

## Resources from the Sea: not just Fishing

I already used the title of this communication in a previous Mareamico conference (Cala Gonone, 1998). Why am I using it again? Because, taking for granted that the role of research is central for a country's development and that in our country the shortcomings in this sector are well-known, it is also appropriate to point out themes that, though they are objectively important, have never attained visibility and shared acceptance in Italy.

In 1998 I brought to the auditorium's attention the importance of investing in a seemingly very promising sector: "Biologically Active Substances from Marine Organisms". In support of the statements made, substantial financing allocated for this topic in the United States and Japan was reported. Today, this conviction has spread to many other countries (Australia, Canada, China, Brazil, Russia, Germany, India, Spain, Greece...), but not to Italy, even though success in the other countries was often attained thanks to a small contribution from us.

Almost all of the drugs that we use are of natural, mainly vegetable, origin. Similarly to plants, marine organisms possess an unexplored mine of molecules, many of them bioactive. In order to select the most promising marine sources, the blind extermination of marine organisms must be prevented, but it is advisable to select suitable filters. The "ecological filter" is very promising. The marine biologist must point out phenomena that could be rationalised by knowing the nature of the possible chemical mediators involved. The chemist must characterise the molecule. The pharmacologist evaluates the clinical potentials. Opisthobranch molluscs are an example of an "ecological filter".

Opisthobranch molluscs are seemingly very vulnerable since their shell is small, fragile or completely absent. On the contrary, they are almost exempt from predation, having developed numerous defence strategies, often based on the use of chemical substances as a protective weapon. Many defence substances isolated from opisthobranch molluscs are pharmacologically active and some are currently undergoing clinical investigation.

During the workshop, we will attempt to offer a broad perspective of the most promising chemical molecules of marine origin in the pharmacological field and, at the same time, to clearly indicate the scientific objectives and the possible by-products that can be expected from a project centred around these topics.

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