

## First report on the catch of one Smooth-Risso's head (*Alepocephalus rostratus* Risso, 1820) along Sicilian Tyrrhenian coast

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**Abstract.** It describes the accidental capture of a specimen of *Alepocephalus rostratus* Risso, 1820 by red shrimp fishing bottom trawling. Shows the biometric data of the specimen and underlines the rarity of finding for the South Tyrrhenian Sea basin. This event leads to the hypothesis several contributing factors such as shifting the areal object of trawling related to the change deep plankton mass range, representing the peculiar diet of this species. This would hypothesize a slight change of direction and intensity of the deep sea currents.

**Keywords:** *Alepocephalus rostratus*; southeast Tyrrhenian Sea; Trophic strategy.

### INTRODUCTION

The family Alepocephalidae includes 24 genera and 63 species, of which only *Alepocephalus rostratus* Risso, 1820 is present in the Mediterranean (Markle and Quéro 1984). *A. rostratus* is present in the eastern Atlantic from the southwestern coast of Ireland (Merrett et al. 1991) to the southwestern coast of Africa (Lloris 1986), where it is frequent between 900 and 1250 mt. Grey (1956) reports some catches between 300 and 3655 mt.

*A. rostratus* have a peculiar distribution in Mediterranean sea, in fact it is present in the Western Mediterranean, from off Corsica, and in the Gulf of Lion between 1000 and 1140 mt. (Maurin 1962); it is also common along the coastal region of Algeria and Morocco between 750 and 1100 m (Raimbault 1963). In the Catalan Sea (northwest Mediterranean) it is commonly caught at mid-slope depths (1000 and 1450 mt.) (Stefanescu et al. 1992). In Sardinian seas, *A. rostratus* has been collected from 550 to 1190 m (Cau 1980; Follesa et al. 2004).

The species is rather known and studied, however, the only data on growth reported in literature for the Mediterranean Sea derive from studies carried out in the Catalan Sea (Morales-Nin, 1990, 2001; Morales-Nin et al., 1996).

Also eating habits are rather particular. Follesa et al. 2007a reported that in 351 stomachs containing food, 22 prey categories were identified, divisible over 5 taxa (tunicates, cephalopods, crustaceans, teleosts, and siphonophores). Carrassón and J. Matallanas 1998 also analyzed diet for two different size-classes (immature and mature specimens) at three different bathymetric strata during two different seasons.

This work describe the first report of the capture of a specimen of *A. rostratus* in the Sicilian Southern Tyrrhenian basin assuming some hypotheses about this particular occurrence.

## MATERIALS AND METHODS

Our specimen was caught in May 2007, during a red shrimp fishing bottom trawling in a area between the Gulf of Patti and the Aeolian Islands - Southern Tyrrhenian sea, specifically Coord. 38°17'50.0"N 14°38'30.3"E (Fig. 1) to a depth of about 800-1000 meters. The specimen, male mature, was found in good condition (Fig. 2) and the main morpho-metric measurements in accordance with Smith-Vaniz (1986) are made (Table 1).

## RESULTS AND DISCUSSION

The species distribution occurred in the north-western Mediterranean (Fig. 1) and indeed in the Catalan Sea it is a subdominant species from the upper to the lower slope, with maximum concentrations between 1000 and 1450 mt. depth (Stefanescu et al 1992; Morales-Nin et al 1996). It seems that the populations are not even able to go to the eastern regions of the Mediterranean Sea. The reasons remain unknown but it is conceivable that differences in chemical, physical, hydrodynamic and consequently also the availability trophic that exist between western and eastern basins represent a significant barrier distribution. This capture is the first finding of the species in the southern Tyrrhenian Sea and this event brings us to evaluate hypotheses likely cause of aggravation: the first is related to the northward shift of

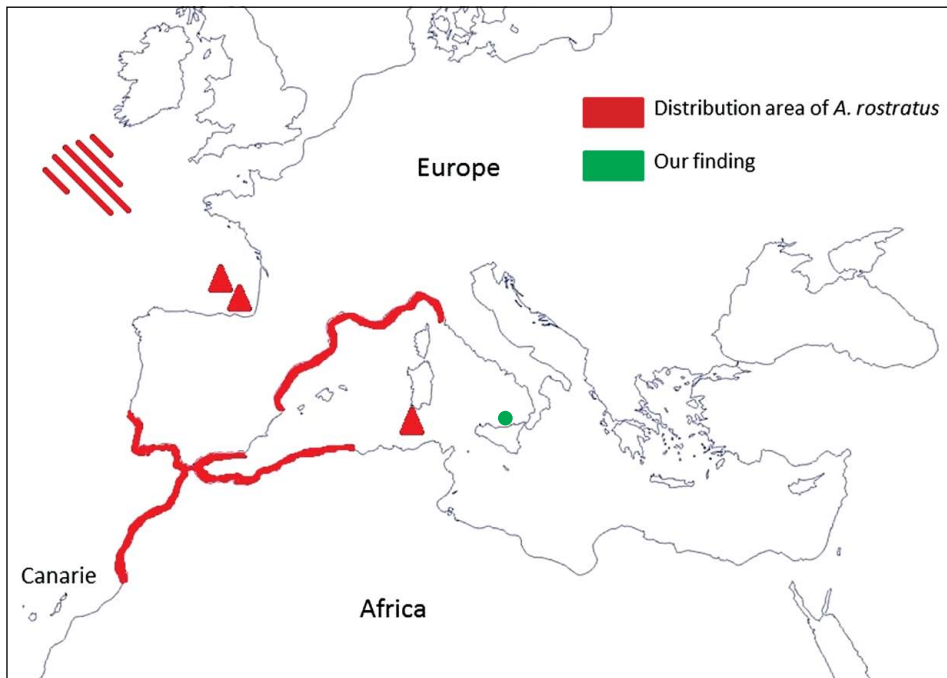


Fig. 1 – Map which describes the distribution area of *A. rostratus* in Mediterranean and Atlantic Sea.



Fig. 2 – The specimen of *A. rostratus*.

the distribution areas of shrimp trawling due to depletion of the waters subject to overfishing; the second is ecological and refers to fluctuations in deep planktonic biomass that are the main trophic source of this species. The stomach contents analysis, moreover, confirmed data by Carrassón and Matallanas, 1990, 1998; Carrassón and Cartes, 2002 and Follesa et al 2007

Tab. 1 – Morphometric and meristic data of the specimen.

	mm	% T.L.	n°	gr.
Total length	350			
Fork length	290	82,86		
Standard length	280	80,0		
Head length	62	17,71		
Eye diameter	33	9,42		
Preorbital distance	21	6,0		
Postorbital distance	51	14,58		
Interorbital distance	14	4,0		
Base of 1st dorsal fin	44	12,58		
Base of 2nd dorsal fin				
Base of anal fin	41	11,71		
Predorsal distance	207	59,14		
Prepectoral distance	102	29,14		
Preanal distance	152	43,42		
Prepelvic distance	200	57,14		
Pectoral length	26	7,42		
Pelvic length	8	2,28		
Body depth	27	7,71		
Body high	44,5	12,71		
Fin ray			19	
- 1st dorsal			10	
- 2nd dorsal			20	
- Pectoral			8	
- Anal				
- Pelvic				
Weight				122.7

a, that described *A. rostratus* like a stenophagic predator, characterized by a specialized deep-planktonic alimentary diet. This could suggest that the deep currents have been slight changes in direction and intensity such as to bring together populations of *A. rostratus* towards the colonization of trophic ranges located to the basin of the southeast Tyrrhenian. This could also be confirmed by the longevity of the species (There are specimens who reach the age of 21 years. Porcu - S. Cabiddu - 2011) that has a K reproductive strategy (Follesa et al. 2007b) and presents new ranges adaptations in homothermy and oligotrophic conditions.

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## RIASSUNTO

### **Prima segnalazione della cattura di un esemplare di Testa nuda (*Alepocephalus rostratus* Risso, 1820) lungo le coste Tirreniche Siciliane**

Viene descritta la cattura accidentale di un esemplare di *Alepocephalus rostratus* Risso, 1820 tramite rete a strascico per la pesca del gambero rosso su alti fondali del Basso Tirreno. Vengono riportati i dati biometrici dell'esemplare e viene sottolineata la rarità del reperimento per il bacino del Mar Tirreno Meridionale. Tale evento porta ad ipotizzare diverse concause quali lo spostamento degli areali oggetto della pesca a strascico legato alla variazione di areale della massa del plancton profondo che rappresenta la peculiare dieta di questa specie. Ciò potrebbe far ipotizzare che le correnti di profondità possano da qualche anno a questa parte aver subito, anche lievemente, variazioni di direzione ed intensità.

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