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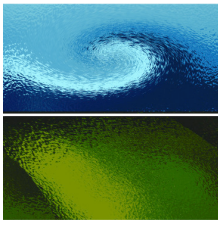

EDITORIAL

Research and Management for the Conservation of Coastal Lagoon Ecosystems, South - North comparisons

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Preface

Coastal lagoons are aquatic ecosystems that share many features with estuaries, where seawater mixes with fresh water from continental origin, and also bear resemblances with shallow freshwater lakes. This explains why in the vernacular languages of South France, Italy and Spain the same word is used both for lagoons and for shallow lakes. On a global scale these systems comprise 13 % of the world coastlines (Barnes 1980) and 5.3 % of the European coastlines (Razinkovas et al., 2008). The SE coast of the Baltic Sea and the Atlantic and Mediterranean coasts of Southern Europe represent the major lagoon regions in Europe. The coastlines of the Mediterranean Sea comprise about six hundred lagoons that are listed by the Transitional Water Data Platform developed within the CIRCLEMED project ClimBioMedNet (www.circlemednet.unisalento.it). Some important hydrological, geomorphological and biodiversity aspects of North African lagoons have been described in a special Hydrobiologia issue (Thomson & Flower, 2009).

The "4th European Conference on Coastal Lagoon Research - Reseach and Management for the conservation of coastal lagoon ecosystems, South North comparisons" was the fourth in a series of biannual conferences focused on the scientific research on coastal lagoons and the management for their conservation and sustainable use. The first European lagoon conferences took place in 2003 in Ferrara, Italy, which focused on Southern European lagoons, mainly on the Northern shore of the Mediterranean and the Atlantic lagoons of the Iberian Peninsula. A pan-European scale has been adopted since the second conference that took place in Klaipeda, Lithuania. Both conferences have given rise to special issues of Hydrobiologia (Viaroli et al., 2005; Razinkovas et al., 2008) and the second also to a special issue of Transitional waters Bulletin (Basset and Carrada, 2007). The third conference was organised in Naples, Italy. The fifth conference in this series has taken place in 2011 in Aveiro (Portugal), was renamed as the European Coastal Lagoon Symposium (5th EUROLAG) and resulted in a special issue of Estuarine Coastal Shelf Science (Quintino et al., 2012). The 6th EUROLAG will take place from 16 to 19 December 2013 in Lecce (Italy).

The specific aims of the fourth lagoon conference in Montpellier (14-18 December 2009) were to improve the exchanges,

between scientists and managers, and between Northern and Southern countries, for the conservation of coastal lagoons and the sustainable use of their natural resources. Three hundred-twenty participants from 23 different counties attended this conference (see Fig. 1). Among them many lagoon managers, other end-users of lagoon studies and many participants from North-African countries (Tunisia, Morocco, Algeria) actively contributed oral and poster presentations showing that our aim to involve managers and end-users and adopt a Euro-Mediterranean approach was very successful. The lagoon managers and other end-users of lagoon studies in the Languedoc-Roussillon (S. France) formulated a very clear demand for organising two mini-symposia on the issues of biodiversity conservation and emerging questions about the impacts of contaminants, which were titled respectively, "Drivers of the biodiversity in lagoon ecosystems in the perspective of global change" and "Persistent Organic Pollutants in the aquatic continuum; How to protect the lagoons against pesticides and other pollutants". A selection of 15 papers from this conference focusing on the interface between science and management has been published in a special issue of Estuarine Coastal Shelf Science (Gaertner-Mazouni and De Wit, 2012). In addition, a special issue of Hydrobiologia (De Wit et al., 2012) has published 9 studies of the natural processes in lagoons including (1) benthic biota and their impact on sediment biogeochemistry particularly to understand how water quality is impacted by benthic processes; (2) drivers of the biodiversity in lagoon ecosystems in the perspective of global change; (3) impacts of climate variability and sea-level rise on the geomorphology and ecosystem functioning of coastal lagoons.

We called for papers on South-North comparisons, but we were not very successful in this respect. For the conference we received, however, an impressive amount of oral and poster contributions on biodiversity and ecosystem processes of the lagoons of the Southern shore of the Mediterranean Sea from colleagues in Tunisia, Algeria and Morocco. This thematic section describes three studies on North-African lagoons. Daoudi et al. (2012) describe phytoplankton populations and environmental parameters in the lagoon of Nador (Morocco) over an annual cycle (2006-2007) at six stations. Seven taxa were identified that may present a risk of inducing harmful blooms. Gargouri

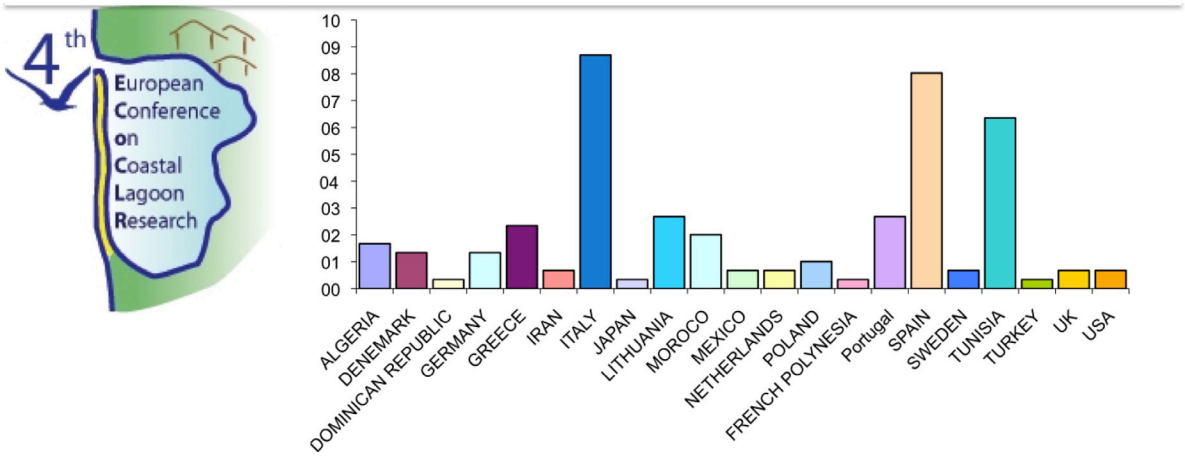

Figure 1. Left: logo used for the 4th European Conference on Coastal Lagoon Research. Right: Percentage of total participants (320) at the 4th European Conference on Coastal Lagoon Research for the different countries excluding France the host country.

et al. (2012) report on the fauna associated with mussel culture in the Tunisian Bizerte lagoon. They show that the cultured mussels (*Mytilus galloprovincialis*) are a support for a rich fauna comprising 68 taxa belonging to 12 zoological classes, with Crustaceans, Polychaetes and Bivalves largely dominating this associated fauna. Lahbib et al. (2012) found that tributyltin (TBT) is still a significant pollutant in the Tunisian coastal lagoons. Thus, these authors report data on imposex in *Hexaplex trunculus* from three Tunisian lagoons, showing a decrease of imposex in Bizerta and in other Northern Tunisian lagoons, whilst in the southernmost lagoon of Boughrara imposex has significantly increased. We concluded that the conference in Montpellier was particularly instrumental for initiating enhanced collaboration between European and North-African scientists that is very promising for addressing the issue of South-North comparisons in the Mediterranean Sea in the near future.

Acknowledgments

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