



## ***Barbulifer enigmaticus*, a new seven-spined goby (Pisces: Teleostei: Gobiidae) from the southwestern Atlantic**

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### **Abstract**

A new *Barbulifer* species is described from 26 specimens. *Barbulifer enigmaticus* differs from its congeners by the following combination of characters: body completely lacks scales, including modified basicaudal scales. Cephalic pore pattern generally B'FH' + M'O' in juveniles and B'FH' + M'NO' in adults. No median barbel on snout. A single short barbel on each side of head, flattened, flexible, and located between the eye and the upper jaw, directly below the anterior nostril. A single median pair of short barbels on chin. D1 VII, D2 13(12–13), A 11(10–11), P 19(18–20). To 24 mm SL (29 mm TL). The species is found in very shallow reef areas from Espírito Santo to São Paulo, southeastern Brazil.

**Key words:** *Gobiosoma*, *Barbulifer*, Gobiosomatini, Brazil, rockpools, new species, intertidal, reef

### **Introduction**

In their identification guide for the marine fish fauna of the south eastern and south Brazilian coasts, Menezes & Figueiredo (1985) listed the gobiid *Gobiosoma nudum* (Meek & Hildebrand, 1928) as occurring in the states of Rio de Janeiro and São Paulo. The nominal species was originally described from the Pacific coast of Panama (tidepools in Panama City; see Böhlke & Robins, 1968). It is thought to have crossed the Isthmus of Panama via ship ballast water, but to be restricted to the Atlantic coast of Panama (Böhlke & Robins, 1968; Rubinoff & Rubinoff, 1969; Wonham *et al.*, 2000). Recent collections, however, failed to obtain this species on the Atlantic side of Central America (Van Tassell, pers. obs.). Menezes & Figueiredo (1985) reported that "all specimens we examined, captured in southeastern Brazil, lack the two basicaudal scales described in specimens from other regions. The body is completely naked". The morphological differences observed in the Brazilian specimens with regards to the original description (but see Hoese, 1971) and the hypothetically highly disjunct geographic distribution in the Atlantic lead further workers to question the taxonomic status of these gobies (*e.g.*, Moura *et al.*, 2003). Examination of the head pores, papillae patterns, barbels, and squamation of specimens recently collected by us revealed that the species belongs to the genus *Barbulifer*, thus adding a fifth species to this American genus.

### **Methods**

Measurements follow Böhlke & Robins (1968) and Hoese & Larson (1985), repeated here for clarification: body depth at the origin of first dorsal fin (excluding pelvic fin); body depth at the origin of the anal fin; least depth of caudal peduncle; caudal peduncle length (from insertion of the last segmented anal ray to the end of the hypural plate); base of first dorsal fin (including free membrane present after 7th spine); base of second