

Presenter: Christos Arvanitidis (LifeWatchGreece)



CROWDSOURCING INITIATIVES IN THE MEDITERRANEAN BASIN

Open Source Technologies



Scratchpads are an online virtual research environment for biodiversity, allowing anyone to share their data and create their own research networks

Sites can focus on specific taxonomic groups, Scratchpads are also suitable for societies or for managing and presenting projects.

Key features of Scratchpads include: tools to manage biological classifications, bibliography management, media (images, video and audio), rich taxon pages (with structured descriptions, specimen records, and distribution data)



Drupal, Apache, MySQL



CS Projects

- COMBER
- CIGESMED
- AmvrakikosBirds

members of



CIGESMED

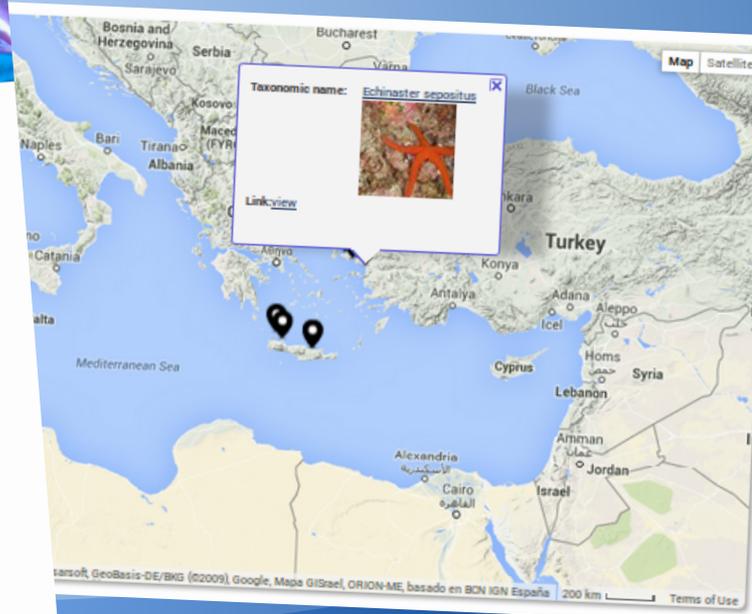
CIGESMED: Coralligenous based Indicators to evaluate and monitor the "Good Environmental Status" of the MEDiterranean coastal waters



Welcome to CIGESMED



CIGESMED: Coralligenous based Indicators to evaluate and monitor the "Good Environmental Status" of the MEDiterranean coastal waters



AmvrakikosBirds

AmvrakikosBirds is a new project, targeted to all potential bird watchers operating in the wetlands of the Amvrakikos Gulf

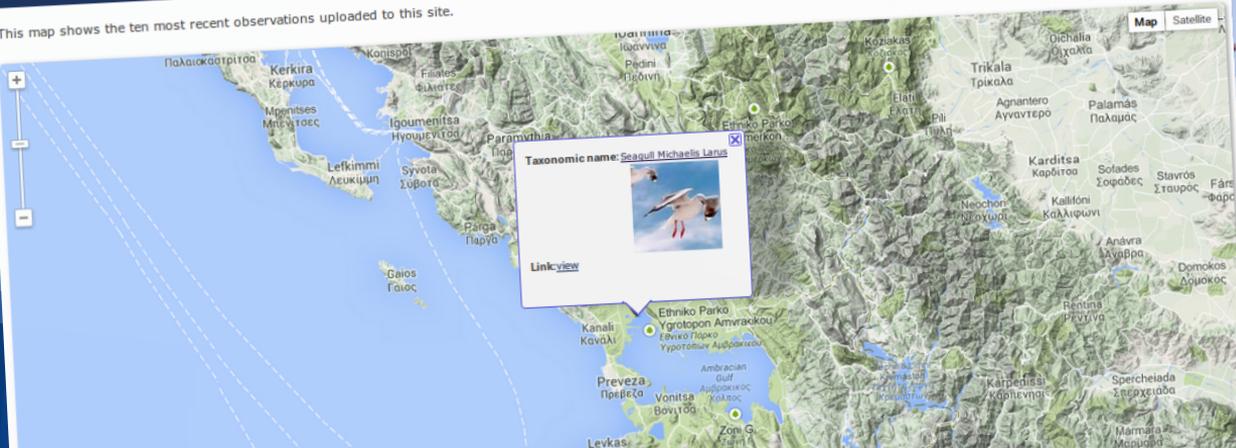


Welcome to AmvrakikosBirds



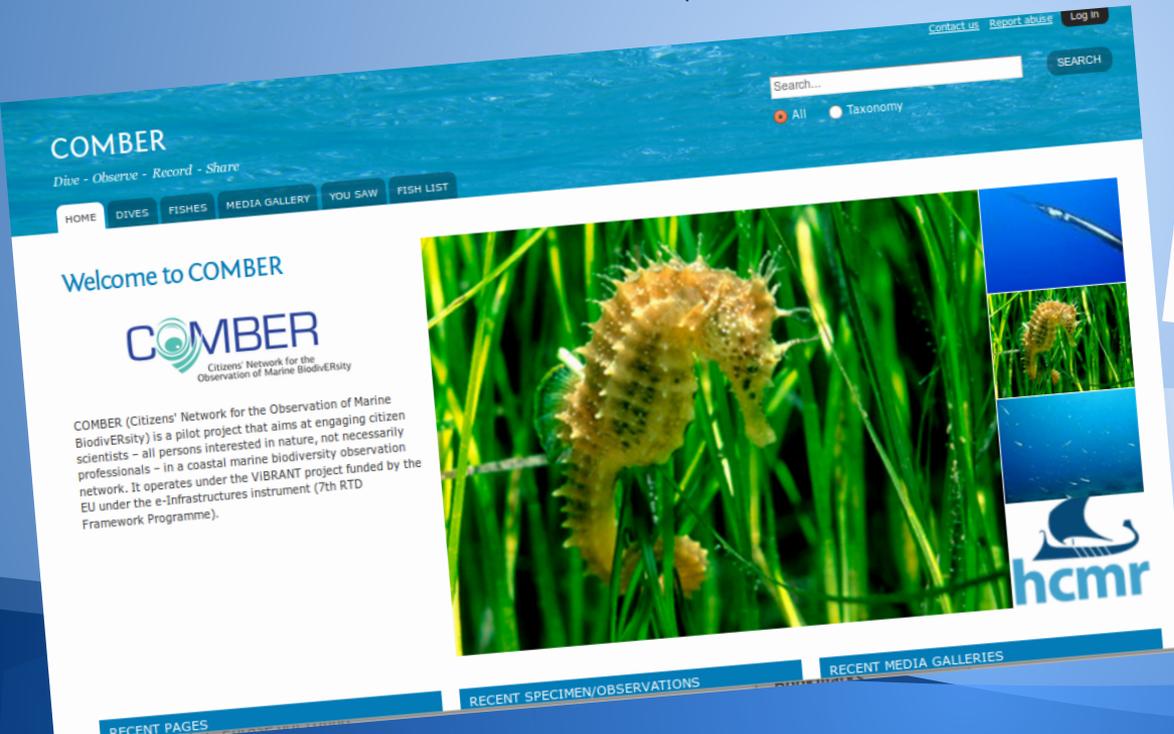
BIOBLITZ RECORDS

This map shows the ten most recent observations uploaded to this site.

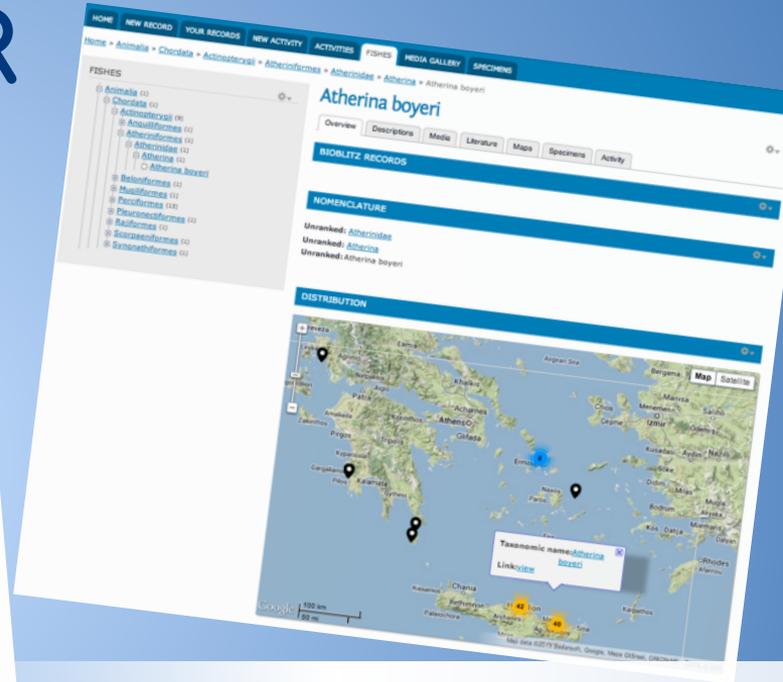


COMBER

COMBER (Citizens' Network for the Observation of Marine BiodivERsity) is a pilot project that aims at engaging citizen scientists in a coastal marine biodiversity observation network.



The screenshot shows the homepage of the COMBER website. At the top, there is a navigation bar with links for HOME, DIVES, FISHES, MEDIA GALLERY, YOU SAW, and FISH LIST. Below this is a search bar with a 'SEARCH' button and radio buttons for 'All' and 'Taxonomy'. The main content area features a large image of a sea urchin and the text: 'Welcome to COMBER Citizens' Network for the Observation of Marine BiodivERsity'. Below this is a paragraph describing the project: 'COMBER (Citizens' Network for the Observation of Marine BiodivERsity) is a pilot project that aims at engaging citizen scientists - all persons interested in nature, not necessarily professionals - in a coastal marine biodiversity observation network. It operates under the VIBRANT project funded by the EU under the e-Infrastructures instrument (7th RTD Framework Programme)'. At the bottom, there are sections for 'RECENT PAGES', 'RECENT SPECIMEN/OBSERVATIONS', and 'RECENT MEDIA GALLERIES'. The hcmr logo is visible in the bottom right corner of the page.



The screenshot shows the species page for *Atherina boyeri* on the COMBER website. The page has a blue header with navigation links: HOME, NEW RECORD, YOUR RECORDS, NEW ACTIVITY, ACTIVITIES, FISHES, MEDIA GALLERY, and SPECIMENS. Below the header is a breadcrumb trail: Home > Animals > Chordata > Actinopterygii > Atheroformes > Atheroidei > Atherina > Atherina boyeri. The main content area includes a 'FISHES' sidebar with a taxonomic tree, a 'BIODIVERSITY RECORDS' section, a 'NOMENCLATURE' section with 'Unranked: Atheroidei' and 'Unranked: Atherina', and a 'DISTRIBUTION' section with a map of the Eastern Mediterranean region. The map shows the species' distribution with a blue dot in the Aegean Sea. A tooltip over the map displays 'Taxonomic name: Atherina boyeri' and a 'Link to record' button. The map also includes a scale bar (0-100 km) and a 'Map Settings' button.



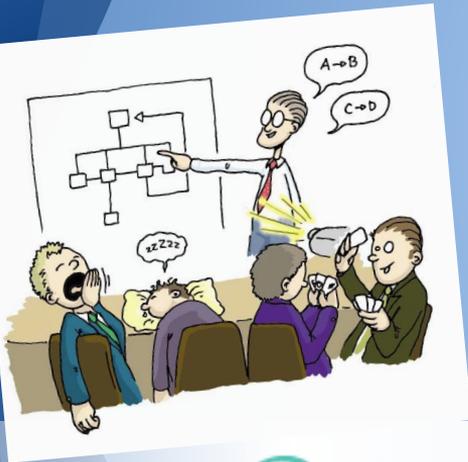
The COMBER logo consists of the word 'COMBER' in a large, blue, sans-serif font. The letter 'O' is stylized with green and blue concentric circles. Below the logo is the tagline 'Citizens' Network for the Observation of Marine BiodivERsity' in a smaller, blue, sans-serif font.



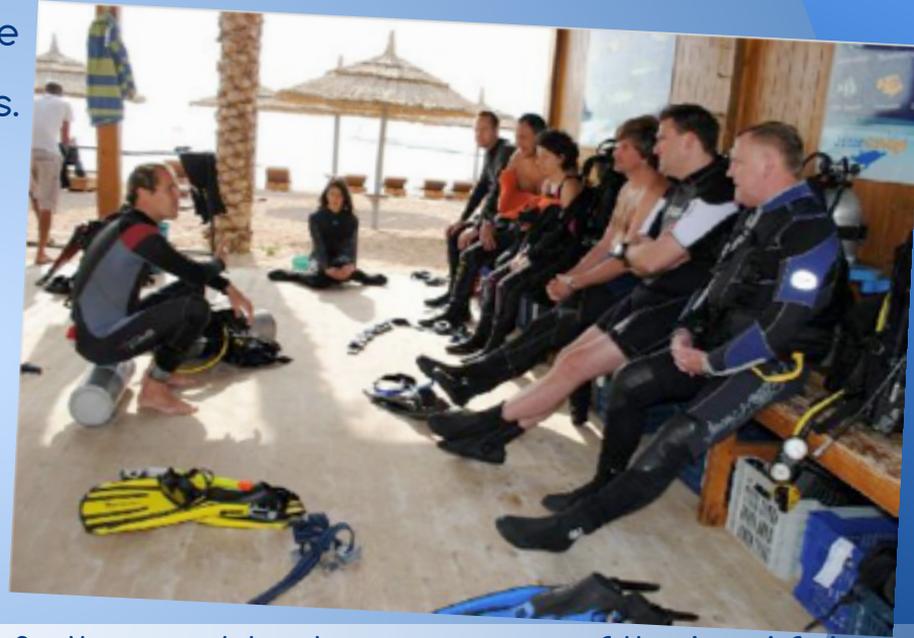
The VIBRANT logo features the word 'VIBRANT' in a large, blue, sans-serif font, with 'Virtual Biodiversity' written below it in a smaller, blue, sans-serif font. To the left of the text are four icons: a butterfly, a bird, a leaf, and a paw print, each inside a hexagonal shape.

Case Scenario: COMBER

At the very beginning of the project we worked with local diving and sailing clubs.



They offered short seminars for divers and snorkelers



So they could get an overview of the local fish fauna and how to identify the species, underwater

COMBER

Citizens' Network for the
Observation of Marine BiodivERsity

Divers / Snorkelers community

Now the project is addressed to the local diving community, that employ the individual experiences while they dive/snorkel



Submit Observations via website

COMBER

Dive - Observe - Record - Share

HOME DIVES FISHES MEDIA GALLERY YOU SAW FISH LIST

Home » Fish List

Fish List



[Apogon imberbis](#)



[Atherina boyeri](#)



[Belone belone](#)



[Parablennius tentacularis](#)



[Bothus podas](#)



[Gobius niger](#)



[Thalassoma pavo](#)



[Coris julis](#)



[Symphodus tinca](#)



[Labrus merula](#)



[Xyrichtes](#)



[Mullus surmuletus](#)



[Muraena helena](#)



[Chromis](#)



[Scorpaena scrofa](#)



[Scorpaena porcus](#)



[Serranus](#)



[Epinephelus marginatus](#)



[Siganus luridus](#)



[Pagellus](#)

After the dive, we encourage divers to enter their observation into the COMBER database.

COMBER
Dive - Observe - Record - Share
HOME NEW RECORD YOUR RECORDS NEW ACTIVITY ACTIVITIES FISHES MEDIA GALLERY SPECIMENS
Home » Administration » Create Specimen/Observation

Create Specimen/Observation

Essentials +
Map
Move
+ Pin
+ Print
What
When
Where
Image/video

Map data ©2013 BaseSoft, Google, Mapbox, OpenStreetMap contributors, Swatch

(35.44727119262691, 25.062484592199326)

COMBER
Dive - Observe - Record - Share
HOME NEW RECORD YOUR RECORDS NEW ACTIVITY ACTIVITIES FISHES MEDIA GALLERY SPECIMENS
Home » Administration » Create Specimen/Observation

Create Specimen/Observation

Taxonomic name
at
Animalia » Chordata » Actinopterygii » Atheriniformes » Atherinidae » Atherina
Animalia » Chordata » Actinopterygii » Atheriniformes » Atherinidae » Atherina » Atherina boyeri
Animalia » Chordata » Actinopterygii » Atheriniformes » Atherinidae
Animalia » Chordata » Actinopterygii » Atheriniformes
Animalia » Chordata » Actinopterygii » Perciformes » Serranidae » Epinephelus » Epinephelus marginatus
Animalia » Chordata » Actinopterygii » Perciformes » Sparidae » Hippocampus » Hippocampus guttulatus
Animalia » Chordata » Actinopterygii » Perciformes » Sparidae » Lithognathus » Lithognathus mormyrus
Settings
 Open
Users with the "Post comments" permission can post comments.
 Closed
Users cannot post comments.

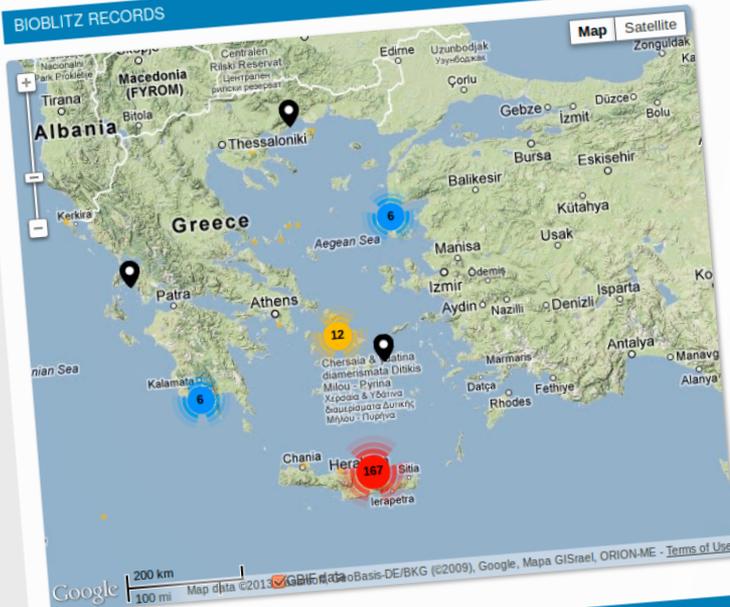
See Observations online

So they could see the results
of their submissions

Coris julis

Overview Descriptions Media Literature Maps Specimens Activity

BIOBLITZ RECORDS



NOMENCLATURE

Unranked - Labridae

FISHES

- Animalia (1)
- Chordata (1)
- Actinopterygii (9)
- Anguilliformes (1)
- Atheriniformes (1)
- Belontiiformes (1)
- Mugiliformes (1)
- Perciformes (13)
- Apogonidae (1)
- Blenniidae (1)
- Gobiidae (1)
- Labridae (5)
- Coris (1)
- Coris julis
- Labrus (1)
- Symphodus (3)
- Thalassoma (1)
- Xyrichtys (1)
- Moronidae (1)
- Mullidae (1)
- Pomacentridae (1)
- Scaridae (1)
- Siganidae (1)
- Sparidae (7)
- Sphyraenidae (1)
- Trachinidae (1)
- Pleuronectiformes (1)
- Rajiformes (1)
- Scorpaeniformes (1)
- Syngnathiformes (1)

HOME DIVES NEW OBSERVATION FISHES MEDIA GALLERY YOU SAW SPECIMENS FISH LIST

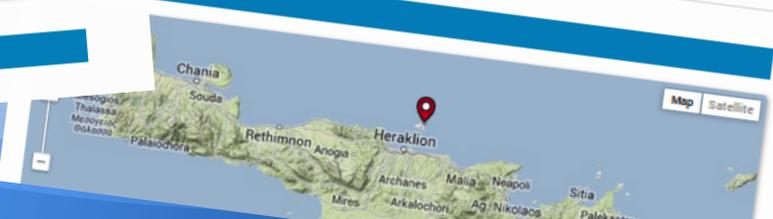
COMBER - emmi - 1393254838

View Edit Track Devel

[one content](#)

Basis of record:	Living Specimen
Institution code:	COMBER
Collection code:	emmi
Catalogue number:	1393254838
Taxonomic name:	Hippocampus guttulatus (Fishes)

Media:



COMBER data to Anymals.org

Using ABCD standards we uploaded the data from COMBER database to Anymals.org database (Anymals+plants)

Coris julis

Overview | Descriptions | Media | Literature | Maps | Specimens | Activity

BIOBLITZ RECORDS

Map | Satellite

Map of the Mediterranean region showing distribution points for *Coris julis*. The map includes labels for Albania, Greece, and the Aegean Sea. A sidebar on the left lists various fish families such as *Channidae*, *Atherinidae*, *Belontiidae*, etc.

NOMENCLATURE

COMBER

COMBER (Citizens' Network for the Observation of Marine BioDiversity) is a pilot project that aims at nature, not necessarily professionals – in a coastal marine biodiversity observation network.

Map of COMBER

Map of the Mediterranean region showing distribution points for COMBER. The map includes labels for Albania, Greece, and the Aegean Sea. A sidebar on the left lists various fish families such as *Channidae*, *Atherinidae*, *Belontiidae*, etc.

anymals +plants

Register today

Anymals+plants - Citizen Science Data

Occurrence dataset published by Museum für Naturkunde Berlin

Information | Stats | Activity

anymals +plants

Register today

and from Anymals+plants to GBIF

COMBER data to Anymals.org

COMBER
COMBER (Citizens' Network for the Observation of Marine Biodiversity) is a pilot project that aims at engaging citizen scientists – all persons interested in nature, not necessarily professionals – in a coastal marine biodiversity observation network.

Map of COMBER

anymals + plants
Register today

anymals

Species List:

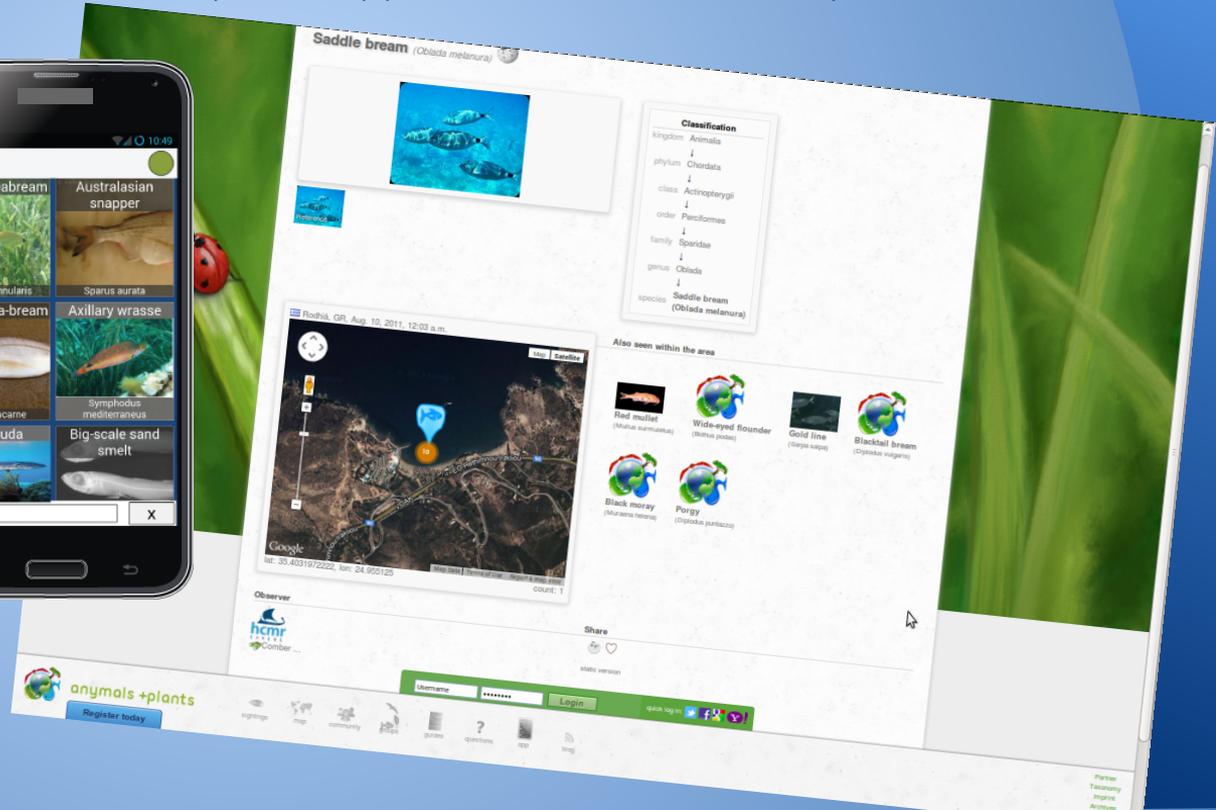
- 1 • **Parrot fish** (*Sparisoma cretense*)
Rodiá
01.06.2013
- 1 • **Red mullet** (*Mullus surmuletus*)
Rodiá
01.06.2013
- 1 • **Damsel fish** (*Chromis chromis*)
Rodiá
01.06.2013
- 1 • **Gold line** (*Sarpa salpa*)
Rodiá
01.06.2013

Map Data:

Country	Count
Spain	441
France	597
Italy	26938
Turkey	2913
Libya	58
Algeria	441
Malta	3
China	64
Japan	31
Thailand	26
Indonesia	11
Papua New Guinea	59
Australia	1392

Submit via mobile

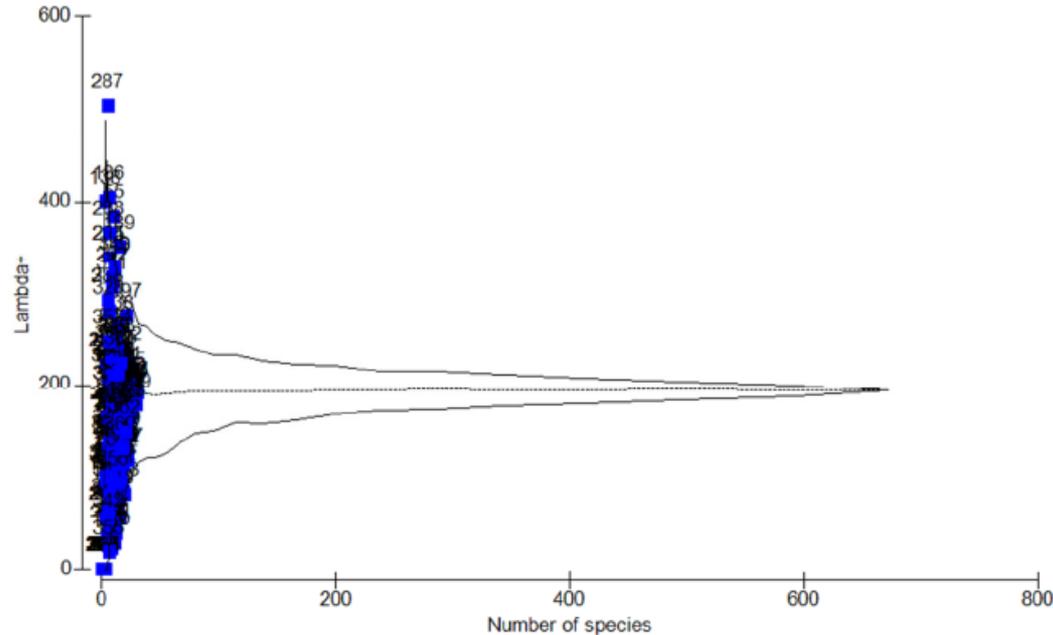
A new phone application is under development now



Work under development...

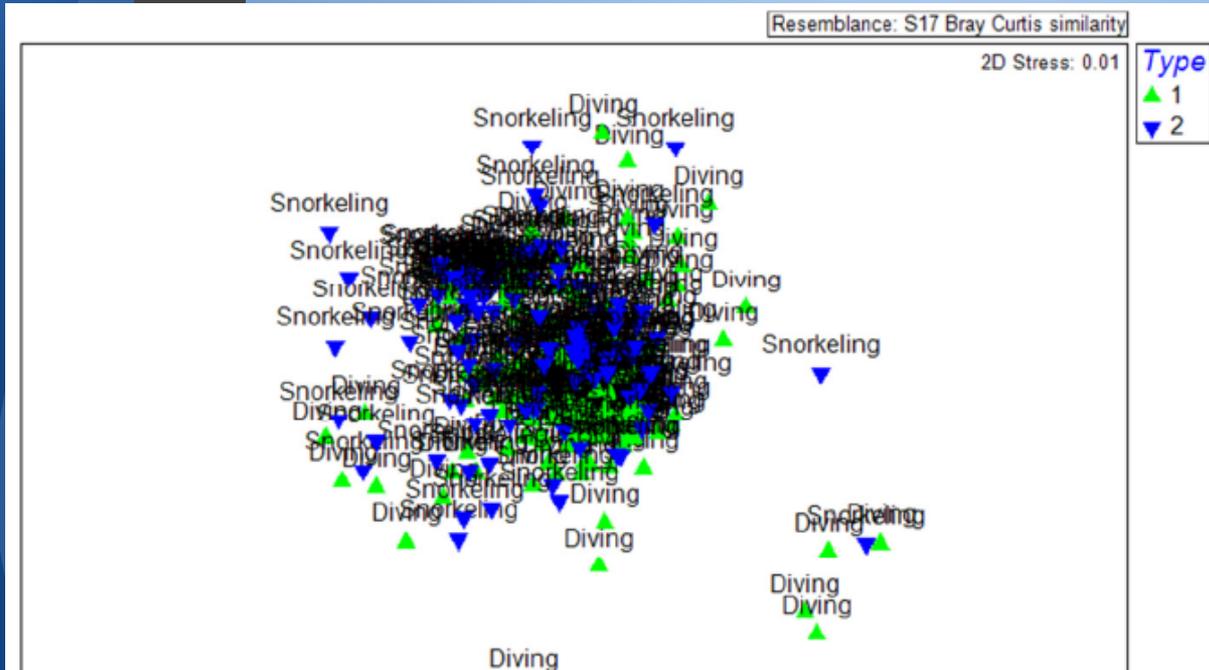
Scientific hypotheses to be tested:

Fig 41: The 95% probability funnel for the variation in taxonomic distinctness (Λ^+) for all the fish species lists compiled from the data collected over the entire period of the COMBER project: 2011-2013. Funnel's confidence limits are calculated from random samples of the Mediterranean fish species and their higher phylogenetic/ taxonomic classifications.



Work under development...

Scientific hypotheses to be tested:



Sample statistic (Global R): 0.186

Significance level of sample statistic: 0.1%

Number of permutations: 999 (Random sample from a large number)

Number of permuted statistics greater than or equal to Global R: 0

Lessons learned

Crowdsourcing can deliver a wealth of data

The value of these data and their subsequent use in biodiversity studies must be checked

Individuals need these initiatives to get engaged to meaningful leisure activities

ESFRI Infrastructure is important as an incubation chamber for these initiatives

Coordination of the crowdsourcing activity at global scale is a must

Thank you for you
attention!

Useful URLs:

www.hcmr.gr

www.lifewatchgreece.eu

scratchpads.eu

www.anymals.org