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Ten new *Gammarus* species (Crustacea: Amphipoda: Gammaridae) from Yunnan-Guizhou Plateau, China

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Abstract

Ten new species of the genus *Gammarus* are described from Yunnan-Guizhou Plateau, Southwest China, including *Gammarus amabilis* **sp. nov.**, *G. citatus* **sp. nov.**, *G. echinatus* **sp. nov.**, *G. egregius* **sp. nov.**, *G. eliquatus* **sp. nov.**, *G. hirtellus* **sp. nov.**, *G. margcomosus* **sp. nov.**, *G. rivalis* **sp. nov.**, *G. silendus* **sp. nov.** and *G. tranquillus* **sp. nov**. Four of them are stygobite and with no eyes. Detailed illustrations and comparisons with related species are presented. A key to all species from Yunnan-Guizhou Plateau are given.

Key words: taxonomy, freshwater, cave, subterranean.

Introduction

The Yunnan-Guizhou Plateau is located in the Southwest China, with an area of 400,000 km^2 ranging from 100º to 110º in east longitude and 23º to 27º in north latitude. There are two types of macro-topography in this region. One is high plateau averaging about 2,000 meters above sea level in northern Yunnan Province; the other topography is karst areas with rolling hills, deep river-carved gorges and geologic faults in western Guizhou Province. Owing to its high elevation and low latitude, the climate of this region is subject to high temperature and plentiful rainfall, promoting karst development. In the same time, high mountain peaks on Yunnan-Guizhou Plateau are the source of many great rivers, merging into Yangtze River and steepening the valleys. Many caves, underground rivers, stone shoots and stalagmites are found in this plateau, which makes Yunan-Guizhou Plateau being one of the most developed karst regions in the world. The vegetation types in Yunnan-Guizhou Plateau belong to subtropical broadleaf forest. However, in karst areas, the soils are shallow and thin, with poor capacity of storing water. As a result, the regional forest is influenced and unevenly distributed. Moreover, in last century the forests were seriously destroyed and decreased sharply with increase of population, cultivation and unreasonable use of land, showing a serious rock desertification (Lei *et al.* 2000). Rock desertification intensifies loss of water and soil in karst mountain areas, especially leading to collapse problems. These processes will destroy the habitats of animals and disturb the biodiversity. Surprisingly, with the awareness of environmental protection the development of forests in karst region has been carried out to rehabilitate the rock desertification in recent years. To explore the diversity in Yunnan-Guizhou Plateau, several expeditions have been done during 2006 to 2011. A series of papers have been published to describe the new organisms, including fish (Zhao & Zhang 2009), spider (Lin & Li 2010), and crustacean (Lu *et al.* 2010). Amphipoda crustaceans are the predominant macroscopic invertebrate in aquatic