THE DIET OF *ASTROPECTEN IRREGULARIS PENTACHANTUS* (DELLE CHIAJE, 1825) FROM THE CENTRAL MEDITERRANEAN SEA

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Abstract

A study of stomach contents of *Astropecten irr. pentachantus* collected at depth of 160 m on the muddy-sandy bottom, in the southern Tyrrhenian Sea (Central Mediterranean), found that their diet was dominated by the gastropod *Eulimella acicula* (Philippi, 1836) and the bivalve *Corbula gibba* (Olivi,1792).

Key words: Mollusca, Asteroidea, Mediterranean Sea

Introduction

The feeding habits of the Asteroidea have been extensively studied (1-4), and it was noted that gastropods and bivalves form a major part of the diet of *Astropecten aranciacus* (5). We studied the malacofauna (6, 7) in the stomach contents of *Astropecten irr. pentachantus* collected in the southern Tyrrhenian Sea (Central Mediterranean).

The samples for this study, part of a MEDITS project funded by the European Community, were collected by trawl, in the Gulf of Patti (Sicily), in 1995, at depths between 50 and 100 m. To verify the bottom homogenity and the biocenosis bounderies, two sediment samples, were taken, using a Van Veen Grab, at the beginning and at the end of each haul. The biocenosis that characterized the study area were: Vases Terrigenes Cotieres (VTC), of the Fonds Detritiques du Large (DL) and that of the Vases Bathyales (VB).

Materials and methods

A total of 199 specimens of *Astropecten irregularis pentachantus* were collected from trawl fishery discards. The sampling stations were distributed by applying a stratified sampling scheme with a simple random pattern inside each stratum. The stratification parameter adopted was depth, with the following bathymetric limits: 10, 50, 100, 200, 500 and 800 m. The specimens were sorted, identified and preserved in a solution of hypochlorite of sodium (15%). The stomach contents of 60 specimens were analysed.

Tab. 1. Specimens found in the stomach of *Astropecten irregularis pentachantus*.

GASTEROPODS	number	%
Cerithidium submammillatum (De Rayneval & Ponzi, 1852)	21	7,72
Alvania testae (Aradas e Maggiore, 1844)	10	3,67
Obtusella macilenta (Monterosato, 1880)	8	2,94
Hyalea vitrea (Montagu, 1803)	3	1,1
Aporrhais serresianus (Michaud, 1828)	5	1,83
Turritella communis Risso, 1826	15	5,51
Mangelia costulata (Blainville, 1829)	1	0,33
Mangelia tenuicostata (Brugnone, 1868)	2	0,73
Bela brakistoma (Philippi, 1844)	19	6,98
Chrisallida obtusa (Brown,1827)	33	12,13
Odostomia conoidea (Brocchi, 1814)	15	5,51
Odostomia scalaris MacGillivray, 1843	1	0,36
Liostomia afzelii Warén, 1991	1	0,36
Eulimella acicula (Philippi, 1836)	48	17,64
Turbonilla acutissima Monterosato, 1884	26	9,55
Acteon semistriatus (Basterot, 1825)	3	1,1
Pyrunculus minutissimus (Monterosato, 1878 ex H. Martin)	1	0,36
BIVALVIA	number	%
Nuculoma tenuis (Montagu, 1808)	12	4,41
Bathyarca grenophia (Risso, 1826)	1	0,36
Acanthocardia aculeata (Linne, 1758)	6	2,2
Parvicardium minimum (Philippi, 1836)	5	1,83
Corbula gibba (Olivi, 1792)	35	12,86
Kelliella abissicola (Forbes, 1844)	1	0,36

Results and discussion

The list of prey species found in the stomach contents of the *A. irr. pentachantus* is shown in the table 1. A total of 270 specimens of molluscs were identified with 17 species of gastropods (210 specimens), and 6 species of bivalves (60 specimens).

It is interesting that two specimens of *Acteon semistriatus* (Basterot, 1825) were collected, as the species was only recently reported in Sicilian waters (8). Although the biology of the Pyramidellidae was studied extensively, and it is known that some species are parasitic on echinoderms and molluscs, their trophic ralations are still little known.

Chrysallida obtusa [= intersticta] is an ectoparasite of oysters (9), although occasionally found where oysters are normally absent, indicating it might parasitize other hosts (10). In the past *C. Obtusa* were considered rare, while in this case the percentage is high.

The dominant prey items recorded from *A. irr. pentachantus* in this study were the gastropods *Eulimella acicula, Chrisallida obtusa* and *Turbonilla acutissima*, and the bivalve *Corbula gibba.*

Eulimella acicula is widely distributed in the Mediterranean, to depth of 400 m and is frequently found in stomach contents of *A. irregularis*. However, the presence of *Corbula gibba* may indicate environmental instability (11).

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