

A note on the distribution of the limestone snail *Discartemon planus* (Fulton, 1899) in Sulawesi – Indonesia (Gastropoda: Streptaxidae)

Ristiyanti M. MARWOTO

Museum Zoology Bogor-Research Center for Biology (Pusat Penelitian Biologi) – LIPI, Gedung Widyasatwaloka, Jalan Raya Bogor Km 46, Cibinong 16911

The limestone streptaxid snail *Discartemon planus* (Fulton, 1899) is restricted to South Sulawesi. The type locality of this species is South Sulawesi, without detailed location. Recently nine specimens of *D. planus* were collected from the karst area in Maros, and we added two localities in South Sulawesi. The shell and its distribution in a restricted limestone area are discussed in this paper.

Key words: Gastropoda, Pulmonata, Streptaxidae, *Discartemon planus*, distribution, Sulawesi, Indonesia.

Twenty species of Streptaxidae have been reported from South East Asia from the Malay Peninsula eastward, i.e. three species of *Bruggennea* Dance, 1972, three species of *Platycochlium* Laidlaw, 1950, three species of *Diaphera* Albers, 1850, and one species of *Sinoennea* Kobelt, 1904, from Borneo (10); two species of *Discartemon* L. Pfeiffer, 1856, and two of *Sinoennea* from Sumatra (4); three species of *Haploptychius* Moellendorff in Kobelt, 1905, and one species of *Discartemon* from Sulawesi and Sangihe Is. (4); one species of *Diaphera* from Talaud Island (1); *Gulella bicolor* (Hutton, 1834) as an introduced species on Bali and Borneo (see Maassen, 1999; Van Bruggen, 1972; Vermeulen, 1990, 1991, 2007; Vermeulen & Whitten, 1998).

The limestone snail *D. planus* from South Sulawesi was described by Fulton in 1899 as *Streptaxis planus* without exact locality. Kobelt (1906: 101) cited it as from “Süd-Celebes” and Maassen (1997: 55) also wrote “(South Celebes)” in his checklist as type locality of *D. planus*. Sarasin & Sarasin (1899: 228) listed *Streptaxis planus* on the page of “Liste der Celebes Land-Mollusken” without any description and figures of the species. Kobelt (1906) placed *Discartemon* as a subgenus of *Odontartemon* L. Pfeiffer, 1856; he presented the description of the shell as *Odontartemon (Discartemon) planus* but the figures were from Fulton’s paper.

In Malaya *Discartemon* was studied by Van Benthem Jutting (1954); she listed nine species and included four new species. The occurrence of the genus *Discartemon* in Sumatra has been reported by Van Benthem Jutting (1959) who added two new species, *D. vandermeermohri* and *D. sangkarensis*, collected from Pulau Weh and Batu Sangkar respectively.

Van Bruggen (1972) clearly explained the occurrence and distribution of streptaxids in Sulawesi. He described a new species, *Haploptychius juttingae* from Sangihe Is., which he compared with *H. nautilus* (Sarasin & Sarasin, 1899) and *H. celebicus* (Sarasin & Sarasin, 1899) from North Sulawesi. According to his records, *D. planus* only occurs in South Sulawesi and not further north.

During my field work in a karst area in Maros and Bone in 2002, I took soil samples from the foot of steep cliffs heading to Cave Balangajea at Simbang, Maros (5°03'07.8" S 119° 41'14.8"E) and along the foot track at Karaenta at Camba, Maros (5°01'58.1" S 119° 44'13.1"E), secondary forest at Maros, and found nine specimens of *D. planus*. All the spec-

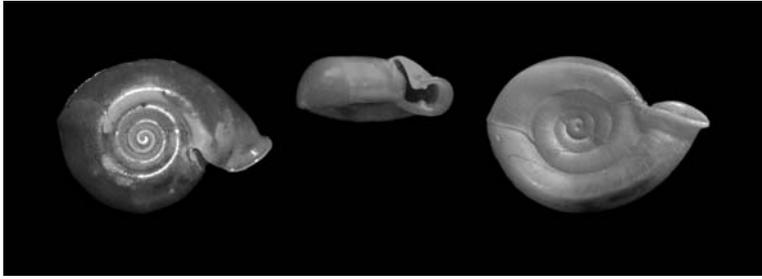


Fig. 1. Shell of *Discartemon planus* (MZB Gst. 13.133: Cave Balangajea), left: apical view, middle: front view, right: basal view..

imens are deposited in the Museum Zoologicum Bogoriense (MZB, nos. Gst. 13.133 and 13.134), Research Center for Biology in Cibinong.

Discartemon planus (Fulton, 1899)

Shell (fig. 1). -- small, completely flattened or almost equally flat above and below, smooth, glossy or slightly transparent, yellowish white. Whorls 4, the first three regularly increasing in width, and the last whorl larger and descending towards the aperture. Apex sunken. Suture distinct and not very deep. Aperture oblique, irregularly triangular. Peristome not continuous. Upper lip expanded and curved, inflated in the middle forming a small tooth. Lower lip thickened and receding, with a distinct small basal tooth.

Shells from Cave Balangajea have a maximum diameter of 6.76 mm, width 2.25 mm, length of aperture 2.11 mm.

Habitat. – Soil litter, under rocks, limestone area.

Distribution. – Known only from South Sulawesi.

Remarks. – Compared with *Discartemon* species from Malaya and Sumatra, *D. planus* differs in having a smooth surface without spiral ribs, a sunken apex, and a flattened shell. The different sculpture of this species was also recognized by Van Bruggen (1972) who wrote that *D. planus* is somewhat aberrant by having a completely flattened shell and he presumed that both *Haploptychius* and *Discartemon* would perhaps merit (sub)genera of their own by virtue of their long isolation. The isolated population of *Discartemon* is mentioned by Berry (1965) who studied the genital system of *Discartemon stenostomus* Van Benthem Jutting, 1954, from Malaya and found that there are some differences among the four Malayan genera which shows *Discartemon* to be rather apart from the other streptaxid genera *Sinoennea* and *Huttonella* L. Pfeiffer, 1856. There is a need for information on the anatomical characters of *D. planus* to solve not only the taxonomical problems but also to explain its restricted distribution in South Sulawesi.

The occurrence of this species in limestone in a karst area in Maros, South Sulawesi, is not surprising. Van Bruggen (1972) has examined *D. planus* collected in 1948 and deposited in the Amsterdam Museum; these were found in Tjamba near Makasar, Pangkajene, pass in limestone mountains between Ujung Lamuru and Watampone near km 140-141 from Makasar, and along Palopo-Rantepao near km 23 from Makale, South Sulawesi.

It seems that *D. planus* is restricted to specific habitat in limestone areas. Berry (1965) reported his work on land Mollusca from limestone in Ulu Kelantan and recorded that the Malayan species *D. collingei* (Sykes, 1902) and *D. platymorphus* Van Benthem Jutting, 1954,

were known from Gua (Cave) Musang, Gua Nenek and Gua Sai in Pahang. The restricted distribution of *Discartemon* on hills is also reported by Van Benthem Jutting (1954), who listed species referred to the locations. She found that most species of *Discartemon* are confined to one mountain or mountain group at a considerable distance from the species of *Haploptychius*. Van Bruggen (1972) also concluded that there is a considerable gap in the distribution of *Discartemon* and *Haploptychius* in Sulawesi, where *Discartemon* is recorded only from South Sulawesi and *Haploptychius* only from North Sulawesi. Van Benthem Jutting (1954) states that each species inhabits its own isolated area, which may be explained as the result of speciation due to geographical isolation.

The absence of *D. planus* in north Sulawesi is perhaps a natural pattern since the species is known to prefer limestone hills. Whitten et.al. (1987) recorded that in South Sulawesi there are more than 30 caves in limestone or karst areas, especially at Maros while in north Sulawesi only two limestone caves have been listed. Of course, *D. planus* is not a cave dweller, but is linked to limestone areas. It is important to study the distribution of *D. planus* in more detail but for the time being it may be concluded that *D. planus* has a restricted distribution in South Sulawesi.

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