



## A new cardinalfish of the genus *Apogonichthyoides* (Perciformes, Apogonidae) from Raja Ampat Islands, with a key to species

THOMAS H. FRASER<sup>1</sup> & GERALD R. ALLEN<sup>2</sup>

<sup>1</sup>*Ichthyology Department, Florida Museum of Natural History, University of Florida, Gainesville, Florida, 32611, USA & Mote Marine Laboratory, 1600 Ken Thompson Parkway, Sarasota, Florida, 34236, USA. E-mail: cardinalfish@comcast.net*

<sup>2</sup>*Department of Aquatic Vertebrates, Western Australian Museum, Locked Bag, Welshpool DC, Perth, Western Australia 6986, Australia. E-mail: tropical\_reef@bigpond.com*

### Abstract

Another deep-water cardinal fish of the genus *Apogonichthyoides* is described from Fiabacet Island, Western Papua, Indonesia. Collected at 73 m, *Apogonichthyoides erdmanni* has very distinctive markings on the head and body. It is brown with a dark spot on the body below the anterior lateral line, two slightly darker body bars and darker markings on the head, all similar features to those of the Philippine species *Apogonichthyoides uninotatus*. The new species has vivid, horizontal dark cheek and post-ocular marks, a small oval spot between the eye and tip of upper preopercular arm, yellowish anal, second dorsal and caudal fins, a narrow basicaudal bar less than 1/3 the length of the caudal peduncle, a vertical bar under the posterior half of the second dorsal-fin base reaching the base of the anal fin, small dark spots on the lower half of the body onto the lower portion of the caudal peduncle and a body spot smaller than the pupil of the eye. *Apogonichthyoides uninotatus* has a faint diagonal cheek mark, a faint horizontal post-ocular mark, a faint dash between the eye and the tip of the upper preopercular arm, brownish anal, second dorsal and caudal fins, a broad basicaudal bar more than 2/3 the length of the caudal peduncle, a broad body bar as a chevron including all of the second dorsal-fin base reaching the base of the anal fin, no small dark spots on the lower half of body and a body spot larger than the pupil of the eye. A key to twenty-two species of *Apogonichthyoides* is provided.

**Key words:** *Apogonichthyoides erdmanni*, species key, Apogonidae, cardinalfish

### Introduction

The Bird's Head region of Indonesia, which comprises Papua Barat Province and the easternmost portion of Papua Province, lies at the extreme western end of New Guinea. It contains the world's highest diversity of coral reef-associated fishes. Allen and Erdmann (2009) provided a comprehensive list containing 1476 species in 111 families. The westernmost portion of this region known as the Raja Ampat islands contains an amazing wealth of marine habitats, and consequently is home to an exceptionally rich and varied reef fish fauna. Allen and Erdmann (2009) listed 1310 species and this total has since increased to 1,426 (Allen unpublished data). Apogonidae are particularly well represented with 120 species in 17 genera. Although it is unlikely that any of the species are endemic to the Raja Ampat Islands, due to its proximity to the New Guinea mainland and nearby Halmahera, at least four species are apparently endemic to the greater Bird's Head region including *Ostorhinchus oxygrammus* (Allen, 2001), and two undescribed species of *Siphamia*. The present paper describes a species of the genus *Apogonichthyoides* that was collected by colleague M. Erdmann in 73 m depth off southeastern Misool, one of the principle islands of the Raja Ampat Group.

Deep-water apogonids are rarely collected by any method and usually represented by few specimens in museum collections. We describe this species on the basis of a single specimen because it is unlikely that additional specimens will be available in the near future due to its relatively inaccessible habitat. Moreover, the highly distinctive color pattern is well developed in our adult specimen and good photographs were obtained when it was fresh. We believe the present description will contribute to a better understanding of the genus *Apogonichthyoides*, which