



## The placement of the spider genus *Periegops* and the phylogeny of Scytodoidea (Araneae: Araneomorphae)

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### Abstract

The relationships of Scytodoidea, including the families Drymusidae, Periegopidae, Scytodidae and Sicariidae, have been contentious for a long time. Here we present a reviewed phylogenetic analysis of scytodoid spiders, emphasizing *Periegops*, the only genus in the family Periegopidae. In our analysis the Scytodoidea are united by the fusion of the third abdominal entapophyses into a median lobe, the presence of female palpal femoral thorns and associated cheliceral stridulatory ridges, a membranous lobe on the cheliceral promargin, and the loss of minor ampullate gland spigots. A basal split within Scytodoidea defines two monophyletic groups: Sicariidae and a group formed by Scytodidae as the sister group of Periegopidae plus Drymusidae, all united by having bipectinate prolateral claws on tarsi I–II, one major ampullate spigot accompanied by a nubbin, and the posterior median spinnerets with a mesal field of spicules. *Periegops* is the sister group of Drymusidae, united by the regain of promarginal cheliceral teeth and a triangular cheliceral lamina, which is continuous with the paturon margin.

**Key words:** *Drymusa*, Drymusidae, Haplogyne, morphology, *Scytodes*, *Stedocys*, Scytodidae, Sicariidae, *Sicarius*, *Loxosceles*

### Introduction

The family Periegopidae currently comprises only the genus *Periegops*, with two species: the type species *Periegops suteri* (Urquhart) from the Banks Peninsula on the South Island of New Zealand (Vink 2006), and *Periegops australia* Forster, from southeastern Queensland (Forster 1995). A single female of an unidentified *Periegops* species from the East Cape region of the North Island of New Zealand was also mentioned by Forster (1995); at present, the delimitation of species within *Periegops* is dependent on the detailed structure of the male copulatory bulb, hence the identification of this specimen should wait for new data, although mitochondrial COI molecular evidence suggests that it may be a distinct species (unpublished data mentioned in Vink 2006).

The genus *Periegops* was first included in the subfamily Periegopinae by Simon (1893), and placed in the Sicariidae, along with Drymusinae, Loxoscelinae, Plectreurinae, Scytodinae and Sicariinae. Simon was the first to discover that *Periegops* and *Scytodes* had a bipectinate “external superior” tarsal claw on the anterior tarsi. Simon included *Diguetia* and *Pertica* (later synonymized with *Segestrioides*; Brescovit & Rheims 2005) in Periegopinae, but Petrunkevitch (1928) removed them and placed them into Diguetinae. Bryant (1935a, b) suggested a family rank for *Periegops* that included also *Plectreurys* and *Diguetia*, but she took no formal action.

Lehtinen (1986) studied only the female holotype of *P. suteri*. He mentioned that Periegopidae, Drymusidae, Scytodidae and Ochyroceratidae share a particular dentition pattern in the tarsal claws, but he never explained or described this character in detail, so his observations were not conclusive. He also suggested that *Periegops* could be a strongly apomorphic derivative of the classical (non-monophyletic, Platnick *et al.* 1991), Scytodoidea, composed of the Caponiidae, Diguetidae, Loxoscelidae, Ochyroceratidae, Plectreuridae, Pholcidae, Scytodidae, Sicariidae and Tetrablemmidae (Brignoli 1975, 1978).

Platnick *et al.* (1991) investigated the spinneret morphology of haplogyne araneomorph spiders (Haplogynae), and produced a cladistic analysis with all haplogyne families except Periegopidae. They obtained a restricted Scytodoidea, composed of Sicariidae, Scytodidae, and Drymusidae, in which Scytodidae and Drymusidae were united