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Re-description of two species of the cardinalfish genus *Archamia* (Teleostei: Apogonidae) from the Red Sea and Western Indian Ocean

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Abstract

The cardinalfishes *Archamia bilineata* and *A. pallida* were originally described from a small number of specimens collected in the Gulf of Aqaba, Red Sea and Oman, respectively. Both species are re-described using specimens collected recently in Yemen and Kenya, including the first known adult of *A. pallida*. These new collections increased the geographical range of both species considerably. Differences between the two populations now known for each of the species are discussed.

Key words: *Archamia bilineata*, *Archamia pallida*, *Archamia mozambiquensis*, fish taxonomy, Kenya, Yemen

Introduction

The Western Indian Ocean (WIO) has eight species belonging to the cardinalfish genus *Archamia* (Gon & Randall 2003a). *Archamia fucata* (Cantor), an Indo-West Pacific species, is widespread throughout the WIO and farther eastward. *Archamia lineolata* (Cuvier), initially thought to be distributed in the Red Sea and along the east coast of Africa, is a Red Sea endemic, while its east African specimens were described by Gon and Randall (2003a) as a new species, *A. flavofasciata*. These authors also reported the presence of *A. bleekeri* (Günther) in the WIO. Gon & Randall (1995) described three new species of *Archamia* from the WIO area, albeit on the basis of a small number of specimens. These were *A. irida* from the Gulf of Suez, Red Sea, which was later found to be juvenile *A. fucata* (Gon & Randall 2003a); *A. bilineata* from the Gulf of Aqaba, Red Sea; and *A. pallida* from the Gulf of Oman. The seventh species is *A. mozambiquensis* Smith that occurs along the east coast of Africa (Smith 1961, Gon in Smith & Heemstra 1986, Gon & Randall 2003a). The eighth species, *A. buruensis*, was reported from the Laccadive Islands by Jones (1964) and was overlooked by Gon and Randall (2003a). However, Jones & Kumaran (1980) left this species out of their book on the fishes of the Laccadive Islands. In this paper we report the first finding of *A. pallida* in Kenya, including the first known adult of this species, as well as the presence of *A. bilineata* along the Red Sea Coast of Yemen. These discoveries allowed us to re-describe both species using larger sample sizes and to examine differences between populations.

Materials and methods

Methods follow Gon & Randall (2003a). Unless indicated otherwise, length is given as the standard length (SL) of the fish. Pectoral-fin ray counts include the uppermost rudimentary ray. A developed gill-raker is higher than the width of its base and the gill-raker at the angle of the gill arch is included in the lower-limb count. The new material used for this study is lodged with the South African Institute for Aquatic Biodiversity (SAIAB, previously RUSI), Grahamstown, South Africa. The holotypes and paratypes of both species lodged with the Bernice P. Bishop Museum (BPBM), Honolulu were re-examined by Arnold Suzumoto, the collection manager. Frequency distributions of meristic characters and proportional measurements are given in Tables 1–6.