

A NEW RECORD OF A TERRESTRIAL SNAIL FAMILY IN PENINSULAR MALAYSIA

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ABSTRACT

Based on Maassen's (2001) extensive checklist on west Malaysian non-marine molluscs, *Rhachis zonulata* of the air-breathing pulmonata family Pachnodidae is a new record in the peninsular. The aim of this paper is to picture this elegant arboreal snail with some distributional and descriptive data.

KEYWORDS

Systematics, taxonomy, Mollusca, Gastropoda, Pachnodidae, Cerastuidae, Cerastidae, Malaysia.

INTRODUCTION

Genus *Rhachis* occurs in Africa (Verdcourt, 1982), India, Sri Lanka (Naggs, 1996), Myanmar (Mitra et al, 2005) and Bangladesh (Kabir et al, 2007), and *Rhachis zonulata* is found in the large Indonesian islands of Java, Sumatra and Sulawesi (Goldberg, 1987; Dharma, 1992; Maassen, 1997; Dharma, 2005). Solem (1959) also reported *Rhachistia zonulatus* from Timor, Sulawesi and the Philippines. A live photo of the snail and two empty specimens were illustrated as *Rhachistia* sp. in Sutcharit & Panha (2008), is likely a *Rhachis zonulata* from southern Thailand. The present record from Peninsular Malaysia may represent a southern-most range extension of the species on the Asiatic mainland.

MATERIALS AND METHODS

Two dead and weathered shells of pachnodids found among limestone foothill soil debris were handpicked and sorted from two different locations in the northern-most Malaysian state of Perlis on 27th April 1996. No living snails were seen at the site. "CSY" denotes the author's initials followed by a series of numerals and dots which tallies with the computer databases in the author's personal collection. The materials featured will eventually be deposited to a public museum for further studies or rectifications.

The familial position adopted here were those of Schileyko (1998), Dharma (2005) and Bouchet & Rocroi (2005) although Cerastuidae is more widely used by other authors like Abbott (1989), Vaught (1989), Maassen (1997), Mitra et al (2005), Kabir et al (2007), and Sutcharit & Panha (2008). However, the generic placement follows those of Vaught (1989) and Maassen (1997) belonging to Cerastuidae. Species determinations were based on Dharma (1992), Maassen (1997) and Dharma (2005). It is beyond the scope of this short paper to provide an exhaustive list of synonyms for this relatively unknown snail at familial, generic, specific or sub specific (Goldberg, 1987) levels.

SYSTEMATICS

Family Pachnodidae Steenberg, 1925 [Synonym: Cerastidae Wenz, 1923]

Genus *Rhachis* Albers, 1850

Species *Rhachis zonulata* (Pfeiffer, 1846)

Plate 1, figures 1 – 4.

The shell is ovate-conic, white (Plate 1, Figures 1 & 2), dextral (right-handed), small, light, smooth with fine spiral striate and covered with a very thin layer of faint beige near-transparent periostracum (Plate 1, Figures 3 & 4); apex is presumably black (broken off for the Sulawesi specimens) (Djajasasmita, 1982) or dark brown (for the weathered Malaysian samples); patterns are somewhat variable but has two consistent brown-dashed spiral bands on most of the whorls and two solid brown peripheral spiral bands on the body whorl (Solem, 1959); five to six whorls, moderately rounded and unkeeled at the periphery; aperture somewhat ovate-oblong shaped, outer lip is thin and not reflected; peristome sharp near the fairly straight columellar with a perforated (open) umbilicus; lives on trees (arboreal) and shrubs (Djajasasmita, 1982; Kabir et al, 2007; Sutcharit & Panha, 2008).



Plate 1. Malaysia and Indonesia Pachnodidae. *Rhachis zonulata* (Pfeiffer, 1846).

Figure 1 - Perlis, Malaysia; 16.8mm [CSY346.13.1.0]. Figure 2 - Perlis, Malaysia; 18.4mm [CSY346.13.1.1].

Figures 3 & 4 - Sulawesi, Indonesia; both 19.1mm [CSY346.13.1.2].

DISCUSSION

Kabir et al (2007) description of the habits of *Rachis bengalensis* was the most vivid and reminiscence of a *Amphidromus* of Camaenidae which is also arboreal. From the soil samples sorted, *Amphidromus* (*Syndromus*) *flavus* fragments [CSY409.3.20.1 & CSY409.3.20.3] was found in the same locations mentioned above. The two tree snail species could be coexisting together in the steep limestone cliff forests of Perlis.

Incidentally, a Sumatran *Rhachis zonulata* was described as “*Amphidromus minutus*” by Djajasasmita in 1982 (Djajasasmita, 1982; Goldberg, 1987). Goldberg (1987) also illustrated some sinistral (left-handed) *Amphidromus* species (in sub genus *Syndromus*) as a comparison to *Rhachis zonulata* with an emphasis on the common character (two peripheral spiral bands) between the two familiarly unrelated snails. This common trait could be a form of parallel convergence of patterns due to a constant need to camouflage in these snails from arboreal predations (Sutcharit et al, 2006).

Rhachis zonulata seemed to be a widespread snail occurring in most Southeast Asian countries except on the island of Borneo but that could be due to an insufficient number of papers referenced here or a lack of sampling in that large island.

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