Zootaxa 1401: 63–68 (2007)
www.mapress.com/zootaxa/

ISSN 1175-5326 (print edition)
ZOOTAXA
ISSN 1175-5334 (online edition)

Larvae of the sand stargazer *Sindoscopus australis* and notes on the development of Dactyloscopidae (Perciformes: Blennioidei)

GUILLERMO A. HERRERA[1]*, ALEJANDRA LLANOS-RIVERA[2] & MAURICIO F. LANDAETA[3]

1 Natural History Museum of Los Angeles Co., Section of Vertebrates, 900 Exposition Blvd, Los Angeles, CA 90007, USA

2 Departamento de Zoología, Universidad de Concepción. Casilla 160-C, Concepción, Chile.
3 CIEN Austral- Universidad Austral de Chile, sede Puerto Montt, Avda. Los Pinos s/n, Balneario Pelluco, Puerto Montt, Casilla 1327, Puerto Montt, Chile.
** Corresponding author*

Abstract

Pre- and post-flexion larvae of the temperate sand stargazer *Sindoscopus australis* (Dactyloscopidae, Blennioidei) in the size range of 4.4 to 16.0 mm are described using specimens collected in nearshore plankton samples inside bays of Central Chile. The larvae are elongate with a pointed snout, a large head and a short and compact gut with short preanal distance. They show pigmentation at the cleithral symphysis, above the gut, ventrally at the otic capsules, and on the ventrum. They lack pigment dorsally on the head. Although the larvae of three dactyloscopid genera remain undocumented, the available evidence suggests that some larval characters are indicative of phylogenetic affinities. The phylogenetically primitive genus *Platygillellus* has paired melanophores on the head, a generalized feature common to basal blennioids (e.g. Blenniidae and Tripterygiidae). The derived genera show two conditions: the larvae of the related genera *Gillellus* and *Sindoscopus* lack dorsal cephalic pigmentation; the larvae of the species of the clade *Myxodagnus*-*Dactylagnus* plus *Dactyloscopus* have a single large melanophore dorsally on the head and ventrally on the gut.

Key words: *Sindoscopus*, Dactyloscopidae, ichthyoplankton, Chile

Introduction

Sand stargazers (Blennioidei: Dactyloscopidae) are small (adults usually <10 cm) sand-dwelling fishes that inhabit shallow, tropical, and warm temperate waters of the New World (Doyle 1996, 1998); they comprise 41 species included in 9 genera (Nelson 1994), 4 of which are monotypic. They are elongate and slender, have thoracic pelvic fins, have long dorsal and anal fins, and show cryptic coloration (Watson 1996). They show some unique features, such as the development of opercular and lateral fimbriae, both associated with sand dwelling habits (Doyle 1996, 1998).

Dactyloscopidae is a basal group within Blennioidei based on molecular evidence (Stepien *et al*. 1997). A hypothesis of relationships for the family was proposed by Doyle (1996, 1998), based mainly on osteological characters. In the cladogram of Doyle (1998), *Heteristius* branches off first, followed by *Platygillellus*. The remaining 6 genera are divided into two clades with three genera each ([*Gillellus*-*Sindoscopus*]-*Leurochilus*, and [*Dactylagnus*-*Myxodagnus*]-*Dactyloscopus*; the monotypic *Storrsia*, known only from one specimen, was not included.

Accepted by A. Gill: 19 Dec. 2006; published: 1 Feb. 2007