



## Notes on fine structures of *Chauliops* with descriptions of two new species from China (Insecta: Hemiptera: Heteroptera: Malcidae)

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### Abstract

The fine structures of *Chauliops* were studied using scanning electron microscope (SEM) techniques, and its taxonomic significance was discussed. Two new species of *Chauliops* Scott, *Chauliops quaternaria* **sp. nov.**, from China (Yunnan province), and *Chauliops conica* **sp. nov.**, from China (Shaanxi province), were described. A key to the known species of *Chauliops* Scott from China was given. The type specimens of the new species are deposited in the Institute of Entomology, Life Sciences College of Nankai University, Tianjin, China.

**Key words:** Chauliopinae, *Chauliops*, new species, fine structure, China

### Introduction

The Chauliopinae, erected by Breddin in 1907 for the genus *Chauliops* Scott (1874), is a small subfamily in the Malcidae. Only 2 genera are now included in this group: *Chauliops* Scott and *Neochauliops* Štys, which occur in both Oriental and Ethiopian regions. There was only one species in *Neochauliops* Štys which was transferred from *Chauliops* Scott by Štys in 1963. Ten species of *Chauliops* Scott have been described (Slater 1964; Slater & O'Donnell 1995; Xue & Bu 2004). The diagnosis of *Chauliops* was mostly based on morphological characters of adults observed under the optical microscope; little is known about the fine structure of the genus *Chauliops*, which is explored in this paper. In the genus there are four species are known from China (Zheng 1981; Zheng & Zou 1981; Xue & Bu 2004): *C. fallax* Scott, *C. bisontula* Banks, *C. horizontalis* Zheng, and *C. zhengi* Xue *et* Bu. Here, we describe two new species, *Chauliops quaternaria* and *Chauliops conica* from China, and provide diagnostic features for each species.

### Materials and methods

Six species (including two new species mentioned below) in *Chauliops* of Chauliopinae were studied. Four to nine cleaned specimens of each species were fixed to SEM stubs using double-sided tape and sputtered with gold in a sputter coater (BAL-TEC SCD 005, Balzers, Switzerland). The fine structures were observed and photographed with the SEM (FEI Quanta 200) operated at 20 KV.

The specimens involved in the study are deposited in the Institute of Entomology, College of Life Sciences, Nankai University, Tianjin, China.