

A new cleaner goby of the genus *Elacatinus* (Teleostei: Gobiidae), from Trindade Island, off Brazil

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Abstract

Elacatinus pridisi n. sp., a cleaner goby from Trindade Island, off Brazil, differs from its congeners of the *Horsti* Complex that have a pale stripe extending from the eye to the caudal fin base by the following combination of characters: dark longitudinal stripe wide, reaching lower abdomen and base of anal fin (vs. never reaching lower abdomen or base of anal fin in all other species); pectoral-fin rays typically 18 (vs. typically 17 in *E. randalli* (Böhlke & Robins) and *E. figaro* Sazima et al. and typically 16 in *E. atronasum* (Böhlke & Robins)); anal-fin rays typically 11 (vs. typically 10 in *E. figaro*); a pale oval spot present on snout (vs. no spot in *E. atronasum* and *E. horsti* (Böhlke & Robins), a "V"-shaped spot in *E. prochilos* (Böhlke & Robins), and a medial bar in *E. xanthiprora* (Böhlke & Robins), *E. louisae* (Böhlke & Robins) and *E. lori* Colin). The new species was recorded in depths ranging from 3 to 30 m, over rocky reefs and calcareous-algae banks around the island. It has been observed in cleaning activities during the day with clients varying from large-sized carnivores such as *Carcharhinus perezii* (Poey) to small-sized planktivores such as *Chromis multilineata* (Guichenot). The discovery of the new species reinforces recognition of the Trindade-Martin Vaz insular complex as an area of endemism in the Atlantic Ocean.

Key words: Western South Atlantic, oceanic island, Brazil, reef fish, endemism, new species, *Elacatinus*, Gobiidae

Resumo

Elacatinus pridisi n. sp., um góbio limpador da Ilha da Trindade, situada ao largo da costa Brasileira, difere de seus congêneres do Complexo *Horsti* com a faixa longitudinal clara se estendendo do olho até a base da nadadeira caudal pela seguinte combinação de caracteres: faixa longitu-

dinal escura larga, atingindo abdômen e base da nadadeira anal (*vs.* nunca atingindo abdômen ou base da nadadeira anal nas demais espécies); raios da nadadeira peitoral tipicamente 18 (*vs.* tipicamente 17 em *E. randalli* (Böhlke & Robins) e *E. figaro* Sazima et al. e tipicamente 16 em *E. atronasum* (Böhlke & Robins)); raios da nadadeira anal tipicamente 11 (*vs.* tipicamente 10 em *E. figaro*); mancha clara ovalada presente no dorso do focinho (*vs.* mancha ausente em *E. atronasum* e *E. horsti* (Böhlke & Robins), mancha em forma de "V" em *E. prochilos* (Böhlke & Robins), e mancha na forma de uma barra mediana em *E. xanthiprora* (Böhlke & Robins), *E. louisae* (Böhlke & Robins) e *E. lori* Colin). A nova espécie foi registrada em profundidades variando de 3 a 30 m, sobre recifes rochosos e bancos de algas calcárias ao redor da ilha. Ela foi observada em atividade de limpeza durante o dia com clientes variando de carnívoros de grande porte como *Carcharhinus perezi* (Poey) a planctívoros de pequeno porte como *Chromis multilineata* (Guichenot). A descoberta da nova espécie reforça o reconhecimento do complexo insular de Trindade-Martin Vaz como uma área de endemismo no Oceano Atlântico.

Introduction

Gobies of the tropical New World genus *Elacatinus* Jordan, the neon gobies, are small-sized reef inhabitants, which are typically brightly colored and engage in cleaning symbiosis with larger fishes and invertebrates (Colin 1975; Johnson 1982; Pezold 1993). The group is represented by five species in the eastern Pacific (Bussing 1990), 13 in the western North Atlantic (Böhlke & Robins 1968; Colin, 2002) and two in the western South Atlantic: *Elacatinus figaro* Sazima et al. from the Brazilian coast (Sazima et al. 1996) and *Elacatinus randalli* (Böhlke & Robins) from Fernando de Noronha Archipelago (Sazima & Moura, 2000). During recent field trips to Trindade Island, lying some 1160 km off the eastern Brazilian coast, we collected a third western south Atlantic species of the genus, which is described herein as new.

Materials and Methods

Specimens were collected using hand-nets during day-time SCUBA dives. Counts and measurements follow Böhlke and Robins (1968). In the description, the values in parentheses indicate the modes for counts. Colour names follow Kornerup and Wanscher (1961). Institutional abbreviations are as listed in Leviton et al. 1985, except for (LBRP) Coleção Ictiológica, Laboratório de Biodiversidade de Recursos Pesqueiros, Universidade Federal do Rio de Janeiro, (MBML) Coleção Zoológica, Museu de Biologia Professor Mello Leitão and (UFES) Coleção Zoológica, Universidade Federal do Espírito Santo. The abbreviation "c & s" means cleared and stained.

***Elacatinus pridisi* sp. n.**

Trindade cleaner goby (Figs. 1–3)

Type series: Holotype: MNRJ 21980, 23.6 mm SL, Enseada dos Portugueses, Trindade Island (20°30'S, 29°20'W), at a depth of 5 m, collected by J. L. Gasparini, 1 April 1999. Paratypes: LBRP 5618 (2 ind., 20.2, 27.8 mm SL, larger a female, smaller undetermined), Enseada dos Portugueses, Trindade Island (20°30'S, 29°20'W), at a depth of 5 m, collected by R. Z. P. Guimarães, 10 October 1998; MBML 593 (2 ind., 20.3, 24.5 mm SL, larger a female, smaller undetermined), MNRJ 21981 (2 ind., 20.2, 20.5 mm SL, undetermined), USNM 365990 (1 ind., 21.0 mm SL, undetermined), collected with the holotype; UFES 1424 (1 ind., 28.4 mm SL, undetermined), ZUEC 5412 (1 ind., 18.1 mm SL, undetermined), Enseada dos Portugueses, Trindade Island (20°30'S, 29°20'W), at a depth of 6 m, collected by J. L. Gasparini, 8th April 2001.

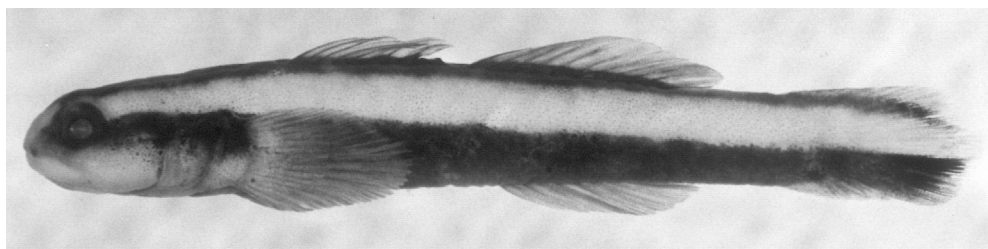


FIGURE 1: Lateral view of *Elacatinus pridisi* n. sp., holotype (MNRJ 21980), 23.6 mm SL (Photograph by J. L. Gasparini).



FIGURE 2: Detail of anterior portion of body of *Elacatinus pridisi* n. sp., paratype (UFES 1424), 28.4 mm SL, photographed in an aquarium immediately after collection (Photograph by J. L. Gasparini).

Additional material: LBRP 5618 (1 ind., 27.7 mm SL, c & s), Enseada dos Portugueses, Trindade Island (20°30'S, 29°20'W), at a depth of 5 m, collected by R. Z. P. Guimarães, 10th October 1998.

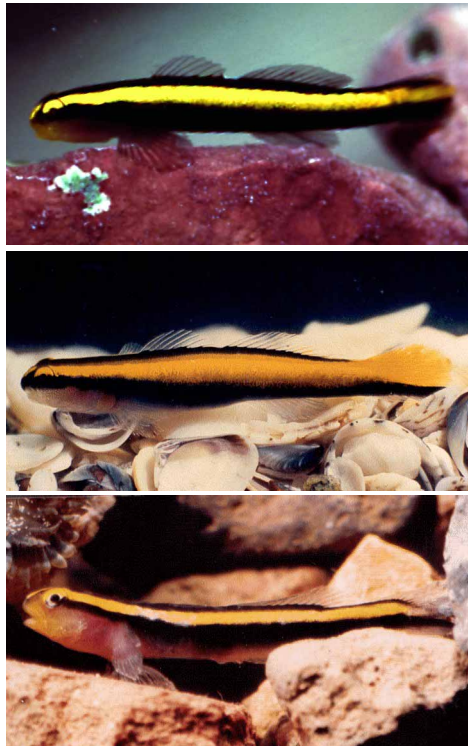


FIGURE 3: Brazilian species of *Elacatinus*: Top: *Elacatinus pridisi* n. sp., holotype (MNRJ 21980), 23.6 mm SL (Photograph by J. L. Gasparini); middle: *Elacatinus figaro*, (LBRP 0728), 27.8 mm SL, from the Brazilian coast (Photograph by R. Z. P. Guimarães); bottom: *Elacatinus randalli*, (MNRJ 12054), 28.7 mm SL, from Fernando de Noronha Archipelago, photograph kindly provided by Dr. Gustavo Nunan. All specimens live, photographed in aquaria shortly after collection.

Comparative material: *Elacatinus randalli*: ANSP 110672 (1 ind., 21.1 mm SL, holotype), ANSP 110673 (5 ind., 19.0–27.5 mm SL, paratypes), St. Vincent Islands; ANSP 110679 (1 ind., 27.3 mm SL, paratype), ANSP 110680 (3 ind., 10.5–31.5 mm SL, paratypes), Venezuela; MNRJ 12054 (2 ind., 19.8–23.4 mm SL, 122.9 mm SL, c & s), Fernando de Noronha Archipelago. *Elacatinus figaro*: LBRP 0494 (3 ind., 21–37.7 mm SL), LBRP 0728 (7 ind., 24–30.75 mm SL, 2 ind., 24.2–27.5 mm SL c & s), LBRP 3084 (1 ind., 36.7 mm SL), LBRP 3494 (20 ind., 26.1–30.0 mm SL), LBRP 3515 (12 ind., 24.7–30.8 mm SL, 3 ind., 26–28.2 mm SL, c & s), state of Rio de Janeiro, Brazil.

Diagnosis: *Elacatinus pridisi* n. sp. differs from its congeners of the *Horsti* Complex (*sensu* Böhlke & Robins 1968) that have a pale stripe extending from the eye to the caudal-fin base by the following combination of characters: dark longitudinal stripe wide, reaching lower abdomen and base of anal fin (*vs.* never reaching abdomen or base of anal fin in all other species); pectoral-fin rays typically 18 (*vs.* typically 17 in *E. randalli* and *E. figaro* and typically 16 in *E. atronasum* (Böhlke & Robins)); anal-fin rays typically 11 (*vs.*

typically 10 in *E. figaro*); oval spot present on snout (*vs.* no spot in *E. atronasum* and *E. horsti* (Böhlke & Robins), a "V"-shaped spot in *E. prochilos* (Böhlke & Robins), and a medial bar in *E. xanthiprora* (Böhlke & Robins), *E. louisae* (Böhlke & Robins) and *E. lori* Colin).

Description. Morphometrics of holotype and four largest paratype specimens (21.0–28.4 mm SL) as percent of standard length (mean): head length 22.5–24.7 (23.3); snout length 3.7–4.2(3.9); eye diameter 6.0–6.8(6.3); postorbital distance 13.5–14.9(14.3); depth of body at dorsal fin origin 15.5–16.1(15.7); least depth of caudal peduncle 11.0–12.3(11.4); upper jaw length 6.5–8.4(7.6); pectoral fin length 19.3–20.8(20.0); ventral fin length 17.3–18.3(17.7); caudal fin length 17.1–20.0(17.7); maximum width of color stripe 5.1–6.4(5.8).

Body naked, elongate. Mouth subterminal, no canine teeth on jaws. Dorsal fin without elongated anterior spines. Caudal fin rounded and ventral fin cup complete. Dorsal-fin rays VII, 11–12 (modally 12); Anal-fin rays 11; pectoral-fin rays 17–18 (modally 18).

Color pattern: a pale (bright yellow in life) stripe extending from the eye to the caudal-fin base, stripe narrower close to eye (more uniform in juveniles); a pale (bright yellow in life) oval spot present on snout; dark longitudinal stripe wide, reaching lower abdomen and base of anal fin; all fin-rays except caudal black or dusky.

Remarks: *Elacatinus pridisii* differs from the other two Brazilian species of the genus by its higher number of pectoral-fin rays and by its wider extension of its dark pigmentation, reaching the abdomen as well as dorsal and anal-fin rays (Figure 3).



FIGURE 4: Trindade Island (20°30'S, 29°20'W), type locality of *Elacatinus pridisii* n. sp., off the state of Espírito Santo, Brazil (Photograph by J. L. Gasparini).

Distribution: The new species was collected only from Trindade Island (20°30'S, 29°20'W), a volcanic formation off southeastern Brazil (Figure 4) and is probably endemic to the Trindade-Martin Vaz oceanic insular complex (Figure 5).

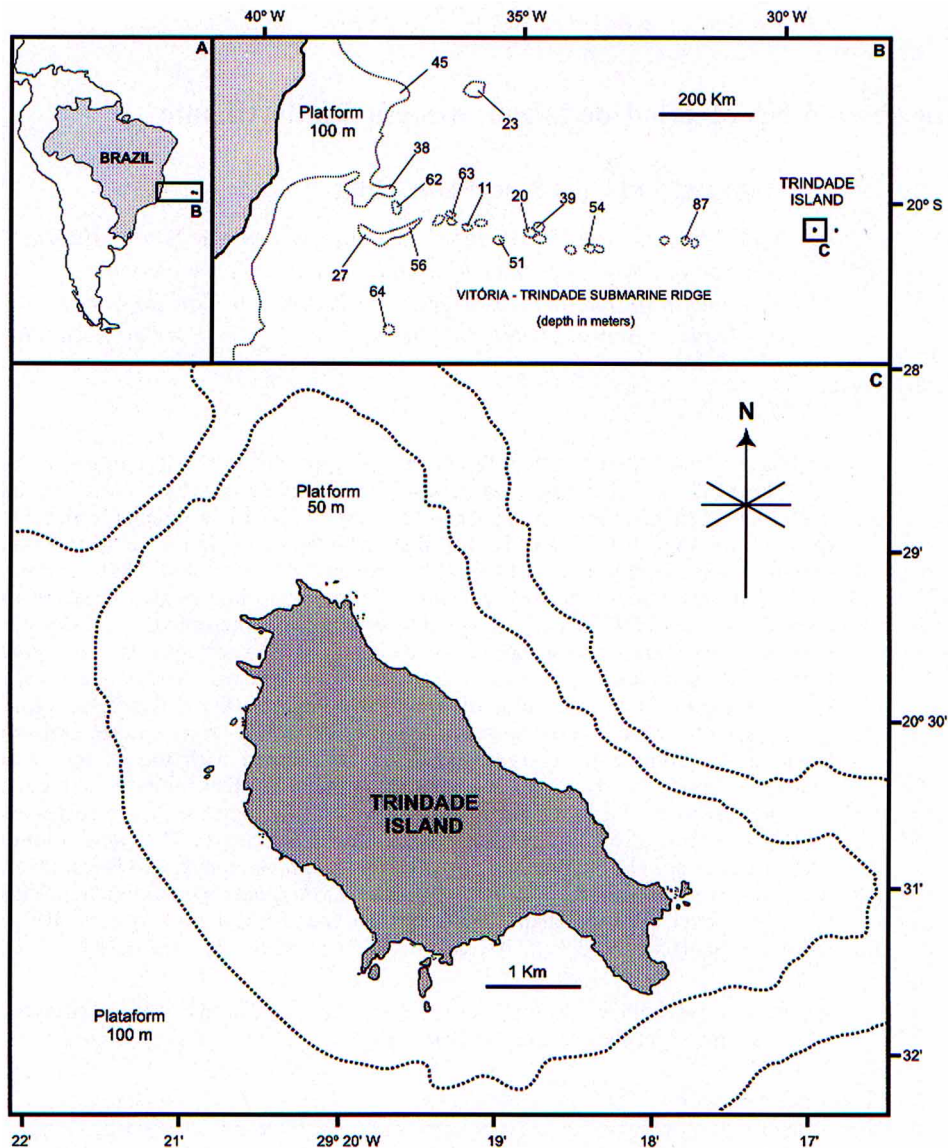


FIGURE 5: Western South Atlantic, with the indication of the insular complex of Trindade and Martin-Vaz Islands, a volcanic formation about 1160 Km off Brazil, type locality of *Elacatinus pridis* n. sp.

Etymology: The name *pridisi* is used in honor of the Brazilian Navy First District (Primeiro Distrito Naval, Marinha do Brasil - "PRIDIS"), in recognition for the impeccable logistic support provided during the authors' field trips to the type locality.

Natural History: *Elacatinus pridisi* was recorded at depths ranging from 3 to 30 m over crustose algal reefs and rocky bottoms around Trindade Island. The new species performs cleaning activities during most of its life-cycle, and has, at least, 21 different client species (Gasparini & Floeter, 2001).

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