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695

**Further species of the opisthobranch genus *Okenia*
(Nudibranchia: Goniodorididae)
from the Indo-West Pacific**

W.B. RUDMAN



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Abstract

Five new species of the nudibranch genus *Okenia* Menke, 1830 (Goniadorididae) are described from Australian waters and the anatomy of another ten species from Australia and the Indo-West Pacific are described. *Okenia purpurata* sp. nov. and *O. vena* sp. nov. are reported from northern New South Wales where they feed on the bryozoan *Amathia tortuosa* Tenison Woods, 1880. *Okenia mellita* sp. nov. is reported from New South Wales, and a pair of species, *O. hallucigenia* sp. nov.

and *O. stellata* sp. nov. are reported from various locations in northern Australia where they both feed on the bryozoan *Pleurotoichus clathratus* (Harmer, 1902). *Okenia virginiae* Gosliner, 2004 is reported for the first time from Australia as is the Atlantic species *Okenia zoobotryon* (Smallwood, 1910). Anatomical information for *O. barnardi* Baba, 1937, *O. hiroi* (Baba, 1938) and *O. mija* Burn, 1967 is provided for the first time, as is further information on *O. plana* Baba, 1960 and *O. pilosa* (Bouchet and Ortea, 1983) from Australia and Hong Kong. New observations on the bryozoan prey of various species is reported: *O. mija* feeding on *Amathia wilsoni* Kirkpatrick, 1888, *O. zoobotryon* on *Zoobotryon verticillatum* (delle Chiaje, 1828), *O. hiroi* on an unnamed species of *Integripelta* Gordon, Mawatari & Kajihara, 2002, *O. plana* on *Membranipora membranacea* (Linnaeus, 1767), *Jellyella tuberculata* (Bosc, 1802) and *Cryptosula pallasiana* (Moll, 1803). *Okenia japonica* Baba, 1949 and *O. purpureolineata* Gosliner, 2004 are reported feeding on the same unidentified species of *Amathia* Lamouroux, 1812.

Key words: Mollusca, Goniodorididae, *Okenia*, new species, Australia, Indo-West Pacific

Introduction

In a recent revision of the Indo-West Pacific species of the goniodorid genera *Okenia*, *Sakishimaia*, *Hopkinsiella* and *Hopkinsia*, Gosliner (2004) proposed that they form a monophyletic clade and consequently synonymised all genera with the oldest name, *Okenia*. As Gosliner stated, our understanding of this group is still at a preliminary stage and we still have much to learn about the anatomy of many species of this group world wide. Thirteen species, including six new species are described by Gosliner from the Indo-West Pacific and a further 12 species, including five new species are described in this paper. There are at least six further species from the Indo-West Pacific we know little about, five from the eastern Pacific (Behrens 2004a, pers comm; Lance 1966; Millen *et al.* 1994) and at least 12 from the Atlantic (Cervera *et al.*, 1991; Ortea & Espinosa 2000; Schmekel & Portmann 1982), giving us a group of over 40 species. Within this group there is a considerable variation in external shape and radular morphology, but until we know more about the anatomy and biology of individual species, it is difficult to interpret character variation within the group and analyse relationships. For example, the shape of the radular teeth changes very little within the family Goniodorididae, the radula of species of *Trapania* or *Goniodoris*, being indistinguishable from many species of *Okenia*, (see Rudman 1987), and yet in *Okenia* we find many species in which the radula has undergone considerable change in shape from the 'typical'. Species such as *Okenia nakamotoensis* (Hamatani, 2001), *O. kondoi* (Hamatani, 2001), and *O. stellata* show little similarity to the teeth of 'typical' species such as *O. echinata* and *O. virginiae* (see Gosliner 2004; this paper). In some instances, such changes in form can be linked to functional changes. For example, it is not unreasonable to propose that a change in food could lead to alteration in the shape of the teeth. However within the Goniodorididae there are species of *Trapania* feeding on