

ANAUCHEN EOTVOSI N. SP. FROM THE "SHAN-SIAM BOUNDARY" (GASTROPODA: STYLOMMATOPHORA: HYPSELOSTOMATIDAE)

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Abstract A new hypselostomatid species, *Anauchen eotvosi* is described based on a sample collected around 1894–1895 at the "Shan-Siam Boundary" by R. G. Woodthorpe. This new species is characterized by five apertural barriers (1 parietal, 2 palatal, 1 basal, 1 columellar), which are much weaker than those of the similar species.

Key words new species, Thailand, Myanmar, shelf life

INTRODUCTION

Hypselostomatidae are tiny (usually smaller than 5mm) land snails, found mainly in Southeast Asia (Páll-Gergely, 2020). While only a few species are known from Myanmar (Gude, 1914), many species have been described from Thailand in the last few decades (e.g. Panha & Burch, 2008; Dumrongrojwattana & Tanmuangpak, 2020; Páll-Gergely *et al.*, 2023).

I found a sample of hypselostomatid shells in the collection of the Natural History Museum, London, which was collected at the border between Thailand (= "Siam") and Myanmar (Shan State) by Colonel R. G. Woodthorpe ca. 130 years ago. This species is described here as a new *Anauchen* Pilsbry, 1917 species. Pilsbry's (1917) definition of this genus was based on the absence of the angular lamella on the parietal wall, and the last whorl being adnate to (not free from) the penultimate one. When he established this genus, it included four species from Vietnam and China. Since then, Pilsbry's generic definition of *Anauchen* and related genera has remained largely unchanged (Panha & Burch, 2008; Vermeulen *et al.*, 2019; but see Páll-Gergely & White, 2023), and several species have been described and transferred to *Anauchen*, mainly from Thailand (Burch & Panha, 2002; Burch *et al.*, 2003; Panha *et al.*, 2004), but also from Cambodia, China, and Vietnam (Vermeulen *et al.*, 2007, 2019; Chen, 2023), increasing the number of species

to 14 (MolluscaBase eds., 2023). The new species described herein fits in *Anauchen* due to the single parietal lamella and the adnate last whorl.

MATERIALS AND METHODS

Determination of the number of shell whorls (precision to 0.25 whorl) follows Kerney and Cameron (1979: p. 13). Nomenclature of apertural barriers follow Páll-Gergely & White (2023). Shells were photographed via a Nikon SMZ25 digital microscope with Nikon Nis-Elements software.

Abbreviations:

D: shell diameter (width)
H: shell height
NHM: Natural History Museum, London
NHMUK: When referring to shells registered in the NHM

SYSTEMATICS

HYPSELOSTOMATIDAE Zilch, 1959

Remarks Bouchet *et al.* (2017) treated Hypselostomatidae as a synonym of Gastrocoptidae Pilsbry, 1918, and noted that the relationship between these groups has not been solved yet. In conjunction with recent works (e.g. Páll-Gergely *et al.*, 2015, 2020, 2022; Páll-Gergely and Hunyadi, 2022), I use Hypselostomatidae as a valid family, and classify *Anauchen* and the related genera within.

Genus *Anauchen* Pilsbry, 1917

Type species *Boysidia gereti* Bavay & Dautzenberg, 1904, by original designation (synonym of *Hypselostoma rochebruni* Mabilie, 1887, see Páll-Gergely 2023).

Remarks Although the new species described herein fits in *Anauchen* due to the single parietal lamella and the adnate last whorl, it was compared to species classified in other hypselostomatid genera as well, because Pilsbry's generic classification probably resulted in non-monophyletic genera. For example, *Hypselostoma banmiensis* (Panha & J. B. Burch, 2004) (described in Panha *et al.*, 2004) is practically identical with *A. huaykhang* in terms of shell and aperture shape, but in case of the former the barrier on the parietal wall is referred to as a concrescent parieto-angular lamella, while in the latter it seems to be simpler, and interpreted as a parietal lamella (Panha & Burch, 2008).

Anauchen eotvosi n. sp.

<https://zoobank.org/FC3C5009-97FA-4A88-B5B2-827211690785>

Fig. 1

Holotype 1 shell, Shan-Siam Boundary, coll. Woodthorpe, RE, NHMUK 1903.7.1.1227.1 (D: 2.8mm, H: 4.1mm)

Paratypes Same data as for holotype, NHMUK 1903.7.1.1227.2–7 (6 shells, one of them is just an aperture).

Type locality Shan [Shan States, Myanmar]-Siam [Thailand] Boundary.

Measurements (in mm) D=2.6–2.9, H: 3.7–4.1 (n=2).

Diagnosis A medium sized (ca. 4mm) hypselostomatid species with a conical shell, an adnate aperture, five weak barriers (parietal, upper palatal, lower palatal, basal columellar), and a narrowly open umbilicus.

Description Shell conical, off-white, the greenish-yellowish colouration on the shell is probably due to algae; all available shells were somewhat weathered, although the original colour is also possibly whitish; shell shape conical, the ca. 5.5, regularly growing whorls are separated by a

deep suture; all whorls rounded, bulging; apex pointed, protoconch consisting of ca. 1.75 whorls, smooth; teleoconch with irregular, fine, oblique growth lines; no spiral striae visible; last whorl adnate to penultimate whorl, aperture oblique to shell axis in lateral view, subcircular; peristome continuous, although parietal side only indicated with a thin calcareous layer on the penultimate whorl; peristome only slightly expanded compared with other *Anauchen* species; 5 apertural barriers visible, all low compared to similar species; parietal lamella short (does not run deep inside the aperture), situated far from callus edge, straight, slightly oblique (i.e. outer end situated closer to the palatal side, while the inner end closer to the columellar side); palatal tubercle blunt, sits on peristome edge, and continues inside as a very short plica; lower palatal plica short, does not reach peristome, oblique to the peristome edge; basal plica situated at the basal-columellar transition, does not reach peristome, short, pointed, pointing inside the aperture; columellar lamella situated in the middle of the columellar wall, reaches peristome, approximately as long as the parietal lamella, flat-topped, slightly descends inside the aperture; umbilicus narrow but open, ca. 1/7–1/8 of shell width, shows at least the last 2 whorls, only its edge is covered by expanded peristome.

Derivation of name This species is dedicated to Loránd Eötvös (1848–1919), Hungarian physicist and politician, to commemorate the 175th year of his birth. It was not recorded on specimen labels when the new species was collected by Colonel Woodthorpe. However, a new plectopylid species that was named after Woodthorpe was collected by him in 1894 (Gude, 1899), and another specimen in 1895 (Szekeres *et al.*, 2021), and he published about his experiences in Myanmar in 1896 (Woodthorpe, 1896). This means that this new species dedicated to Loránd Eötvös was probably collected at the time when Eötvös was the minister for Religion and Education (1894–1895), and was described after nearly 130 years of shelf life (Fontaine *et al.*, 2012).

Geographic range This species is known from the type sample only, its exact locality is unknown.

Comparisons There are no hypselostomatid species being very similar to this new species.

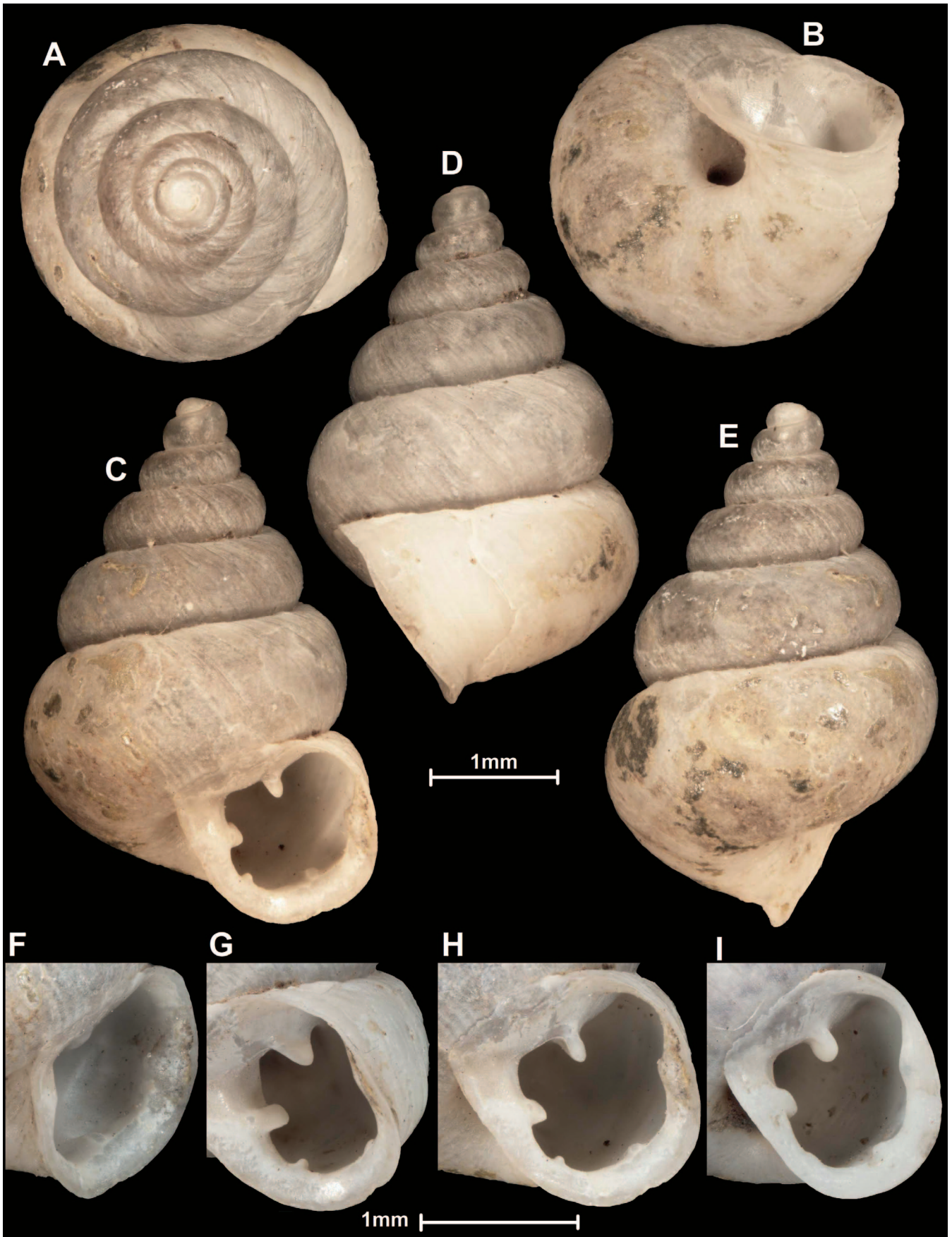


Figure 1 Holotype (A-H) and paratype (I) of *Anauchen eotvosi* n. sp. All photos: B. Páll-Gergely.

Anauchen species with five apertural barriers are the Thai *Anauchen anghongensis* Panha, 2002 (described in Burch & Panha, 2002) and *Anauchen huaykhakang* and the northern Vietnamese *Anauchen messageri* (Bavay & Dautzenberg, 1904).

Both Thai species have more strongly developed (higher) apertural barriers and a more expanded peristome forming a large “shield” in frontal view. Moreover, *A. anghongensis* has a more ovoid shell shape than the new species, and *A. huaykhakang* has more shouldered whorls. *Anauchen messageri* also has more elevated apertural barriers and a concave conical shell shape.

Boysidia phatangensis Dumrongrojwattana & Assawawattagee, 2018 is also similar to the new species in terms of shell shape and the arrangement of apertural barriers, but it has an additional infraparietal lamella, all of its apertural barriers are much more elevated, and has a much wider umbilicus. *Boysidia phatangensis* is included in the genus *Boysidia* instead of *Anauchen*, because the main lamella on the parietal wall is interpreted as the concrescent angulo-parietal lamella instead of the parietal lamella.

Hypselostoma banmiensis differs only in very minor conchological characters from *A. huaykhakang*, as the two species are identical in shell shape and the positions of apertural barriers. Therefore, the differences between *A. huaykhakang* and the new species are the same between *H. banmiensis* and the new species.

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