

# New Species of Cirratulidae (Annelida) from Continental Slope and Abyssal Depths off Eastern Australia

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**ABSTRACT.** Seven new species of Cirratulidae are described from deep waters off the east coast of Australia. Samples were collected as part of the RV *Investigator* voyage IN2017\_V03 in May/June 2017 using a Brenke sledge and 0.25 m<sup>2</sup> box core. Sample depths reported in the present study were from the lower continental slope of about 2100 m to abyssal depths up to 4170 m. These collections provide the first cirratulid polychaetes to be described from deep water off Australia. The new species of Cirratulidae are in the genera *Aphelochoaeta* (2), *Chaetocirratulus* (2), *Chaetozone* (2), and *Kirkegaardia* (1). Each of the new species is compared and contrasted with their known congeners. The bitentaculate Cirratulidae known from abyssal depths of 3000 m and greater are reviewed and discussed.

## Introduction

The present study is based on annelids of the family Cirratulidae collected as part of the RV *Investigator* cruise (IN2017\_V03) along the eastern continental margin of Australia in May/June 2017 (Gunton *et al.*, 2021) and represents the first report of deep-sea annelids of this family from Australian waters.

Cirratulid polychaetes are among the most commonly encountered polychaetes in benthic communities, including nearshore habitats as well as the deep sea (Blake & Magalhães 2019). Cirratulids are classified into bitentaculate and multitentaculate genera. The bitentaculate genera are widespread in all habitats including the deep sea, whereas the multitentaculates are more or less limited to nearshore habitats. With the advent of offshore surveys and monitoring

programs, numerous species of bitentaculate cirratulids have been described globally as part of studies conducted over the past two decades (Blake, 1996, 2006, 2015, 2016, 2018, 2019, 2021, 2022; Blake & Dean, 2019; Chambers, 2000; Chambers & Woodham, 2003; Doner & Blake, 2009; Dean & Blake, 2007, 2009, 2016; Elías & Rivero, 2008, 2009, 2011; Elías *et al.*, 2017; Magalhães & Brock, 2013; Grosse *et al.*, 2021). However, despite these studies and others, there have been few reports on bitentaculate cirratulids from Australia. Hutchings & Murray (1984) and Hutchings & Rainer (1979) described six new bitentaculate species from intertidal and nearshore habitats, but no bitentaculate cirratulid species have been described from deep water off Australia.

Annelids included in the present study include new species in the cirratulid bitentaculate genera *Aphelochoaeta*, *Chaetocirratulus*, *Chaetozone* and *Kirkegaardia*.

**Keywords:** Annelida, polychaetes, Cirratulidae, benthos, deep sea, new species, *Aphelochoaeta*, *Chaetocirratulus*, *Chaetozone*, *Kirkegaardia*, eastern Australia  
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