

International Commission for the Scientific Exploration of the Mediterranean Sea (CIESM)

By **Ferdinando Boero**

THE INTERNATIONAL COMMISSION for the Scientific Exploration of the Mediterranean Sea (CIESM) was conceived in 1910 and has been promoting marine research in the Mediterranean ever since (for complete information on the Commission, refer to its web page <http://www.ciesm.org/>). In the past decade, the CIESM has undergone a radical change of objectives and activities, with a complete re-arrangement of its organisation.

The responsibility for this change largely rests on its Director General, Frederic Briand. Born and raised in Paris (hence his European imprinting), Frederic Briand moved to California to take a PhD in marine ecology (1974) before moving up as a university professor in Canada. There he worked extensively on the cybernetics and trophodynamics of ecological communities, notably deciphering the complex rules that shape the structure of foodwebs (connectivity, mean food-chain length, etc). His papers have much influenced the emergence of this domain of research, as you will find if you consult modern textbooks in community ecology. When called to lead the Commission in 1991, after running the Population Programme of UNESCO, Frederic brought with him a vision shaped by his pragmatic knowledge of developing countries and of differing research practices in "Old Europe" and in North America.

Mix of communities

This surely helped, as a unique aspect of CIESM is its amazing geographic blend of scientific communities. The list of member states runs from Algeria, Croatia, Cyprus, Egypt, France, Germany, Greece, Israel, Italy, Lebanon, Malta, Monaco, Morocco, Portugal, Romania, Serbia-Montenegro, Slovenia, Spain, Switzerland, Syria, Tunisia, Turkey, to Ukraine. The major CIESM Congress that is organised



Member states of CIESM.

every three years is a remarkable opportunity to meet people from all of these countries...in addition to Albanian, Scandinavian, Palestinian, British and also American scientists who love to work on the Mare Nostrum. The southern and eastern shores are a main concern of CIESM, which aims to facilitate interactions between their scientific communities and those of the northern shore, so as to build up a common way of looking at the Mediterranean.

CIESM committees

CIESM is organised in committees which have been remodelled into six units at present:

- Marine Geosciences
- Physics and Climate of the Ocean
- Marine Biogeochemistry
- Marine Microbiology
- Living Resources and Marine Ecosystems
- Coastal Ecology.

Each committee has a chair, the largest one – Living Resources and Marine Ecosystems – having two co-chairs. The chairs operate as a tight collegial group, frequently called upon by

the Director General for strategic meetings. They play a key role in the preparation of the triennial congresses (the 37th Congress took place in Barcelona on the second week of June, 2004) and also in the design and running of research workshops.

Research workshops

This latter activity, launched in 1997, has now become a CIESM trademark. The chairs propose emerging themes and identify key experts; the CIESM Secretariat takes care of the rest. Thanks to a smooth, time-tested "bureaucracy-free" mode of functioning, CIESM workshops easily develop as intensive, exploratory "think-tanks." The outcome of these meetings is a *circa* 120-page monograph which integrates the consolidated communication of each participant and includes an executive synthesis – the fruit of collective thinking, which outlines the main conclusions of the discussions and proposes promising paths for future research. The volumes, produced at a rate of roughly four per year, can be downloaded for free as PDF files from the CIESM website. The number of

downloads is very high: several volumes have been downloaded more than 10,000 times already. While it is obvious that not all volumes are read from cover to cover (many hits may just reflect a generation of “zapping visitors”), such numbers do indicate at least a definite appetite for marine science! Topics range from coastal erosion to marine viruses, covering all aspects of marine sciences. Today, the CIESM Workshop Monographs series already numbers 24 volumes (two others are in preparation): together they constitute an amazing corpus of knowledge on modern Mediterranean marine science.

Atlas of Exotic Species

Another success story in the CIESM production line is the *Atlas of Exotic Species in the Mediterranean Sea*. Current volumes cover Fishes, Crustacean Decapods and Stomatopods, and Molluscs. Others are in preparation. The Atlas is downloadable in digital format from the CIESM website, where expert updates are regularly added, but the printed version, with beautiful, original illustrations, is very much worth buying. The Mediterranean is undergoing a fast, massive biodiversity change and the CIESM Atlas is the reference database for this process, which is continuously bringing new species into the basin. Most newcomers are of tropical affinity, migrating through the Suez Canal or through the Strait of Gibraltar, or are transported in the ballast or on the hulls of a fast-growing maritime traffic.

The Mediterranean is a miniaturised ocean with a very high biodiversity. Its surface waters are tropical in the summer and temperate in winter, allowing the spatial (but not temporal) coexistence of species of opposite biogeographic affinity. It is a wonderful arena for marine studies. CIESM is exploiting this marvellous opportunity to the full, and is providing a conducive atmosphere for the gathering of data (through the Atlas and other initiatives, e.g. syntheses of multibeam-derived maps of the Mediterranean sea bottom), their thoughtful elaboration (through workshops), the spread of this information (through its website) and debates among over 600 marine scientists coming from all corners of the basin and beyond (during its Congress).

International brotherhood of marine scientists

While science is naturally the prime concern of CIESM, through science, a political game of a different, innovative kind is at play. Provided with a continuous forum for international dialogue and with real opportunities for trans-frontier collaborations, scientists originating from countries usually engaged in serious conflicts and even wars, learn through CIESM



Increasing maritime traffic in the Mediterranean can contribute to the number of exotic species in the Mediterranean Sea.

to cooperate and appreciate each other. It is an important start. Traditionally, this is not the mandate of a strictly scientific organisation, and officially it is not. In reality, however, under the umbrella of the Commission, the Mediterranean scientific community is already treading a path that, hopefully, will be followed in the future by its governments.

The evolutionary and ecological meaning of co-operation

I have been chair of the Committee on Coastal Ecology for two mandates, and now my terms have expired. I have organised and/or participated in several CIESM workshops: it was a privilege, but also a lot of fun. I suggested a workshop theme that, I hope, will take place in the future: the ecological and evolutionary meaning of co-operation. A good place to hold this would be Gaza, Sarajevo or Cyprus. The modern paradigms of ecology are predation and competition, backed up in evolutionary theory by natural selection, which implies a continuous struggle. There is

a less explored side of this medal: the most spectacular marine ecosystems (coral reefs) base their functioning on the mutualism between zooxanthellae and corals. Similarly, our cells work the way they do because some “parasites” became incorporated into them and, instead of competing, started to cooperate, giving rise to modern cells. The same is true for plants and insects, with pollination.

This is very much the philosophy of CIESM: give an opportunity to scientists to get together, to cooperate and discuss their favourite topics, thus reaching a better understanding of scientific issues and, ultimately, of each other. ●

Ferdinando Boero,
CoNISMa, University of Lecce Strada,
Provinciale Monteroni,
I-73100 Lecce, Italy.