

Making and using FAIR Open data to extend your knowledge and reach

Quentin Groom, Meise Botanic Garden

FAIR Data Principles

It's about standards & metadata



<https://www.go-fair.org/fair-principles/>

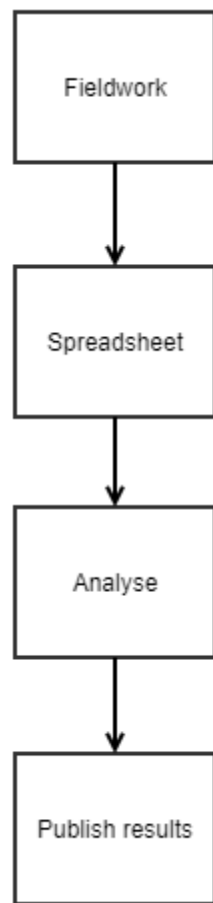
- Findable
- Accessible
- Interoperable
- Reusable

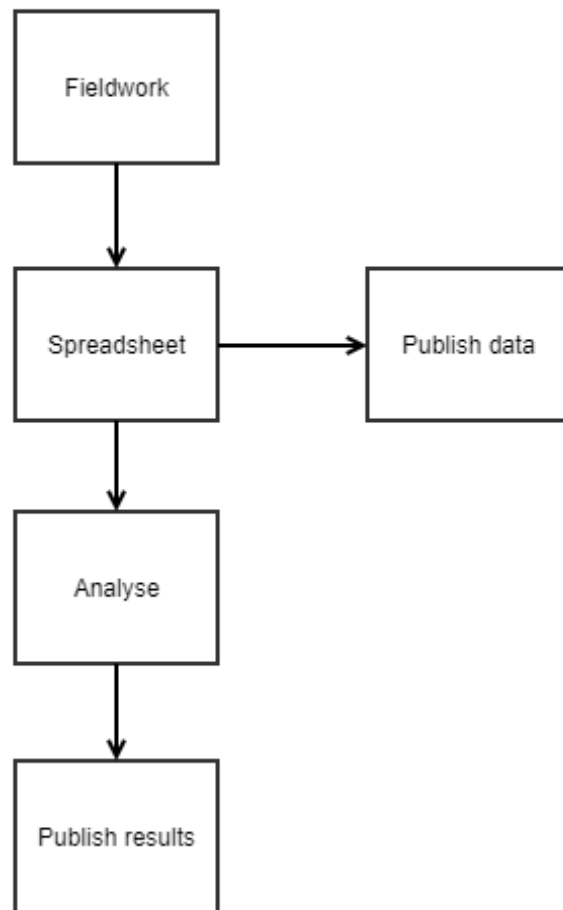
Why FAIR Data?

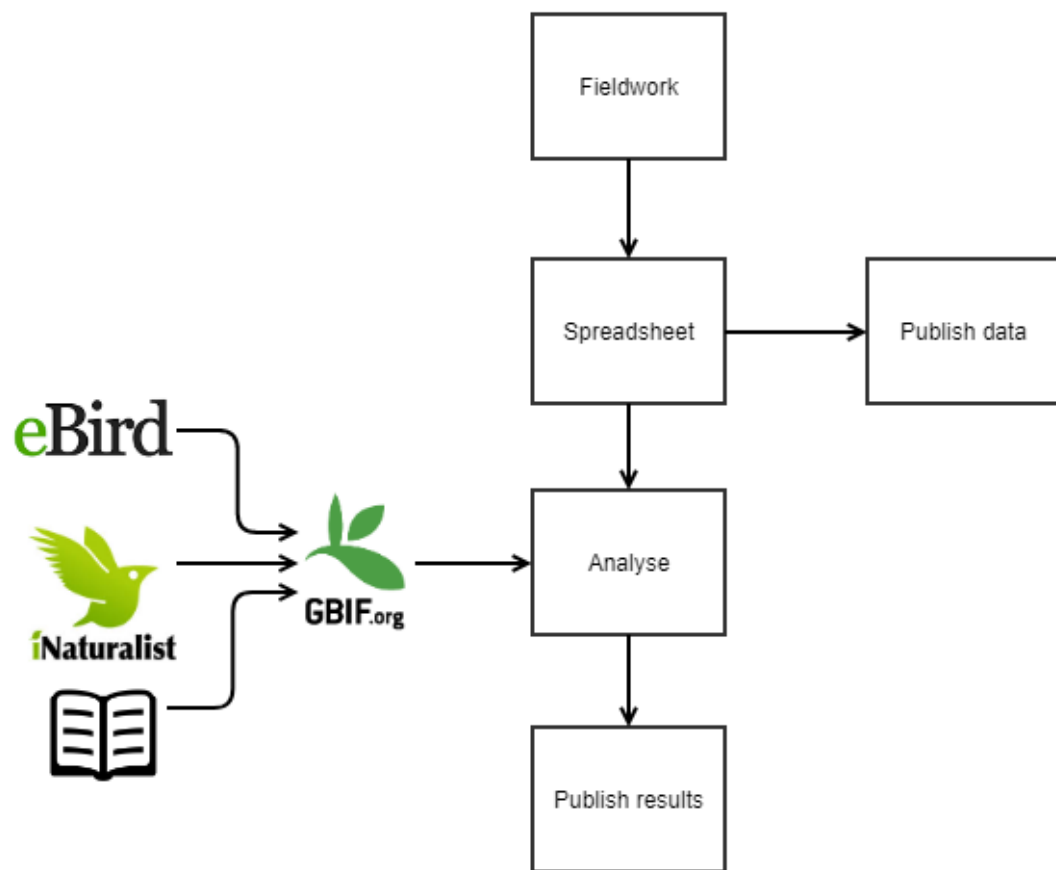
- Extending the research data lifespan
- Making research data more useable
- Not wasting time and money by repeating work
- Giving people credit for their work
- Facilitating new science

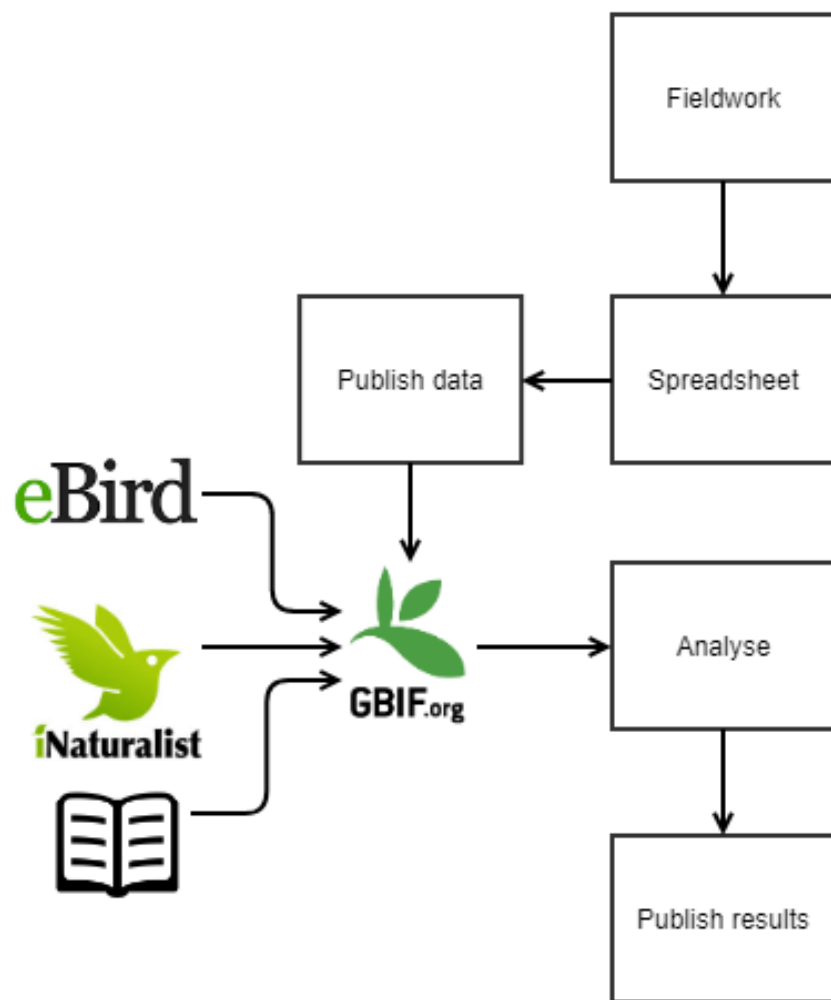
Wilkinson, M., Dumontier, M., Aalbersberg, I. *et al.*
The FAIR Guiding Principles for scientific data
management and stewardship. *Sci Data* 3, 160018
(2016). <https://doi.org/10.1038/sdata.2016.18>

Data workflows









Why would you work this way?

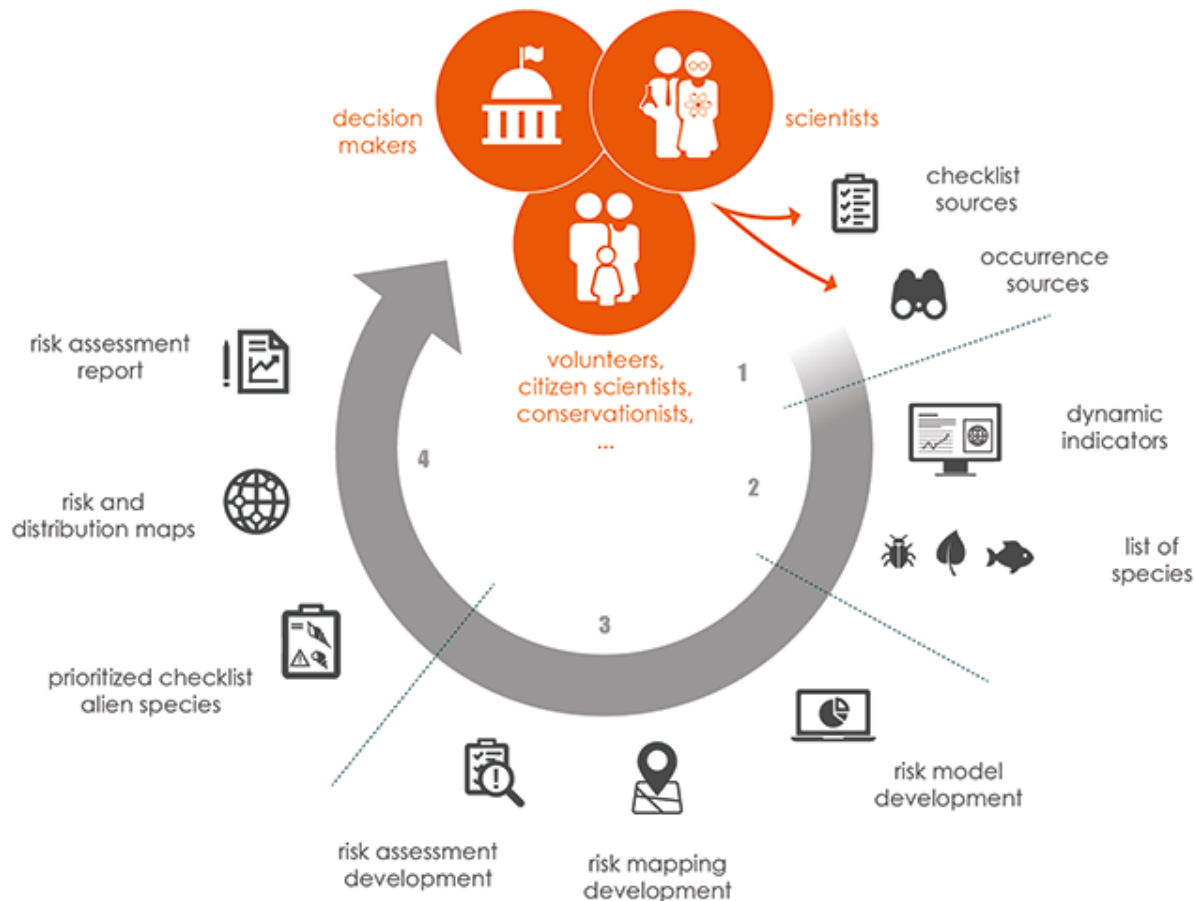
- International standards are used throughout
- Your data are citable with a DOI
- Somebody else backups, stores, mobilizes and disseminates you data
- Taxonomic reconciliation is automatic
- Protecting your data legacy
- Workflows that are easily shared

Data cycles

Groom, Q., Strubbe, D., Adriaens, T., Davis, A. J. S., Desmet, P., Oldoni, D., ... Vanderhoeven, S. (2019).

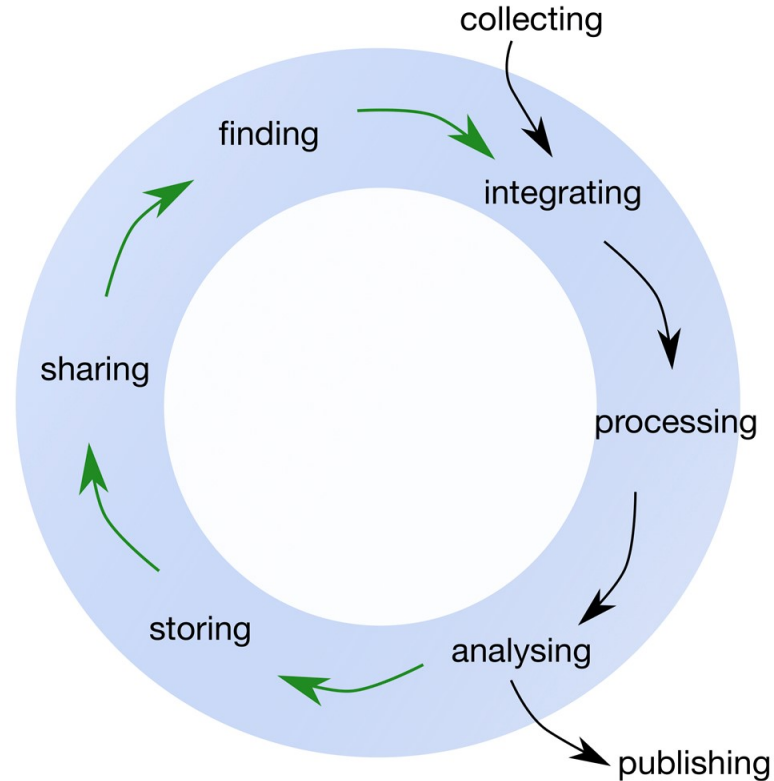
Empowering Citizens to Inform Decision-Making as a Way Forward to Support Invasive Alien Species Policy. Citizen Science: Theory and Practice, 4(1), 33. DOI:

<http://doi.org/10.5334/cstp.238>



Considerations

- Stakeholders
 - Data providers
 - Consumers of results
 - Funders
 - Decision makers
 - The scientific community
- Standards you will use
 - Methods
 - Observations
 - Mapping
 - Environmental data
- Storage
- Usability



Griffin PC, Khadake J, LeMay KS et al. Best practice data life cycle approaches for the life sciences [version 2; peer review: 2 approved]. *F1000Research* 2018, **6**:1618 (<https://doi.org/10.12688/f1000research.12344.2>)

Data publication

Gonçalves V, Ritter C, Marques H, Teixeira DN, Raposeiro PM (2021) Diatoms from small ponds and terrestrial habitats in Deserta Grande Island (Madeira Archipelago). *Biodiversity Data Journal* 9: e59898. <https://doi.org/10.3897/BDJ.9.e59898>

 Biodiversity Data Journal

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Data PaperBiodiversity Data Journal 9: e59898
<https://doi.org/10.3897/BDJ.9.e59898> (12 Feb 2021)

Diatoms from small ponds and terrestrial habitats in Deserta Grande Island (Madeira Archipelago)

▼ Vítor Gonçalves, Catarina Ritter, Helena Marques, Dinarte Nuno Teixeira, Pedro M. Raposeiro

Abstract ▲

Background

Freshwater diversity, and diatoms in particular, from Desertas Islands (Madeira Archipelago, Portugal) is poorly known, although the Islands are protected and became a Natural Reserve in 1995. During two field expeditions in 2013 and 2014 to Deserta Grande Island, several freshwater and terrestrial habitats were sampled. The analysis of these samples aims to contribute to the biodiversity assessment of the freshwater biota present in Deserta Grande Island. Here, we present the diatom diversity in Deserta Grande Island resulting from that survey. This study contributes to improve the knowledge of Madeira Archipelago freshwater diversity, particularly in the Desertas sub-archipelago.

New information

To our knowledge, we present the first diatom data for the Desertas sub-archipelago. This work resulted in a list of 60 diatom taxa for Deserta Grande, from which 57 were identified to species level. From the 60 new records for Desertas sub-archipelago, 30 of them were also new records for Madeira Archipelago. Several specimens could not be assigned to a known species and may be new diatom species not yet described.

Keywords ▲

Bacillariophyta, Oceanic Islands, freshwater systems, terrestrial systems, Madeira Archipelago, Desertas sub-

Data publication

Gonçalves V, Ritter C, Marques H, Teixeira DN, Raposeiro PM (2021) Diatoms from small ponds and terrestrial habitats in Deserta Grande Island (Madeira Archipelago). *Biodiversity Data Journal* 9: e59898. <https://doi.org/10.3897/BDJ.9.e59898>

Data resources ▲

Data package title: Diatoms from Deserta Grande (Madeira Archipelago, Portugal)

Resource link: <http://ipt.gbif.pt/ipt/resource?r=diatdes>

Alternative identifiers: <https://www.gbif.org/dataset/03dfa40e-3887-4648-8fc2-e72e0bd09fbd>

Number of data sets: 1

Data set name: Diatoms from Deserta Grande (Madeira Archipelago, Portugal)

Data format: Darwin Core

Data format version: 1.5

Description: This dataset presents the first data on the distribution of freshwater diatoms in Deserta Grande Island (Madeira Archipelago). The dataset has been published as a Darwin Core Archive (DwC-A), which is a standardised format for sharing biodiversity data as a set of one or more data tables. The core data table contains five events (eventID), 149 occurrences (occurrenceID) with 60 taxa (taxonID). The number of records in the data table is illustrated in the IPT link. This IPT archives the data and thus serves as the data repository. The data and resource metadata are available for downloading in the downloads section.

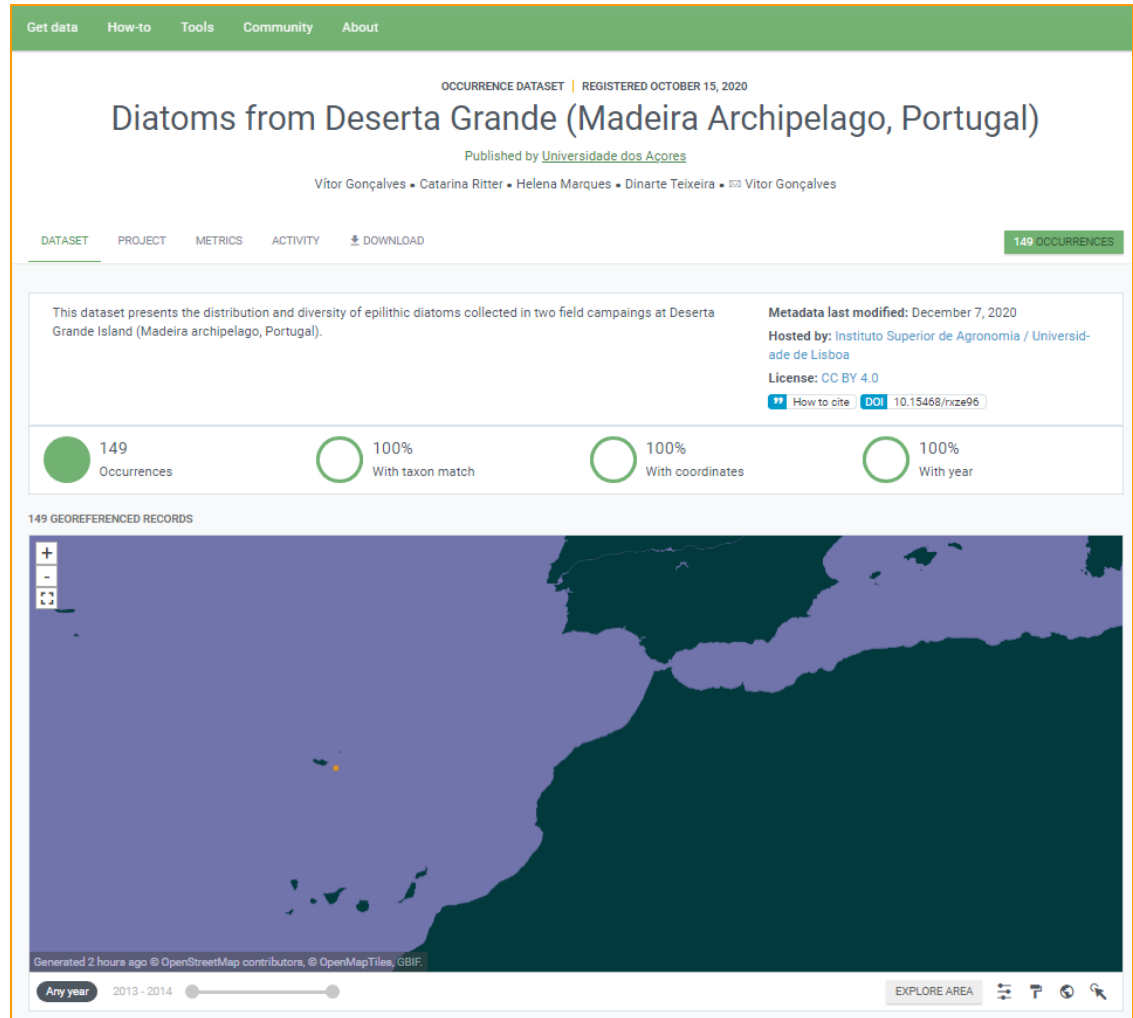
Column label	Column description
type	The nature of the resource.
basisOfRecord	The specific nature of the data record.
occurrenceID	Identifier of the record, coded as a global unique identifier.
eventID	Identifier of the event, unique for the dataset.

Data publication

Gonçalves V, Ritter C, Marques H, Teixeira DN, Raposeiro PM (2021)
Diatoms from small ponds and terrestrial habitats in Deserta Grande Island (Madeira Archipelago).

Biodiversity Data Journal 9: e59898.


<https://doi.org/10.3897/BDJ.9.e59898>



Integrated Publishing Toolkit


Ecological Metadata Language (EML)

Darwin Core

 **GBIF** INTEGRATED PUBLISHING TOOLKIT (IPT)
free and open access to biodiversity data

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Summary
Data Records
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Versions
Rights
GBIF Registration
Keywords
Contacts
Geographic Coverage
Taxonomic Coverage
Temporal Coverage
Project Data
Additional Metadata

[Edit](#)
Additional data to the Akrotiri Bioblitz, Cyprus
Latest version published by Botanic Garden Meise on Sep 15, 2019

The Akrotiri Bioblitz, Cyprus (ABC) was a one-off event held as part of the Alien-CSI COST Action. It took place for 24 hours between Wednesday, February 27 and Thursday, February 28, 2019. Most participants collected their observations on the iNaturalist.org platform under the project Akrotiri Bioblitz, Cyprus (<https://www.inaturalist.org/projects/akrotiri-bioblitz-cyprus>). However, a few people collected their data on paper and transferred to spreadsheets. These are those additional data.

[Home](#) [GBIF](#) [DwC-A](#) [EML](#) [RTF](#) [Versions](#) [Rights](#)

Data Records

The data in this occurrence resource has been published as a Darwin Core Archive (DwC-A), which is a standardized format for sharing biodiversity data as a set of one or more data tables. The core data table contains 283 records.

This IPT archives the data and thus serves as the data repository. The data and resource metadata are available for download in the [downloads](#) section. The [versions](#) table lists other versions of the resource that have been made publicly available and allows tracking changes made to the resource over time.

Downloads


Download the latest version of this resource data as a Darwin Core Archive (DwC-A) or the resource metadata as EML or RTF:

Data as a DwC-A file	download 283 records in English (20 KB) - Update frequency: not planned
Metadata as an EML file	download in English (11 KB)
Metadata as an RTF file	download in English (9 KB)

Integrated Publishing Toolkit

Ecological Metadata Language (EML)

Darwin Core

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[Home](#) [Manage Resources](#) [Administration](#) [About](#)

Resource Title [Additional data to the Akrotiri Bioblitz, Cyprus](#)


Basic Metadata

Please enter all the mandatory properties on the Basic Metadata page, and then continue entering metadata in the other pages that are applicable to your resource. The more metadata you provide, the greater the chance that your resource will be found, reused by other researchers, and cited.

Title*

Publishing Organisation* <input type="text" value="Botanic Garden Meise"/>	Type* <input type="text" value="Occurrence"/>	Metadata Language* <input type="text" value="English"/>
Update Frequency* <input type="text" value="Not planned"/>	Subtype <input type="text" value="Observation"/>	Data Language* <input type="text" value="English"/>

Data Licence*

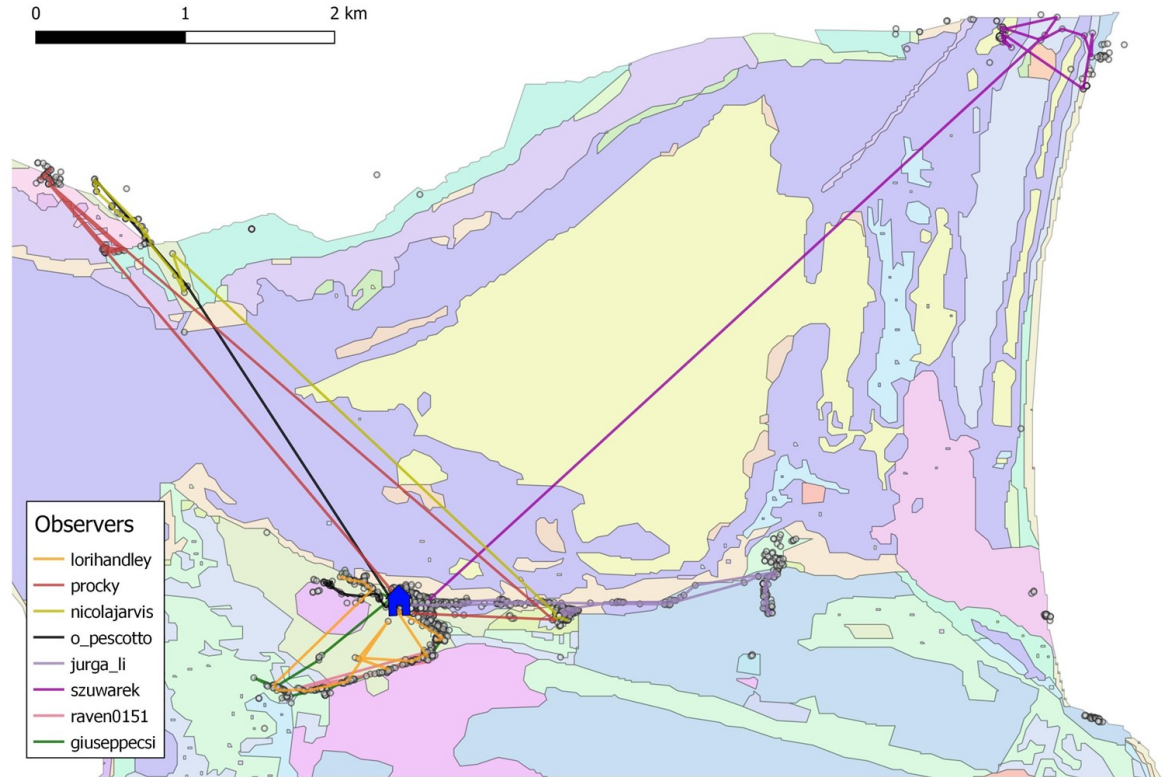


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Description* [\[Remove this Paragraph \]](#)

The Akrotiri Bioblitz, Cyprus (ABC) was a one-off event held as part of the Alien-CSI COST Action. It took place for 24 hours between Wednesday, February 27 and Thursday, February 28, 2019.
Most participants collected their observations on the iNaturalist.org platform under the project Akrotiri Bioblitz, Cyprus

The Akrotiri BioBlitz



Protocol Note |  Open Access |   

iNaturalist as a tool to expand the research value of museum specimens

J. Mason Heberling , Bonnie L. Isaac

First published: 07 November 2018 | <https://doi.org/10.1002/aps3.1193> | Citations: 15

 SECTIONS



PDF



TOOLS



SHARE

Abstract

Premise of the Study

Innovative approaches to specimen collection and curation are needed to maximize the utility of natural history collections in a new era of data use. Associated data, such as digital images from the field, are routinely collected with recent herbarium specimens. However, these data often remain inaccessible and are rarely curated alongside the associated physical specimens, which limits future data use.

Methods and Results

We leveraged the widely used citizen science platform, iNaturalist, to permanently associate field-collected data to herbarium specimens, including information not well preserved in traditional specimens. This protocol improves the efficiency and accuracy of all steps from the collecting event to specimen curation and enhances the potential uses

Pittosporum crassifolium (Karo)

Research Grade

Edit



qgroom

6,012 observations

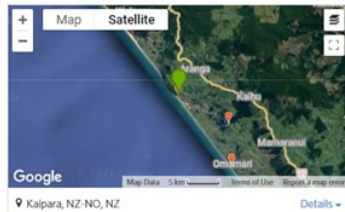


Observed:

Sep 4, 2018 - 11:41 AM NZST

Submitted:

Sep 4, 2018 - 8:32 PM CEST



☆ Be the first to save this observation!

Activity



lloyd_esler suggested an ID

Improving 2y

*Pittosporum crassifolium*
Karo

Compare

Agree



pjd1 suggested an ID

2y

*Pittosporum crassifolium*
Karo

Community Taxon

What's this?

Pittosporum crassifolium (Karo)

Cumulative IDs: 2 of 2



0 2/3rds 2

Agree

Compare

About

Annotations

Attribute	Value	Agree	Disagree
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< BACK

ANNOTATE SPECIMEN

Pittosporum crassifolium Banks & Sol. ex A.Cunn.

Cite as: <https://www.botanicalcollections.be/specimen/BR0000025667653V> 

Specimen



Herbarium Meise Botanic Garden

Barcode BR0000025667653V

Country New Zealand

Locality Arranga beach

Date 2018-09-04

Collector Groom Q. & Meeus S.

Collector number 18046

Type of material herbarium sheet



 [PDF](#)

Image

There is no image available for this specimen.

Associated material

Herbarium

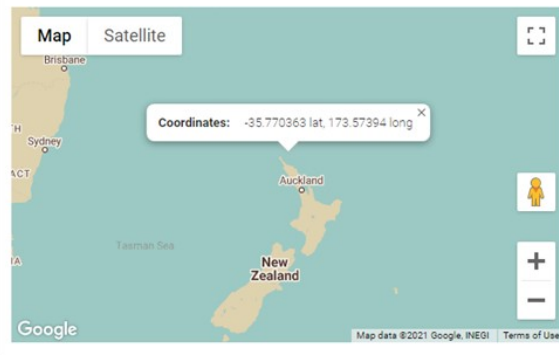
Identification

Name *Pittosporum crassifolium* Banks & Sol. ex A.Cunn.

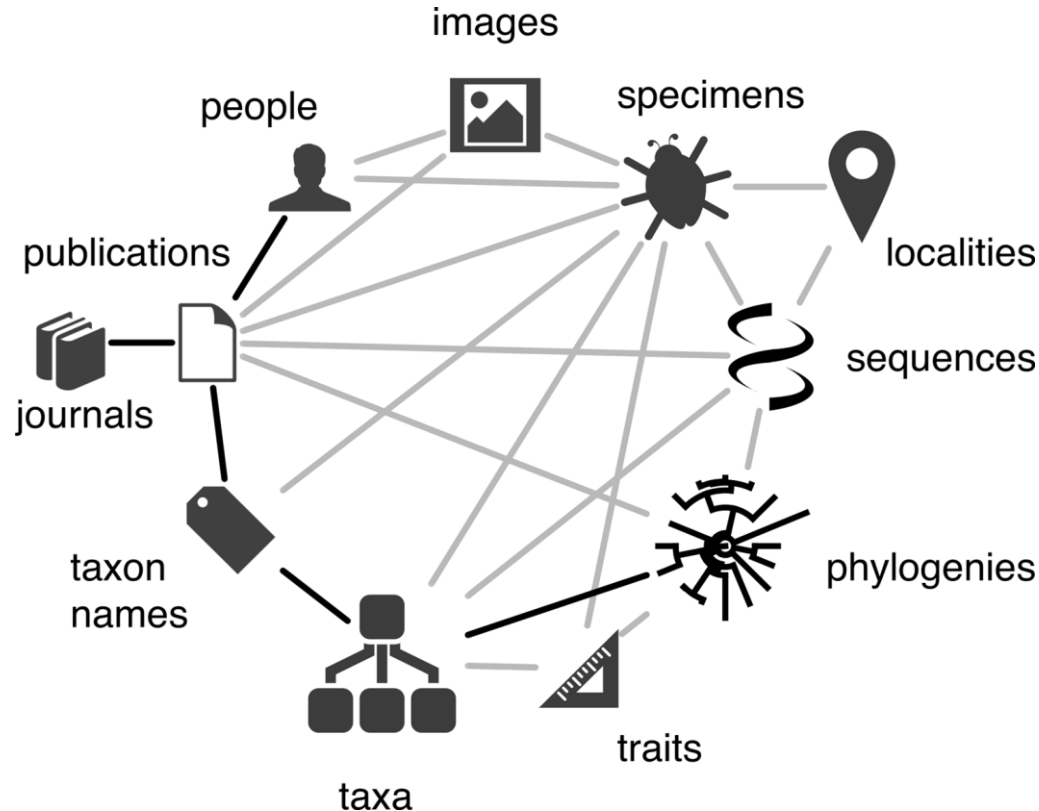
Genus Pittosporum

Family Pittosporaceae

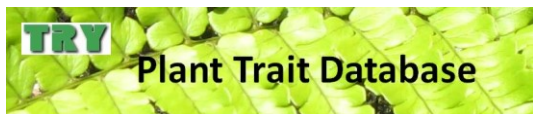
Locality



Everything is connected



Page R (2016) Towards a biodiversity knowledge graph. *Research Ideas and Outcomes* 2: e8767.
<https://doi.org/10.3897/rio.2.e8767>



Catalogue of Life



Thank you!