

Cephalopod remains from Blue Sharks, *Prionace glauca*, Caught in the Gulf of TarantoGiambattista BELLO
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The blue shark, *Prionace glauca* (L., 1758) (Selachii: Carcharhinidae), is an opportunistic predator, which feeds heavily on relatively small prey, especially bony fishes and squids; much of its prey is pelagic (COMPAGNO, 1984). Blue sharks are a quantitatively important by-catch in drifting longline fishery for swordfish, *Xipias gladius*, in the Ionian and Adriatic Seas.

An examination was made of the gastric content of five specimens of *P. glauca* captured by drifting longline at night in the Gulf of Taranto, inlet of the Ionian Sea. The first two of them (specimens nos. 1 and 2) were caught on May 26th 1985 at about 16 nautical miles off Porto Cesareo (Lecce); their size and sex are unknown. The other three sharks (nos. 3 to 5) were hooked on May 28th 1985 at about 30 nautical miles SW of Porto Cesareo. The bottom depth in the fishing zone is between 500 and 1,700 m.

The author received the whole stomach content from blue sharks nos. 3 to 5 and only the cephalopod remains from specimens nos. 1 and 2. Each of the specimens nos. 3 to 5 contained cephalopod parts and one bait-mackerel. The cephalopod remains from all stomachs consisted only of loose beaks and lenses. Thanks to the low number of beaks involved, it was possible to match each upper mandible with a lower one. Blue shark no. 1 contained just one unpaired upper beak while no. 2 contained three pairs, no. 3 two pairs and nos. 4 and 5 one pair.

The beaks were identified according to MANGOLD & FIORONI (1966) and CLARKE (1962 and 1986), and by comparing them with "vouchers" (cf. CLARKE, 1986). The size of beaks was described by the rostral length, as suggested by CLARKE (1986). Mantle lengths were estimated from the beaks. The mantle length estimation for *H. bonnellii* and *T. sagittatus* was done by the regression equations reported by CLARKE (1986) and for *H. reversa* by simple proportion with beaks extracted from specimens of known mantle length.

The ommastrephid beaks from blue shark no. 2 were tentatively ascribed to *T. sagittatus* because of the complete lack of darkening of the upper walls and crest and lower wings, which rules out *Illex coindetii* (cf. CLARKE, 1962); the shape of the upper rostrum, whose ventral side is almost straight, making a downward curve only at the tip (cf. MANGOLD & FIORONI, 1966); the narrowness of the lower rostrum, which rules out *Ommastrephes bartramii* (cf. CLARKE, 1986).

The table reports the size and sex of *P. glauca* specimens, the list of the cephalopods found with their beak size and their estimated mantle length.

Cephalopoda		<i>Prionace glauca</i> specimens				
		1	2	3	4	5
				119 - F	143 - M	163 - M
<i>Histioteuthis bonnellii</i> (FERUSSAC, 1834)	URL	11.9		3.5		7.5
	LRL	-		3.2		6.5
	EML	11		4.5		7.5
<i>Histioteuthis reversa</i> (VERRILL, 1880)	URL			2.0	3.6	
	LRL			2.0	3.7	
	EML			4.5	8	
Ommastrephid sp. juv. cf. <i>Todarodes sagittatus</i> (LAMARCK, 1798)	URL		2.1	2.2	2.4	
	LRL		2.5	2.5	2.7	
	EML		9	9	10	

List of cephalopods found in the gastric content of *Prionace glauca*. Total length (cm) and sex of blue shark specimens nos. 3 to 5 are reported below the corresponding number. URL = upper rostral length (mm); LRL = lower rostral length (mm); EML = estimated mantle length (cm).

The gastric content of the examined blue sharks appeared to be rather poor and not very diverse; they had fed upon typically pelagic species. A cautious comparison between the present results -caution is due to the small number of *P. glauca* specimens examined- and the analysis of the stomach content of *X. gladius* from the same area (BELLO, 1985 and in preparation) shows a possible competition for food. Swordfish mostly prey upon *T. sagittatus*; they also occasionally ingest histioteuthids. Besides it is well known that *P. glauca* and *X. gladius* compete for longline hooks. For instance DE METRIO *et al.* (1983) report that in a two year period 2025 swordfish and 1035 blue sharks were caught by drifting longline in the Gulf of Taranto.

As to the cephalopods found in the shark stomach, *T. sagittatus* is abundant in the Gulf of Taranto (BELLO, 1985), whereas the occurrence of *H. bonnellii* and *H. reversa* has been rarely recorded (BELLO, 1987; D'ONGHIA *et al.*, in press). However the analysis of predator stomach content (present results; personal observations on swordfish and cetaceans) suggests that they are not as rare as was thought. Thus, these observations can contribute to a better understanding of the teuthofauna structure of the Gulf of Taranto.

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Note préliminaire sur les Céphalopodes des Eaux Turques

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La Méditerranée est habitée par environ 59 espèces de Céphalopodes dont 46 vivent en Méditerranée orientale (MANGOLD et BOLETZKY, 1988). Malgré l'abondance de certaines espèces comme *Sepia officinalis*, *Loligo vulgaris*, *Octopus vulgaris* et *Eledone moschata* sur le marché en Turquie, aucun travail n'a jamais été tenté sur les Céphalopodes de cette région.

Les recherches scientifiques menées à partir du bateau de "K. Piri Reis" entre 1987 et 1989, nous ont permis de faire une douzaine de prélèvements benthiques et pélagiques en Mer Egée. Les prélèvements ont été faits essentiellement dans le Golfe de Saros (GS), dans le Golfe d'Edremit (GE), dans le Golfe d'Izmir (GI), dans le Golfe de Güllük (GGU) et dans le Golfe de Gökova (GG). Les espèces ont été identifiées selon FISHER *et al.* (1987).

Les positions géographiques et les caractéristiques des stations de prélèvement sont présentées dans le tableau ci-dessous.

Stations	Profondeur	Positions	Prélèvement	Date
GS 1	680 m	40° 27' N, 26° 24' E	benthique	12.09.1988
GS 2	600 m	40° 23' N, 26° 16' E	pélagique	13.12.1988
GE	311 m	39° 26' N, 25° 59' E	benthique	23.06.1988
GI 1	35 m	38° 24' N, 26° 56' E	benthique	21.12.1988
GI 2	20 m	38° 25' N, 26° 59' E	benthique	30.03.1988
GI 3	40 m	38° 31' N, 26° 38' E	pélagique	25.09.1989
GGU	10 m	37° 14' N, 27° 35' E	pélagique	15.11.1988
GG 1	80 m	36° 57' N, 27° 23' E	benthique	30.08.1988
GG 2	290 m	36° 59' N, 27° 50' E	benthique	22.08.1987
GG 3	320 m	36° 59' N, 25° 51' E	benthique	31.08.1988
GG 4	430 m	36° 53' N, 27° 44' E	benthique	22.08.1988
GG 5	500 m	36° 57' N, 27° 32' E	pélagique	13.11.1988

Nous présentons, ci-après, une liste des espèces de Céphalopodes rencontrées en Mer Egée. Les espèces marquées d'un astérisque sont assez répandues dans les eaux égéenne et méditerranéenne de la Turquie.

SEPIOIDEA

Sepiidae

Sepia officinalis Linnaeus, 1758**Sepia orbignyana* Ferrussac, 1826

Matériel: GG 2, 1 ♀ de 31 mm.

Sepia elegans Blainville, 1827

Matériel: GG 1, 2 ♀ de 30 à 40 mm et 1 ♂ de 50 mm.

Sepioliidae

Heteroteuthis dispar (Rüppel, 1845)

Matériel: GS 1, 1 juv. de 0.7 mm.

Sepiella sp.

Matériel: GI 1, 1 ♂ de 15 mm.

Sepietta oweniana (Pfeffer, 1908)

Matériel: GE, 1 ♀ et 1 ♂ de 24 mm.

Sepietta spp.

Matériel: GG 1, 1 ♀ de 16 mm; GG 3, 1 ♀ de 19 mm; GG 4, 1 ♀ de 20 mm.

Rondeletiola minor Naef, 1912

Matériel: GE, 1 ♀ de 20 mm et 1 ♂ de 15 mm; GG 3, 1 ♂ de 15 mm.

TEUTHOIDEA

Loliginidae

Loligo vulgaris Lamarck, 1798**Alloteuthis media* (Linnaeus, 1758)

Matériel: GI 2, 1 ♀ de 63 mm; GGU, 1 ♀ de 63 mm; GG 1, 2 ♀ de 40 à 53 mm et 1 ♂ de 40 mm.

Ommastrephidae

Todarodes sagittatus (Lamarck, 1798)

Matériel: GS 2, 1 ♀ de 90 mm; GG 5, 2 ♀ de 150 à 220 mm.

OCTOPODA

Octopodidae

Octopus vulgaris Cuvier, 1797**Eledone moschata* (Lamarck, 1799)*

Ocythoidae

Ocythoe tuberculata Rafinesque, 1814

Matériel: GI 3, 1 ♀ de 170 mm.

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