



## ***Plectotropis yonganensis* sp. nov. (Gastropoda: Bradybaenidae) from China, with revision of two Chinese camaenid species (Gastropoda: Camaenidae)**

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The terrestrial snail genus *Ganesella* Blanford, 1863, *sensu lato* by Zilch (1959–1960), is mainly distributed in the Oriental region from Japan, through south of the Yangtze of China to South-east and South Asia. Most of these land snails are endemic species with narrow geographic distribution (Tryon 1888; Pilsbry 1894; Zilch 1959–1960, 1966; Richardson 1985, Chen & Gao 1987; Azuma 1995). The genus is characterized in having thin, smooth or weakly ridged shell, slightly descent body whorl in front, toothless aperture, expanded to reflected lips, long and narrow foot, long penis with a caecum (= penial appendix) and a flagellum. However, the anatomical characters of the type species, *G. capitium* Benson, 1848, are still wanting. A major part of its members have been assigned to different genus according to shell characters. The species in East-Asia, i.e., Japan, Korea and Taiwan, were assigned to the genus *Satsuma* (+ syn. *Coniglobus* Pilsbry & Hirase, 1906 and *Luchuhadra* Kuroda & Habe, 1949). About 100 species are still catalogued in *Ganesella* (Richardson 1985).

All Chinese *Ganesella*-like species are tentatively classified in this genus. Pilsbry (1894) recorded 29 species and varieties from China; Richardson (1985) recorded 20 species. The present authors recorded 28 valid species in China, based on the literature (Heude 1882; Richardson 1985; Minato 1988; Yen 1939; Chen & Gao 1987; Wu 2007). The taxonomic studies of *Ganesella* in China were usually based on shell characters only (Yen 1939; Zilch, 1966; Chen & Gao 1987). The type species of *Ganesella* is characterized in having high conic shell with irregular flame-like pattern of white and pale brown color. However, the shell morphology of the most Chinese *Ganesella* are conic to depressed conic with corneous color, hence, they are conchologically more close to *Satsuma* than *Ganesella*. Besides, they are also often confused with bradybaenid species, such as *Bradybaena* and *Plectotropis*. Their systematic positions need clarification using anatomical characters.

During a biodiversity survey in Fujian and Zhejiang, China, a new species of the genus *Plectotropis* was found. We made anatomical comparisons of the new species and two morphologically similar species *G. brevibarbis* and *B. stenozona*. The systematic position of the two species was revised accordingly.

### **Material and methods**

Snails were collected from representative sites of Zhejiang and Fujian Province in the south-east China (Fig. 1, A). The longitude and latitude were recorded using a GPS. The live specimens were drowned overnight in water, killed in hot water and then fixed and preserved in 75% ethanol. Only sexually matured specimens, judged by the fully expanded peristome, were measured and dissected for the examination of reproductive system. The dissections were performed using a dissection microscope (ZEISS Discovery V12). Drawings were made with the help of a Canon 550D digital camera. More than 15 specimens for each species were measured and more than three specimens for each were dissected.

The classification of families and genera tentatively follows Bouchet & Rocroi (2005) and Millard (2001), respectively. Although the family Camaenidae is found to be polyphyletic (Scott 1995) or is merely an Asian Bradybaenidae using molecular evidences (Wade *et al.* 2006, 2007), no certainly systematic decision has been made. Terminology for reproductive system follows Gómez (2001). The following abbreviations are used: FJIQBC, Fujian