

# Descriptions of two new carnivorous snail species from Thailand (Pulmonata: Streptaxidae, Diapheridae)

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Two terrestrial, pulmonate species are described as new to science from Thailand, namely *Discartemon moolenbeeki* (Streptaxidae) and *Sinoennea reischuetzorum* (Diapheridae).

The new *Discartemon* species is described on the basis of a single shell from Krabi Province, Thailand. In morphology this species belongs to the *roebeleni*-group, but it possesses a distinct keel on the middle of the last whorl. The relatively large *Sinoennea* species was collected at the entrance of a cave in northern Thailand (Chian Rai Province).

Keywords: Gastropoda, Pulmonata, Streptaxidae, *Discartemon*, Diapheridae, *Sinoennea*, taxonomy, South East Asia, Thailand.

## INTRODUCTION

Although research regarding the malacofauna of Thailand has witnessed a major boost over the last decades, especially due to the efforts of the research group around Somsak Panha, it is still possible to discover many new species. This is because up to now several families are not treated at all, but even in the better known species-groups new taxa can be found. The present, little contribution introduces two species that are new to science.

Mr. H. Dekker (Winkel, the Netherlands) collected in 1996 during a family trip to Thailand mainly marine Mollusca, but also gathered a nice collection of terrestrial species. As he is mostly interested in marine species, he gave the terrestrial molluscs in loan to the author some years ago. Mr. A. Reischütz (Horn, Austria) collected in 2007 and 2010 on a holiday trip to Thailand a considerable number of terrestrial molluscs. He and his father are in particular interested in the malacofauna of the Balkans and so I obtained his

Asian collection in loan for research.

Abbreviations. – For shell characters: H, height; W, width. For collections: AR, colln Alexander Reischütz, Horn, Austria; ME, colln W.J.M. Maassen (Echt, the Netherlands) eventually to be deposited in Naturalis Biodiversity Center; NHMW, Naturhistorisches Museum, Wien, Austria; RMNH, Naturalis Biodiversity Center (formerly Rijksmuseum van Natuurlijke Historie), Leiden, The Netherlands.

## SYSTEMATIC PART

Family Streptaxidae Gray, 1860

Genus *Discartemon* L. Pfeiffer, 1856. Type species: *Streptaxis discus* L. Pfeiffer, 1853 [designation by Ancey, 1884: 399]

### *Discartemon moolenbeeki* spec. nov. (Fig. 1a-d)

Material. – Thailand, Krabi Province, Noppharat Thara Beach along Andaman Sea, rocks near rivermouth, 08°02'20"N 098°48'56"E, 21.x.1996 – 4.xi.1996, leg. H. & S. Dekker & C. Dekker-Rentenaar [Thailand trip 1996 to Krabi and Phuket, Stat. 21] (holotype, Naturalis Biodiversity Center RMNH 5004008).

Description. – Shell globose-heliciform, white. Embryonic shell quite large, about 2 ½ whorls, with a smooth surface; the following whorls on the upper side with strong, regular, somewhat wavy transverse ridges that diminish below the periphery. On the last whorl, near the peristome there are about 5-6 ribs per mm. There is no visible spiral striation. Whorls 6¼, with a distinct keel on the middle of the last whorl; all whorls are regularly coiled. The last whorl not (or only slightly) descending towards the aperture, and somewhat inflated and expanded. Basal part of the last whorl more or less flattened. Suture distinct. Umbilicus moderately wide, ca. ¼ of the total shell width. Aperture

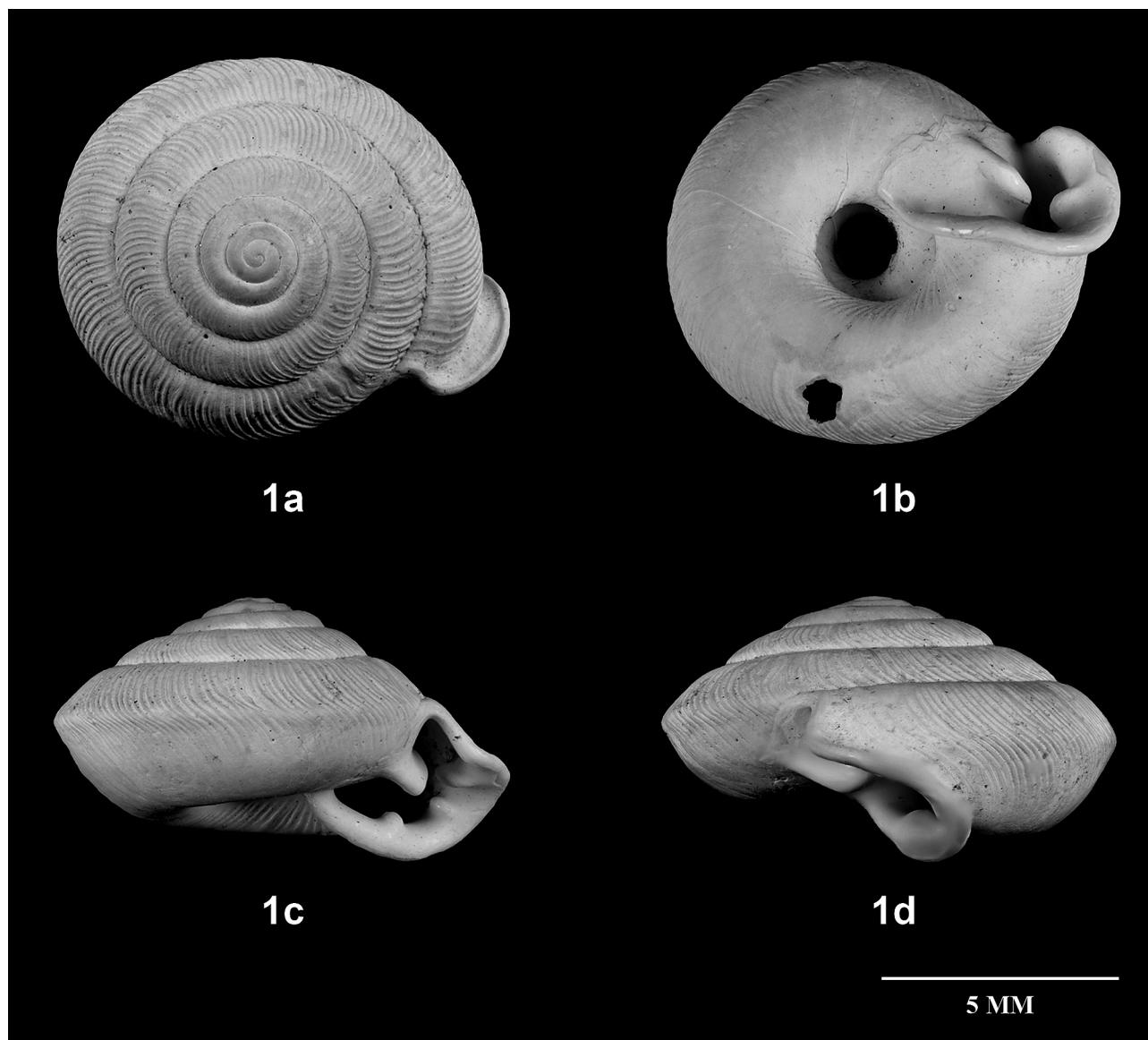


Fig. 1a–d. *Discartemon moolenbeeki* spec. nov. Holotype (RMNH 5004008); actual width 10 mm.

sub-quadrangular, very oblique. Peristome discontinuous, thickened, expanded and reflected. At the upper parietal corner the upper margin of the aperture forms a sinuous ridge joining the parietal lamella. Apertural dentition with at the palatal side two knob-like teeth, the lower lip receding, with one tooth and at the parietal side with a strong but quite short lamella. Dimensions: H 5.2 mm; W 10 mm.

Derivatio nominis. – The species is named after Robert G. Moolenbeek, my friend for many years, at the occasion of his retirement from the Naturalis Biodiversity Center (Leiden), and to express my gratitude for his many years of support in different ways when I started to investigate Asian terrestrial molluscs.

Remarks. – In a recent monograph, dealing with the *Discartemon* species from Malaysia and Thailand, Siriboon et al. (2014a) discussed extensively the various species. Therefore, recognizing this *Discartemon*

species from Thailand as new to science was not difficult. The genus is divided in three informal species-groups by Van Benthem Jutting (1954) as well by Siriboon et al. (2014a): the *discus*-group (species with flattened shell), the *plussensis*-group (species with depressed-heliciform shell) and the *roebeleni*-group (species with globose-heliciform shell). According to this classification our new species should belong to the *roebeleni*-group.

Unfortunately only a single, dead collected specimen was available for the description, so the variability remains unclear. Because *Discartemon moolenbeeki* seems to be the only known species from the *roebeleni*-group with a distinct peripheral keel, it was decided to provide a formal description of this species. Other keeled streptaxids are known to exist in Malaysia and Thailand, but these belong to other genera (*Indoartemon* and especially *Carinartemis*) (Siriboon et al., 2014b).

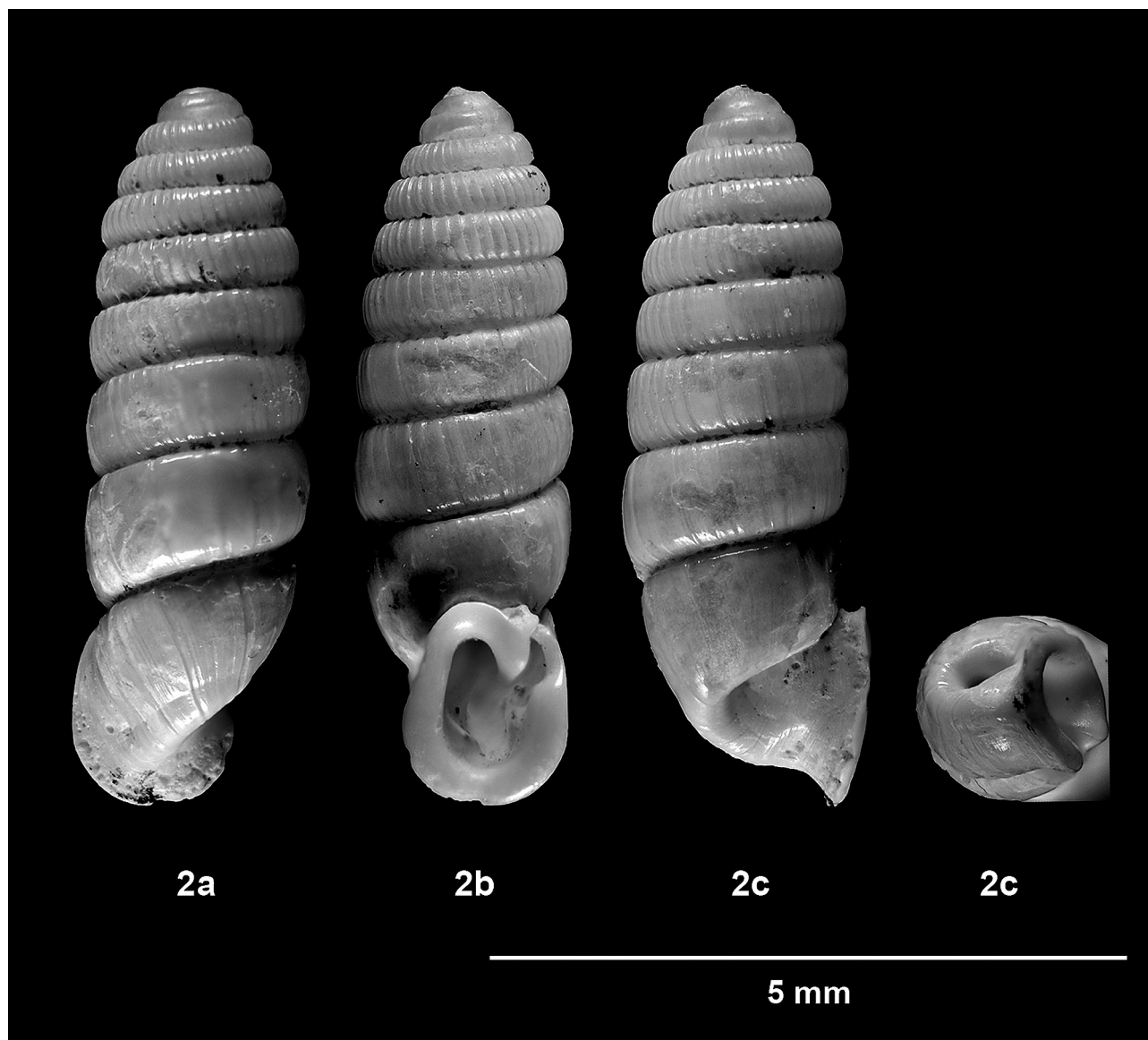


Fig. 2a-d. *Sinoennea reischuetzorum* spec. nov. Holotype (NHMW 111546); actual height 6.0 mm.

Family Diapheridae Panha & Naggs, 2010

Genus *Sinoennea* Kobelt, 1904. Type species: *Pupa strophiodes* Gredler, 1881 [by original designation]

***Sinoennea reischuetzorum* spec. nov. (Fig. 2a-d)**

Material. – Thailand, Chiang Rai Province, Wat Doi Khong Khao, Meditation Centre, “Höhlenlehm am Eingang der Höhle”, 8 km NW of Chiang Rai, ix.2007, leg. A. Reischütz (NHMW 111546, holotype; paratypes: WM & AR).

Description. – The shell is white, glossy and transparent when fresh, rather solid, and quite large for the genus. It is cylindriform to subcylindriform with a more or less conical apex, with a narrowly open umbilicus, and about 9½ somewhat flattened whorls with quite deep sutures. Apex smooth, the following whorls (except the final two) sculptured with sharp,

straight axial ribs; no spiral striation is present. The last two whorls are almost smooth, with indented axial lines. The peristome is expanded, reflected and continuous, and runs parallel with the penultimate whorl. The aperture is compared to the total height fairly small, roughly long-rectangular in shape, and obstructed by a fairly strong dentition. The dentition consists of a strong, large parietal lamella, a two-tooth labrum complex of which one is hidden inside, almost in line with the one at the peristome, and a large columellar lamella, situated deeply inside. The parietal lamella is running down until the labrum, leaving only a narrow fissure and creating a sinus at the angular corner. Just after the peristome the body-whorl is somewhat swollen in the umbilical region; the swelling is caused by the columellar lamella. The labrum shows a small but distinct groove at the outside of the body-whorl; below this groove, the body-



whorl is distinctly keeled. Dimensions: H 5.3–6.5 mm (holotype 6.0 mm); W 1.9–2.1 mm (holotype 2.0 mm).

Derivatio nominis. – The species is named in honour of its collector, my friend Mr. Alexander Reischütz, who discovered this and many other species and gave this collection on loan for research, as well as in honour of his father Peter Reischütz for his friendship over several decades. Both are well-known Austrian malacologists, mainly working in the Balkans.

Remarks. – So far only four *Sinoennea* species are known from Thailand (*Sinoennea loeiensis* Tanmuangpak & Tumpeesuwan, 2015; *S. prima* Panha & Burch, 2002; *S. ranongensis* Panha, 2005; *S. stunensis* Dumrongrojwattana & Wongkamhaeng, 2013). They all belong to what Van Benthem-Jutting (1954: 9, 24) called the cylindrical group. At least a fifth species should occur in Thailand, as it is figured in Panha et al. (2002: 237) as *S. borealis*, without a formal description or locality and therefore a nomen nudum. Furthermore, in the same publication, the numbers 90 (*S. prima*, should be *S. ranongensis*) and 91 (*S. ranongensis*, should be *S. prima*) are interchanged. At the time of publication (2002) *S. ranongensis* is to be considered a nomen nudum as the species has been described formally in 2005.

Our new species is clearly different from the four *Sinoennea* species known from Thailand. *Sinoennea stunensis* Dumrongrojwattana & Wongkamhaeng, 2013, is much smaller (3.6 mm versus 6 mm), has a very deep suture, has less whorls with regularly placed ribs on the last 5 whorls, and no keel. *Sinoennea primus* Panha & Burch, 2002, is slightly smaller (4.9 mm versus 6 mm), the whorls are more flattened and the suture is not so deep, with regularly placed ribs on the last 5 whorls with no keel. *Sinoennea ranongensis* Panha, Sutcharit & Tongkerd, 2005, is a very small species, hardly to compare with the new species, with no keel. *Sinoennea loeiensis* Tanmuangpak & Tumpeesuwan, 2015, is smaller (average 4.5 mm) and possesses less whorls (6½ whorls), which are more flattened, with a more shallow suture.

Two somewhat similar species from outside Thailand are *Sinoennea lizae* Maassen, 2008, from Laos and *Ennea hippocrepis* Bavay & Dautzenberg, 1912, from Phong-Tho, Tonkin (Vietnam). The former species has a different striation and is smaller (5.3 – 6.5 mm in *reischuetzorum* versus 3.4 – 3.6 mm in *lizae*) and the latter one has more whorls (10 whorls), is larger (8 mm) and is evenly striated all over the whorls, whereas in *S. reischuetzorum* the last whorls are more or less smooth with indented lines.

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