

SEXUAL COLOUR PATTERNS IN THE
SANDPERCH *PSEUDOPERCIS NUMIDA* RIBEIRO
(OSTEICHTHYES, PINGUIPEDIDAE)

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ABSTRACT. This communication deals with the sexual colour patterns in the sandperch *Pseudoperca numida* Ribeiro, 1903, a benthonic fish of commercial importance, endemic to the Brazilian continental shelf, occurring off the coasts from Espírito Santo to Rio Grande do Sul States. The males have the head, the dorsal part of the body, and the pectoral and caudal fins blackishes, whereas the females have them brown-yellowishes. Such patterns are constant characters, not related to maturity or breeding seasons.

KEY WORDS. Osteichthyes, *Pseudoperca numida*, sexual colours, Brazilian ichthyofauna

The sandperch (= namorado) *Pseudoperca numida* Ribeiro, 1903 is one of the main commercial species caught by the hand-bottom liners off the southeast coasts of Brazil (PAIVA & ANDRADE 1994). It is a benthonic fish inhabiting deep water on sand substrate of the continental shelf, endemic to the Brazilian marine ichthyofauna (MENEZES & FIGUEIREDO 1985; ROSA 1987; CARVALHO FILHO 1992), occurring along the coasts from Espírito Santo [18°-19°S (ANDRADE 1995)] to Rio Grande do Sul [30°43'-33°45'S (HAIMOVICI *et al.* 1996)] States, with preference for subtropical waters.

Pinguipedidae is the correct family name to include the genus *Pseudoperca* Ribeiro, 1903 (ROSA 1987; ROSA & ROSA 1987).

Recent surveys on the Brazilian marine fish fauna indicate the occurrence of three species belonging to the mentioned genus: *P. semifasciata* (Cuvier, 1829), *P. numida* Ribeiro, 1903, and an unnamed brown colored species (MENEZES & FIGUEIREDO 1985; CARVALHO FILHO 1992). According to ROSA (1987), the genus comprises two species: the colour patterns found in *P. numida* may be related to the sizes and sexes, but she did not examine the gonads of the specimens.

During the studies on the sandperch *P. numida*, based on catches landed in Niterói (State of Rio de Janeiro, Brazil), it was found some specimens of the black sandperch (= *namorado preto*) = *P. semifasciata* and a great number of the "third" species, brown colored, above mentioned.

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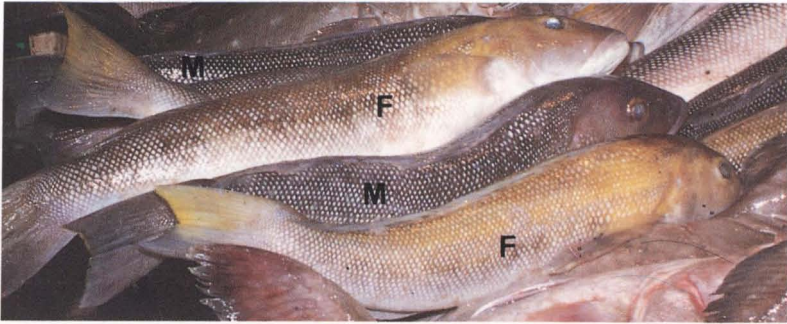


Fig. 1. Male (M) and female (F) specimens of the sandperch *Pseudoperca numida* Ribeiro, 1903.

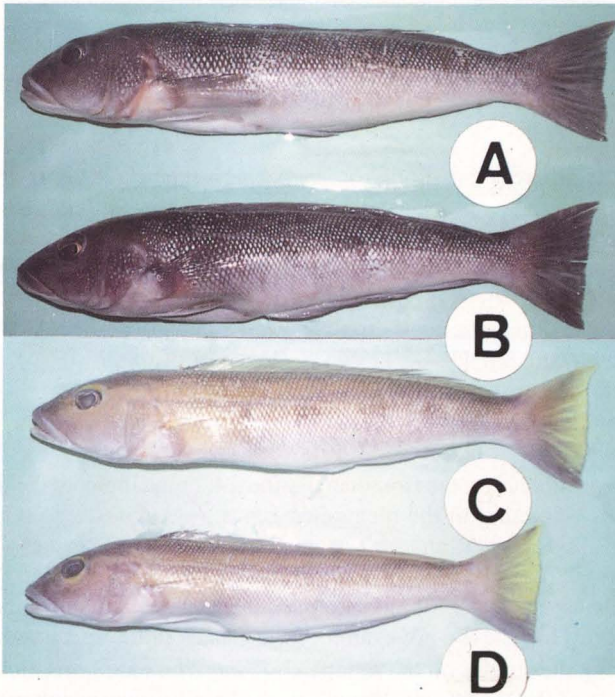


Fig. 2. Young specimens of the sandperch *Pseudoperca numida* (TL = total length): (A) male with TL = 43.0cm; (B) male with TL = 41.0cm; (C) female with TL = 36.5cm; (D) female with TL = 34.0cm. Material caught in 30-VIII-1996, off the coast of Rio de Janeiro State, Brazil.

The first concern, in view of the “brown sandperch” availability, was to identify the species, based on the referred bibliography of the family Pinguipedidae in Brazilian coastal waters. In the “brown sandperch” the same morphological characteristics, considering measurements and counts, found in descriptions of the sandperch *P. numida*, despite the differences in the colour patterns, was observed.

Through the gonad examinations it was found the solution to the problem of the concern: all the males agreed with the descriptions of the sandperch *P. numida* and all the "brown sandperch" specimens were females.

These facts support the following conclusions on sexual colour patterns in the sandperch *P. numida*: the males have the head, the dorsal part of the body, and the pectoral and caudal fins blackishes, whereas the females have them brown-yellowish (Fig. 1); such patterns are constant characters, not related to maturity or breeding seasons (Figs 2-3).

It is evident that the colour differences between sexes in the sandperch *P. numida* have a relationship with its reproduction, facilitating sex recognition, the courtship and the selection of partners; the blackish coloration in males makes possible for them to be better identified by females, for mate selection and spawning efficiency (GUTHRIE & MUNTZ 1993; TURNER 1993).

Dorsal and anal fins formulas found in the referred bibliography for the sandperch *P. numida* and the counts here are in tables I and II. The length and weight relationship showed difference between the sexes of this species, being the males heavier than females, since 70cm of total length (Fig. 4).

Table I. Dorsal and anal fins formulas of the sandperch *Pseudoperca numida* Ribeiro, 1903, according to different bibliographic sources.

Bibliographic sources *	Fishes (n)	Formulas	
		Dorsal fin	Anal fin
1 - 2	1	VII + 28	27
3	?	VII + 28 - 29	27 - 28
4	9	VII + 26 - 28	I - II + 24 - 26
5	?	VII + 28 - 29	27 - 28

*. Bibliographic sources: (1) RIBEIRO (1903); (2) RIBEIRO (1915); (3) MENEZES & FIGUEIREDO (1985); (4) ROSA (1987); (5) CARVALHO FILHO (1992).

Table II. Dorsal and anal fins formulas of the sandperch *Pseudoperca numida* Ribeiro, 1903, according to the sexes, based on our counts.

Sexes	Fishes (n)	Spines		Rays				
		I	VII	25	26	27	28	29
Dorsal fin males	42	-	42	-	1	13	26	2
Dorsal fin females	69	-	69	-	4	26	38	1
Anal fin males	42	15	-	-	12	23	7	-
Anal fin females	69	47	-	5	21	37	6	-

Young male and female specimens of the sandperch *P. numida* were deposited in the fish collection of the Universidade Federal do Rio de Janeiro, Laboratório de Ictiologia Geral e Aplicada (number 3830).

The knowledge of the sexual colour patterns will facilitate and improve the sampling of catches/landings of the sandperch *P. numida*, along the southeast and south coasts of Brazil.

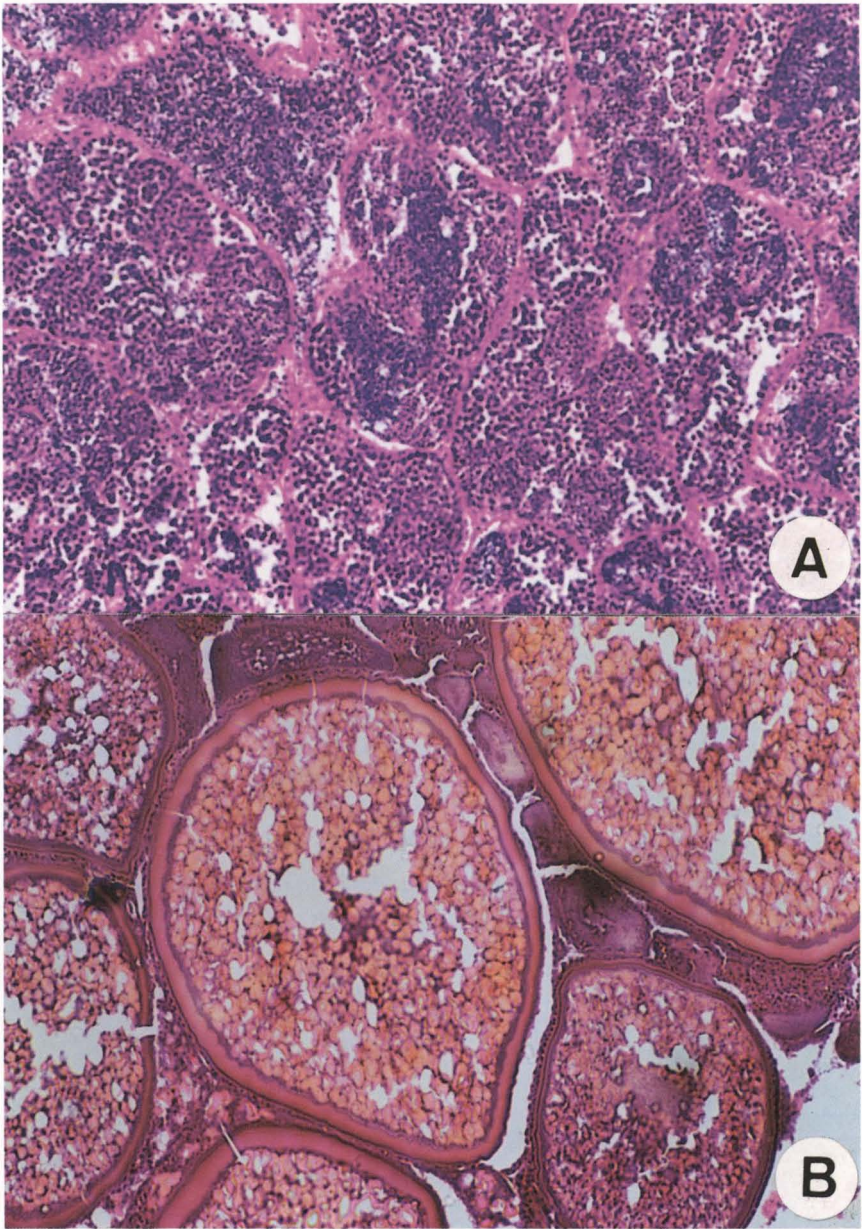


Fig. 3. Gonad histological structures in youngs of the sandperch *Pseudoperca numida* (TL = total length): (A) male with TL = 41.0cm (oc. 10X – ob. 20X); (B) female with TL = 34.0cm (oc. 10X – ob. 10X). See A and B in figure 2.

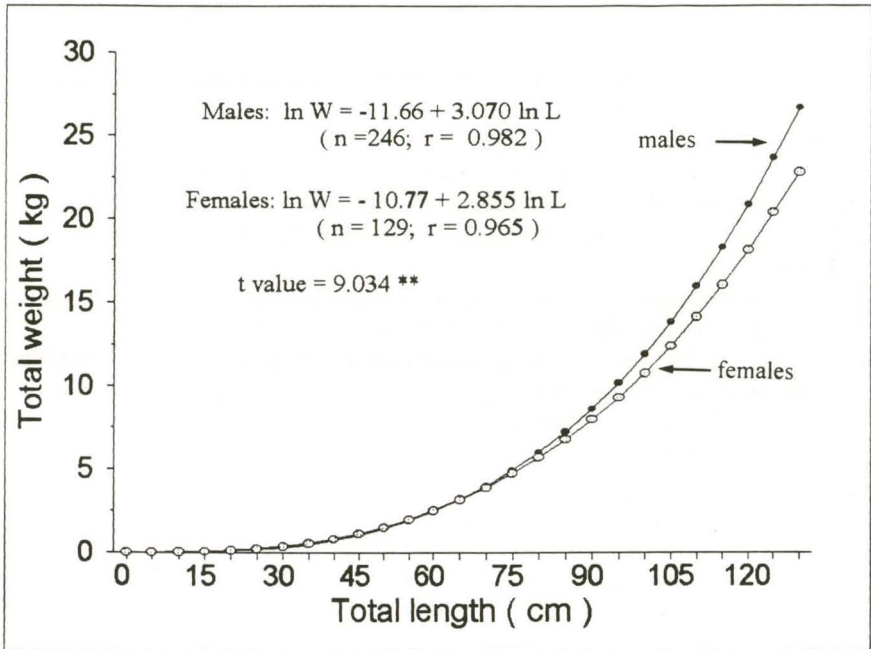


Fig. 4. Length and weight relationships of the sandperch *Pseudoperca numida*, according to the sexes.

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