



## Notes on the subgenus *Tectodamaeus* (Acari: Oribatida: Damaeidae), with the description of a new species from China

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### Abstract

A new species, *Damaeus* (*Tectodamaeus*) *cordatus* **sp. nov.** is described and two new combinations, *Damaeus* (*Tectodamaeus*) *longus* Xie & Yang **comb. nov.** and *Damaeus* (*Tectodamaeus*) *daliensis* Xie & Yang, **comb. nov.** are provided. Notes on the subgenus *Tectodamaeus* and a key to all known species are also given, along with summaries of their geographical distributions.

**Key words:** *Damaeus* (*Tectodamaeus*), new species, taxonomy, checklist, distribution

### Introduction

The oribatid mite family Damaeidae Berlese, 1896 shows greatest taxonomic diversity mostly in the northern hemisphere, with the majority of known species living in forest soils of temperate, boreal and subarctic zones of Palearctic and Nearctic regions (Norton 1979a, b). Up to now, it comprised 280 species in 31 genera (Norton & Behan-Pelletier 2009). These genera are mostly long-legged, medium to large forms (rarely smaller than 500 µm, some species exceeding 1500 µm) with a roughly triangular prodorsum, which is separated from a usually circular or ovoid notogaster by a deep dorsosejugal furrow (Miko & Mourek 2008). Most damaeids are humus layer of soil and litter inhabitants, but a number of species are arboreal. All known damaeids appear to be primarily mycophagous, browsing on fungi, algae, and bacterial films (Norton & Behan-Pelletier 2009).

Aoki (1984) erected the genus *Tectodamaeus* with *Tectodamaeus armatus* Aoki, 1984 as its type species. Three characters differentiated *Tectodamaeus* from *Damaeus*: only 2 setae present on genu IV; presence of a shoehorn-like distal appendage on trochantera III–IV; and absence of labiogenal articulation. However, Wang and Cui (1994) did not follow Aoki (1984) and made *Tectodamaeus* a subgenus of *Damaeus*, because *Tectodamaeus* has many characters in common with *Damaeus*. During our studies on damaeid mites, we recognised 12 species of *Damaeus* (*Tectodamaeus*) including a new species and two new combinations. Following the descriptions, we discuss aspects of the taxonomy of the subgenus, and present a diagnostic key to adults of all known species.

### Material and methods

Measurements and descriptions are based on specimens mounted in temporary cavity slides. Specimens were studied with a light microscope equipped with a drawing attachment. Body length is measured in lateral view, from the tip of the rostrum to the posterior edge of the ventral plate. Length of leg segments is measured in the lateral aspect, and includes the portion inserted into the previous segment. The number of specimens measured does not always equal the number of specimens examined because some structures were indiscernible in some specimens.

The morphological terminology used below is mostly that developed over many years by Grandjean and summarized by Norton (1989). All type specimens and other material studied are kept in Oudemans fluid and deposited in the Institute of Entomology, Guizhou University, Guiyang, China (GUGC).