

## Short Notes

DEEP-SEA FISHES IN THE STOMACH CONTENTS OF THE BLUNTNOSE SIXGILL SHARK *Hexanchus griseus* (BONNATERRE, 1788)(CHONDRICHTHYES, HEXANCHIDAE), CAUGHT OFF SOUTHERN BRAZILIAN COAST

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The food habits of *Hexanchus griseus* (Bonnaterre, 1788) are poorly documented by specific analysis. Bigelow & Schroeder (1948) cite that its food consists of fishes and crustaceans. They state that “in Spanish waters it feeds largely on hake (*Merluccius*) and an entire *Torpedo* has also been found in one; and off Cuba, dolphins (*Coryphaena*), small marlins (*Makaira*) and small swordfish (*Xiphias*) are reported from stomachs, as well as crabs, shrimps and parts bitten from other sharks that had been hooked”. Compagno (1984) cited that the species is a vertical migrant, it may sit on the bottom by day, and rise to the surface at night to feed. This author complements the list of preys including other fishes (chimaeras, herring, grenadiers, cod, ling, flounders, gurnards and anglers), as well as squids, carrion, and even seals. On the Brazilian coast, the species has been reported off the south and northeast regions, between 300 and 800 m depth, and considered relatively rare (Soto, 1999, 2001).

The stomach contents analysis of 2 specimens captured off the State of Rio Grande do Sul, in southern Brazil is presented herein. The specimens were deposited in the Museu Oceanográfico do Vale do Itajaí (Itajaí, Brazil): MOVI 04893, unsexed (only the head was preserved), 220 cm TL, 29°39'56"S, 47°48'42"W, 540 m, 22.iv.1995, trap; and MOVI 08806, juvenile male, 170.5 cm TL, 30°59'37"S, 49°19'08"W, 300 m, 26.viii.1997, bottom longline. The identification and taxonomic list of prey items is in accordance with Melo (1996), for crustaceans, and Figueiredo (1977), Figueiredo & Menezes (1978) and Eschmeyer *et al.* (1998), for fish.

The stomach contents of 2 juveniles, collected off the coast of Rio Grande do Sul, southern Brazil, consisted of at least 5 different prey items, with a predominance of the crab *Leurocyclus tuberculosus* (H. Milne Edwards & Lucas, 1843) (Tab. 1). All the fishes identified were found at the same depths as that of the capture of the sharks.

Table 1. Stomach contents, in number of items, of 2 juveniles of *Hexanchus griseus* collected off Rio Grande do Sul, southern Brazil.

Prey items	MOVI 04893	MOVI 08806
Crustacea		
Decapoda		
Brachyura		
Majidae		
<i>Leurocyclus tuberculosus</i>		4
Pisces		
Chondrichthyes		
Squaliformes		
<i>Squalus</i> sp.	1	
Osteichthyes		
Gadiformes		
Macrouridae		
<i>Caelorinchus marini</i>	1	
Phycidae		
<i>Urophycis mystacea</i>		1
Lophiiformes		
Lophiidae		
<i>Lophius gastrophysus</i>	1	

## LITERATURE CITED

- Bigelow, H. B. & Schroeder, W. C. 1948. Sharks. p.59-576. In: Fishes of the western North Atlantic. New Haven. *Memoir Sears Foundation for Marine Research*, n.1, part 1. 576p.
- Compagno, L. J. V. 1984. FAO species catalogue. Sharks of the world. An annotated and illustrated catalogue of shark species know to date. Part 1. Hexanchiformes to Lamniformes. *FAO Fisheries Synopsis* 4(125): 1-249.
- Eschmeyer, W. N.; Ferraris Jr., C. J.; Hoang, M. D. & Long, D. J. 1998. *Part I. Species of fishes*. p.25-1820. In: Eschmeyer, W. N. (ed.). *Catalog of Fishes. 3 vols.* San Francisco. California Academy of Sciences. 2905p.
- Figueiredo, J. L. 1977. *Manual de peixes marinhos do Sudeste do Brasil. I. Introdução. Cações, raías e quimeras*. São Paulo. Museu de Zoologia da Universidade de São Paulo. 104p.
- Figueiredo, J. L. & Menezes, N. A. 1978. *Manual de peixes marinhos do Sudeste do Brasil. II. Teleostei (1)*. São Paulo. Museu de Zoologia da Universidade de São Paulo. 110p.
- Melo, G. A. S. 1996. *Manual de identificação dos Brachyura (caranguejos e siris) do litoral brasileiro*. São Paulo. Plêiade. 604p.
- Soto, J. M. R. 1999. Sobre a presença de tubarões hexanquídeos (Chondrichthyes, Hexanchiformes) no sudoeste do Atlântico. *Acta Biologica Leopoldensia* 21(2): 241-251.
- Soto, J. M. R. 2001. Annotated systematic checklist and bibliography of the coastal and oceanic fauna of Brazil. I. Sharks. *Mare Magnum* 1(1): 51-120.

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*Centroscymnus cryptacanthus* REGAN, 1906 - A JUNIOR SYNONYM OF *C. owstonii* GARMAN, 1906 (CHONDRICHTHYES, DALATIIDAE)

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The taxonomic status of *Centroscymnus cryptacanthus* Regan, 1906 and *C. owstonii* Garman, 1906 has been recently discussed by Soto (2001), who recognized these species as synonymous. However, a nomenclatural problem over the valid name was created. The two species were formally described in the same year and Soto (2001) considered *C. cryptacanthus* a senior synonym of *C. owstonii*. However, according to Eschmeyer *et al.* (1998), the dates of publication of the original descriptions indicate the opposite, which in agreement with ICZN (1999), *C. owstonii* (January) begins to prevail over *C. cryptacanthus* (for December).

#### LITERATURE CITED

- Eschmeyer, W. N.; Ferraris Jr., C. J.; Hoang, M. D. & Long, D. J. 1998. *Part I. Species of fishes*. p.25-1820. In: Eschmeyer, W. N. (ed.). *Catalog of Fishes*. 3 vols. San Francisco. California Academy of Sciences. 2905p.
- Garman, S. 1906. New Plagiostomia. *Bull. Mus. Comp. Zool.* 46(11): 203-208.
- ICZN (International Commission on Zoological Nomenclature). 1999. *International Code of Zoological Nomenclature*. London. Fourth Edition. International Trust for Zoological Nomenclature. xxix + 306p.
- Regan, C. T. 1906. Descriptions of some new sharks in the British Museum Collection. *Ann. Mag. Nat. Hist.* (serie 7), 18 (108): 435-440.
- Soto, J. M. R. 2001. Contribuição ao conhecimento do tubarão-negro *Centroscymnus cryptacanthus* Regan, 1906 (Chondrichthyes, Dalatiidae) e a sinonimização de *C. owstonii* Garman, 1906. *Mare Magnum* 1(1): 27-36.

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FIRST RECORD OF A RABBIT-EARED BARNACLE, *Conchoderma auritum* (LINNAEUS, 1767) (CRUSTACEA, CIRRIPIEDIA), ON THE TEETH OF THE LA PLATA DOLPHIN, *Pontoporia blainvillei* (GERVAIS & D'ORBIGNY, 1844) (CETACEA, PLATANISTOIDEA)

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*Conchoderma auritum* (Linnaeus, 1767) is an

epizoic cirriped with circunglobal distribution. On cetaceans, it is mainly found adhering to the teeth or baleens (Clarke, 1966). In Odontocetes, it is found with relative frequency on specimens of the genera *Physeter* and *Mesoplodon*, predominantly on males of *M. bidens*, *M. densirostris*, *M. europaeus*, *M. hectori* and *M. layardii* (Mead, 1989). In dolphins, it has been reported on *Stenella roseiventris* (= *S. longirostris*) (Morris & Mowbray (1966); *S. graffmani* (= *S. attenuata*) (Perrin (1969); *S. frontalis* (Van Bree, 1971); *Globicephala macrorhynchus* (Spivey, 1977); and *Tursiops truncatus* (García-Godós, 1992).

On March 28<sup>th</sup>, 1992, a male specimen of *Pontoporia blainvillei* (121 cm TL, 21 kg) (Gervais & D'Orbigny, 1844) was incidentally captured by gillnet, 32 km off the coast of Rio Grande do Sul, Brazil (30°25'S, 50°05'W) and deposited at the Museu Oceanográfico do Vale do Itajaí (MOVI 00947). The analysis indicates a cirriped on the 35th tooth (rostrum-commissure) of the left maxilla. The crustacean was photographed *in loco* (Fig. 1), measured (16 mm TL), and collected (MOVI 01104).

On August 19<sup>th</sup>, 1992, another specimen of *P. blainvillei*, a female (120.4 cm TL), was found stranded, 8 km north to the North of Praia Nova, Mostardas, Rio Grande do Sul, Brazil (31°06'S, 50°45'W). The specimen was collected (MOVI 01890) and the analyzed, indicating a *C. auritum* adhering to the 21<sup>st</sup> tooth (rostrum-commissure) of the right maxilla. The crustacean was photographed *in loco* (Fig. 2), measured (21 mm TL), and collected (MOVI 01476). Both specimens were identified as *Conchoderma auritum*, according to Raga

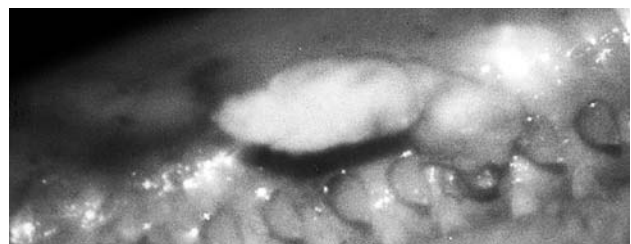


Figure 1. *Conchoderma auritum* (MOVI 01104) on the 35th tooth of a male of *Pontoporia blainvillei* (121 cm TL) incidentally captured by gillnet, Rio Grande do Sul, Brazil (30°25'S, 50°05'W).



Figure 2. *Conchoderma auritum* (MOVI 01476) on the 21st tooth of a female of *Pontoporia blainvillei* (120.4 cm TL), stranded 8 km north to Praia Nova, Mostardas, Rio Grande do Sul, Brazil (31°06'S, 50°45'W).

& Sampera (1986).

The association between *C. auritum* and cetaceans has been discussed. Clarke (1966), among others, refers to this relation as ectoparasitism. Mead (1989) and considers it a commensalism. The association observed between the species and *P. blainvillei*, discounts the suggestion of parasitism, as it does not fit entirely with this concept, given that the specimen does not depend entirely on its host. The concept of commensalisms is also not appropriate in this case, as we believe that harm may be caused by a large concentration of these crustaceans, such as the specimen analyzed by Perrin (1969). Due to these factors, I prefer to consider this relation simply as an epizoic association. The present work reports on the first record of the association between *C. auritum* and *P. blainvillei*.

#### LITERATURE CITED

- Clarke, R. 1966. The stalked barnacle *Conchoderma*, ectoparasitic on whales. *Norsk Hvalfangst-Tid* 55(8): 153-168.
- García-Godós, A. 1992. Primer registro del ciamido *Isocyamus delphini* en el delfín mular *Tursiops truncatus*. p. 28. In: Resúmenes de la 5ta Reunión de Especialistas en Mamíferos Acuáticos de América del Sur. Buenos Aires. Museo Argentino de Ciencias Naturales. 75p.
- Mead, J. G. 1989. Beaked whales of the genus *Mesoplodon*. p. 349-430. In: Ridgway, S. H. & Harrison, R. (eds). *Handbook of Marine Mammals. Vol. 4. River dolphins and the larger toothed whales*. London. Academic Press. 442p.
- Morris, R. A. & Mowbray, L. S. 1966. An unusual barnacle attachment on the teeth of the Hawaiian spinning dolphin. *Norsk Hvalfangst-Tid* 55(1): 15-16.
- Perrin, W. F. 1969. The barnacle *Conchoderma auritum* on a porpoise (*Stenella graffmani*). *J. Mammalogy* 50(1): 149-151.
- Raga, J. A. & Sanpera, C. 1986. Ectoparasitos y epizoitos de *Balaenoptera physalus* (L., 1758) en aguas atlánticas ibéricas. *Invest. Pesq. Barc.* 50(4): 489-498.
- Spivey, H. R. 1977. Those tenacious travelers of Florida's Atlantic coast. *The Florida Naturalist* Dec. 1-6.
- Van Bree, P. J. H. 1971. The rabbit-eared barnacle, *Conchoderma auritum*, on the teeth of the dolphin *Stenella frontalis*. *Z. f. Säugetierkunde* 36(5): 316-317.

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FIRST RECORD OF A TURTLE LEECH, *Ozobranchus margo* (APATHY, 1890) (ANNELIDA, CLITELLATA), ON LA PLATA DOLPHIN, *Pontoporia blainvillei* (GERVAIS & D'ORBIGNY, 1844) (CETACEA, PLATANISTOIDEA)

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*Cozobranchus margo* (Apathy, 1890) is an ectoparasite hirudinean with a circunglobal distribution, commonly reported on the sea turtles *Caretta caretta*, *Chelonia mydas*, *Lepidochelys olivacea*, *L. kemp* and *Eretmochelys imbricata* (Sawyer *et al.*, 1975; Lauckner, 1984). On cetaceans, it was previously recorded only in *Delphinus longirostris* (= *Delphinus capensis*) (Oka, 1927).

On November 5<sup>th</sup>, 1995, a female specimen of *Pontoporia blainvillei* (Gervais & D'Orbigny, 1844) (139 cm TL) was found stranded, 82 km north of São José do Norte, Rio Grande do Sul, Brazil (31°43'06"S, 51°27'39"W). The analysis indicates eggs of hirudineans on the dorsal region of the tail. The eggs were photographed *in loco* (Fig. 1), measured (22x15 mm), collected and deposited at the Museu Oceanográfico do Vale do Itajaí (MOVI 05742). The species was identified as *Ozobranchus margo*, based on the MOVI collection reference.

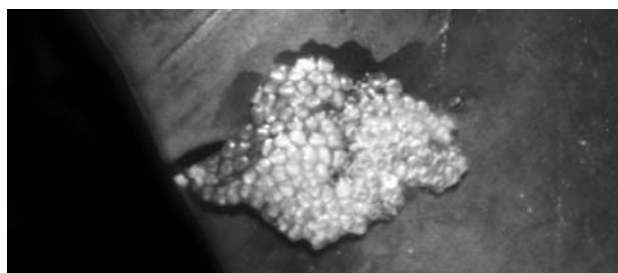


Figure 1. Eggs of *Ozobranchus margo* (MOVI 05742) on the dorsal region of the caudal peduncle of a *Pontoporia blainvillei* (female, 138.6 cm TL), stranded in Rio Grande do Sul, Brazil (31°43'06"S, 51°27'39"W).

The association between hirudineans and cetaceans is very rare and reported only in the Pacific Ocean, based on a single record (Oka, 1927). On the coast of southern Brazilian, this leech (specimens and eggs) has been commonly observed on *Caretta caretta*. This research note reports on the first record of the association between *O. margo* and *P. blainvillei* and the second with hirudineans and cetaceans.

#### LITERATURE CITED

- Lauckner, G. 1984. Reptilia. In: Kinne, O. (ed). *Diseases of Marine Animals*. Vol. 4, Part 2. Hamburg. Biologische Anstalt Helgoland. 884p.
- Oka, A. 1927. Sur la presence de l'*Ozobranchus margo* au Japon, et description de cette Hirudinée. *Proc. Imp. Acad. Japan* 3: 470-473
- Sawyer, R. T.; Lawler, A. R. & Overstreet, R. M. 1975. The marine leeches of the eastern United States and the Gulf of Mexico, with a key to the species. *J. nat. Hist.* 9: 633-667.

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