

Threats to Mediterranean flora and fauna discussed at Istanbul congress



The four Maltese participants at the 38th CIESM congress in Istanbul, from left: Professor Patrick J. Schembri (University of Malta), Mark Dimech (Malta Centre for Fisheries Sciences), Marija Sciberras and Dr Alan Deidun (both University of Malta)

The International Commission for the Scientific Exploration of the Mediterranean (CIESM) was set up in 1910 to promote international research in the Mediterranean Sea and the Black Sea. CIESM acts as a focus for the exchange of ideas, the communication of scientific information and the development of scientific standards across the Basin.

A Maltese delegation, of which I formed part, attended the CIESM's 38th congress held in Istanbul, Turkey, between April 9 and 13. The commission, whose headquarters are in Monaco, today has 23 member states, including 20 of the 22 Mediterranean nations.

Apart from the Mediterranean, the Commission's interest extends also to the scientific exploration of the the Black Sea and the Atlantic Ocean close to the Straits of Gibraltar.

CIESM concerns itself with six major areas, each catered for by a committee: marine geosciences, physics and climate of the ocean, marine biogeochemistry, marine microbiology, living resources and marine ecosystems, and coastal ecosystems.

Major developments in each of these fields are reported in tri-annual CIESM congresses, one of which was held in Malta in 1995.

The CIESM programmes include monitoring programmes, such as MedGLOSS, which studies relative and absolute sea-level changes; MusselWatch, which aims to document reliable baseline levels of radioactive and trace metal contaminants in marine food chains; Hydro-changes, which conducts in situ salinity and temperature measurements; PORTAL, which aims to detect alien species in harbours, and 'zooplankton indicators' which aims to assess and forecast ecosystem changes.

CIESM also organises oceanographic cruises as part of the exploration campaigns SUB1 and SUB2, and undertakes mapping of the seafloor, through the production of cutting-edge 3D maps of the Mediterranean seabed through the use of bathymetric and acoustic imagery. It also tracks biodiversity through the updating of atlases of exotic/alien biota to be found throughout the Mediterranean.

Istanbul congress

The 38th CIESM congress was held at the Istanbul Conference and Exhibition Centre, in the heart of the bustling city.

These are some noteworthy quotes from the proceedings of the congress:

"Nature is paying attention to what's happening. Shouldn't we?" - Dr Bella Galil, Israel.

Context: Due to the warming of the Mediterranean Sea, tropical species are increasingly colonising this sea, mainly via transit through the Suez Canal.

"It would be very sad to live only in a world driven by goods and services, especially when we don't know exactly what goods and services we need" - Dr Galil.

During a discussion on the value of biodiversity in order to justify its conservation.

"We need to protect taxonomy from extinction" - Professor Ferdinando Boero, Italy.

We are presently witnessing the sixth major extinction, with the rate of human-induced extinction being 1,000-fold that of the natural, background one. To understand the ramifications of such an onslaught, humanity needs to know in numerical terms the numbers of species being lost and only taxonomists can provide such data. However, ever since the advent of the molecular revolution in biology, taxonomy has been a dying discipline and there is now a dire need for taxonomists to document our vanishing biodiversity.

"We cannot understand the present without studying the history. Ecology is history." - Professor Boero, Italy.

To interpret natural phenomena, we must be armed with detailed time series since such phenomena could be simply part of natural, cyclic fluctuations in biotic populations and/or physical parameters.

Professor Boero went on to elaborate on the current phase shifts being witnessed in the Mediterranean as a result of anthropogenic activities, such as the shift from fisheries to aquaculture, from predictable to unpredictable seasons, from artisan to industrial fisheries, from temperate to tropical conditions in the Mediterranean, from fish shoals to jellyfish 'swarms' and from algal canopies to sea urchin barrens.

A theme that dominated the congress discussions on living resources and marine ecosystems was the current 'tropicalisation' of the Mediterranean due to an increase in surface water temperatures with a subsequent surge in the surreptitious 'invasion' of Indo-Pacific species adapted to warmer conditions from the Red Sea via the Suez Canal - the so-called Lessepsian migrants (after the French builder of the Suez Canal, Ferdinand de Lesseps).

Currently, almost 600 species of alien (non-indigenous) species have been recorded in the Mediterranean Sea, a third of which are molluscs. The exact impact of such immigrants on indigenous Mediterranean species has not yet been fully established.

A Danish colleague provided yet another telling anecdote. He stated that when he and his colleagues attempted to convince fishermen about the need to establish a core zone (no entry/no take) with an MPA (Marine Protected Area), they encountered hard-nosed opposition.

However, when the need for such a zone was justified on the ground that a zone was needed in which man is not allowed to tinker with nature, the proposal was approved.

The need to convey scientific developments to the public in easily understandable language was stressed during the congress.

Maltese contribution

Considering our island's limited land, financial and human resources, the ten scientific works presented at the congress by researchers from the Marine Ecology Research Group (MERG) of the Department of Biology of the University of Malta and from the Malta Centre for Fisheries Sciences (MCFS) were a substantial contribution.

The ten presentations were wide-ranging, covering the ecology of beached seagrass wrack, colonisation of marine litter by fauna, alien marine biota, the fauna of deep water trawling grounds, the status of an endemic marine mollusc, and Bluefin tuna landings.

These presentations were:

"Demersal assemblages on deep water trawling grounds off the Maltese Islands: management implications" and "Role of environmental variables in structuring demersal assemblages on trawled bottoms on the Maltese continental shelf" (both by M. Dimech, M. Camilleri, M. Kaiser, P.J. Schembri).

"Interspecific interactions between the grapsid crabs *Percnon gibbesi* and *Pachygrapsus marmoratus*: implications of an invader" and "Observations on the alien crab *Percnon gibbesi* from the Maltese Islands" (both by M. Sciberras, P.J. Schembri).

"Distribution and density of discarded limestone slabs used in the traditional Maltese lampuki fishery" (R. Pace, M. Dimech, P.J. Schembri).

"Banquette faunal assemblages from groomed and ungroomed beaches on the Maltese Islands" (A. Deidun, S. Saliba, P.J. Schembri).

"Fouling assemblages from two Maltese ports studied as part of the PORTAL project" (G. Muscat, A. Deidun, P.J. Schembri).

"Is the endemic Maltese top-shell *Gibbula nivosa* extinct?" (P.J. Schembri, J.A. Borg, A. Deidun, L. Knittweis, T. Mellado Lopez).

"Litter as a source of habitat islands on deep water muddy bottoms" (R. Pace, M. Dimech, M. Camilleri, A. Mosteiro Cabalenas, P.J. Schembri).

"Biological characteristics of Maltese longline Bluefin Tuna (*Thunnus thynnus*) landings, 2005" (A. Mosteiro Cabanelas, M. Camilleri).

All ten works were presented to the CIESM "Living Resources and Marine Ecosystems" committee, and a common in most of them was the need for conservation of the living natural resources of the Maltese Islands; most presentations provided scientific data upon which threatened species or habitats could be managed.

A case in point are seagrass banquettes, so little regarded locally, but which harbour whole arrays of poorly-studied organisms and which contribute towards beach stability, sand accretion and dune establishment. The paper on this topic presented at the CIESM congress highlighted all these important points.

MERG and the MCFS have again lived up to their reputation in delivering the goods at an international forum like the CIESM congress, which is a great opportunity for local researchers to interact and network with their Mediterranean counterparts, and to design projects that provide more information about the marine environment.

This should be ample food for thought when Malta's continued membership of CIESM is being questioned by local authorities.

IOI (Malta) is the CIESM national delegate for Malta, which is represented on the CIESM Restricted Bureau, elected from member countries.

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