

CHAPTER 1

INTRODUCTION

Land operculated snail is one of land gastropod group, they have operculum above the dorsal side of the foot for protect themselves from enemies and keep the moisture in the shell by close operculum to the aperture of the shell. Most of operculated snails were found in mountain regions, especially limestone areas. They live under leaf litters or decaying logs, feed on decaying leaves or log products and excrete their wastes, thus increasing soil fertility. The snails are a food source of some mammals for example, Large Indian civet *Viverra zibetha*, Crab-eating macaque *Macaca fascicularis* (Thongnamchaima *et al.*, 1997), Banded palm civet *Hemigalus derbyanus*, Large-toothed ferret-bager *Melogale personata*, and Eurasian badger *Meles meles* (Kanchanasakha *et al.*, 1998).

The snorkel snails, *Rhiostoma* are endemic land operculated snails in the limestone areas of Southeast Asian region with a most unique shell shape, they have some part of last whorl disconnect with penultimate whorl. Some species such as *R. chupingense* have long disconnected part, top view of shell look a shape like a proboscis of elephant. Some species such as *R. jalorensis* have air breathing tube or snorkel behind the apertural notch on dorsal side of aperture look like a tusk. They are attractive to shell traders which hunt them from natural habitat in numerous numbers, so that their status seem to be endangered, which will certainly affect the limestone food web.

Knowledge of rhiostomid snails is very poor, previous works were description and illustration of shell and operculum. Seventeen *Rhiostoma* were found and described from various type localities in Southeast Asian region i.e. Myanmar, Viet Nam, Laos, Cambodia, Malaysia and Thailand, of which 7 species were found in Thai area (Moellendorff, 1894; Blanford, 1902; Tomlin, 1931; Salisbury, 1949; Solem, 1966; and Ruhoff, 1980). The lacking information concerning the soft parts anatomy, radula

morphology, distribution and geographic variation of each species are main problem for classification. Taxonomy of this group is still ambiguous. There is high possibility that several names of *Rhiostoma* represent variants of one species (Solem, 1966).

Objective

The main purpose of this research is to revise and update Thai *Rhiostoma* classification by using shell, radula, and soft parts morphology with additional statistical analysis for shell morphometry.

Anticipated benefit

The results of this study would be benefit for advanced studies like evolution and conservation.



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