

127.0.0.1:6505

Exploring Molecular Biodiversity

Input data sources

☒ ENA
☐ GBIF

Country of interest:

Greece

Dates of interest:

2000-0 to 2026-0

Scientific name (optional)

e.g. Fagus

Kingdom (optional)

Load Data

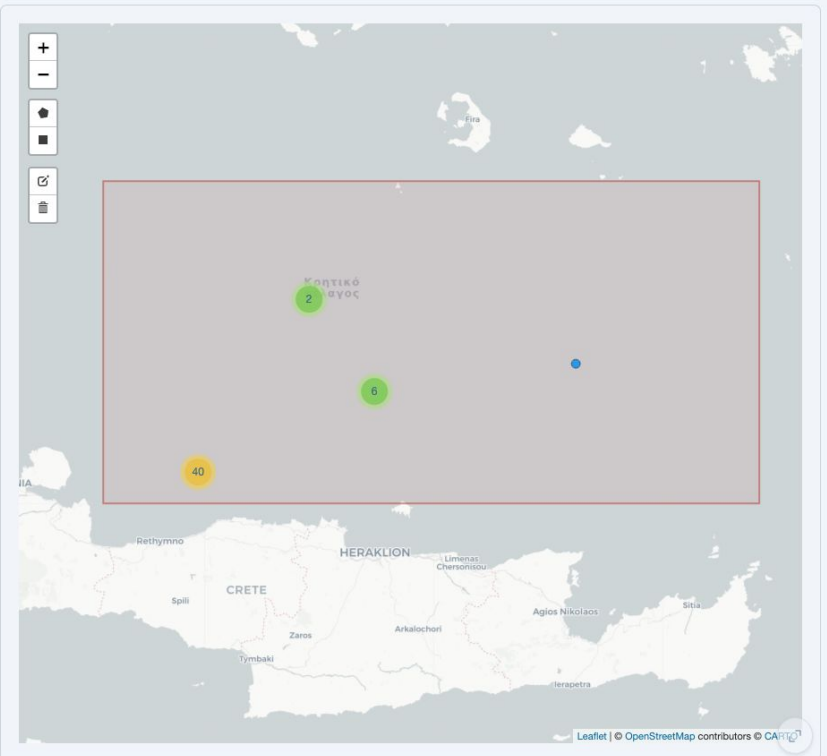
Table options

☐ Show filter

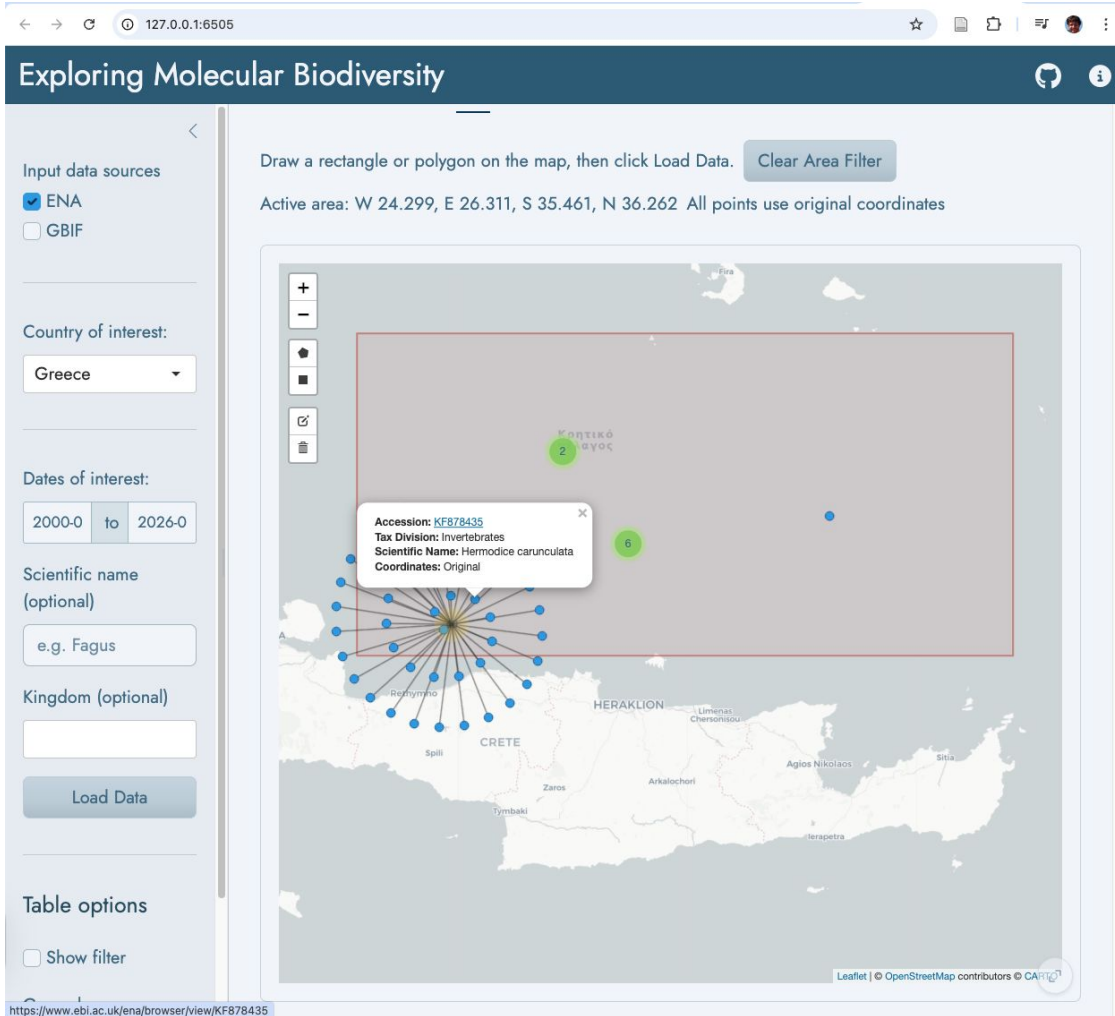
Group by

Draw a rectangle or polygon on the map, then click Load Data. Clear Area Filter

Active area: W 24.299, E 26.311, S 35.461, N 36.262 All points use original coordinates



Searching for ENA
sequence records between
2000-2026 in the **Cretan
Sea**



40 COI marker gene sequences of *Hermodice carunculata*

Hermodice carunculata, the **bearded fireworm**, is a type of **marine bristleworm** belonging to the **Amphinomidae** family, native to the tropical **Atlantic Ocean** and the **Mediterranean Sea**.



Source: https://en.wikipedia.org/wiki/Hermodice_carunculata, [https://en.wikipedia.org/wiki/File:Hermodice_carunculata_\(Bearded_Fireworm\).jpg](https://en.wikipedia.org/wiki/File:Hermodice_carunculata_(Bearded_Fireworm).jpg)

← → ↺ 🌐 ebi.ac.uk/ena/browser/view/KF878435 ☆ 📄 🗂 📧 👤 ⋮

🏠 EMBL-EBI home 🔍 Services 🧪 Research 👤 Training ⓘ About us 🔍 EMBL-EBI



European Nucleotide Archive

Home | Submit | Search | About | Support

Search 🔍

Examples: Histone, BN000065

View 🗨

Examples: Taxon:9606, BN000065, PRJEB402

Sequence: KF878435.1

Hermodice carunculata voucher IMBBA NAGISA 1047 cytochrome c oxidase subunit I (COI) gene, partial cds; mitochondrial.

Organism: Hermodice carunculata (marine fireworm)

Accession: KF878435

Mol Type: genomic DNA

Topology: linear

Base Count: 607

Dataclass: STD

Tax Division: INV

Location: 35.54 N 24.59 E

Specimen Voucher: IMBBA NAGISA 1047

Country: Greece

Show More

General

📄 View: EMBL FASTA

📄 Download: EMBL FASTA

📄 Publications: Show

📄 ORCID Data Claims: Show

📄 Sequence Versions: View



The European Nucleotide Archive (ENA) is part of the ELIXIR infrastructure

The ENA is an ELIXIR Core Data Resource. [Learn more](#)



The European Nucleotide Archive (ENA) is a Global Core Biodata Resource

The ENA is a GBC Global Core Biodata Resource. [Learn more](#)

This website requires cookies, and the limited processing of your personal data in order to function. By using the site you are agreeing to this as outlined in our [Privacy Notice](#) and [Terms of Use](#).

I agree

ID KF878435; SV 1; linear; genomic DNA; STD; INV; 607 BP.
XX
AC KF878435;
XX
DT 16-DEC-2014 (Rel. 123, Created)
DT 16-DEC-2014 (Rel. 123, Last updated, Version 1)
XX
DE Hermodice carunculata voucher IMBBA NAGISA 1047 cytochrome c oxidase
DE subunit I (COI) gene, partial cds; mitochondrial.
XX
KW .
XX
OS Hermodice carunculata (marine fireworm)
OC Eukaryota; Metazoa; Spiralia; Lophotrochozoa; Annelida; Polychaeta;
OC Palpata; Aciculata; Eunicida; Amphinomidae; Hermodice.
OG Mitochondrion
XX
RN [1]
RP 1-607
RA Chatzigeorgiou G., Sarropoulou E., Vasileiadou K., Brown C., Faulwetter S.,
RA Kotoulas G., Arvanitidis C.;
RT "Population structure of Hermodice carunculata in Eastern Mediterranean Sea
RT (Crete)";
RL Unpublished.
XX
RN [2]
RP 1-607
RA Chatzigeorgiou G., Sarropoulou E., Vasileiadou K., Brown C., Faulwetter S.,
RA Kotoulas G., Arvanitidis C.;
RT ;
RL Submitted (20-NOV-2013) to the INSDC.
RL Biodiversity, Institute of Marine Biology, Biotechnology and Aquaculture,
RL Former American Base at Gournes, Heraklion, Crete 71003, Greece
XX
DR MD5; df67092da58424b8f7102910733c757b.

##Assembly-Data-START##
CC Sequencing Technology :: Sanger dideoxy sequencing
CC ##Assembly-Data-END##

Key Location/Qualifiers
FT source 1..607
FT /organism="Hermodice carunculata"
FT /organelle="mitochondrion"
FT /mol_type="genomic DNA"
FT /country="Greece"
FT /lat_lon="35.54 N 24.59 E"
FT /isolation_source="rocky shore"
FT /specimen_voucher="IMBBA NAGISA 1047"
FT /collected_by="Giorgos Chatzigeorgiou"
FT /collection_date="19-Sep-2007"
FT /dev_stage="mature"
FT /db_xref="taxon:759044"

KF87840	2014-12-16	Greece	-10	rocky shore	Hermodice carunculata	259844	35.54	24.59
KF87840	2014-12-16	Greece	-10	rocky shore	Hermodice carunculata	259844	35.54	24.59
KF87843	2014-12-16	Greece	-10	rocky shore	Hermodice carunculata	259844	35.54	24.59

127.0.0.1:6505

Exploring Molecular Biodiversity

Input data sources

- ☒ ENA
- ☐ GBIF

Country of interest:

Greece

Dates of interest:

2000-01- to 2026-05-

Scientific name (optional)

e.g. Fagus

Kingdom (optional)

Load Data

Table options

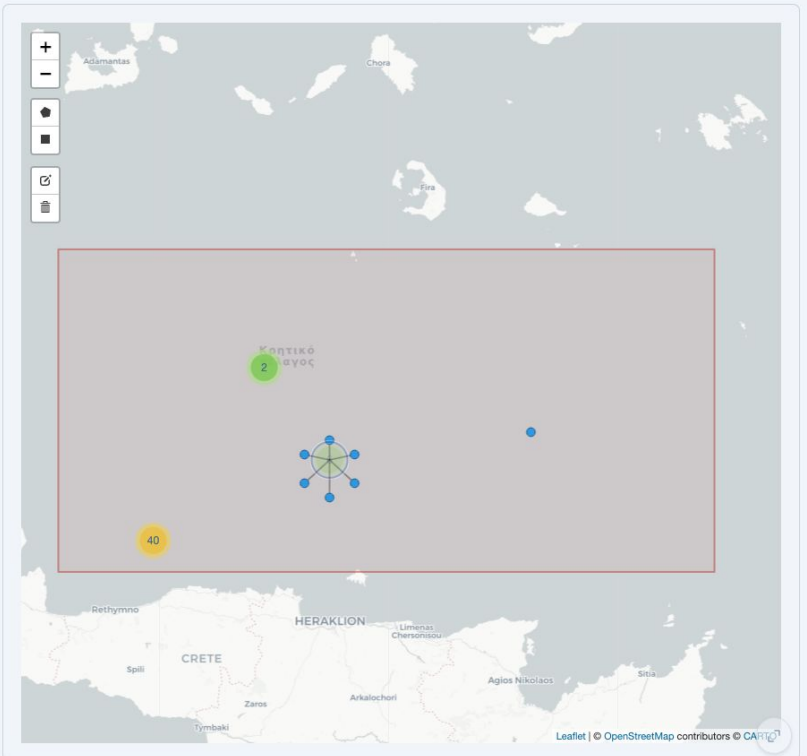
- ☐ Show filter

Group by

- ☐ Tax_division
- ☐ Scientific_name

Draw a rectangle or polygon on the map, then click Load Data. Clear Area Filter

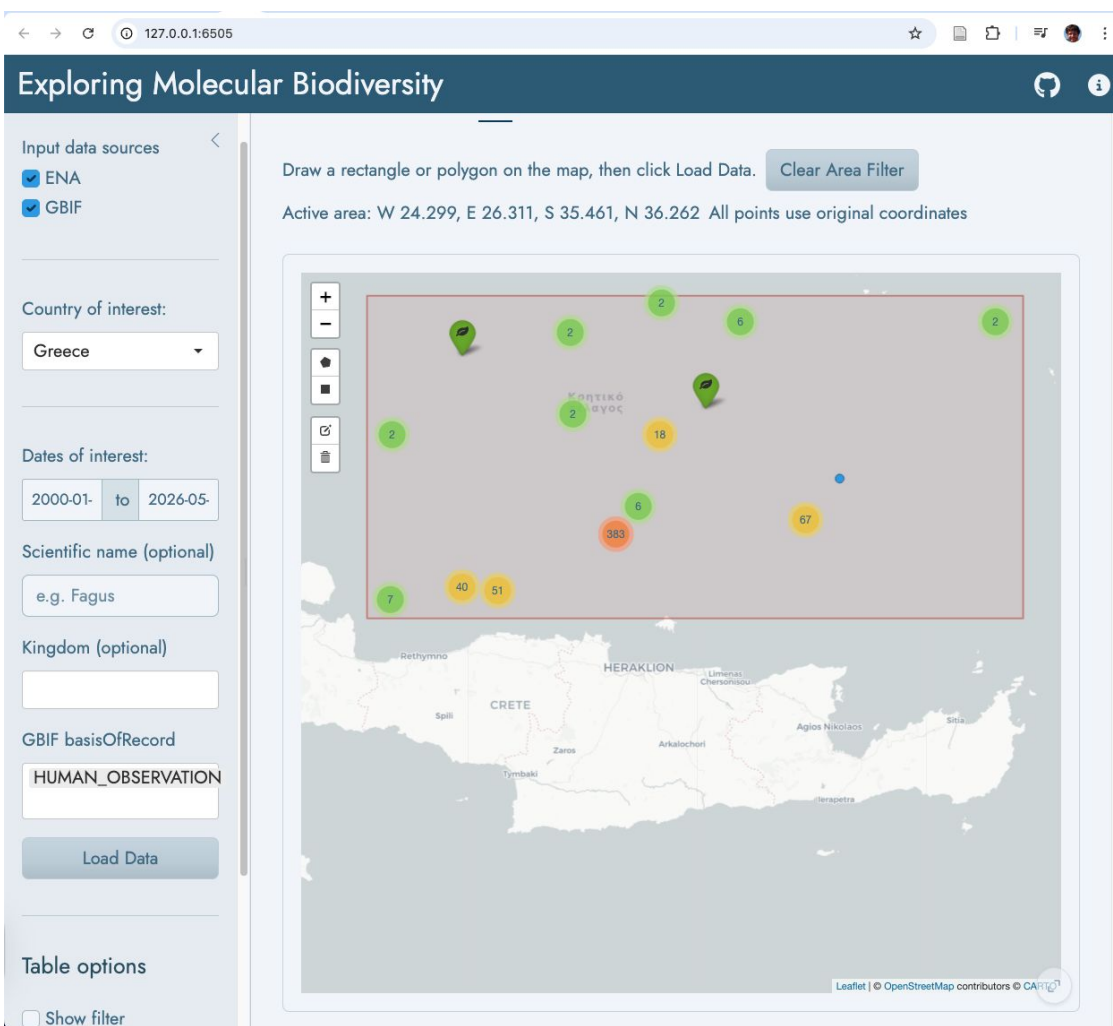
Active area: W 24.299, E 26.311, S 35.461, N 36.262 All points use original coordinates



2 *Prionace glauca* (blue shark mitochondrial D-loop sequences)

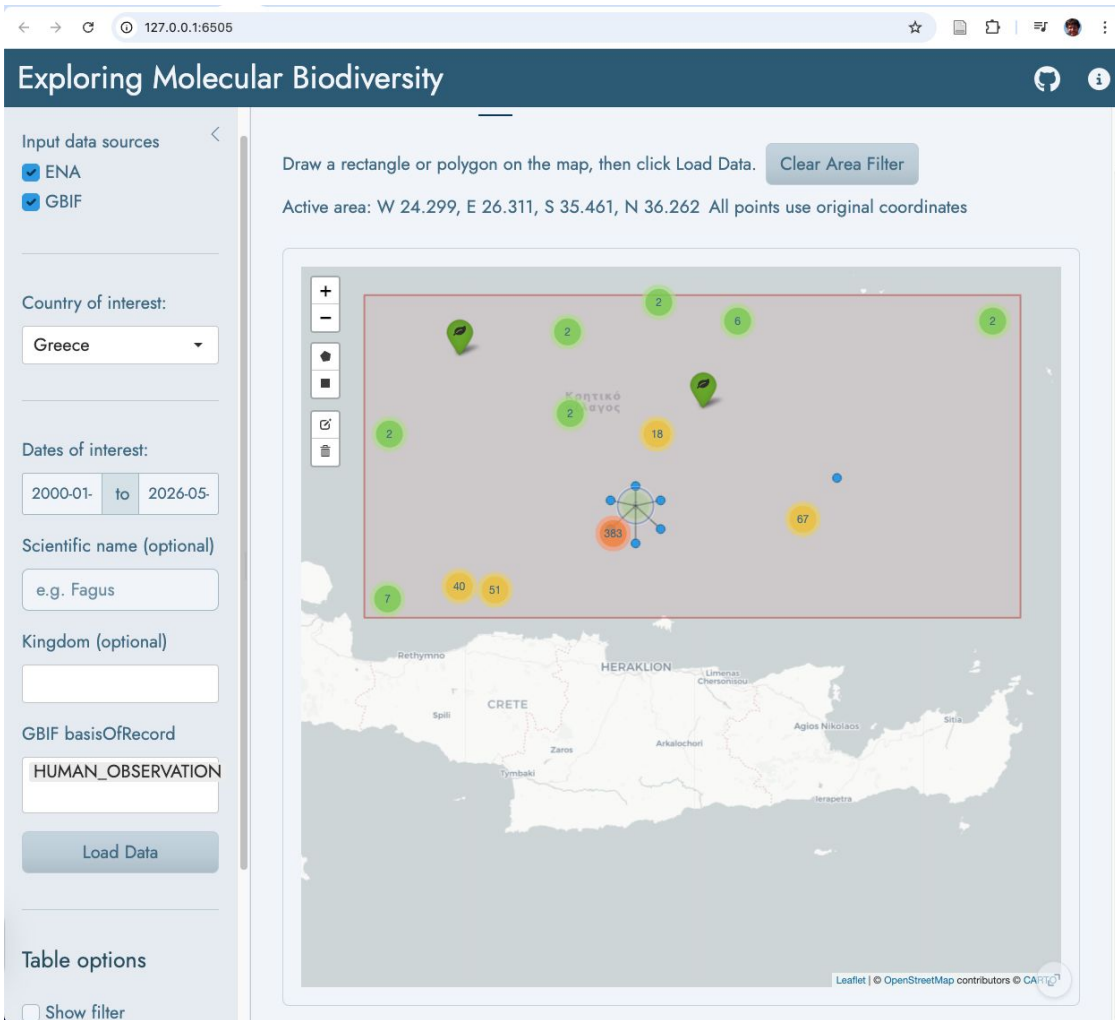
6 16S rRNA gene sequences of copepods

1 ND1 sequence of *Pelophylax cretensis* (Cretan frog an endangered species, **endemic to the Greek island of Crete**)



What do GBIF human observations report for the same region?

```
<!-- like in the previous use cases,
GBIF queries are restricted in terms
of area due to the possible high
number of results -->
```



A few hundreds of observations relatively close to the copepods

Exploring Molecular Biodiversity

Input data sources

- ☒ ENA
- ☒ GBIF

Country of interest:

Greece

Dates of interest:

2000-01- to 2026-05-

Scientific name (optional)

e.g. Fagus

Kingdom (optional)

GBIF basisOfRecord

HUMAN_OBSERVATION

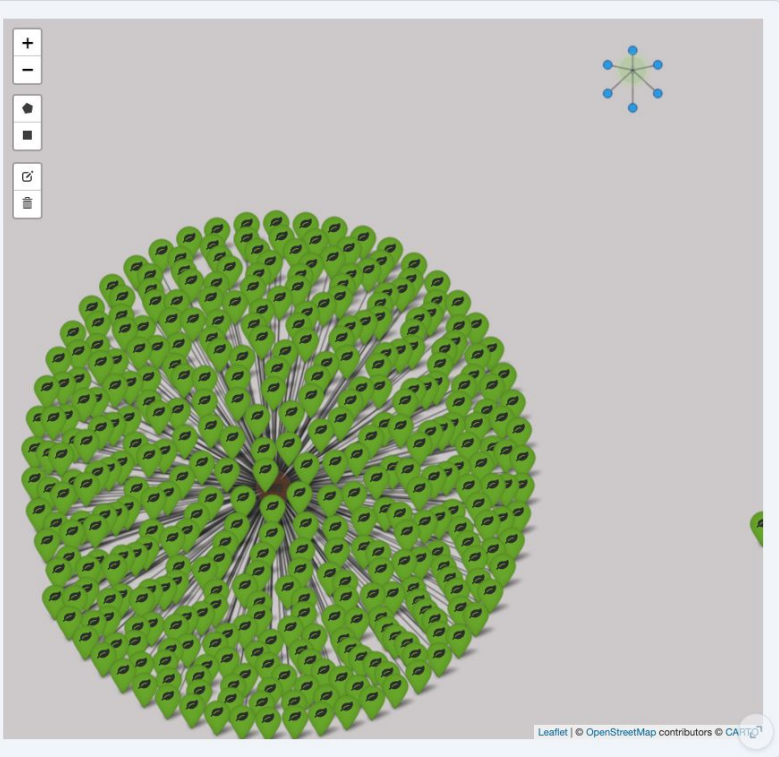
Load Data

Table options

☐ Show filter

Draw a rectangle or polygon on the map, then click Load Data. Clear Area Filter

Active area: W 24.299, E 26.311, S 35.461, N 36.262 All points use original coordinates



A few hundreds of observations relatively close to the copepods

inaturalist.org/observations/267504488

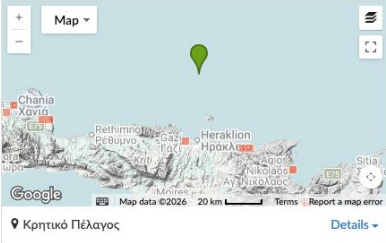
iNaturalist Explore Community More [Donate](#) Log In or Sign Up

Sweet Pea Shrub (*Polygala myrtifolia*) Research Grade



micha3006gu
444 observation

Observed: 1 Oct 2017 · 16:09 EEST
Submitted: 29 Mar 2025 · 15:44 EET



[Details](#)

Activity

micha3006gu suggested an ID ID Withdrawn 1y

 **Milkwort**
Genus: *Polygala*

d_pinto suggested an ID Improving 9mo

 **Sweet Pea Shrub**
Polygala myrtifolia

micha3006gu suggested an ID 9mo

 **Sweet Pea Shrub**

Community Taxon

[What's this?](#)

Sweet Pea Shrub (*Polygala myrtifolia*)
Cumulative IDs: 2 of 2

0 2/3rds 2

[Agree](#) [About](#)

Top Identifiers of Sweet Pea Shrub

Copyright Info and More

Observation © micha3006gu · [some rights reserved](#)

Plants included

Exploring Molecular Biodiversity



Input data sources

☒ ENA☒ GBIF

Country of interest:

Greece

Dates of interest:

2000-01-

to

2026-05-

Scientific name (optional)

e.g. Fagus

Kingdom (optional)

GBIF basisOfRecord

HUMAN_OBSERVATION

Load Data

Table options

☒ Show filter

Home Overview Table Map

Record filtering as an interactive mitigation

ENA

GBIF

accession	scientific_name	country	first_public	basis_of_record	decimalLatitude	decimalLongitude	tax_division2	phylum	class	order ↑	family	genus	species
							animalia			perciformes			
5935996639	Epinephelus marginatus	Greece	2025-08-17	HUMAN_OBSERVATION	35.590554	25.181104	Animalia	Chordata		Perciformes	Serranidae	Epinephelus	Epinephelus marginatus
5936315334	Epinephelus marginatus	Greece	2025-08-15	HUMAN_OBSERVATION	35.473959	25.085739	Animalia	Chordata		Perciformes	Serranidae	Epinephelus	Epinephelus marginatus
4440763302	Epinephelus marginatus	Greece	2023-10-27	HUMAN_OBSERVATION	35.563065	25.089114	Animalia	Chordata		Perciformes	Serranidae	Epinephelus	Epinephelus marginatus
5008383814	Epinephelus marginatus	Greece	2023-07-03	HUMAN_OBSERVATION	35.575719	24.761737	Animalia	Chordata		Perciformes	Serranidae	Epinephelus	Epinephelus marginatus
4015273674	Dentex dentex	Greece	2019-10-20	HUMAN_OBSERVATION	35.545172	25.149568	Animalia	Chordata		Perciformes	Sparidae	Dentex	Dentex dentex
4014867675	Dentex dentex	Greece	2019-10-12	HUMAN_OBSERVATION	35.460868	24.806427	Animalia	Chordata		Perciformes	Sparidae	Dentex	Dentex dentex

338 perciformes
observations



338

Exploring Molecular Biodiversity

Input data sources

- ☒ ENA
- ☒ GBIF

Country of interest:

Greece

Dates of interest:

2000-01- to 2026-05-

Scientific name (optional)

e.g. Fagus

Kingdom (optional)

GBIF basisOfRecord

HUMAN_OBSERVATION

Load Data

Table options

- ☒ Show filter

Home Overview Table Map

Similarly for other taxonomic groups of interest

ENA

GBIF

accession	scientific_name	country	first_public	basis_of_record	decimalLatitude	decimalLongitude	tax_division2	phylum	class	order ↑	family	genus	species
							animalia			cetacea			
3085365767	Delphinidae	Greece	2007-09-12	HUMAN_OBSERVATION	36.18602	26.28485	Animalia	Chordata	Mammalia	Cetacea	Delphinidae		
3085365653	Stenella coeruleoalba	Greece	2007-09-08	HUMAN_OBSERVATION	36.20095	25.32912	Animalia	Chordata	Mammalia	Cetacea	Delphinidae	Stenella	Stenella coeruleoalba
3085365792	Delphinidae	Greece	2007-06-08	HUMAN_OBSERVATION	36.21041	26.16845	Animalia	Chordata	Mammalia	Cetacea	Delphinidae		

1—3 of 3 rows Show 100 ▾

Previous 1 of 1 Next

Download as CSV

Exploring Molecular Biodiversity



Input data sources

☐ ENA☒ GBIF

Country of interest:

Greece

Dates of interest:

2000-01- to 2026-05-

Scientific name (optional)

e.g. Fagus

Kingdom (optional)

GBIF basisOfRecord

HUMAN_OBSERVATION

Load Data

Table options

☒ Show filter

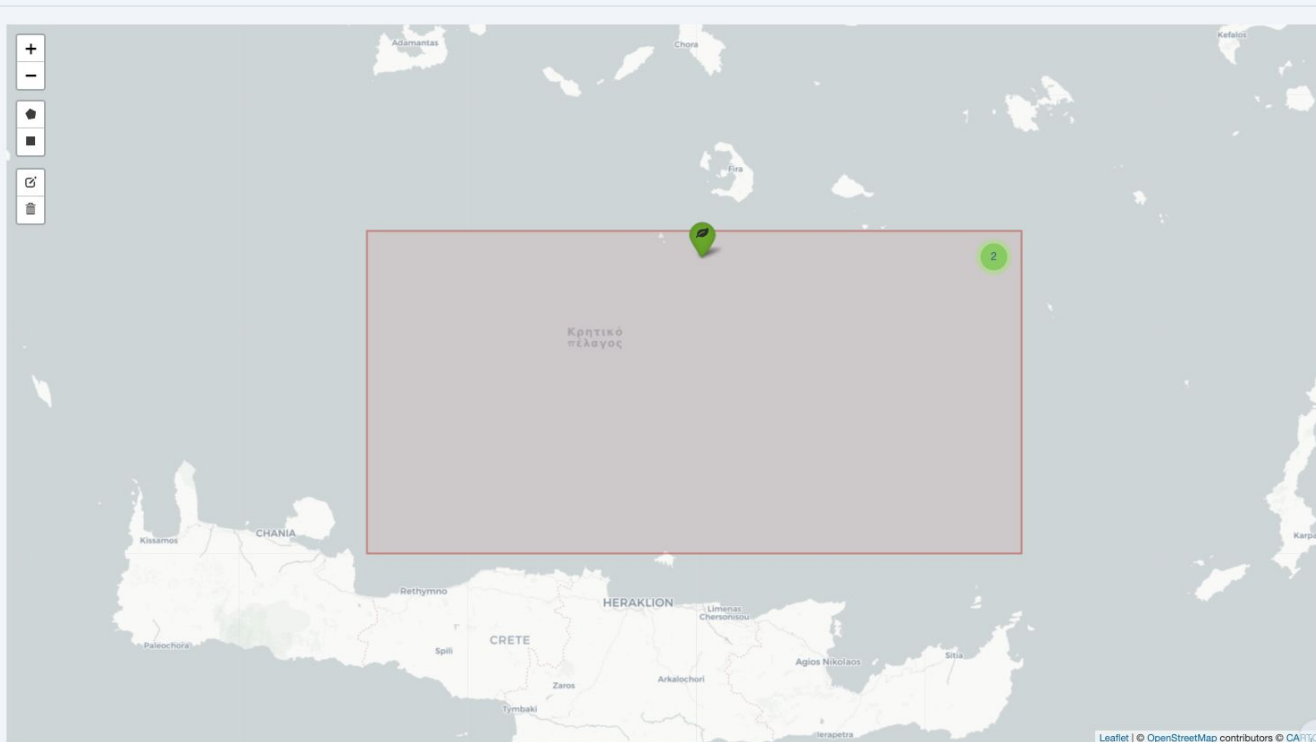
Home Overview Table Map

Cetacea observations

Draw a rectangle or polygon on the map, then click Load Data.

Clear Area Filter

Active area: W 24.299, E 26.311, S 35.461, N 36.262 All points use original coordinates



Remarks

- Explore what is available for a time period/geographic area
 - ENA sequences
 - GBIF deposited observations (a number of types)
- Compare patterns
 - Identify more than ones types of evidence for the presence of a taxonomic group (not shown in this demo)
 - Spot incorrect annotations, confirm correct ones
 - Explore co-presence
- Interactive querying, filtering, and plotting
 - User interface features assist in the navigation of biodiversity data (molecular and beyond)
- Motivation for high quality metadata annotations