

PEDICULARIA SICULA SWAINSON, 1840, IN THE STRAIT OF MESSINA:
A PRELIMINARY REPORT.

by

Antonio DI NATALE and Antonia MANGANO
Dipartimento di Biologia Animale e di Ecologia Marina
Università di Messina - 98100 Messina - Italia

SUMMARY

A preliminary report on the deep benthic formations, thriving in the Strait of Messina, is outlined in this paper, with a particular reference to the Gastropod Mollusc *Pedicularia sicula* and its characteristics. The variability of such species is reported and its ovoviviparity is also confirmed.

RESUME

Cette note préliminaire rapporte sur les premières observations sur les dragages effectués dans l'étroit de Messine parmi le 1979 et le 1981. Dans ces échantillonnages on a obtenu plus de 200 exemplaires de *Pedicularia sicula* dont on a remarqué les caractères de variabilité et quelques indications biométriques. On confirme aussi la caractéristique ovoviviparité de l'espèce. En aussi des enregistrements sur video-tape effectués par un petit sous-marin "Perry 18", était possible vérifier la probable zone de diffusion de *P. sicula* et la relative profondeur.

A total number of 26 dredgings were carried out from 1979 to 1981 by R/V "Algesiro Matteo" in the Strait of Messina, with the purpose of identify the deep rocky bottoms communities. The dredgings have got a lot of interesting and less investigated species to us and one of them is the Prosobranch Gastropod *Pedicularia sicula* Swainson, 1840, which actually known distribution is in the Atlantic Ocean and in the Strait of Messina (SCHELTEMA, 1971).

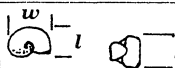
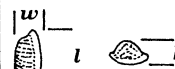
To collect the samples (more than 200 specimens), three different types of dredges were used by us: one was a classic triangular dredge, modified in size and weight; the other one, cross shaped, was built basing our projects on a modification of a classic tool used by the coral-fishermen, and the last one was a small scale replay of the most recent tool used for red coral fishery.

To verify the geographical distribution of *Pedicularia sicula* along the southern part of the Strait, about 100 video-tapes recorded by a "Perry 18" Intersub mini-submarine (*) were used by us. Of course, it is impossible to recognize *P. sicula* on the video-recorder, but it is easy

(*) courtesy of Ing. G. Davini, Industrie Pirelli s.p.a., Sezione Cavi, Milano.

to note the presence of the associated species *Errina aspera* (L., 1758), (Hydrocorallia, Stylasterina), on which it lives (ARNAUD & ZIBROWIUS, 1979). Such distribution seems more southern and deeper than FREDJ and GIERMANN (1982) reported, because *Errina aspera* was collected by us at 181 mt. and video-recorded at a deep of 236 mt., off Cape Annunziata (Messina). The typical habitat in which *Pedicularia sicula* grows in the Strait of Messina is characterized by *Lithothamnium philippi*, *Pseudolithophilum expansum*, *Pachylasma giganteum*, *Ophiactis balli* and *Errina aspera*. DI NATALE et Al. (in press) suggested for such particular habitat the name of "deep coralligenous facies subjected to strong currents" because, until now, it seems that there isn't any similar one inside the Mediterranean Sea and all the species named before have a strict ecological connection with a high level of integration; so, we can define it as a very particular facies of a deep sciophilous concretion subject to strong currents, which could be referred to the coralligenous community *sensu lato*. The seafloor on which such facies typically thrives consists of sandstones, paraconglomerates and biogenic concretions, with roughness and pinnacles, subject to erosion by strong currents (SELLI et Al., 1978-79).

Pedicularia sicula thrives mainly on *E. aspera* and it leaves its mark on the colonies; we never found *P. sicula* on the red coral *Corallium rubrum*, also growing in the Strait. *P. sicula* is here confirmed as a ovoviviparous species (several larvae were found in a mantle cavity of two specimens), with a great variability of the shell shape: it could be oval or irregular, white, rose or reddish, smooth or delicately reticulated. The spiral is generally hidden, but the protoconch was still present in a few adult specimens. A first information about shell sizes of *Pedicularia sicula* is showed on the following table:

		length (mm)	width (mm)	height (mm)	weight (cgr)	
LARVAE	N	30	30	30	-	
	min.	0.1326	0.1122	0.0714	-	
	max.	0.1530	0.1224	0.0714	-	
	mean	0.1428	0.1173	0.0714	-	
ADULTS	N	186	186	186	186	
	min.	2.2	1.6	1.1	0.13	
	max.	11.3	6.8	7.1	15.14	
	mean	7.06	4.2	3.82	4.71	

ESSENTIAL REFERENCES

- ARNAUD P.M., ZIBROWIUS H., 1979 - L'association *Pedicularia sicula* - *Errina aspera* en Méditerranée. *Rapp. Comm. int. Mer Médit.*, 25/26, 4: 123-124.
- FREDJ G., GIERMANN G., 1982 - Observations en soucoupe plongeante SP 300 des peuplements d'*Errina aspera* du Déroit de Messine. *Iethys*, 10(3): 280-286.
- SCHELTEMA R.F., 1971 - Larval dispersal as a mean of genetic exchange between geographically separated population of benthic Gastropods. *Biol. Bull.*, 140: 284-322.
- SELLI R., COLANTONI P., FABBRI A., ROSSI S., BORSETTI A.M., GALLIGNANI P., 1978/79 - Marine geological investigation on the Messina Strait and its approach. *Giornale di Geologia*, 2^{es.}, XLII(2): 1-70.