



## Revisions of Australian ground-hunting spiders: IV. The spider subfamily Diaprogaptinae subfam. nov. (Araneomorphae: Miturgidae)

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## Abstract

The newly recognised Diaprogaptinae includes the Australian *Diaprogapta* Simon, 1909, *Eupograpta* gen. nov., *Mituliodon* Raven & Stumkat, 2003, *Mitzoruga* gen. nov., *Nuliodon* gen. nov., and the New Zealand *Zealoctenus* Forster & Wilton, 1973. All genera are unique in the Miturgidae *s. strict.* in the possession of claw tufts, and more equivocally, in the apical segment of the posterior lateral spinnerets, which in Diaprogaptinae is not as strongly elongated as in *Miturga*. *Diaprogapta* includes the type species, *D. striola* Simon, 1909 from Western Australia, *D. hirsti* sp. nov. from South Australia, *D. alfredgodfreyi* sp. nov. from Victoria, *D. peterandrewsi* sp. nov. from western Queensland and *D. abrahamsae* sp. nov. from southeast Queensland. *Eupograpta* includes *E. kottae* sp. nov., sympatric with *Diaprogapta striola* and *E. anhat* sp. nov., from western Queensland. *Mitzoruga* gen. nov. is described to accommodate *Uliodon marmoreus* (Hogg, 1896), *M. insularis* sp. nov., and *M. elapines* sp. nov., from xeric regions of Australia. The genus presents a character combination which challenges the boundary between the Miturgidae Simon, 1886 and Zoridae F. O. P.-Cambridge, 1893. *Nuliodon* gen. nov. includes only *N. fishburni* sp. nov. from eastern Australia.

**Key words:** Zoridae, taxonomy, Australia, biodiversity, biogeography, distribution

## Introduction

The Miturgidae Simon, 1886 are small to quite large, fast-moving, ground-hunting spiders that occur for the length and breadth of Australia. They are also reported from Africa, the Middle East and southern USA, Mexico to Argentina. The family has diversified strongly in Australia in xeric areas with the widespread, striped spiders of the genus *Miturga* Thorell, 1870 often the most conspicuous. Hence, they commonly feature in invertebrate pitfall trap surveys.

Our understanding of the relationships of the Miturgidae and, hence, the included genera have changed dramatically since Simon (1886) introduced the group name. Originally, the tribe included only *Miturga* but was later expanded to be included within the liocranine Clubionidae Wagner, 1887 (Simon 1897). However, that initial subfamily concept admitted the ctenid *Vulsor* Simon, 1889, and the zorid *Argoctenus* L. Koch, 1878, along with *Miturga*, *Prochora* Simon, 1886, and two eutichurine genera.

Lehtinen (1967) elevated the Miturgeae to family status but listed it within the Amaurobioidea, rather than the Lycosoidea. Lehtinen's Miturgidae included genera now listed in at least three other families, viz., the preoccupied Machadoniinae (= Griswoldiinae), Uliodoninae (mistakenly founded on *Mituliodon tarantulinus* (L. Koch, 1873), not the type species of *Uliodon* L. Koch, 1873), Tengellidae Dahl, 1908, Amaurobioidea (now listed in the Anyphaenidae Bertkau, 1878), as well as the Eutichurinae Griswold (1993) made substantive changes to Lycosoidea, to which he transferred the Miturgidae and the elevation of the Tengellidae was supported. Further changes were made by Raven & Stumkat (2001, 2003), Silva (2003) and Raven & Stumkat (2005) through cladistic analyses. Of the miturgid subfamilies included by Lehtinen (1967), Raven & Stumkat (2005) transferred the Griswoldiinae with *Uliodon* and related genera to the Zoropsidae.

Through all, the position of the Eutichurinae has remained unsatisfactorily supported. Despite the absence of supporting cladistic analyses, genera related to *Cheiracanthium* C. L. Koch, 1839 in the subfamily Eutichurinae, are currently listed in the Miturgidae (Platnick 2008). That grouping is here not followed because the two published cladograms which include the Miturgidae (*s. strict.*), Clubionidae and the Eutichurinae show that the Eutichurinae are more closely related to the Clubionidae than to the Miturgidae (Silva, 2003, Raven & Stumkat, 2005). A part of that confusion has lain in the distribution of the longer apical segment of the posterior lateral spinnerets, a character well-known in the Agelenidae C. L. Koch, 1837 and venoniine Lycosidae Sundevall, 1833 and substantially developed in the Hahniidae Bertkau, 1878 and Hersiliidae Thorell, 1870 (e.g., Raven *et al.* 2002). The miturgids treated here reflect the distribution of the short, domed segment of the posterior lateral spinnerets. "Miturgid genera used by Griswold *et al.* (1999) were transferred by Raven & Stumkat (2005) to the Zoropsidae Bertkau, 1882.

This study is one in a series of papers on the Australian Miturgidae and other fossorial families (e.g., Zoridae; Raven 2008). The concept of the Miturgidae was modified implicitly by the removal of taxa like