XXVI Congresso AIOL, S. Michele all'Adige

27 giugno – 1 luglio 2022

PLENARY LECTURES

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Plenary lecture

What we (don't) know about aquatic biodiversity. A plea for the reappraisal of the so-called "old-fashioned" approaches

As stressed decades ago at the Convention of Biological Diversity held in Rio de Janeiro in 1992, "we cannot protect what we do not know": an adequate knowledge of the biological diversity and its distribution patterns is in fact essential for their management and long-term protection. This way, along with innovative

approaches aimed at improving our knowledge about biodiversity, it is mandatory to think about the reliability of available information and about the existing trends in the exploration and description of biodiversity. Using inland water animal diversity as a case study, I will discuss some general patterns. Currently available information about species diversity, distribution and status is unevenly distributed among taxa and geographical areas, with some "more charismatic" taxa much better known than lesser ones, and areas located close to research centres much better known than more remote ones. Such gaps in knowledge are known as Linnean, Wallacean and Racovitzan shortfalls, and largely prevents an adequate conservation prioritization and nature management, not to mention biogeographical, phylogenetic, and ecological inferences. The extent of such shortfalls is somehow surprising in Italy, a country with a long and respected history in taxonomy and faunal studies, and points out to a series of concurrent causes determining a "taxonomic impediment". These can be summarized in the scarce appeal of taxonomy in the era of -omics and environmental sciences, the ravaging (and poor application) of scientometric indexes hindering taxonomical and faunistic research, and the paucity of funds granted to their study. As a consequence, taxonomists can be considered an "endangered species", possibly on the verge of extinction, forecasting a grim future for biodiversity studies and conservation. Urgent measures are needed to invert this trend, based both on the involvement of amateur researchers though citizen science and social network initiatives and, most importantly, on the formation and support of a new generation of taxonomists.

Biosketch

I am an associate professor at the University of Palermo, where I am the head of the "Laboratorio di biologia evoluzionistica e delle popolazioni" and lecture within the Masters "Scienze della Natura", "Biodiversità e biologia ambientale" and "Biologia della Conservazione". My main research interest deals with the natural history of the fauna of west-Palaearctic inland waters, with a special focus on the systematics and phylogeography of diaptomid copepods. I am also interested in the monitoring of biological invasions in inland waters. I have authored more than 90 papers in international ranked journals, and I am currently Associate Editor of five journals indexed in WoS and\or SCOPUS. I am a fellow of the "Associazione Italiana di Oceanologia e Limnologia", the "Unione Zoologica Italiana", the "Società Italiana di Scienze Naturali", and the "Società Siciliana di Scienze Naturali". I am co-responsible for "large branchiopod" and "calanoid copepod" crustaceans for the Checklist of Italian fauna.

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Selected publications

Alfonso G., Stoch F. & F. Marrone, 2022. An annotated checklist and bibliography of the Diaptomidae (Copepoda, Calanoida) of Italy, Corsica, and the Maltese islands. Journal of Limnology, 80: 2019. https://doi.org/10.4081/jlimnol.2021.2019

Vecchioni L., Arculeo M., Cottarelli V. & F. Marrone, 2021. Range-wide phylogeography and taxonomy of the marine rock pools dweller Tigriopus fulvus (Fischer, 1860) (Copepoda, Harpacticoida). Zoologica Scripta, 59: 839-857. https://doi.org/10.1111/jzs.12457

Marrone F., Vecchioni L., Deidun A., Mabrouki Y, Arab A. & M. Arculeo, 2020. DNA taxonomy of the potamid freshwater crabs from Northern Africa (Decapoda, Potamidae). Zoologica Scripta, 49: 473–487. https://doi.org/10.1111/zsc.12415

Marrone F., Nardi G., Cianfanelli S., Govedič M., Barra S.A., Arculeo M. & M. Bodon, 2019. Diversity and taxonomy of the genus Unio Philipsson in Italy, with the designation of a neotype for Unio elongatulus C. Pfeiffer (Mollusca, Bivalvia, Unionidae). Zootaxa, 4545: 339-374. https://doi.org/10.11646/zootaxa.4545.3.2

Cottarelli V., Mura G., Ippolito G. & F. Marrone, 2017. Chirocephalus sarpedonis sp. nov. (Branchiopoda, Anostraca, Chirocephalidae) from Turkey questions the monophyly of the traditional Chirocephalus species-groups. Hydrobiologia, 801: 5–20. http://dx.doi.org/10.1007/s10750-017-3271-7

Marrone F., Alfonso G., Naselli-Flores L. & F. Stoch, 2017. Diversity patterns and biogeography of Diaptomidae (Copepoda, Calanoida) in the Western Palearctic. Hydrobiologia, 800: 45-60. http://dx.doi.org/10.1007/s10750-017-3216-1

Marrone F., Petrusek A., Alfonso G. & M. Arculeo, 2014. The diaptomid fauna of Israel (Copepoda, Calanoida, Diaptomidae), with notes on the systematics of Arctodiaptomus similis s.l. (Baird, 1859) and Arctodiaptomus irregularis Dimentman & Por, 1985 stat. rev.. Zoological Studies, 53:74. https://doi.org/10.1186/s40555-014-0074-7

Marrone F., Lo Brutto S., Hundsdoerfer A.K. & M. Arculeo, 2013. Overlooked cryptic endemism in copepods: systematics and natural history of the calanoid subgenus Occidodiaptomus Borutzky 1991 (Copepoda, Calanoida, Diaptomidae). Molecular Phylogenetics and Evolution, 66: 190-212. http://dx.doi.org/10.1016/j.ympev.2012.09.016