Biogeography and metapopulation genetics of understudied hydrozoan reef foundation species Millepora spp.

Fact Sheet

Project Information

HYDROREEF

Grant agreement ID: 618480

Project closed

Start date
1 August 2013

End date
31 July 2017

Funded under
Specific programme "People" implementing the Seventh Framework Programme of the European Community for research, technological development and demonstration activities (2007 to 2013)

Total cost
€ 100 000,00

EU contribution
€ 100 000,00

Coordinated by
CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE CNRS
France

Objective

Reef ecosystems are one of the most threatened environments on Earth. Because they provide invaluable services to coastal communities and sustain a large part of global biodiversity, the conservation of their biodiversity and functioning is vital. Millepora species are the second reef builders after scleractinians, yet little is known about them. Such foundation species, providing shelter, food and nurseries to thousands of species are essential to protect. The project “HydroReef” aims to characterize biodiversity and metapopulation dynamics of millepores through a multidisciplinary approach involving DNA barcoding, phylogeny, comparative phylogeography and population genetics on various spatiotemporal scales. DNA barcoding will accurately assess biodiversity in this problematic group. Phylogenetic reconstructions in light of geography and dating will reveal the drivers of speciation in the genus. Comparative phylogeography will help identify common evolutionary processes and biodiversity drivers among widespread Indo-Pacific species (e.g. barriers and refuges). A particular focus will be to identify past population size changes related to palaeoclimate variations. Population genetics using microsatellites and SNPs (genomic perspective) coupled to individual-based methods will provide estimates of ecological connectivity (DNA tracking of dispersal) and effective population sizes. The respective role of asexual and sexual reproductions on population persistence will be uncovered. This study will improve our understanding of some striking patterns of biodiversity (e.g. Indo-Australian-Archipelago biodiversity hotspot) and give an unprecedented view of millepore ecological functioning. It will provide information directly enhancing the protection and restoration of coral reefs. It will reveal regions of evolutionary importance and the spatial dimension of millepore connectivity, crucial information for both global scale conservation and design of Marine Protected Areas

Fields of science (EuroSciVoc)

natural sciences > biological sciences > biological morphology > **comparative morphology**

natural sciences > biological sciences > genetics > **DNA**

natural sciences > biological sciences > **evolutionary biology**

natural sciences > biological sciences > ecology > **ecosystems**

natural sciences > earth and related environmental sciences > **physical geography**

Programme(s)

FP7-PEOPLE - Specific programme "People" implementing the Seventh Framework Programme of the European Community for research, technological development and demonstration activities (2007 to 2013)

Topic(s)

FP7-PEOPLE-2013-CIG - Marie-Curie Action: "Career Integration Grants"

Call for proposal

FP7-PEOPLE-2013-CIG
See other projects for this call

Funding Scheme

MC-CIG - Support for training and career development of researcher (CIG)

Coordinator

CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE CNRS

EU contribution

€ 100 000,00

Total cost

No data

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Region

Ile-de-France › Ile-de-France › Paris

Activity type

Research Organisations

Links

Contact the organisation Website
Participation in EU R&I programmes
HORIZON collaboration network

Last update: 5 April 2023

Permalink: https://cordis.europa.eu/project/id/618480