



The first pararchaeid spider (Araneae: Pararchaeidae) from New Caledonia, with a discussion on spinneret spigots and egg sac morphology in *Ozarchaea*

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Abstract

The first pararchaeid species to be recorded from outside Australia or New Zealand, *Flavarchaea humboldti* n. sp., is described from female specimens collected near the summit of Mont Humboldt, New Caledonia. Morphological and behavioural data are further described for Western Australian species of *Ozarchaea* Rix, with the spinneret spigot morphology of *O. harveyi* Rix imaged under a scanning electron microscope, and the egg sac of *O. westraliensis* Rix described for the first time. Pararchaeid spinnerets possess two major ampullate gland spigots on the anterior lateral spinnerets and no triad on the posterior lateral spinnerets; such a spinneret spigot arrangement does not support the placement of the Pararchaeidae in the superfamily Araneoidea, and further research is needed to test the phylogenetic position of this enigmatic family.

Key words: taxonomy, Nouvelle Calédonie, Western Australia, spinnerets, spigots, egg sac, Palpimanoidea, Entelegynae, Araneoidea

Introduction

The tiny, cryptic spiders of the family Pararchaeidae (Figs 32–34) have long been of interest to araneologists. Their rarity in collections (Rix 2006), combined with their remarkable morphology and unresolved phylogenetic placement, have helped make this family among the most enigmatic of all spider lineages – instantly recognisable and yet central to competing phylogenetic hypotheses within the Araneae. Previously known only from Australia and New Zealand (Rix 2006), the Pararchaeidae include seven genera and 34 described species (Platnick 2009), all characterised by strange ‘snap-jaw’ chelicerae armed with peg teeth and a comb of moveable setae (Figs 22, 25–29). Despite recent revisionary works and a clearer picture of pararchaeid taxonomy and phylogeny (Rix 2005, 2006), new species continue to be discovered, and much remains to be described for this unusual group. The recent discovery of the family on the Pacific island of New Caledonia highlights this problematic gap, and the need for a re-evaluation of the state of pararchaeid systematics.

Like Mecysmaucheniidae, Holarchaeidae and the ‘Assassin Spiders’ of the family Archaeidae (see Wood *et al.* 2007; Wood 2008), pararchaeid spiders possess a remarkable, elevated ocular region on the carapace bearing an unusual cheliceral foramen (Forster and Platnick 1984) (see Figs 5–6, 22–24, 29); a distinctive feature which has generated taxonomic interest and debate since Forster (1949), and which continues to influence the higher classification of this unusual group. While initially described and currently placed with the Archaeidae in the basal araneomorph superfamily Palpimanoidea (Forster and Platnick 1984), mounting phylogenetic evidence has questioned the affinities and phylogenetic placement of the family Pararchaeidae, and recent research suggests that these spiders may be nested within or near the superfamily Araneoidea (a megadiverse lineage including all of the orb-web building spiders and their kin) (see Schütt 2000; Griswold *et al.* 2005; Rix *et al.* 2008). Pararchaeids clearly possess an eclectic mix of features which suggest affinities