



Aquaculture and restoration: perspectives from the Mediterranean Sea experiences

Adriana Giangrande

Università del Salento, Lecce, Italy

Abstract:

Aquaculture is continuing to grow following the increase of human population. Several problems still affect the development of this sector concerning the fodder production, the choice of suitable sites, the impact on the surrounding environment, and the commercialization of new environmental-friendly species. A primary solution consists in the replacement of monoculture with polyculture, as occurs in the Integrated Multi-Trophic Aquaculture (IMTA). Although some criticisms must be faced on the application of IMTA, this system has a large number of advantages and if carefully designed, it has the potential to go a step further the impact reduction, really improving water quality, removing excess nutrients, and providing habitat suitable for many marine organisms. Therefore, even though aquaculture is historically coupled with environmental impact, IMTA has hidden the potential to meet the restoring and protecting marine ecosystems. Mariculture is expanding mainly offshore, this is especially for a lower competition for space that can be utilized for other purposes in near coastal waters. Moreover, in open water, wastes loading is not a problem, however, the high energy waters increase the maintaining costs. To date, IMTA has a greater complexity and is usually easier to apply in-shore, especially in the Mediterranean area where it is in its infancy and where the scarcity of nutrients away from the coasts is not suitable for farming of either filter feeders or macroalgae. The possibility of implementation of different forms of aquaculture in the Mediterranean area is discussed also with some suggestion to couple production with restoration.

Biography:

Adriana completed her PhD at the University of Pisa (Italy), and at present she is Associate Professor of Zoology at the Salento University (Lecce- Italy), and head of the Laboratory



of Applied Marine Zoology. She has published more than 200 papers and has been serving as an editorial board member of one of them. Main field of interest are community dynamics in confined environment. Fouling succession. Larval ecology and life cycle of marine invertebrates. Biodiversity and ecosystem functioning. Marine environment monitoring. Feeding ecology and application in circular economy. Wastes management and bioremediation in aquaculture.

Recent Publications:

1. Diversity and Distribution Patterns of Hard Bottom Polychaete Assemblages in the North Adriatic Sea (Mediterranean)
2. An Innovative IMTA System: Polychaetes, Sponges and Macroalgae Co-Cultured in a Southern Italian In-Shore Mariculture Plant (Ionian Sea)
3. Disentangling invasions in the sea: molecular analysis of a global polychaete species complex (Annelida: Spionidae: Pseudopolydora paucibranchiata)
4. Massive bioconstructions built by Neopycnodonte cochlear (Mollusca, Bivalvia) in a mesophotic environment in the central Mediterranean Sea

[15th International Conference on Aquaculture & Marine Biology | March 24-25, 2021 | Dubai, UAE](#)

Citation: Adriana Giangrande; Aquaculture and restoration: perspectives from the Mediterranean Sea experiences); Aquaculture & Marine Biology 2021, March 24-25, 2021, Dubai, UAE