

## NOTA CIENTÍFICA

# ***FIRST RECORD OF *Trachonurus sulcatus* (GOODE & BEAN, 1885) (ACTINOPTERYGII: MACROURIDAE: MACROURINAE) FOR THE COAST OF RIO DE JANEIRO STATE, BRAZIL***

Primeiro registro de *Trachonurus sulcatus* (Goode & Bean, 1885) (Actinopterygii: Macrouridae: Macrourinae) para a costa do Estado do Rio de Janeiro, Brasil

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### **ABSTRACT**

*The presence of Trachonurus sulcatus (Goode & Bean, 1885) (Actinopterygii: Gadiformes: Macrouridae: Macrourinae) is first reported for marine waters of Rio de Janeiro State, Brazil, south of Western Atlantic Ocean, on the basis of three specimens measuring between 411,0 mm and 433,0 mm of total length collected between depths of 900 m and 1,340 m. Morphometric and meristic data are presented and compared with the available literature.*

**Keywords:** *Trachonurus sulcatus, first report, Rio de Janeiro State.*

### **RESUMO**

*A presença de Trachonurus sulcatus (Goode & Bean, 1885) (Actinopterygii: Gadiformes: Macrouridae: Macrourinae) é registrada pela primeira vez para o litoral do Estado do Rio de Janeiro, Brasil, Oceano Atlântico sul ocidental, com base em três exemplares medindo entre 411,0 e 433,0 mm de comprimento total, coletados entre 900 m e 1.340 m de profundidade. Dados merísticos e morfométricos são apresentados e comparados com a literatura disponível.*

**Palavras-chaves:** *Trachonurus sulcatus, primeiro registro, Estado do Rio de Janeiro.*

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## INTRODUCTION

Macrouridae (known as grenadiers) is a large, diverse family of order Gadiformes consisting of four subfamilies, 27 genera and 350 species of primarily benthopelagic deep-sea fishes. Occurring in tropical and subtropical latitudes; most species are found between 200 m and 2000 m depths (none normally occur in waters shallower than 100 m) and their size ranges from about 25 cm to more than 1.5 meter (Cohen *Et Al.*, 1990; Nelson, 2006).

The subfamily Macrourinae is characterized by terminal to subterminal mouth; barbel long, reduced or absent; two dorsal fins, first dorsal short with a spikelike first ray closely appressed to spinous second ray, followed by 7 to 12 rays and second dorsal long, separated from the first by a gap longer than half the base of first dorsal, its rays usually short, and not as long as the opposite, well developed rays of anal fin; ventral light organ present in many species; anus immediately before anal fin or removed to somewhere between pelvic and anal fins; basically worldwide-distributed except for the absence in high Arctic; about 21 genera and 320 species and maximum length 1.5 meter (Cohen *et al.*, 1990; Nelson, 2006).

## MATERIAL AND METHODS

The material here examined is comprised of three specimens, and was obtained with bottom trawl nets by R.V. "Astro Garoupa" in March, 1 and

Table I - Morphometric characters (mm) of *Trachonurus sulcatus* in Rio de Janeiro State.

No.	LIUEFS 5964	LIUEFS 5970	LIUEFS 5970
1	66,90	69,75	79,10
2	17,00	19,58	20,37
3	13,44	17,16	17,89
4	22,07	25,88	28,71
5	19,14	15,57	20,54
6	33,57	36,31	40,29
7	24,84	21,60	27,64
8	25,49	26,51	30,13
9	94,29	103,49	122,50
10	12,55	25,38	25,53
11	9,09	9,63	12,77
12	63,85	63,35	78,65

Convention: 1 - head length, 2 - snout length, 3 - internasal distance, 4 - interorbital distance, 5 - orbital diameter 6 - postorbital length, 7 - distance between orbit and preopercle, 8 - upper maxilla length, 9 - preanal length, 10 - pelvics fins length, 11 - suborbital length, 12 - body depth.

4 of 2001 off the coast of Rio de Janeiro State (Western South Atlantic) and is deposited in the collection of Laboratory of Ichthyology (Departament of Biological Sciences) in State University of Feira de Santana (LIUEFS) (Bahia State, Brazil) preserved in 70% alcohol.

The identification at the generic level was based on the key presented by Cohen *et al.* (1990), and at the specific level followed Cohen *et al.* (1990) and Iwamoto (1997). Morphometric data in millimeters and in percent of head length are presented, respectively, in Tables I and II.

Table II - Morphometric characters (in percent of head length) of *Trachonurus sulcatus* in Rio de Janeiro State.

No.	LIUEFS 5964	LIUEFS 5970	LIUEFS 5970
1	25,41	28,07	25,75
2	20,09	24,60	22,62
3	32,99	37,10	36,29
4	28,61	22,32	25,97
5	50,18	52,06	50,93
6	37,13	30,97	34,94
7	38,10	38,01	38,09
8	140,94	148,37	154,87
9	18,76	36,39	32,27
10	13,59	13,81	16,14
11	95,44	90,82	99,43

Convention: 1 - snout/head, 2 - internasal/head, 3 - interorbital/head, 4 - orbital diameter/head, 5 - postorbital/head, 6 - orbit-preopercle/head, 7 - upper maxilla/head, 8 - preanal/head, 9 - pelvics fins/head, 10 - suborbital/head, 11 - body depth/head.

## RESULTS

*Trachonurus sulcatus* (Goode & Bean, 1885).

LIUEFS 5964 (1: 411,0 mm of total length, tail damaged) - between 21°17'78''S - 040°05'26''W and 21°23'28''S - 040°08'26''W, at a depth between 900 and 1.152 m, northern coast of Rio de Janeiro State;

LIUEFS 5970 (2: 427,0-433,0 mm of total length, one with tail damaged, figure 1) - between 21°17'44''S - 040°04'38''W and 21°22'23''S - 040°07'16''W, northern coast of Rio de Janeiro state, 40 miles off the mouth of Itabapoana River, at a depth between 1,100 m and 1,340 m. The largest specimen is probably a female characterized by presence of a few extruded ovules near the urogenital opening.

## DIAGNOSIS

Head laterally compressed; snout bluntly rounded; short barbel present; 7 branchiostegal rays; first gill slit restricted by folds of skin across upper and lower extent; pectoral fin rays 14 to 16; pelvic

rays 7; pelvic fins small, its origin below base of first dorsal, far behind level of pectoral fin origins; first dorsal fin with 1 spine and 7-9 rays; spinous ray of first dorsal fin smooth; anus and urogenital openings at middle of a broad periproct spanning area between pelvic and anal fins.

## DISCUSSION

According to Cohen *et al.* (1990), *T. sulcatus* is a benthopelagic species, ranging between 700 m and 1,500 m in depth, attains 50 cm in total length and occurs on warm waters of North Atlantic, between 20°N and 40°N in its eastern side and between 10°N and 30°N in its western side, (FAO Fishing Area 31).

The tentative checklist of genus *Trachonurus* Günther, 1887 includes at least 6 species, of which two or three from the Phillipines, Indonesia, Australia and New Zealand have not yet been described.

Marshall (*apud* Cohen *et al.*, 1990) considers *T. villosus* as the only valid species of *Trachonurus*, a position also adopted by Iwamoto (*apud* Smith & Heemstra, 1986) who argues that probably there are other species in the genus. Further, a cursory examination seems to indicate that, besides the two or three new forms, three species are valid, including *T. sulcatus* and *T. villosus*, though it goes without saying that this opinion still requires confirmation.

The reference of *T. villosus* by Iwamoto (*apud* Fischer, 1978) for the Western Central Atlantic (FAO Fishing Area 31) possibly is based on the fact that this would be the only valid species of *Trachonurus*, since according to Cohen *et al.* (1990) *T. villosus* is supposed to occur only in the Pacific Ocean.

According to Iwamoto (1997), *T. sulcatus*, from the Western Central Atlantic, is a valid species with *T. asperrimus* (Vaillant, 1888) as a senior synonym, but its presence is not recorded in the Brazilian marine coast by Figueiredo & Menezes (1978), Séret & Andreato (1992), Figueiredo *et al.* (2002), Menezes *et al.* (2003) and Bernardes *et al.* (2005).

The specimens of *T. sulcatus* here described are in the same size range as the ones that made up the material examined by Iwamoto (1997): small variations were observed (to more, internasal/head, interorbital/head and suborbital/head and to less, orbital diameter/head, orbit-preopercle/head and pelvic fins/head, see Table II) in some of the body proportions, based on percent of the head length, and represent a contribution to the knowledge of the intraspecific variation in this species.

This way, and until the species that comprise *Trachonurus* Günther, 1887 and their respective

geographic distribution ranges are better defined, the occurrence of *T. sulcatus* is confirmed for the coast of Rio de Janeiro State, extending the distribution the southern range of Western Atlantic Ocean.

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