# INTRODUCTION

**Ninth International Congress**
**on the Zoogeography and Ecology of Greece and Adjacent Regions (9ICZEGAR)**
**(22-25 May 2002, Thessaloniki, Greece)**

# Assessing Biodiversity in the Eastern Mediterranean Region: Approaches and Applications

Biodiversity, as a concept and research objective, has been the focus of the international scientific community ever since the last Tasmanian wolf (*Trylacinus cynocephalus*) disappeared in the mid-30s. Several decades later, in 1992, the Convention of Rio came as a result of the urgent need to record and conserve biodiversity. Despite its inevitable deficiencies, the Convention remains the most important tool for the conservation of biological diversity (GASTON & SPICER, 1998). Following this line of thought, the Hellenic Zoological Society organised the 9th International Congress on the Zoogeography and Ecology of Greece and Adjacent Regions (9ICZEGAR) focusing on the main topic of "Assessing Biodiversity in the Eastern Mediterranean Region: Approaches and Applications". The congress was held in Thessaloniki (Greece) from 22 to 25 May 2002.

The scope of that endeavor was (a) to assess the general inquiries on biodiversity and its three major components : taxonomy, genetics, and ecology, (b) to unfold the range of investigations that take place in the eastern Mediterranean and (c) to establish biodiversity as a mean for developing management models with viable predictions. Prior to this congress, several other important scientific conferences and papers have tackled the general concept of biodiversity (e.g. MARBENA e-conference, GRAY, 1997 ; BIANCHI & MORRI, 2000 ; JACKSON et al., 2001 ; ORME et al., 2002 ; PRICE, 2002 ; PAULY & WATSON, 2003 ; among others). The present effort, without losing any of the innate meaning, aimed to contribute significantly to the propagation of scientific research in the eastern Mediterranean as well as to the understanding of the priorities set by the scientific community for this region.

A total of 304 scientists, representing 60 research centers (Universities or Institutes) from 16 different countries, participated in the 9th ICZEGAR. During this congress, 156 papers were presented comprising 8 invited lectures, 106 oral presentations, and 42 posters that were divided into a terrestrial fauna session and an aquatic fauna session. A closer view of the abstracts of these contributions revealed a diverse array of research subjects. More specifically, 25 presentations dealt with issues of marine Biology, 23 of ichthyology, 21 of mammalian biology, 19 of freshwater ecology, 15 of soil biology, 14 of ornithology, 7 of insects, 6 of wetlands, 5 of amphibians and reptiles, and 5 of terrestrial gastropods. Moreover, there were 16 contributions dealing with molecular biology and genetics, whereas 10 presentations referred to threatened species, such as cetaceans, monk seals or loggerhead turtles.

Despite the significance of all those contributions, the Organizing Committee was forced to select a limited number of papers in order to have them published in a special issue of the Belgian Journal of Zoology. The selection was done according to the standards of the hosting journal following peer reviews from an international committee of referees. The list of referees is found at the end of this introduction. Fifty papers were submitted for review and 25 of them met the international standards imposed by the journal and are included in these proceedings.

The papers on aquatic ecosystems refer mostly to the marine environment and only few deal with freshwater biology. Summarizing the contents of those papers, there is an apparent increasing interest in certain groups of the eastern Mediterranean Sea, such as mollusks and decapods. For instance, new data are presented on the structure of the mollusk fauna on the hard substrate of the lower sublittoral zone (15-45 m depth). There are also first records of species at various locations in the eastern Mediterranean, which show a high level of spatial homogeneity in the abundance of species. A review of the fauna of exotic mollusk species in the Greek seas confirms the continuous species migrations from one geographic region (e.g. Red Sea, Indian Ocean) to another (e.g. Mediterranean). Similar information is also recorded for cephalopods, where preliminary results and an analysis of their abundance in space and time contribute significantly to our knowledge of this group in the broader region of N.E. Mediterranean. Another study of great interest focusing on deep-sea decapods of the Ionian Sea records 39 species and describes their bathymetrical distribution.

The research of deployment of artificial reefs in the Eastern Mediterranean has not started until recently. Despite the delay, the results of these efforts have so far shown the significant contribution of the artificial reefs to the reservation and upgrade of the marine environment in the N.E. Mediterranean. The region of the North Aegean Sea, though richer in nutrients than the Southern Aegean or even the Levantine Sea, is still not as rich as the Western Mediterranean. These data can induce further discussion on the value of such deployments and also on the introduction of new temporal-spatial strategies for the exploitation of similar developmental practices.

The on-growing interest of the scientific community on the subject of fishery resources and management is present in three of the papers. Two of them examine the influence of climatic changes on the reproduction of fish

and substantiate the concern for the future of fish stocks in the Mediterranean. Lastly, a significant study of the functional importance of marine ecosystems, one of the three levels of biodiversity, contributes extensively to the assessment of the physical or physiological condition of the Mediterranean, a sea with particular environmental and socio-economic problems, as indicated in many F.A.O. reports.

As far as the terrestrial fauna is concerned, the selected contributions deal with soil invertebrates, birds, and mammals. In terms of soil invertebrates, changes in the community organization patterns of epiedaphic coleopterans was used to assess human impact in a protected forest reserve, while another contribution explores the effects of global climate change on the structural and functional features of a soil nematode community. The subjects of the contributions on birds range from detailed investigations of the feeding patterns and diets of owls, herons, and egrets, to the composition and species richness of bird species in protected mountain forests. Another contribution uses eggs of gulls, avocets, and terns as bioindicators for the evaluation and impact of agrochemical pollutants in Greek wetlands of international importance. Lastly, one contribution on mammals explores the major Neogene/Quaternary mammalian migrations and faunal changes in the southern Balkans that contributed to modern mammalian diversity in the eastern Mediterranean region. Two other contributions focus on voles, one investigating patterns of interpopulation variability based on allozyme variation, the other one focuses on their use as efficient bioindicators of polymetal dust emissions. Two contributions deal with carnivores in Greece, one exploring the activity patterns, movements, and home ranges of female brown bears, and one assess the population status of golden jackals.

In addition to the paper presentations, a round table was organized concerning the Protection and Management of Wild Populations of Large Mammals in Southern Balkans. Many authorities from Hellenic Universities, as well as Hellenic and international NGOs participated and exchanged basic and applied knowledge on this issue. All parties concluded that recent evaluation on the population estimates of large terrestrial mammals in Southern Balkans shows an alarming reduction. The main causes assessed were (a) human-induced habitat fragmentation and degradation resulting in small, genetically isolated populations, (b) poaching and intense hunting pressure without legal regulations, and (c) absence of a policy incorporating mammals within the larger frame of biodiversity conservation. The situation is considered critical, demanding state and public awareness through the propagation of information coming from current and ongoing research. All parties acknowledged these problems and agreed in (a) the need for collaboration between research institutions and NGOs on an international level for long-term continuous basic and applied research on threatened species, and (b) the formation of national policies for environmental protection incorporating large mammals within the frames of European action plans.

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