



# Article

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## ***Blattisocius* (Acari, Blattisociidae) species from Brazil, with description of a new species, redescription of *Blattisocius keegani* and a key for the separation of the world species of the genus**

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### Abstract

Fifteen species have been placed in *Blattisocius* Keegan of which only three were previously reported from Brazil. These mites are found in several different habitats and often mentioned as predators of pests of stored food. In this work, specimens of this genus collected from commercial dog food in Brazil were determined as a new species which is here described as *Blattisocius everti* n. sp. and the closely related *Blattisocius keegani* Fox, here redescribed. Subsequently, other specimens of *Blattisocius* deposited in the mite collection of “Departamento de Entomologia e Acarologia de Escola Superior de Agricultura “Luiz de Queiroz”, Universidade de São Paulo” were examined and identified. Finally, a dichotomous key to separate the world species of *Blattisocius* was elaborated based on the examination of the specimens at hand and on the descriptions and redescriptions of other species.

**Key words:** taxonomy, predator, stored food

### Introduction

Mites of the genus *Blattisocius* Keegan have been reported mainly from stored food (Flechtmann, 1968; Reis & Paschoal, 1968; Baggio *et al.*, 1987; Flechtmann & Zem, 2002; Sousa *et al.*, 2005; Galvão *et al.*, 2011), in insect habitats (Keegan, 1944; Cunliffe & Baker, 1953; Narayanan & Ghai, 1961, Chant, 1963, Treat, 1966, Hughes, 1976, Flechtmann & Zem, 2002, Lindquist *et al.*, 2009), associated with insects (Basha & Yousef, 2000, Treat, 1966, 1975), associated with vertebrates (Fox, 1947), on moss, plants or in decomposing plant parts in the soil (Nesbitt, 1954; Karg, 1976; Bhattacharyya, 1977; Nasr *et al.*, 1988; Ma, 2006). Some *Blattisocius* species found in stored foods have been studied to determine their potential as predators of pest arthropods. Promising results have been reported for *Blattisocius tarsalis* (Berlese) in the control of *Ephestia cautella* (Walker) (Lepidoptera: Pyralidae) (Haines, 1981) and for *Blattisocius keegani* Fox in the control of some Coleoptera species (Thomas *et al.*, 2011). Baker (1967) reported *B. keegani* feeding on eggs of species of the following Coleoptera genera: *Cryptolestes* (Cucujidae), *Tribolium* (Tenebrionidae), *Trogoderma* (Dermestidae) and *Oryzaephilus* (Silvanidae), pests of stored grains, while Beavers *et al.* (1972) reported the same predator to reduce egg hatching of *Diaprepes abbreviatus* (Linnaeus) (Coleoptera: Curculionidae), a pest of citrus in the USA and on the Caribbean islands. Fifteen species have been placed in *Blattisocius*. They were described from all human inhabited continents, except Antarctica and Australia. The largest number of species of *Blattisocius* was described from Asia (two species from China and three from India), followed by Europe (two species from The Netherlands, one from England and one from Italy), Africa (three species from Egypt) and America (one species from the USA, one from Puerto Rico and one from Chile).

A few *Blattisocius* species have been reported from Brazil. *Blattisocius dentriticus* (Berlese) was reported from stored cereals (Baggio *et al.*, 1987) and stored garlic, cassava meal and an insect colony (Flechtmann & Zem,