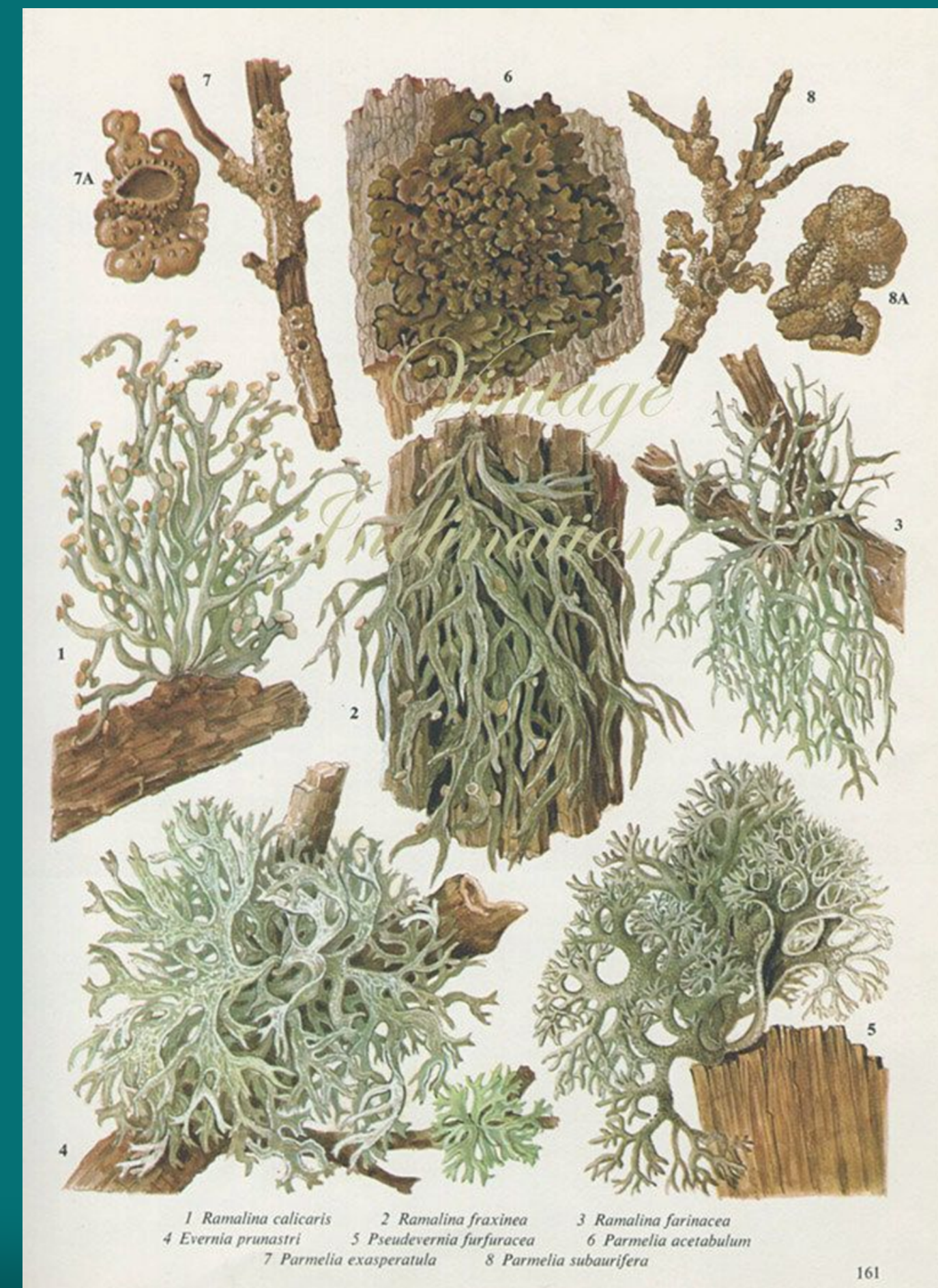


LIFE URBAN GREENING PLANS

# MONITORING BIODIVERSITY - BIOBLITZ & BIODIVERSITY AMBASSADORS - NATURE LINK

Patrícia Tiago



What is citizen science?



★★★  
FINAL

*The* Minnesota Citizen

DAILY 7c, SUNDAY 10c

MINNEAPOLIS, WEDNESDAY, JULY 23, 1952

VOL. CLXXXV

## VOLUNTEERS TO INVESTIGATE MIGRATION OF MONARCH BUTTERFLY



### University program cooperation of individuals

In order to better understand the winter Monarch Butterfly (*Danaus plexippus*), a program has been established by Dr. Fred Urquhart, associate professor of Zoology, University of Toronto. Canada research stations all over Canada and the U.S.

By placing small numbered tags on the feet it is hoped that much more information will be obtained already well known wanderings.

Although a slow start in comparison to research is nevertheless a deliberate and strong step towards such distant places as Great Britain, the Netherlands, Australia and New Zealand.

The author is presently finishing his work as Assistant for the University program.

In addition to tagging local Monarchs for new and unique experiments was attempted in recent days of live Monarchs are being sent by Air Canada to Rome. Each butterfly is tagged, placed in envelopes, then packed in a box and promptly sent. They are released in an open area near Wood AFB, where over 1,200 have been released.

It will be interesting to see what information is produced. Where will these Eastern monarchs winter in the wintering areas of the Western Monarch at Florida in the wintering areas of their eastern source? Tagging program will answer this, and many other questions, native regarding Monarch.

If you find a tagged Monarch dead, send it to Dr. Urquhart, Zoology, University of Toronto, Canada. If alive, tag, release the butterfly promptly, and send the tag to the place of recovery, date, temperature, and any other information to the university.

Is the involvement of non-professionals in contemporary scientific research and environmental monitoring.

Other designations: participatory science, collaborative science.



WIKIPEDIA, 2005:

“a project (or ongoing program of work) which aims to make **scientific discoveries**, **verify scientific hypotheses**, or **gather data** which can be used for scientific purposes, and which involves large numbers of people, many of whom have no specific scientific training.”

In the 1990s the concept of citizen science appeared simultaneously in the United States of America and in the United Kingdom, meaning volunteer data collection to support ornithological research, in the United States of America, and integration of science and citizenship to advance policy goals, in the United Kingdom.



## THE OLDEST CITIZEN SCIENCE PROGRAMME

Prior to the turn of the 20th century - hunters -

Christmas "Side Hunt."

Conservation early stages declining of bird populations.

Christmas Day 1900 - ornithologist Frank M. Chapman

a new holiday tradition "Christmas Bird Census".



# The number of articles published in the last ten years that refer, or use citizen science as a scientific tool, has increased significantly in recent years.

**Update**  
Forum

## A new dawn for citizen science

Jonathan Silvertown  
Department of Life Sciences, The Open University, Walton Hall, Milton Keynes MK7 6AA, UK

A citizen scientist is a volunteer who collects and/or processes data as part of a scientific enquiry. Projects that involve citizen scientists are burgeoning, particularly in ecology and the environmental sciences, although the roots of citizen science go back to the very beginnings of modern science itself.

The origins of citizen science  
Two centuries ago, almost all scientists made their living in some other profession. Benjamin Franklin (1706–1790) was a printer, diplomat and politician; Charles Darwin (1809–1882) sailed on the *Beagle* as an unpaid companion to Captain Robert FitzRoy, not as a professional naturalist. The rise of science as a paid profession is a relatively recent phenomenon, dating from the later part of the 19th century. However, citizen scientists have never disappeared, particularly in sciences such as archaeology, astronomy and natural history, where skill in observation can be more important than expensive equipment. Today, most citizen scientists work with professional counterparts on projects that have been specifically designed or adapted to give amateurs a role, either for the educational benefit of the volunteers themselves or for the benefit of the project. The best examples benefit both.

The characteristic that clearly differentiates modern citizen science from its historical form is that it is now an activity that is potentially available to all, not just a privileged few. The earliest citizen science project of this type is probably the Christmas Bird Count that has been run by the National Audubon Society in the USA every year since 1900. In the most recent count, tens of thousands of observers counted a total of over 63 million birds (see Box 1). In the UK, the British Trust for Ornithology was founded in 1932 with the express purpose of harnessing the efforts of amateur birdwatchers for the benefit of science and nature conservation. These data now contribute to the database held by the National Biodiversity Network that contains over 31 million records of over 27 000 UK species of animals and plants, the majority collected by amateur naturalists. Similar schemes exist in many other countries where citizen scientists are the bedrock of biological recording.

Citizen science now  
Just how significant citizen science has become in ecology was made abundantly clear at the annual meeting of the Ecological Society of America held in Milwaukee, Wisconsin in 2008 where there were over 60 papers that mentioned the subject in their abstract and several sessions [1] explicitly devoted to citizen science or related themes. Citizen scientists now participate in projects on climate change, invasive species, conservation biology, ecological restoration, water quality monitoring, population ecology and monitoring of all kinds. Three factors seem to be responsible for this great explosion of activity. First is the existence of easily available technical tools for disseminating information about projects and gathering data from the public. Of course the internet is the most significant development, but mobile computing is playing a part too and will probably grow with the spread of smart phones. A PDA-based system called CyberTracker, originally developed and used in Southern Africa to enable nonliterate trackers belonging to traditional Khe-San communities to record animal signs, is now used on five continents by both professionals and volunteers. It has been used in various BioBlitz projects [2], where experts and the general public collaborate to map and inventory as many species as they can in one location over 1 or 2 days of intense activity.

The usability of software is vitally important in helping volunteers take advantage of the information that is now potentially available to them. Robert D. Stevenson and colleagues at the University of Massachusetts have developed open source software tools that enable nonexperts to produce customised field guides [3], although these are not yet available for mobile devices. Customisation of field guides, so that they contain only the species local to the area where they will be used, makes species identification much easier for the beginner who might be confused by the large number of similar-looking species often presented in identification books that cover a whole region. Software tools do have their limitations, though, the chief ones being accessibility and keeping up with rapid changes in technology. Dead-tree format (paper) is still the most accessible and future-proof publication medium, although it has high origination costs. However, the economics of book publishing are also being changed by new technology. Print-on-demand services are increasingly affordable, and in the near future it should be possible to print identification books in localised editions using the customised content of an electronic field guide.

A second factor driving the growth of citizen science is the increasing realisation among professional scientists that the public represent a free source of labour, skills, computational power and even finance [4]. Earthwatch is a very successful organisation that annually partners environmental projects with thousands of members of the public who pay for the privilege of spending weeks of their vacation time assisting with field research [5]. Large-scale environmental science requires citizen science.

Corresponding author: Silvertown, J. (j.silvertown@open.ac.uk)

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## Citizen Science: A Tool for Integrating Studies of Human and Natural Systems

Rhiannon Crain,<sup>1</sup> Caren Cooper,<sup>1</sup> and Janis L. Dickinson<sup>1,2</sup>

<sup>1</sup>Cornell Lab of Ornithology, <sup>2</sup>Departments of Natural Resources, Cornell University, Ithaca, New York 14850, email: rfc27@cornell.edu, caren.cooper@cornell.edu, jld4@cornell.edu

**Abstract**  
Citizen science has proliferated in the last decade, becoming a critical form of public engagement in science and an increasingly important research tool for the study of large-scale patterns in nature. Although citizen science is already interdisciplinary, it has unappreciated potential to build capacity for transformative research on coupled human and natural systems. New tools have begun to collect paired ecological and social data from the same individual; this allows for detailed examination of feedbacks at the level of individuals and potentially provides much-needed data for agent-based modeling. With the ongoing professionalization of citizen science, the field can benefit from integrating a coupled systems perspective, including a broadening of the social science perspectives considered. This can lead to new schema and platforms to increase support for large-scale research on coupled natural and human systems.

**Keywords**  
public engagement in science, coupled systems, interdisciplinary research, sociocological systems, coupled human and natural systems, big data

**Introduction**  
Robust quantitative measures of the stock and rate of change in biodiversity are crucial for assessing species' risk of extinction (Mace & Lande 1991), for monitoring progress against international targets (Baltzer et al. 2010) and writing against predictions about climate change impacts (Mebis & Wilson 2011). The demands for timely information are increasing. For instance, the EU Habitat and Bird directives require changes in species' status to be reported every 6 years, and progress against the Convention of Biological Diversity targets is reported on a decadal basis.

Long-term, standardized, monitoring schemes produce timely and robust estimates of status and trends, often on an annual basis (Gregory et al. 2005). Unfortunately, such data are available for only a small number of taxa in a few countries. The next best sources are opportunistic data, such as those available on the Global Biodiversity Information Facility (GBIF), including records submitted by volunteers (Pendergast et al. 1993). These data are less structured than monitoring schemes but high in quantity: GBIF comprises >400 million observations of 1.4 million species (http://www.gbif.org). Opportunistic data have delivered substantive insights into the ecological impacts of climate change (Hickling et al. 2006), invasive species (Roy et al. 2012) and habitat loss (Warren et al. 2011).

While opportunistic data have been used to describe coarse-scale changes in biodiversity (Thomas et al. 2004; Cavallotto et al. 2011), the absence of standardized protocols poses serious challenges for estimating timely trends in the status of individual species. The noise generated by opportunistic sampling has the potential to swamp any signal of real change, or to produce spurious signals of change where none exists. We use the term 'variation in recorder activity' to refer to the sampling bias inherent in opportunistic data, of which there are four principle forms: (i) uneven recording intensity over time, measured as the number of visits per year (a visit is defined as unique combination of site and date in the records data), (ii) uneven spatial coverage, (iii) uneven sampling effort per visit, and (iv) uneven detectability. Each source of variation has the

© 2014 The Authors. *Methods in Ecology and Evolution* © 2014 British Ecological Society. This is an open access article under the terms of the Creative Commons Attribution-NonCommercial-NoDerivs License, which permits use and distribution in any medium, provided the original work is properly cited, the use is non-commercial and no modifications or adaptations are made.

## Methods in Ecology and Evolution

*Methods in Ecology and Evolution* 2014, 5, 1052–1060 doi: 10.1111/2041-210X.12254

### Statistics for citizen science: extracting signals of change from noisy ecological data

Nick J. B. Isaac<sup>1</sup>, Arco J. van Strien<sup>2</sup>, Tom A. August<sup>1</sup>, Mamix P. de Zeeuw<sup>2</sup> and David B. Roy<sup>1</sup>

<sup>1</sup>NIDRC Centre for Ecology & Hydrology, Crowmarsh Gilford, Maclean Building, Wallingford, OX10 6BB, UK and <sup>2</sup>Statistiek Netherlands, PO Box 24002, 2400 HA The Hague, The Netherlands

**Summary**  
1. Policy-makers increasingly demand robust measures of biodiversity change over short time periods. Long-term monitoring schemes provide high-quality data, often on an annual basis, but are taxon-specific and geographically restricted. By contrast, opportunistic biological records are relatively unstructured but vast in quantity. Recently, these data have been applied to increasingly substantive science and policy questions, using a range of methods. At present, we lack a firm understanding of which methods, if any, are capable of delivering unbiased trend estimates on policy-relevant time scales.  
2. We identified a set of candidate methods that employ data filtering criteria and/or correction factors to deal with variation in recorder activity. We designed a computer simulation to compare the statistical properties of these methods under a suite of realistic data collection scenarios. We measured the Type I error rates of each method, scenario combination, as well as the power to detect genuine trends.  
3. We found that simple methods produce biased trend estimates, and/or had low power. Most methods are robust to variation in sampling effort, but biased in spatial coverage, sampling effort per visit, and detectability, as well as turnover in community composition, all indicated some methods to fail. No method was wholly unaffected by all forms of variation in recorder activity, although some performed well enough to be useful.  
4. We warn against the use of simple methods. Sophisticated methods that model the data collection process offer the greatest potential to estimate timely trends, notably *Presence* and *occupancy* detection models.  
5. The potential of these methods and the value of opportunistic data would be further enhanced by assessing the validity of model assumptions and by capturing small amounts of information about sampling intensity at the point of data collection.

**Key-words:** biodiversity, biological records, distribution, *Presence*, occupancy modelling, simulations, trends

**Introduction**  
Robust quantitative measures of the stock and rate of change in biodiversity are crucial for assessing species' risk of extinction (Mace & Lande 1991), for monitoring progress against international targets (Baltzer et al. 2010) and writing against predictions about climate change impacts (Mebis & Wilson 2011). The demands for timely information are increasing. For instance, the EU Habitat and Bird directives require changes in species' status to be reported every 6 years, and progress against the Convention of Biological Diversity targets is reported on a decadal basis.

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The copyright fee for this article was charged on 15 October 2014 after original online publication.

Three associations with a broad geographic base emerged to standardize concepts and objectives of the field, to unite and improve expertise, and to power citizen science encompassing educators, scientists, data managers, non-profit organizations, politicians and others.



Citizens Science as a Way  
to collect biodiversity  
information and data





## Study from 2016

largest impact of citizen science is in research on biology, conservation and ecology

## International Treaties

identify the need to evaluate change in the status and trends of global biodiversity

## Citizen Science

taken into consideration to evaluate regional and global changes in the trends and status of biodiversity



# Global Biodiversity Information Facility (GBIF)

Biodiversity data has been gathered in global biodiversity monitoring databases such as the GBIF, which shares freely accessible biodiversity data, including digitalized data in museum collections.

Existing data has however an uneven distribution. Several countries and regions (e.g., the Asia-Pacific region), have much less data than do the European Union or North America.

By understanding the potential of citizen science, GBIF started to receive data from citizen science projects and nowadays these projects became important data providers.

However, the problems of inaccurate information (e.g., misidentification) and copyright issues still persist and need to be taken in consideration.



# Challenges to Citizen Science Projects



Deciding the scope and scale of the project;

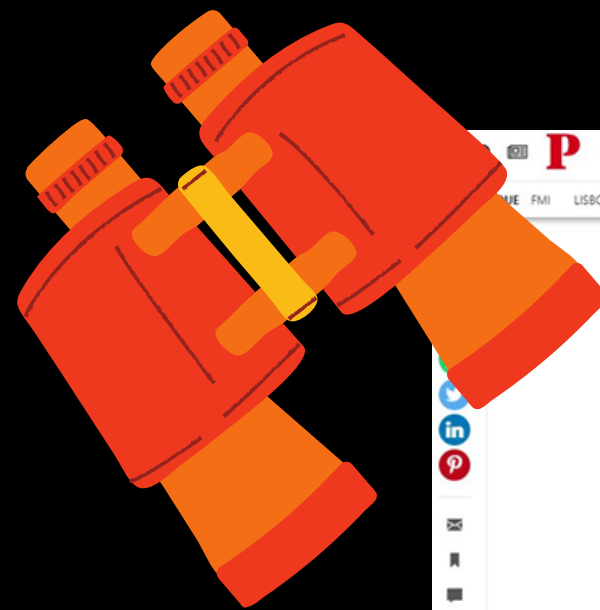


Deciding to keep small, with local data control, closer to the volunteers and community issues, or connecting with larger initiatives to benefit data usage;



Focusing more on guaranteeing data quality with the collection of rigorous, reliable data gathered in a systematized way, or on the easiness of producing data, with higher benefits to data volume, environmental education and engagement.

# What is this information for?



Boletín de la Sociedad Entomológica Aragonesa (S.E.A.), nº 52 (30/6/2013): 1–16.

## REVISIÓN DE LA IDENTIDAD DE *NEOCALLICRANIA SERRATA* (BOLÍVAR, 1885) Y DESCRIPCIÓN DE DOS TÁXONES AFINES: *NEOCALLICRANIA SERRATA* PFAUI SSP. N. Y *NEOCALLICRANIA BARROSI* SP. N. (ORTHOPTERA, TETTIGONIIDAE, BRADYPORINAE, EPHIPPIGERINI)

Joan Barat

C/ Sant Marià 75 àtic 2.º 08840 Viladecans (Barcelona, España). – jbaraldom@hotmail.com



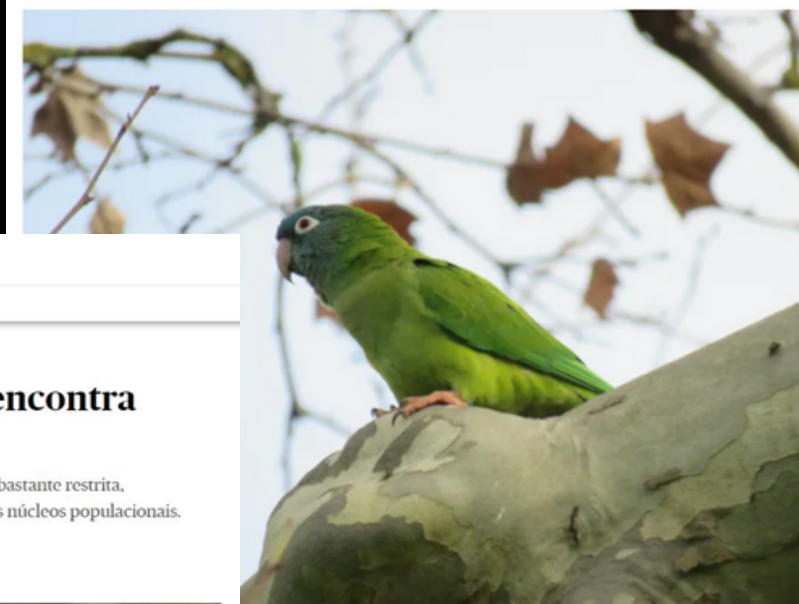
**ETIMOLOGÍA:** En reconocimiento a Francisco Barros (São Salvador, Cadaval, Portugal), por su decisiva intervención en el hallazgo de esta especie.

**BIODIVERSIDADE**  
**Projecto de ciência-cidadã encontra planta rara em Arouca**  
A potentilha-dos-montes tem uma distribuição em Portugal bastante restrita, conhecendo-se até ao momento apenas três núcleos populacionais.  
PÚBLICO  
31 de Março de 2021, 12:04

## Biodiversidade está a ser registada no campus FCUL

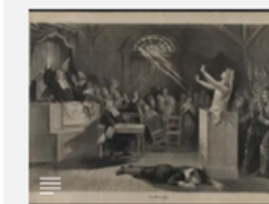
A Faculdade de Ciências da Universidade de Lisboa desenvolveu um projeto em prol da biodiversidade do campus, que conta já com mais de 1.500 observações e mais de 470 identificações de espécies.

POR NATIONAL GEOGRAPHIC  
PUBLICADO 12/04/2021, 16:56 WEST. ATUALIZADO 12/04/2021, 19:20 WEST



de Ciências da Universidade de Lisboa e quem viva ou trabalhe perto, stos de espécies nesta zona.

### MAIS POPULARES



HISTÓRIA  
**5 Lendas Portuguesas que Provavelmente Desconhece**

**BioDiversity4All** Explore Your Observations Community Identify More  
*Rutilus rutilus* (Gardon) Needs ID Edit  
friskproject 735 observations  
Observed: May 20, 2019 - 11:50 AM WEST Submitted: Oct 22, 2019 - 11:52 AM WEST  
Map Satellite  
Observed: Jun 20, 2018 - 11:53 AM WEST Submitted: Oct 22, 2019 - 12:12 PM WEST  
Map Satellite  
Santo Tirso, Portugal Details



'Potentilha dos montes' fotografada por Carminda Santos.

Uma cidadã descobriu uma "planta rara" no território que é designado como 'Arouca Geopark'.

Trata-se de um exemplar 'Potentilha-dos-montes' (*Potentilla montana*), classificada como "uma planta rara e em perigo de extinção", adianta um comunicado da AGA - Associação Geoparque Arouca.

What is a BioBlitz?





BioBlitzes are events where citizens work together with scientists to record as many species as possible within a delimited geographical area over a defined time period.



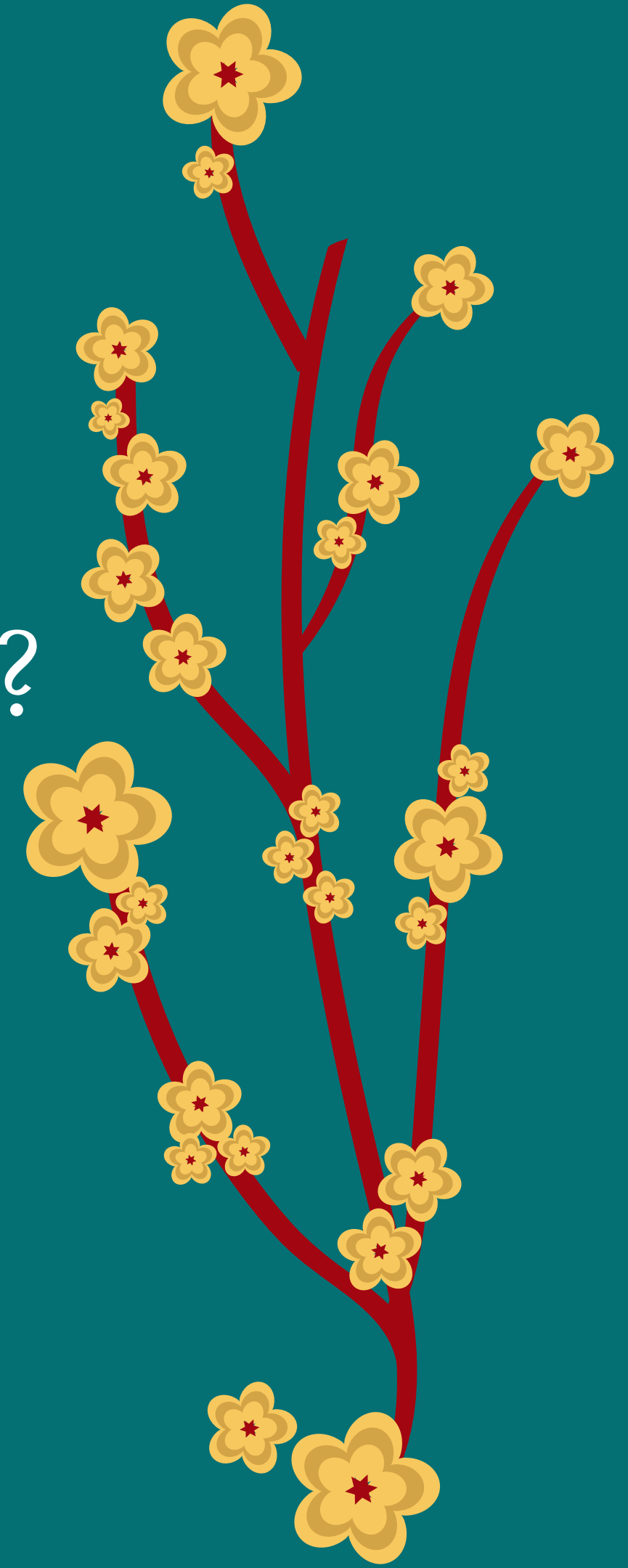
The first BioBlitz was organised in Washington D.C., in 1996.



Bio = life

Blitz = something quick and intense

What is a BioDiversity4All?





924812  
Observações

[Criar Conta](#) [Explorar](#)

924.817 OBSERVAÇÕES    16.320 ESPÉCIES    10.316 IDENTIFICADORES    18.079 OBSERVADORES



### Utilizadores mais ativos este mês

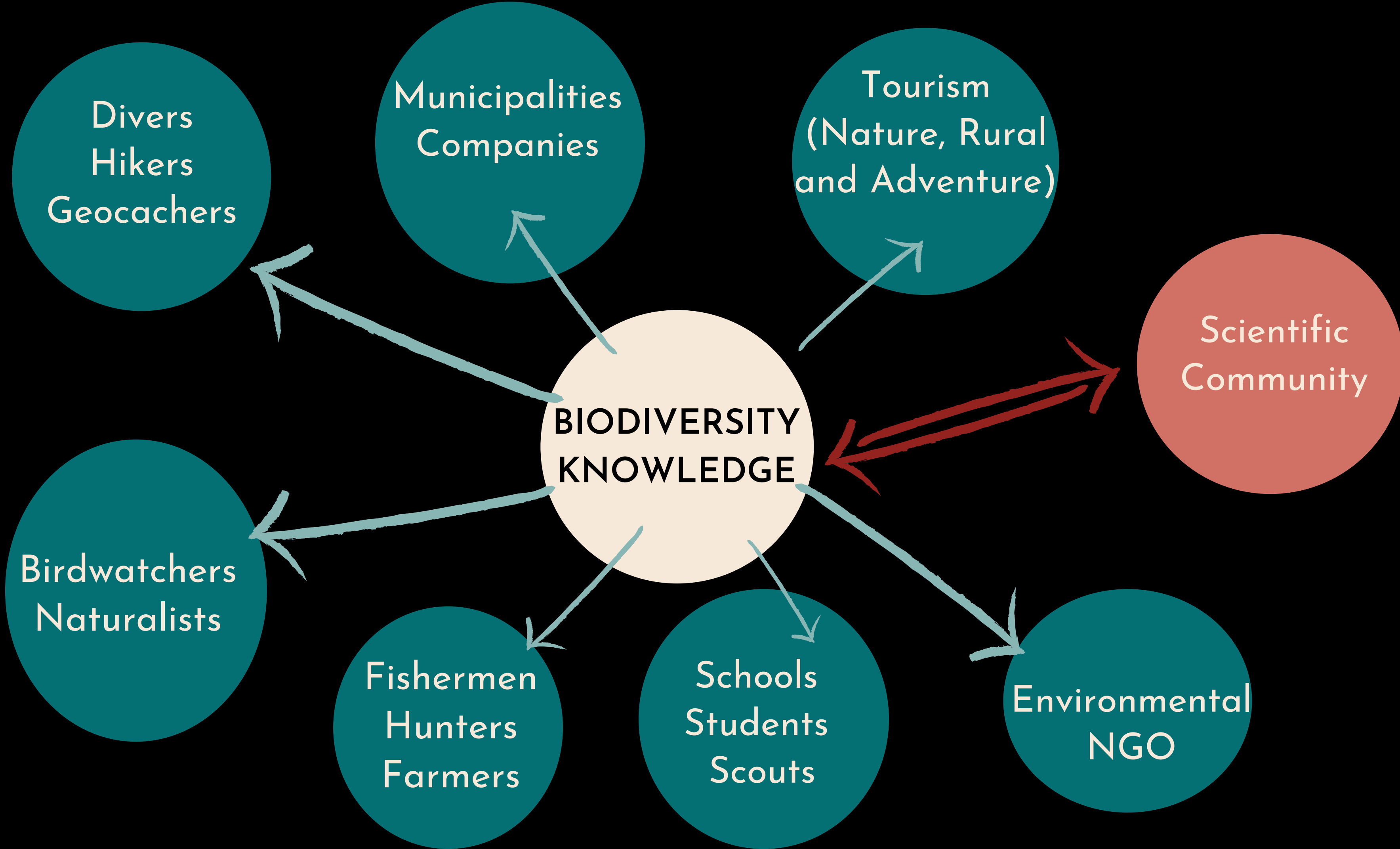
|                              |                                      |                               |                             |                                 |
|------------------------------|--------------------------------------|-------------------------------|-----------------------------|---------------------------------|
|                              |                                      |                               |                             |                                 |
| Idacosta<br>+ 79 Observações | pedrofreitas2590<br>+ 51 Observações | rmribeiro<br>+ 51 Observações | bluetit<br>+ 48 Observações | hugobarbosa<br>+ 40 Observações |

### Últimos Registos

|   |  |  |   |
|---|--|--|---|
|   |  |  |   |
| Maçarico-das-rochas<br><i>Actitis hypoleucos</i><br>hecosta | Bembix oculata<br><i>Bembix oculata</i><br>hecosta | Acis autumnalis<br><i>Acis autumnalis</i><br>hecosta | Pato-real<br><i>Anas platyrhynchos</i><br>csoaresfotografia |



112.798.922 OBSERVAÇÕES    387.738 ESPÉCIES    258.143 IDENTIFICADORES    2.772.583 OBSERVADORES



# frisk

## fish risk

Determinação de rotas de invasão de peixes introduzidos em ecossistemas dulciaquícolas: avaliação de risco



Participe 52

No projeto FRISK - Determinação de rotas de invasão de peixes introduzidos em ecossistemas dulciaquícolas: avaliação de risco (Ref. PTDC/AAG-MAA/0350/2014) - queremos descobrir "as rotas" percorridas pelos peixes exóticos. Para uma melhor gestão da pesca e dos ecossistemas aquáticos de Portugal, é essencial

Ler Mais >

Project Journal

MARE FCT ICNF EDIA powered by Biodiversity4All

Visão geral

1.005 OBSERVAÇÕES

19 ESPÉCIES

159 IDENTIFICADORES

190 OBSERVADORES

Estatísticas

## Por onde nadam os tubarões e raias?

Conhecer para proteger.



Participe 8

O projecto FindRayShark tem como objectivo compilar informação sobre a distribuição de raias e tubarões em Portugal, usando vários métodos não-invasivos, e transmitir ao público e escolas a importância destas espécies! A principal área de estudo é a Reserva Natural das Berlengas, mas os avistamentos compilados podem vir de todo o

Ler Mais >

Project Journal

FindRayShark

FUNDO PARA A CONSERVAÇÃO DOS OCEANOS

Visão geral

474 OBSERVAÇÕES

50 ESPÉCIES

131 IDENTIFICADORES

175 OBSERVADORES

Estatísticas

## Cigarras de Portugal

### CAMPANHA 2021

Registe fotos e/ou som de cigarras em



Siga-nos em



Participe 143

Campanha 2021: Este projecto recolhe fotos e gravações áudio do canto de cigarras em Portugal para actualizar os mapas de distribuição e monitorizar as populações, de forma a sinalizar as espécies com preocupações de conservação. O projecto é promovido pela equipa de investigadores

Ler Mais >

Project Journal

Visão geral

1.850 OBSERVAÇÕES

13 ESPÉCIES

131 IDENTIFICADORES

395 OBSERVADORES

Estatísticas

## Polinizadores de Portugal

EVENTO EM CURSO



Participe 280

Os polinizadores são fundamentais no mundo em que vivemos. Eles têm enorme importância ecológica e para as populações humanas. Transportam o pólen entre flores, possibilitando a reprodução de plantas e a formação de frutos e sementes. Cerca de 75% das plantas cultivadas dependem dos polinizadores. O grupo dos

Ler Mais >

Project Journal

Visão geral

109.222 OBSERVAÇÕES

4.029 ESPÉCIES

2.574 IDENTIFICADORES

4.006 OBSERVADORES

Estatísticas

## Cogumelos na Cidade



Participe 34

Descubra e desfrute dos cogumelos da cidade de Coimbra! Um projeto do MyCoLAB do Centro de Ecologia Funcional da Universidade de Coimbra. Leia aqui: <https://www.wilder.pt/historias/cidadaos-ja-encontraram-mais-de-160-especies-de-cogumelos-em-coimbra/>

Ler Mais >

Project Journal

Visão geral

1.425 OBSERVAÇÕES

266 ESPÉCIES

162 IDENTIFICADORES

95 OBSERVADORES

Estatísticas

## Biodiversidade na Nossa Casa



Participe 105

Levantamento da Biodiversidade no Agrupamento de Escolas de Benfca

Cidadão Cientista: Biodiversidade em Lisboa - Conhecer para preservar

Ler Mais >

Project Journal

Visão geral

4.442 OBSERVAÇÕES

855 ESPÉCIES

748 IDENTIFICADORES

129 OBSERVADORES

Estatísticas

23 SETEMBRO

Noite Europeia dos Investigadores  
*Ciência no dia-a-dia*

**Bioblitz**  
*Monsanto 2017*

Lisboa | Parque Florestal de Monsanto | Anf. Keil do Amaral  
09h00 - 00h00 **Entrada Livre**

www.noitedosinvestigadores.org  
noitedosinvestigadorespt  
@neinvestigadores

INICIATIVA: Noite Europeia dos Investigadores  
ORGANIZAÇÃO: FCT, ISCTE-IUL, CE3C, tagis, BioDiversity4All, biosight  
PARCEIROS: [Logos of various partners]

Este projeto da Noite Europeia dos Investigadores é financiado pela Comissão Europeia no âmbito das Ações Marie Skłodowska-Curie

**BIOBLITZ**  
+ BIODIVERSIDADE@CIÊNCIAS

8:30 - 12:30 AVES/INSETOS/LÍQUENES/ANFÍBIOS/PEIXES  
14:00 - 18:00 RÉPTEIS/MAMÍFEROS/PLANTAS

**26 DE MAIO 2022 - 8:30-18:00**

PONTO DE ENCONTRO - ÁTRIO BIBLIOTECA C2  
(8:30/9:30/10:30/11:30/14:00/15:00/16:00/17:00)

Ciências ULisboa | LABORATÓRIO VIVO | CE3C | BioDiversity4All | SPECO

**TROIA**  
BIOBLITZ  
24, 25 Junho | June

SEJA CIENTISTA POR UM DIA, DESCUBRA AS ESPÉCIES DE TRÓIA

troiaresort.pt

BioDiversity4All  
www.biodiversity4all.org

**BioBlitz**

na Península de Setúbal

**Seixal**  
Moinho de Maré de Corroios  
25 de novembro

**Barreiro**  
Mata da Machada  
26 de novembro

Logos: Câmara Municipal de Seixal, AMRS, SIMARSUL, Câmara Municipal de Barreiro, Reserva Natural Local Sapal do Rio Coina Mata da Machada



**BIO BLITZ**  
PARQUE DA PAZ / ALMADA  
Domingo, 29 de Maio 2022  
Venha descobrir a natureza que se esconde  
**BioBlitz Almada, Parque da Paz 2022**  
MAY 29, 2022 Diversity4All CMA

Foto: Luís Quinta

Acerca de Membros 14

E que tal um dia divertido a descobrir a biodiversidade do Parque da Paz, com família e amigos, sempre com o apoio de especialistas na matéria? Traga espírito de explorador e venha conhecer de perto as muitas formas de vida que têm refúgio no pulmão da cidade de Almada.

Ler Mais >

Project Journal

Visão geral

|             |          |                 |              |                              |
|-------------|----------|-----------------|--------------|------------------------------|
| 294         | 164      | 71              | 18           | <a href="#">Estatísticas</a> |
| OBSERVAÇÕES | ESPÉCIES | IDENTIFICADORES | OBSERVADORES |                              |

**Bioblitz Jardim da Gulbenkian 2022**  
APR 23, 2022

Acerca de Membros 3

A ciência cidadã tornou-se, a nível mundial, uma importante ferramenta que permite o estreitar da ligação entre cientistas e não cientistas. Através dela, os cidadãos podem ser participantes ativos nos processos científicos, enquanto aumentam os seus conhecimentos, sentido de análise e sentido crítico em diferentes áreas. Na área da

Ler Mais >

Project Journal

Visão geral

|             |          |                 |              |                              |
|-------------|----------|-----------------|--------------|------------------------------|
| 51          | 40       | 20              | 5            | <a href="#">Estatísticas</a> |
| OBSERVAÇÕES | ESPÉCIES | IDENTIFICADORES | OBSERVADORES |                              |

**AGENDA DA NATUREZA**  
OEIRAS TEM VIDA  
BioBlitz Quinta de Recreio do Marquês de Pombal, Oei...  
MAY 22, 2022

OEIRAS VALLEY  
MUNICÍPIO OEIRAS  
Câmara Municipal de Oeiras

Acerca de Membros 11

Oeiras tem Vida!  
Vamos registar o máximo de espécies neste dia, acompanhados por especialistas.  
Programa:  
9h00 - 11h00: Aves  
11h00 - 13h00: Plantas  
13h00 - 14h00: Coffee break

Ler Mais >

Project Journal

Visão geral

|             |          |                 |              |                              |
|-------------|----------|-----------------|--------------|------------------------------|
| 308         | 164      | 57              | 18           | <a href="#">Estatísticas</a> |
| OBSERVAÇÕES | ESPÉCIES | IDENTIFICADORES | OBSERVADORES |                              |

**BIO BLITZ**  
Bioblitzes do Parque da Paz, Almada

Acerca de Membros 3

O BioBlitz tem como principal objetivo envolver o maior número de pessoas na identificação e registo da fauna e flora da região, promovendo o conhecimento sobre a biodiversidade local e seus habitats. Pretende também incentivar os participantes a continuarem depois a registar, ou pelo menos a estar mais atentos à vida selvagem

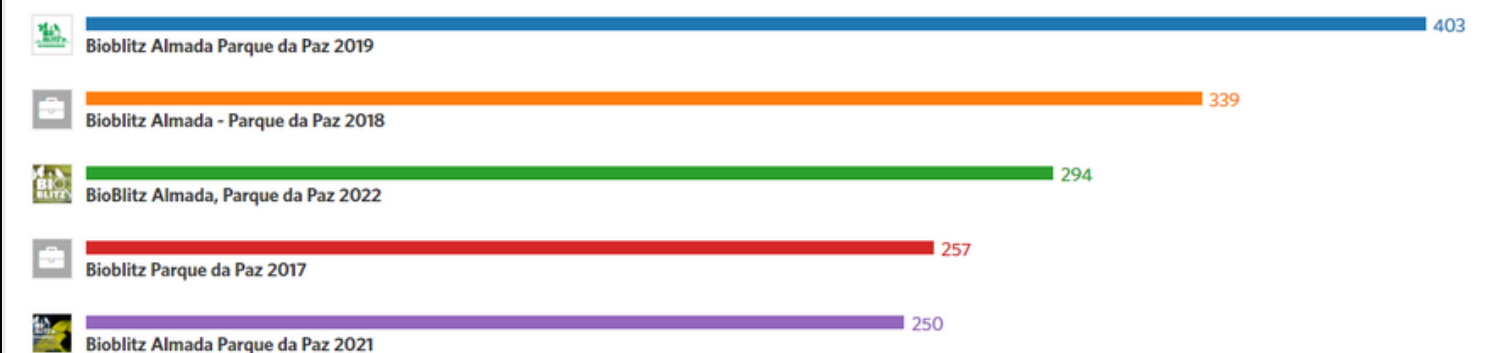
Ler Mais >

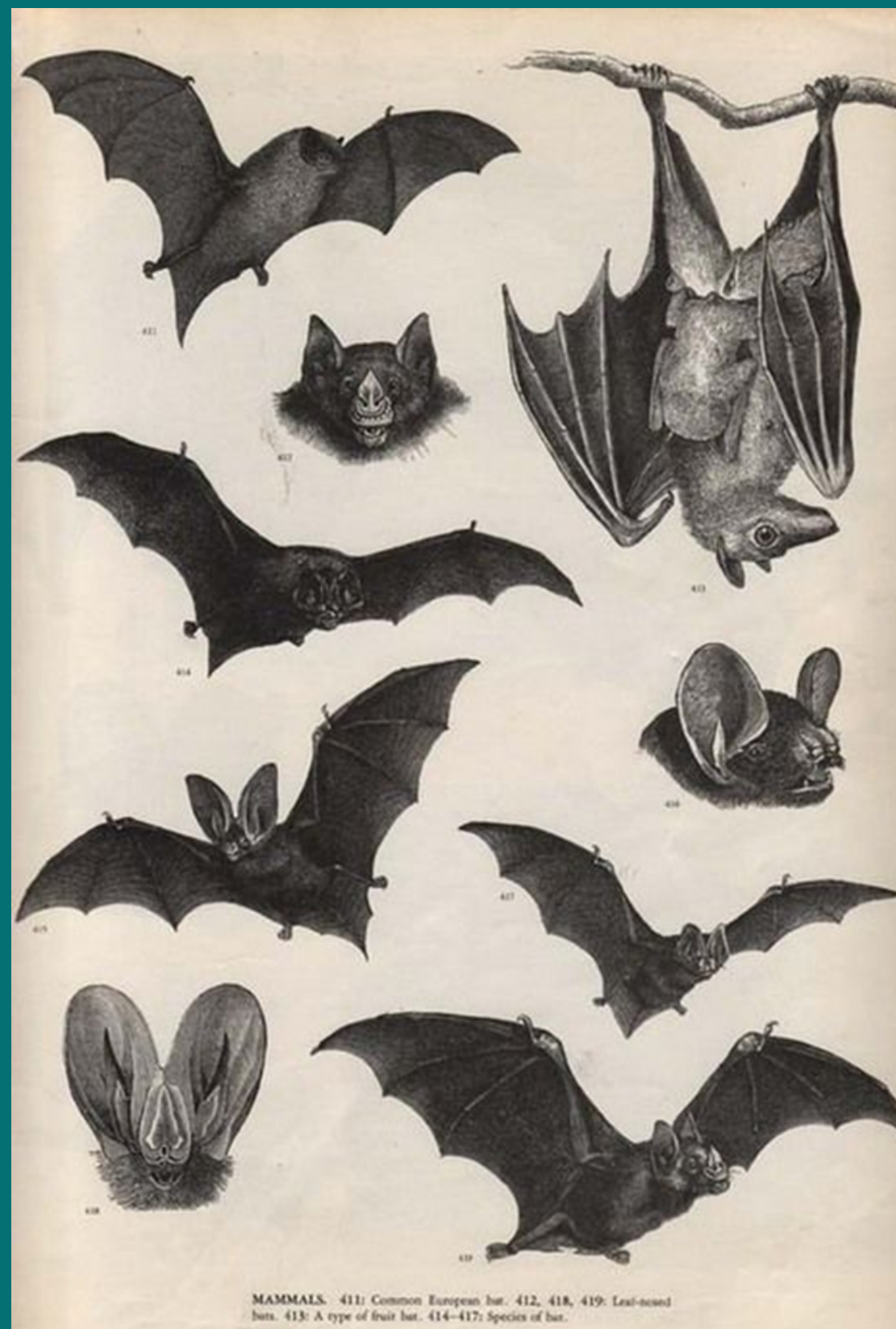
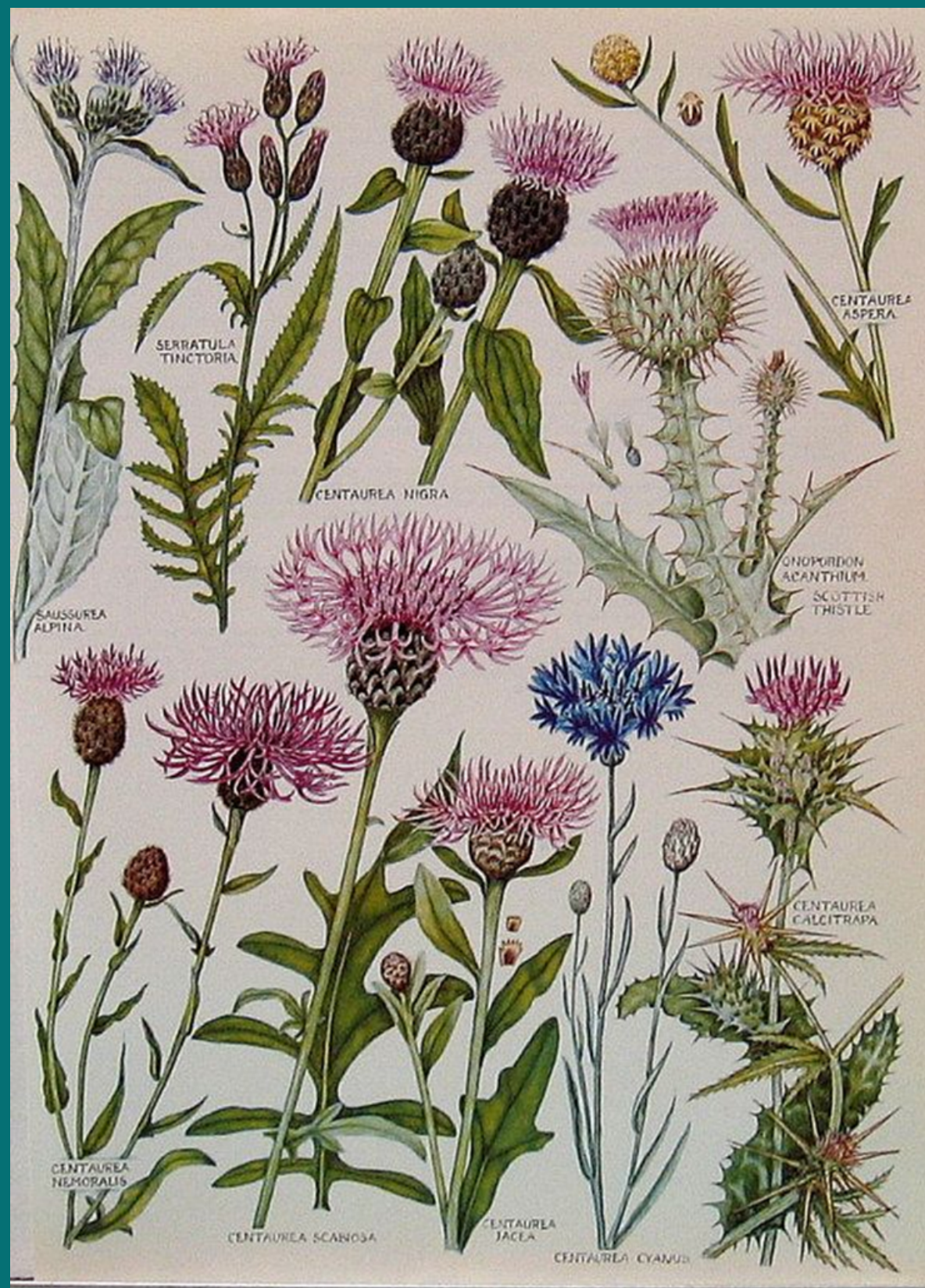
Project Journal

Visão geral

|             |          |                 |              |                              |
|-------------|----------|-----------------|--------------|------------------------------|
| 1.543       | 425      | 253             | 51           | <a href="#">Estatísticas</a> |
| OBSERVAÇÕES | ESPÉCIES | IDENTIFICADORES | OBSERVADORES |                              |

Colaboradores mais ativos Ordenar por: Observações | Espécie(s) | Observadores





Thank you!

[pmtiago@fc.ul.pt](mailto:pmtiago@fc.ul.pt)  
[www.biodiversity4all.org](http://www.biodiversity4all.org)

“No one will protect what they don't care about, and no one will care about what they have never experienced.”

David Attenborough