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OMMASTREPHES BARTRAMII (LE SUEUR, 1821) AND *TODARODES FILIPPOVAE* ADAM, 1975 (CEPHALOPODA, OMMASTREPHIDAE): COASTAL RECORDS IN ARGENTINA

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Ommastrephes bartramii and *Todarodes filippovae* are ommastrephid squids characterized as 'truly oceanic' and 'nerito-oceanic' species respectively. *O. bartramii* has a cosmopolitan, discontinuous distribution in subtropical and temperate waters, from surface to 1500 m depth (Dunning, 1998a; Nesis, 1987; Roper et al., 1984). In the South Atlantic it occurs at 14°–27°S in the East (Roeleveld, 1989) and at 27°–45/48°S in the West (Brunetti et al., 1999). Recent reviews on its systematics, distribution and biology (Dunning, 1998a) and its fisheries biology and potential in the southern hemisphere (Dunning, 1998b) and in the Argentine Sea (Brunetti et al., 1999) have been presented. *T. filippovae* extends from surface to 1200 m depth (Nigmatullin, 1989). It shows a circumpolar distribution in the Southern Ocean, being present in the Antarctic Convergence Zone (Roper et al., 1984), in sub-Antarctic waters (mainly 35°–50ºS, up to 17°S in the Peru Current), in Antarctic intermediate waters (up to 33°S in the southeastern Atlantic) (Roeleveld, 1989), in the Subtropical and Subantarctic Fronts (Dunning and Wormuth, 1998; Xavier et al., 1999), and only occasionally in the Argentine Sea (Brunetti et al., 1999). A recent overview on its systematics and biology is given by Dunning and Wormuth (1998).

This paper reports the studies on the first specimens of *O. bartramii* and *T. filippovae* found alive in Argentine coastal waters.

Materials and Methods

The specimens examined were one female *O. bartramii* stranded alive on Puerto Madryn shore, Nuevo Gulf, Argentina (42°44′S, 65°02′W, 9 June 1999, 12°C SST), left tentacle lost, right tentacle stretched, and one female *T. filippovae* found alive in a tide pool, Bridges Islands, Beagle Channel (54°52′S, 68°15′W, December 1998, 9°C SST). When measured, *O. bartramii* was still with chromatophoric reaction and *T. filippovae* was fixed in 10% formalin. Measurements, counts and proportions, and sexual maturity stages are given according to Roper et al. (1984) and Roeleveld (1982, 1989), and Lipinski and Underhill (1995) respectively. Species were identified following Roeleveld (1982, 1989), Roper et al. (1984) and Nesis (1987). Oocytes from ovary (*O. bartramii*) and oviducts (*T. filippovae*) were measured under a microscope. Digestive contents were identified to the lowest possible taxon.

Results

Original data of general characteristics and indices of the *O. bartramii* and *T. filippovae* specimens are shown in Table 1. Digestive contents identified were: otoliths, bones and scales of *Merluccius hubbsi*; otoliths, esophagic chamber and bones of *Stromateus brasiliensis* (*O. bartramii*), and mandibles of *Illex argentinus*, appendages of unidentified crustaceans, bones of unidentified fishes and the algae *Ulva* sp., *Enteromorpha* sp. and *Lophurella* sp. (*T. filippovae*).

Table 1. Original data and indices of two females, *Ommastrephes bartramii* (Nuevo Gulf, Argentina) and *Todarodes filippovae* (Beagle Channel, Argentina), and their reproductive organs. ML: mantle length; MWI, HWI, FLI, FWI, ALMI, TTLI, SDI, CLI, MLMI, CL SDI, URLI, LRLI, OLI, OGLI and NLI: mantle width, head width, fin length, fin width, arm length, tentacle length, sucker diameter, club length, manus length, club sucker diameter (median manus), upper beak rostral length, lower beak rostral length, ovary length, oviducal gland length and nidamental gland length, as a percentage of ML, respectively; MLCI: manus length as a percentage of club length.

		O. bartramii		*T. filippovae*	
Parameter		Value or information			
Maturity		III		V	
Total mass (g)		7,200		1,642	
Mantle length (mm)		620		345	
MWI		33.8		30.8	
HWI		10.6		18.2	
FLI		43.5		52.1	
FWI		70.9		73.3	
		R	L	R	L
Nuchal folds		3 ?	—	3	3
ALMI I (number of suckers)		46.8(47)	43.9(49)	42.6(58)	43.2(62)
ALMI II (number of suckers)		53.2(52)	51.9(54)	55.1(64)	54.8(63)
ALMI III (number of suckers)		53.4(52)	54.5(52)	52.2(62)	54.2(61)
ALMI IV (number of suckers)		47.6(62)	50.1(62)	42.0(65)	42.6(59)
SDI, Arm I		1.5	1.4	1.3	1.4
SDI, Arm II		1.8	1.8	1.4	1.6
SDI, Arm III		1.8	1.6	1.6	1.5
SDI, Arm IV		1.4	1.4	1.2	1.2
TTLI		137.9	—	90.7	86.4
CLI		57.3	—	64.1	62.3
MLMI		38.7	—	42.6	—
MLCI		67.6	—	66.5	—
CL SDI		2.1	—	3.1	3.4
Sucker row number	Dactylus	damaged	—	17	16 ?
	Manus	12	—	14	14
	Carpus	2	—	2	2
Teeth number, of suckers, Manus		4 big in each quadrant		8–10	
URLI		2.5		2.4	
LRLI		2.3		2.3	
Ovary mass (g)		168.7		88.3	
OLI		48.3		46.6	
OGLI		10.8		17.3	
NLI		29.0		48.9	
Oocyte length (mean and range, mm)		0.51(0.18–0.90)		1.62(1.39–1.93)	

Discussion

For the Southwest Atlantic, the presence of *O. bartramii* has only been cited at depths of 50 m or more (Dunning, 1998b; Brunetti et al.,1999). This is the first known coastal record for this region.

The maturity stage of our specimen agrees with that of large females found in winter at 35°56′–36°48′S, 53°29′–54°03′W (150 m depth) (Leta, 1989, according to Brunetti et al., 1999), one of the few available records on the reproductive development and spawning of *O. bartramii* from the Southwest Atlantic.

Lipinski and Linkowski (1988) recognized three main prey groups in specimens of *O. bartramii* from the Southwest Atlantic, Cephalopoda, Osteichthyes (mainly Myctophidae) and Crustacea, most of which are meso-epipelagic species, and considered this species as an opportunistic predator. The pelagic-demersal fishes found in our specimen, would confirm its opportunistic predatory behavior.

Nigmatullin (1989) mentioned that inmature specimens of *T. filippovae* are related to the Falkland Current waters, spawning occurring from December to August. The Beagle Channel specimen, the first known coastal record in Argentine waters, was a fully mature female caught in December, agreeing with the spawning period cited by that author.

No records of the diet of *T. filippovae* have been found in the available literature. The digestive contents of our specimen included abundant algae.

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