture height
AW: aperture width
SH: shell height
SW: shell diameter

SYSTEMATICS

PLECTOPYLIDAE Möllendorff, 1898
SINICOLINAE Páll-Gergely, 2018

Genus *Endothyrella* Zilch, 1960

Endothyra (section of the genus *Plectopylis*) Gude, 1899: 148, non *Endothyra* Phillips, 1845 (Foraminifera).
Plectopylis (*Endothyrella*), — Zilch, 1960: Handbuch der Paläozoologie, 6 (2).

Endothyrella, — Schileyko, 1999: 2: 460; Páll-Gergely *et al*., 2015: 11.

Type species *Helix plectostoma* Benson, 1836; by typification of replaced name.

Endothyrella prembudhai n. sp.
Fig. 1

Holotype 1 shell, SMF 3661801, (loc. code: 298), leg. J. Martens & B. Daams, 18 September 1983.

Type locality Nepal, Terhathum and Dhankuta Districts, on Tinjura Dara (mountain range), walk from Chauki (27°12.352'N, 87°28.022'E) to Basantapur (27°8.359'N, 87°24.417'E), broadleaf forest, 2550–2650m a.s.l.

Measurements SW=6.9mm, SH=3.3mm, AW= 2.7mm, AH=1.9mm.

Diagnosis A small (SW=6.9mm) *Endothyrella* species with very slightly elevated spire, domed dorsal side, rounded body whorl and four rows of hairs.

Description Shell sinistral, with spire only slightly elevated, dorsal side domed, body whorl rounded, very slightly flattened below periphery. Periostracum thick, yellowish corneous. Protoconch very slightly elevated from dorsal surface, consists of ca. 2.5 whorls, very finely, regularly ribbed (ca. 74 ribs on last half whorl), ribs gradually become denser from beginning towards end of protoconch; teleoconch with clearly visible, rather irregular reticulated sculpture, radial ribs somewhat stronger than spiral striation, sculpture weaker on ventral surface; radial ribbing on protoconch more dense than on teleoconch; hairs arranged in four equidistant spiral rows, uppermost situated just below dorsal surface, second row runs at parieto-palatal joint of peristome, third row runs where parietal callus is highest (at the position of parietal tooth), fourth row situated more ventrally; all four hair rows visible in standard apertural view on body whorl. Hairs rolled (look like a paper roll), not conspicuously long, visible on the only available specimen on dorsal side (first row) and behind aperture (all rows); hairs on initial whorls more slender (and more tightly rolled) than the ones on the last half whorl. Hair lines darker than shell colour, this darker colour is caused partly by the thicker periostracum and partly by mud granules. Whorls 5.25, umbilicus, ca. one third of shell width. Peristome whitish, thin, expanded and slightly reflected towards umbilicus, callus also very weak, slightly elevated, sharp, slightly S-shaped; aperture without apertural fold. Since only a single shell was available, the inner plicae and lamellae could not be examined, none of them are visible through the aperture, and the palatal plicae are invisible throughout the shell wall.

Derivation of name This species is dedicated to Dr Prem Budha, an outstanding Nepalese malacologist, who published the most up to date checklist of Nepalese land snails (Budha *et al*. 2015).

Geographic range This new species is known from the type locality only, and so far, it is the only *Endothyrella* species reported from eastern Nepal (Fig. 2).

Comparisons Among the species reported from Nepal, *E. dolakhaensis* Budha & Páll-Gergely, 2015 has a higher, low conical spire, a larger protoconch, more slender and longer hairs standing in 5 (instead of 4) rows, and more dominant radial sculpture. *Endothyrella nepalica* Budha & Páll-Gergely, 2015 is much larger, has a slightly higher spire, and lacks the spirally arranged periostracal folds. *Endothyrella angulata* Budha & Páll-Gergely, 2015 has a shouldered body whorl, a wider umbilicus, and its palatal plicae are visible in an oblique view to the aperture. *Endothyrella minor* (Godwin-Austen, 1879) is much smaller with flatter dorsal side, and its body whorl is ventrally flattened slightly behind aperture, while it is not the case in *E. prembudhai* n. sp. There are no similar species in Bhutan and India.

Endothyrella nepalica Budha & Páll-Gergely, 2015

Endothyrella nepalica Budha & Páll-Gergely, in Páll-Gergely *et al.* 2015: 47: figs 6E, 8A–C, 9C–F, 24A–C, 25

Material examined 1 shell SMF 366180, Nepal, Gorkha and Dhading Districts, Buri Gandaki valley, walk from Gorlabesi (Khorlabesi: 28°15.264'N, 84°53.011'E) to Dobhan (28°17.739'N, 84°54.346'E) (loc. code: 221), leg. J. Martens & W. Schawaller, 30 July 1983, 1 shell.

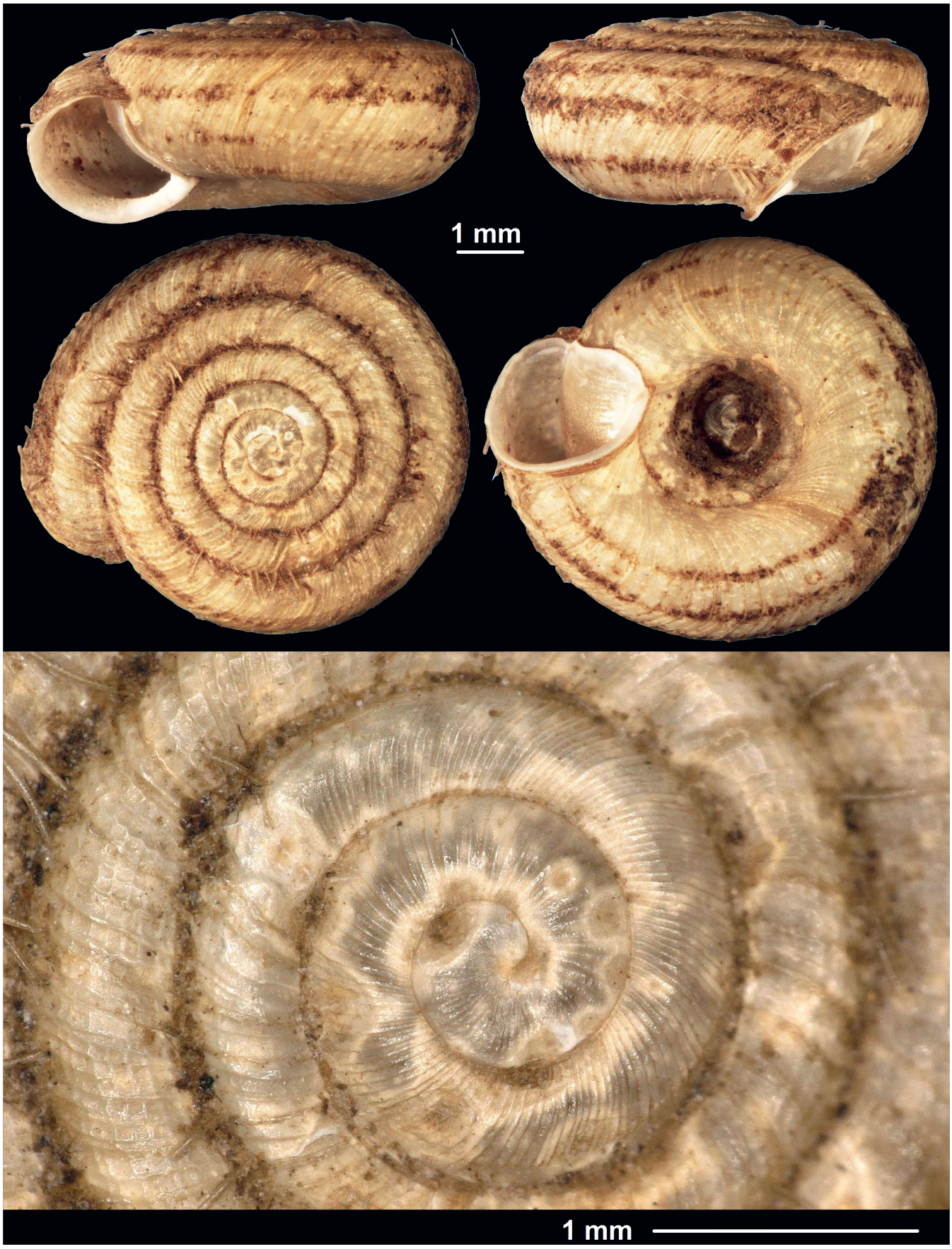


Figure 1 Holotype of *Endothyrella prembudhai* Páll-Gergely & Grego, n. sp. (SMF 366181).

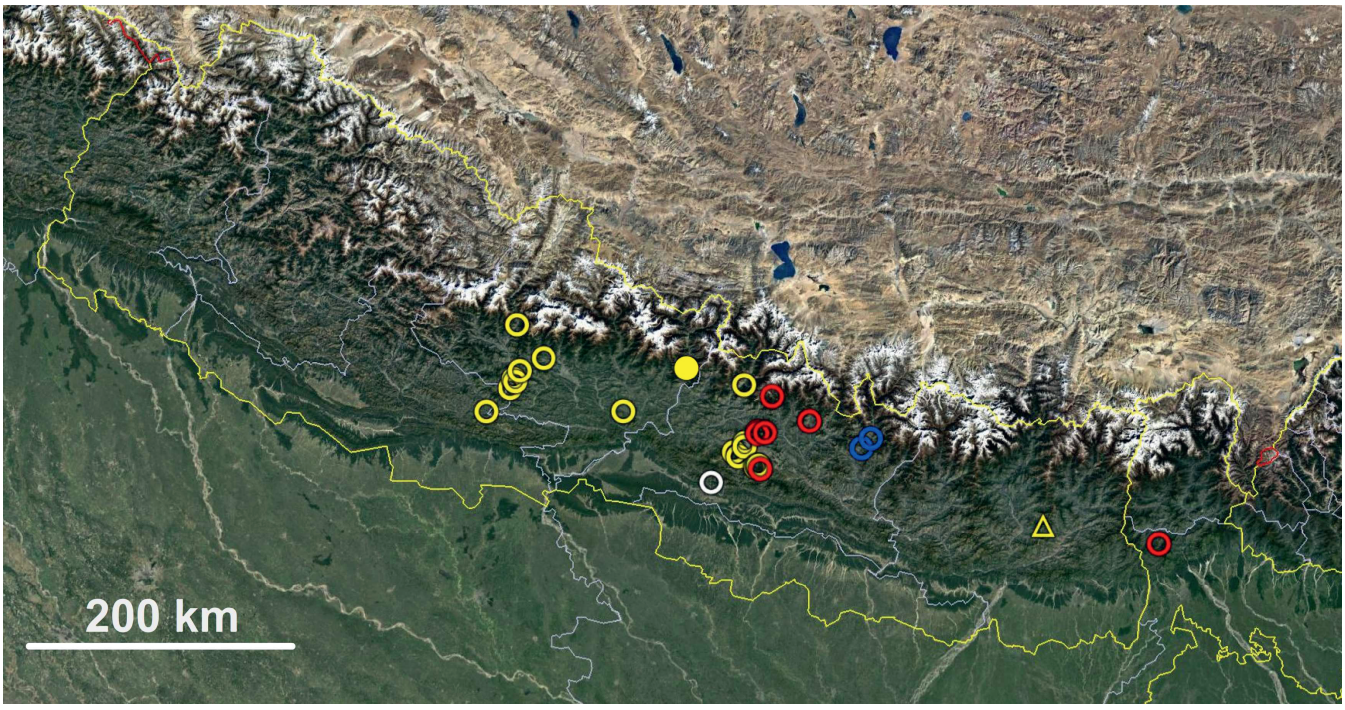


Figure 2 Distribution of *Endothyrella* Zilch, 1960 species in Nepal. Yellow circle: *Endothyrella nepalica* Budha & Páll-Gergely, 2015 (filled circle indicates new locality); red circle: *Endothyrella minor* (Godwin-Austen, 1879); blue circle: *E. dolakhaensis* Budha & Páll-Gergely, 2015, white circle: *Endothyrella angulata* Budha & Páll-Gergely, 2015, yellow triangle: *E. prembudhai* n. sp.

Remarks This new locality falls within the geographical distribution of *E. nepalica* (see Fig. 2).

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