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A new *Satsuma* species (Pulmonata: Camaenidae) endemic to Taiwan

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Abstract

A new species of camaenid land snail, *Satsuma longkiauwensis* **sp. nov.** from southern Taiwan is established. This large terrestrial and herbivorous snail inhabits the lowland forests with a narrow geographical distribution. The species is characterized by having a large shell, roundly angulated peripheries adjacent to the peristome, an open umbilicus, a robust flagellum, a weak expansion on male genitalia instead of a penial caecum externally and a hemispherical verge instead of an elongated pilaster internally. A key is provided for the first time to identify camaenids from Taiwan.

Key words: Camaenidae, *Satsuma*, new species, taxonomy, anatomy, identification key

Introduction

More than thirty species of camaenid land snails from Taiwan have been described, but the diversity of this family is still far from being completely assessed (Wu & Wu 1998). Currently, 23 species and subspecies of *Satsuma*-like camaenids were recorded and confirmed; nevertheless the detailed species richness of this island requires further investigations (Hsieh *et al*. 2006). The genus *Satsuma* A. Adams, 1868 is a group of varied sized snails distributed in East Asia having depressed to high conic shells variable in color ranging from yellowish to dark brown with polymorphic banding patterns. In this study, a new species of *Satsuma* is described on the basis of shell and anatomical characters.

Material and methods

Twelve specimens of the new species, which include three live snails, one decaying specimen and eight empty adult shells, were collected from Shuangliu and Mudan in the north of Hengchun Peninsula, southern Taiwan (Fig. 1). One individual was dissected instead of the holotype, as the soft body of holotype was decaying when collected. The live specimen was anesthetized using menthol in water, killed in hot water and then fixed and preserved in 70% ethanol. The shell of this specimen was broken and the soft body was dissected for the examination of the reproductive system. The dissections were performed using a stereo microscope (Leica MZ7.5). Drawings were made with a camera lucida attachment. Shell measurements were taken following Kerney and Cameron (1979), using a digital caliper (Kanon EMS-8) with an accuracy of 0.1 mm. The systematics followed Vaught (1989). Two individuals were examined for radula and jaw. The preparation for scanning electron microscopy (= SEM) followed the procedure given by Wu and Huang (1989). Subsequent examination was carried out using a FEI QUANTA 200 SEM.

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