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Chriolepis prolata, a new species of Atlantic goby (Teleostei: Gobiidae) from the North American continental shelf

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Abstract

A new species of seven-spined goby of the genus *Chriolepis* is described from five specimens collected from the continental shelf of the northeastern Gulf of Mexico and Atlantic Ocean off South Carolina in depths of ca 54 to 110 m. The "Platform Goby", *Chriolepis prolata*, is distinguishable from all other western Atlantic species currently assigned to the genus *Chriolepis* and the morphologically similar genus *Varicus* in having pelvic-fin rays one through four branched, the fifth (innermost) pelvic-fin ray unbranched and relatively long (longer than the second ray to longer than all other pelvic-fin rays); most lateral body scales ctenoid, extending anteriorly in a wedge to a level anterior to the first dorsal-fin insertion or nearly to the pectoral-fin axil, with two or more rows of small cycloid scales extending anteriorly to near the pectoral-fin axil, cycloid scales along the bases of the dorsal and anal fins, and no scales on the belly; and the first two anal-fin pterygiophores inserted anterior to the first haemal spine. It closely resembles *C. bilix* but differs from that species which has a scaled belly, a shorter fifth pelvic-fin ray, prolonged dorsal-fin spines and smaller teeth in the lower jaw. An earlier report of *C. bilix* from Florida waters apparently refers to *C. prolata*.

Key words: Gobiidae, *Chriolepis, Varicus,* Gulf of Mexico, continental shelf

Introduction

Gobies currently allocated to the New World genus *Chriolepis* are small, often found in relatively deep waters, and typically known from only a few specimens that are frequently in poor condition (Hastings & Findley 2013). As currently defined, *Chriolepis* differs from other genera of seven-spined gobies in lacking head pores, in lacking a pelvic interspinal frenum and an interradial membrane thus having the left and right pelvic fins separate, and by having at least some pelvic-fin rays branched. It is similar to the western Atlantic genus *Varicus* which has unbranched pelvic-fin rays, but the distinction between the two genera in other characters remains unclear and the monophyly of both genera remains in doubt (Hastings & Bortone 1981; Birdsong *et al.* 1988; Van Tassell 2011). Generic distinctions and species relationships within this, the *Nes*-subgroup of the *Gobiosoma*-group (*sensu* Van Tassell 2011), are currently under study by James Van Tassell, Luke Tornabene and colleagues (pers. comm., 2014). We herein describe a new species from collections made in the northeastern Gulf of Mexico and off South Carolina, tentatively place it in the genus *Chriolepis*, and briefly compare it morphologically with other known species of western Atlantic *Chriolepis* and *Varicus* and one similar described species of *Chriolepis* from the tropical eastern Pacific.

Material and methods

Meristic and morphometric data were recorded following the procedures of Böhlke & Robins (1968) as emended by Hastings & Bortone (1981). Dorsal-fin pterygiophore formula follows the notations of Birdsong *et al.* (1988).

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present in *C. fisheri*). *Chriolepis prolata* differs from morphologically similar gobies in the genus *Varicus* in having branched pelvic-fin rays (unbranched in *Varicus*), the fifth pelvic-fin ray considerably longer than the pelvic-fin spine (shorter than the spine in *Varicus*), and greater numbers of second dorsal-fin and anal-fin elements (Table 1).

Both *C. prolata* and *C. bilix* resemble the eastern Pacific species *Chriolepis atrimelum* Bussing, 1997, known from a single specimen collected at a depth of 137–146 m at Isla del Coco off Costa Rica (Bussing 1997). All three species have a fully scaled body and the first two anal-fin pterygiophores inserted anterior to the first haemal spine, but unlike the other two species, *C. prolata* lacks prolonged dorsal-fin spines.

The presence of the first two anal-fin pterygiophores inserted anterior to the first haemal spine in *C. prolata* and *C. bilix* appears to be unique among western Atlantic species of *Chriolepis*, as well as the related genus *Varicus;* all other known western Atlantic species of these genera have only the first anal-fin pterygiophore inserted anterior to the first haemal spine (Table 1; Birdsong *et al*. 1988). This feature is shared with *C. atrimelum*, as well as some other eastern Pacific species of *Chriolepis* (Birdsong *et al.* 1988). Thus, the importance of this character in determining relationships among the species of these poorly known gobies remains unclear.

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