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THE PENNATULACEAN FAUNA
FROM SOUTHERN TYRRHENIAN SEA

I PENNATULACEI DEL MAR TIRRENO MERIDIONALE

Abstract - On bottoms submitted to trawl and trammel fishing, along Sicilian and Calabrian
Tyrrhenian coasts, were collected five species belonging to Pennatulacea order. For three of them this
is the first record for this area: Funiculina quadrangularis, Pennatula phosphorea and Virgularia
mirabilis, the latest one was founded deeper then its known bathymetric range.

Key-words: Funiculina, Virgularia, Veretillum, Pennatula, Pteroeides.

Introduction - Pennatulacean octocorals are colonial organisms that constitute
a significant component of the sessile megafauna filter-feeders from intertidal to
abyssal depths, largely restricted to soft bottoms. Despite being represented by
approximately 200 species in 34 genera and even the wide distribution, the order
Pennatulacea remains poorly studied above all from a geographical point of view
(Williams, 1992, 1995; Williams and Cairns, 2006). In particular for Italian Sea,
although sea pens are usual component of discharge of trawler bottoms, the official
literature probably underestimates their geographical distribution. In this paper are
reported the pennatulacean species recently recorded from Southern Tyrrhenian Sea.

Materials and methods - The specimens used in this study were collected in 2008
in different locations of southern Tyrrhenian Sea along Sicilian and Calabrian coasts
from the Castellammare Gulf to the S. Eufemia Gulf at depths ranging from 20 to 620
m. The organisms were found within the discard fraction during experimental fishing
cruises carried out by trawl and trammel nets respectively in the framework of Medits
project and “La Torre- project” - SFOP-POR Sicilia 2000-2006. Moreover a specimen
was sampled by Van Veen grab. The collected sea pens were preserved in 70° ethanol
and identified using the sclerites as diagnostic feature relying on Williams (1995).

Results - The pennatulacean material studied came from muddy bottoms of
6 localities from the Castellammare Gulf to the S. Eufemia Gulf. Were observed
18 specimens belonging to 5 species and 4 families. In the following tab. 1 are
reported the collected species and the principal information about the records. Is
not previously record about Funiculina quadrangularis (Pallas, 1766) in the Southern
Tyrrhenian Sea. This species is considered rare and sensitive to trawl damage as it is
unable to withdraw into the sediment. Furthermore, it seems to play an important
role in the life of Parapenaeus longirostris, which is abundant where F. quadrangularis
inhabits (Nouar and Maurin, 2001). Also for Pennatula phosphorea Linnaeus 1758
there is not yet record in this area, where is signalised the cogeneric P. rubra but
not recognised during our surveys. Together with P. phosphorea were found the
two specimens of Pteroeides spinosum (Ellis, 1764). It is noteworthy that we always
collected this species living with Pennatula spp. (Porporato et al., 2008). We sampled
only one specimen of Veretillum cynomorium (Pallas, 1766), already known in this
area, but is remarkable that we observed by ROV images it also inside a canyon at
65 meters of depth. Finally, Virgularia mirabilis (Müller, 1776) was found for the first
time in the Southern Tyrrhenian Sea at depths ranging between 560-620 meters.
The Pennatulacean fauna from southern Tyrrenian Sea

Conclusions - The aim of this study is to update the information about the presence of pennatulaceans on bottoms under fishing pressure in the Southern Tyrrenian Sea, identified as biogeographic sector n°3 of Italian Sea (Bianchi, 2004). We found five species belonging to the Pennatulacea order and *F. quadrangularis*, *P. phosphorea* and *V. mirabilis* were never previously recorded in this area. For *V. mirabilis* is remarkable that was found deeper than its known bathymetric range (9-400 m; Lopez-Gonzalez et al., 2001). Is important to consider that these organisms are submitted to hard stress, while they should be protected also in order to their important ecological role. Some countries are aware of this and in the UK, for instance, sea pens are already subject to different levels of protection (English Nature, 1999).

References


Tab. 1 - Information of the record: family, species (*new found), number of specimens, sampling gear, localities (SE=S. Eufemia Gulf; Pa=Patti Gulf; Ca=Castellammare Gulf; PR=Punta Raisi; CO=Capo d’Orlando; SA=S.Agata di Militello) and bathymetric range.

<table>
<thead>
<tr>
<th>Family</th>
<th>Species</th>
<th>Nº</th>
<th>Sampling gear</th>
<th>Localities</th>
<th>Depth range (m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Funiculinidae</td>
<td><em>Funiculina quadrangularis</em> (Pallas, 1766)</td>
<td>5</td>
<td>Trawl net</td>
<td>SE-Pa</td>
<td>80-400</td>
</tr>
<tr>
<td>Pennatulidae</td>
<td><em>Pennatula phosphorea</em> Linnaeus 1758</td>
<td>6</td>
<td>Trawl net, Trammel net</td>
<td>SE-Ca-PR-SA-CO-SA</td>
<td>60-570</td>
</tr>
<tr>
<td>Pteroeididae</td>
<td><em>Pteroeides spinosum</em> (Ellis, 1764)</td>
<td>4</td>
<td>Trawl net, Trammel net</td>
<td>SA-CO</td>
<td>60-110</td>
</tr>
<tr>
<td>Veretillidae</td>
<td><em>Veretillum cynomorium</em> (Pallas, 1766)</td>
<td>3</td>
<td>Van Veen Grab, ROV observation</td>
<td>CO</td>
<td>20-70</td>
</tr>
<tr>
<td></td>
<td><em>Virgularia mirabilis</em> (Müller, 1776)</td>
<td>3</td>
<td>Trawl net</td>
<td>SE-Pa-PR</td>
<td>560-620</td>
</tr>
</tbody>
</table>