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ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA
DIPARTIMENTO DI SCIENZE BIOLOGICHE,
GEOLOGICHE E AMBIENTALI



LAUREA MAGISTRALE
IN BIOLOGIA MARINA

Census of Marine Mediterranean Benthic biodiversity: an integrative metabarcoding approach (CoMBoMed)

Ravenna, 11-14 February 2019

Sala Conferenze, via degli Ariani 1

Biodiversity protection is now recognized as a planetary challenge. Mediterranean marine benthic communities are one of the most threatened habitats owing primarily to human disturbances. In the context of increasing human pressures, this requires spatial and temporal monitoring of the species composition of communities. Hard substrates generally shelter a much higher biodiversity because of their higher structural complexity. Mediterranean biogenic reefs, occurring in lower subtidal or twilight Mediterranean benthic environments (between 20 and 200 m depth) are considered one of the most valuable and diverse habitats. Moreover, up to now, more than 80% of the Mediterranean species inhabiting these habitats are currently unknown. Cryptobenthic species, living hidden in crevices among rocks, and being genetically distinct but morphologically similar are among the more unknown species. Molecular methods, particularly DNA barcoding and metabarcoding approaches, hold great potential to understand species richness and, thus, to monitor biodiversity. Sometimes, this fast and easy next generation sequencing tools exceed the often slow and difficult taxonomic sorting of morphospecies, whose difficultness is even greater for cryptic species. On the other side, approaches that use universal barcoding databases (BOLD-System, Genbank) to match barcode queries may lead high percentages of missing data, such as errors in the assignment. Integrative taxonomy is a crucial tool to prevent both these errors and to create a local database to be used in developing effective biodiversity monitoring through metabarcoding. CoMBoMed aims to foster a new European working group able to combine molecular species identification with morphological identification to develop an exhaustive Mediterranean macrobenthic inventory database that could integrate and improve the universal barcoding databases and the biodiversity and biogeographic databases. In particular, CoMBoMed aims to: 1) Identify the gaps and conflicts among taxonomic and barcoding databases and how to fill them through the integration of different expertise and through implementation of local integrative databases and inventories of species inhabiting subtidal Mediterranean habitats and 2) foster an awareness of the importance of conservation of Mediterranean marine benthic biodiversity through outreach activities mainly focused on young people.



Organised by Dipartimento di Scienze Biologiche, Geologiche ed Ambientali (BiGeA), University of Bologna and by Centro Interdipartimentale di Ricerca per le Scienze Ambientali in Ravenna (CIRSA)

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