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FIRST MEDITERRANEAN RECORD AND DNA-BARCODE
OF EULALIA ORNATA (PHYLLODOCIDAE, ANNELIDA) ASSOCIATED
TO SABELLARIA ALVEOLATA (SABELLARIIDAE, ANNELIDA) REEFS

Sabellaria alveolata (L., 1767) reefs are commonly found along the NE Atlantic coast at
temperate latitudes. Sabellaria reefs provide structural complexity in otherwise
extensive sandy bottoms, thereby providing shelter to several reef-dwelling species. For this
reason, Sabellaria reefs are considered to be diverse and valuable habitats deserving
protection in EU. As a rule, the faunal composition of Sabellaria reefs is a composite of
the species inhabiting the surrounding habitats. However, Eulalia ornata Saint-Joseph,
1888, is a Phyllodocidae species characteristically associated to Sabellaria reefs along
the northern European coast (Pleijel, 1993). Compared to the NE Atlantic, Mediterranea
Sabellaria reefs are smaller, less outspread, and poorly studied. In the framework
of a study carried out to characterize the S. alveolata structures along the Sicily Chan
nel, samples of Sabellaria reefs were collected at 3 Sicilian locations (Donnalucata,
Eraclea Minoa, Triscina). Unexpectedly, phyllodocid specimens clearly belonging to
Eulalia and characterized by a distinct colour pattern (body with two pairs of transverse
olive-green bands and brown spots medially on each) were found in great number at
each location living inside and among Sabellaria tubes. The specimens appeared different from E. viridis (L., 1767), already recorded in Sabellaria reefs of the Tyrrhenian Sea,
while they appeared morphologically identical to the description of E. ornata by Pleijel
(1993), as also confirmed by the above mentioned Author. As a consequence, Eulalia
ornata is herein recorded for the first time in the Mediterranean Sea. Alive specimens
were photographed and immediately stored in absolute ethanol for molecular analy
ses. Total DNA were extracted and the mitochondrial cytochrome c oxidase subunit I
(COI) gene amplified using universal primer pairs. The COI data were integrated with
the nuclear 28S rRNA gene barcode. The molecular identification through DNA bar
coding enhances the prospects for species-level identifications globally using a standard
ized and authenticated DNA-based approach, and strongly supports the species
delimitation between E. ornata and E. viridis. Our records confirm strong association of
E. ornata with Sabellaria reefs also in the Mediterranean Sea.

References