



Relocation of *Pinna nobilis* (Mollusca, Bivalvia), an important component of best practices to maintain biodiversity in endangered marine coastal areas

Fernando Rubino and Giovanni Fanelli

Istituto per l'Ambiente Marino Costiero, CNR, Unit of Taranto, Italy (rubino@iamc.cnr.it)

Pinna nobilis is a threatened Mediterranean species requiring special conservation granted by European Council recommendations (EC Directive 92/43/EEC, Annex IV; Barcelona Convention, Protocol for Specially Protected Areas and Biological Diversity in the Mediterranean, Annex II).

The shells of this mollusc are considered as "isles of biodiversity" in muddy and sandy sea bottoms, due to the high coverage of their surface by epibionts. For this reason, the conservation of this species is important both for the species itself and for its role in maintaining and enhancing biodiversity in marine coastal areas, by increasing the local spatial heterogeneity and favouring the settlement of benthic species.

In summer 2016 a huge population of *P. nobilis*, was discovered in an area of the Port of Taranto where a "sediment tank" was realized to host sediments coming from dredging operations. This finding forced to design and implement an urgent action to safely relocate almost 2,000 individuals to another suitable site and to assess both the effectiveness of the intervention and the possible impacts on the marine environment in the replanting area, such as an increase of the local recruitment.

The intervention required 33 day of SCUBA divers by 6 divers. The subsequent monitoring of the transplanted population showed 12.2% of mortality mostly due to predation and only 1.3% induced by the relocation activities. Transplantation techniques can be successfully used both for conservation purposes and to support actions for sustainable development through the proper management of natural resources, e.g. in the case of ports enlargement projects. However, the current European legislation does not contemplate specific actions to contribute to the conservation of the species, apart to ban collection, exploitation and commercialization. One of next tasks for marine biologists could be to contribute to integrate national regulations to contemplate the relocation activities of benthic endangered species such as *P. nobilis*.