

FIRST RECORD OF BROADBAND LANTERNSHARK, *Etmopterus gracilispinis*
KREFFT, 1968 (SQUALIDAE), IN THE BRAZILIAN WATERS¹

(Primeiro registro de tubarão-vagalume, *Etmopterus gracilispinis* Krefft, 1968 (Squalidae),
em águas brasileiras)

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RESUMO

Um exemplar de tubarão-vagalume, *Etmopterus gracilispinis* Krefft, 1968, foi capturado pelo espatul de um atuneiro brasileiro, no litoral do Estado do Rio Grande do Sul, Brasil (33°S - 50°W). O exemplar, um macho jovem, com 158 mm de comprimento total, foi capturado em abril de 1984, em região com profundidades entre 120 e 340 m. A identificação foi efetuada com base na forma e disposição dos dentes e denticulos dérmicos, em dados morfométricos e na coloração.

ABSTRACT

A specimen of broadband lanternshark, *Etmopterus gracilispinis* Krefft, 1968, caught by a Brazilian longliner off Rio Grande do Sul State, Brazil (33°S - 50°W) is recorded. The specimen, a young male, 158 mm total length, was caught in a water depth of 120 to 340 m, in April 1984. The identification was based on the pattern and arrangement of the teeth and dermal denticles, morphometrics and color.

1. INTRODUCTION

The species of the genus *Etmopterus*, with few exceptions, are benthic on continental or island slopes, mostly living at depths greater than 200m (SPRINGER & BURGESS, 1985). According to these authors this genus includes at least 22 nominal species, of which about 16 appear to be valid; however COMPAGNO (1984) indicates 17 valid species, which occur in the Atlantic, Pacific and Indian Oceans, between latitudes 70°N - 60°S.

There are few records of *Etmopterus gracilispinis* around the world. The species was first recorded from the Western South Atlantic: Uruguay and Argentina waters

(KREFFT, 1968; 1980), following the records from the Eastern South Atlantic: South Africa (KARRER, 1973), from the Western North Atlantic: Virginia and Florida, USA (SCHWARTZ & BURGESS, 1975) and Suriname (UYENO & SASAKI, 1983), and from the Western South Indian (SHCHERBACHEV; LEVITSKY; PORTSEV, 1978). One of the few biological informations about this species is that males mature at or above 260mm and females at 330mm (COMPAGNO, 1984).

The purpose of this paper is to record the presence of *Etmopterus gracilispinis* in the Brazilian waters.

2. MATERIAL AND METHODS

The studied specimen was captured by a Brazilian longliner. The fishing gear was baited with sardine and squid, and the

hooks were distributed in depths ranging from 60 to 120m. According to Mr. Altanir M. Fernandes, the fisherman who donated

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the shark, it was caught in August 10, 1984, off the coast of Rio Grande do Sul State, 33°S — 50°W, in water between 120 to 340m deep.

The identification of the shark was based on KREFFT (1968), SHCHERBACHEV; LEVITSKY; PORTSEV (1978),

COMPAGNO (1984), SPRINGER & BURGESS (1985) and personal communication of S. Springer and G. H. Burgess.

The morphometrics was based on KREFFT (1968) and SPRINGER (1979).

The morphometric data are expressed in percentages of the total length.

3. RESULTS AND DISCUSSION

The benthic deep-sea shark caught off Rio Grande do Sul State by a Brazilian long-liner is a 158 mm total length immature male, identified as *Etmopterus gracilispinis* Krefft, 1968 (FIGURE 1). This identification was very difficult, because the speci-

men is young and small — about half of the first maturity size; however it was confirmed by the experts Dr. Stewart Springer and George H. Burgess, from the University of Florida (Florida, USA), as *E. gracilispinis*.

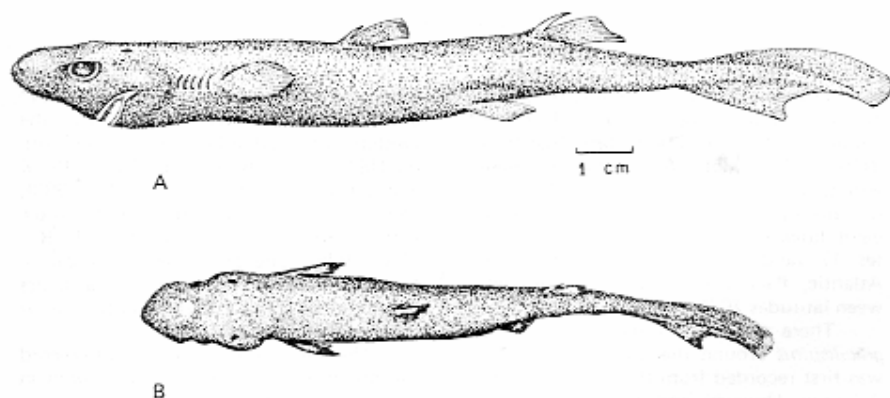


FIGURE 1 — *Etmopterus gracilispinis*, juvenile male 158mm, from Brazilian waters. (A) lateral view, (B) dorsal view.

TABLE 1 gives the data of taxonomic importance for the identification, corresponding to the Brazilian specimen of *E. gracilispinis* and three others of the same species reported by KREFFT (1968), from Uruguay (171mm, male and 255mm male-holotype) and Argentina (331mm female). Comparing the proportional dimensions of these sharks the Brazilian exemplar is more similar to the 171mm, that is almost the same size. The observed differences might be

interpreted as due to growth changes, sexual dimorphism, and individual variation, natural factors already studied by BASS (1973).

The number of teeth of the studied specimen is 26 in the upper jaw and 24 in the lower jaw, where the three hindmost teeth on the left side and the four on the right side do not have the recumbent cusp.

The specimen was uniform dark and presented a thorny aspect (FIGURE 1) by

the presence of slender, needle-shaped dermal denticles (FIGURE 2) on the whole body. A pale spot already mentioned by KREFFT (1968), was observed on interorbital space (FIGURE 1B).

The specimen is provisionally deposited at the Florida State Museum, University of Florida.

The broadband lanternshark was called "tubarão-vagalume" by the authors.



FIGURE 2 - Dermal denticles of the 158mm *Etmopterus gracilispinis* from Brazilian waters (amplified 40X), showing the central cusp and the basal plate.

TABLE 1
Proportional dimensions as percentages of total length of four
Etmopterus gracilispinis: (1) Brazilian specimen, juvenile male 158mm; (2) juvenile male 171mm;
(3) maturing male 255mm - holotype, and (4) adult female 331mm, specimens from KREFFT (1968).

	Brazil (1)	Uruguay (2)	Uruguay (3)	Argentina (4)
Snout tip to front of:				
nostrils	1.8	1.7	1.8	1.3
mouth	10.1	10.2	9.9	8.7
first gill-slit	17.1	-	-	-
pectoral fin origin	23.4	23.9	22.7	21.3
first dorsal fin spine	39.9	39.2	39.4	40.5
second dorsal fin spine	60.8	61.6	61.6	64.4
ventral fin origin	52.8	53.2	54.1	56.1
upper caudal fin lobe origin	77.2	77.4	79.0	78.5
Trunk at pectoral fin origin:				
width	10.0	11.4	12.2	12.0
height	8.1	9.5	9.5	10.3
Head width	11.4	11.8	11.1	11.7
Mouth width	8.5	9.0	8.8	8.3
Internasal distance	3.8	3.6	3.3	3.2
Orbit horizontal diameter	5.3	5.6	5.4	4.8
Eye horizontal diameter	3.9	3.9	3.7	3.5
Height of gill-slit:				
first	1.8	1.6	1.3	1.4
third	1.5	1.5	1.3	1.1
fifth	1.3	1.4	1.2	1.5
First dorsal fin:				
height	2.2	2.0	2.4	2.1
base	4.3	4.3	3.8	3.8
length of spine exposed	1.8	1.8	1.5	1.3
Second dorsal fin:				
height	3.5	3.5	4.6	3.9
base	6.3	6.4	6.4	5.8
length of spine exposed	3.9	3.6	2.9	-
Distance between first and second dorsal fins spines	21.5	18.5	19.1	21.3
Caudal fin:				
upper lobe	22.8	22.6	21.0	21.1
lower lobe	13.5	14.3	12.3	11.7
Pectoral fin:				
anterior margin	8.9	9.6	8.3	8.6
inner margin	4.8	5.0	4.9	4.3

IDENTIFICATION

The main characteristics of the genus *Etmopterus* Rafinesque, 1810, included in the family Squalidae, are: presence of a grooved spine at the anterior margin of the two dorsal fins, being the second fin and spine larger than the first; upper teeth with cusp and cusplets; lower teeth blade-like, with one oblique cusp; subterminal notch present; and no anal fin, precaudal pits or lateral keels (BIGELOW & SCHROEDER, 1957; FAO 1981; COMPAGNO, 1984).

The Brazilian specimen was identified according to the main characters of the species: pectoral fins with distal margins sometimes frayed, not reaching the level of first dorsal fin spine; interdorsal space short, much less than snout tip to pectoral fin origins; dermal denticles with a central cusp needle or point, randomly distributed, densely spaced also on underside of snout; upper teeth with two cusplets on each side of a central cusp; as *Etmopterus gracilispinus*.

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