



4ªCNCT

Workshop sobre a Partilha de Dados  
Científicos sobre Biodiversidade

# Partilha de informações sobre Biodiversidade em Angola: contributo do GBIF como plataforma global

Maria Manuel Romeiras, Rui Figueira

Nó Português do GBIF

[rui.figueira@iict.pt](mailto:rui.figueira@iict.pt)



UNIVERSIDADE  
DE LISBOA



nó português do GBIF

Apoio

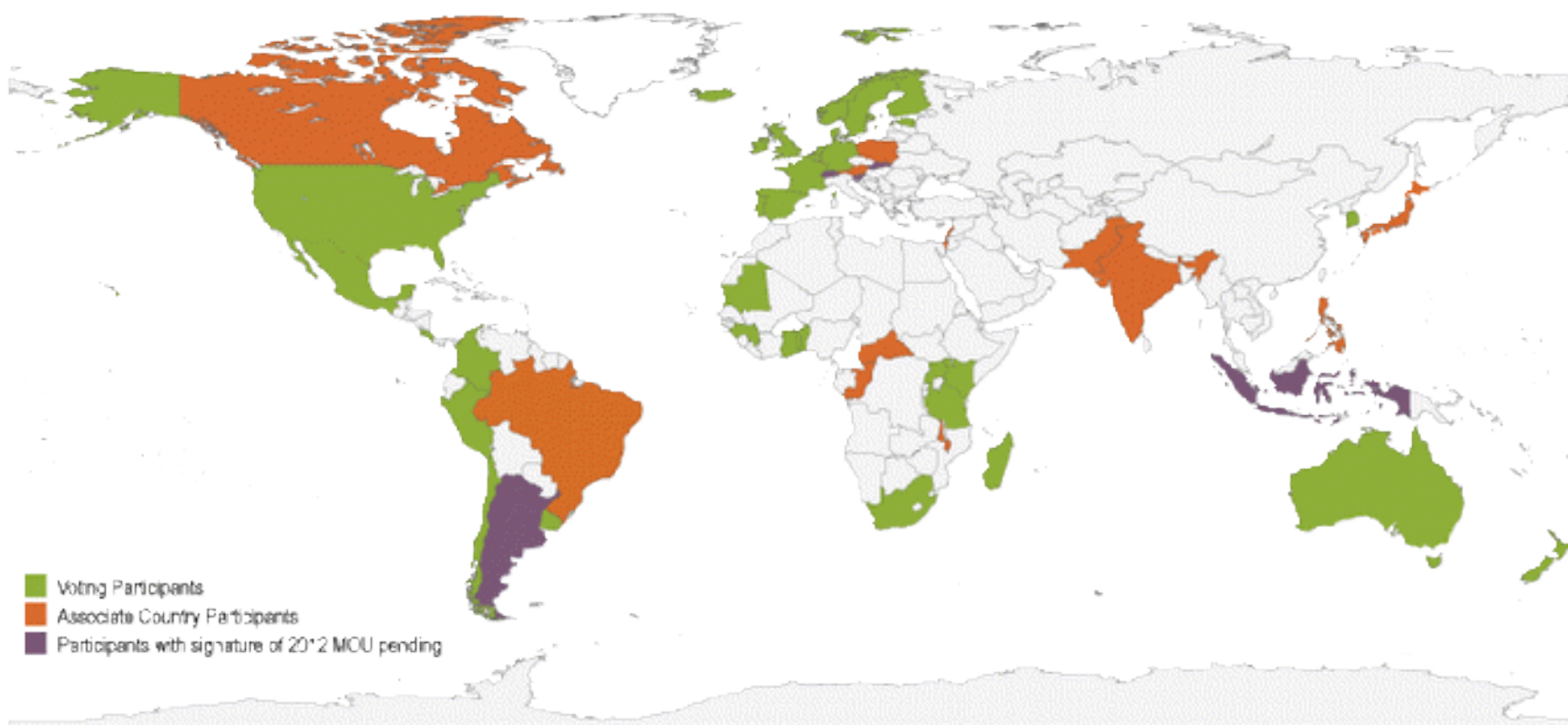
# Sumário

- O GBIF enquanto organização global
- A Página do País
- Publicadores de dados
- Dados disponíveis para Angola
- Exemplos de uso dos dados

# Participação no GBIF

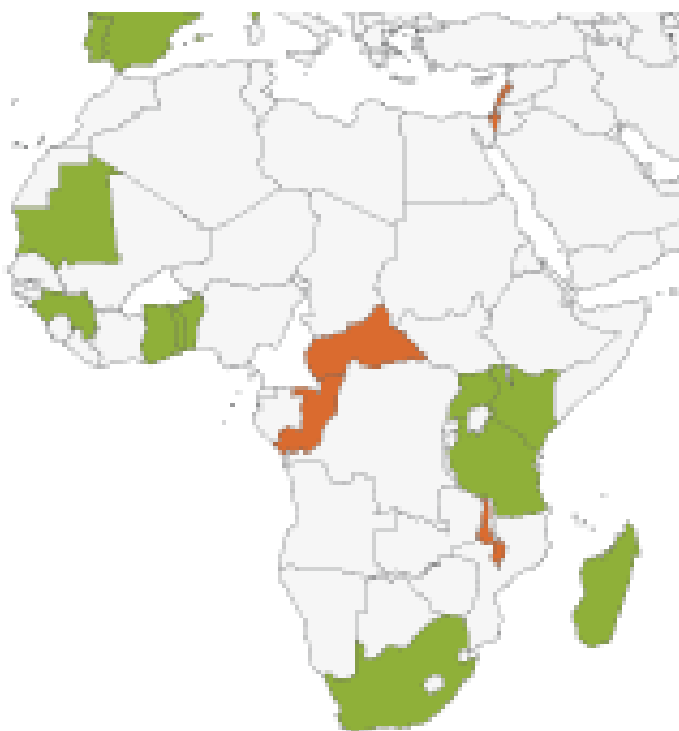
53 países (38 votantes+ 15 associados)

38 organizações



# Participação no GBIF

África (10 votantes+ 3 associados)



## Participantes Votantes

1. Benin
2. Gana
3. Guiné
4. Quênia
5. Madagascar
6. Mauritânia
7. África do Sul
8. Tanzânia
9. Togo
10. Uganda

## Associate Country Participants

1. República Centro-Africana
2. Malawi
3. República do Congo

# Estatísticas Mensais sobre o GBIF

**Apresentação: GBIF Atualização Mensal (.pptx)**



Disponível em Português em <http://www.gbif.org/resource/82217>

# GBIF EM NÚMEROS

**570,238,233**

registros de  
ocorrência de  
espécies

**15,073**

conjuntos de dados

**762**

data-publishing  
institutions





# GBIF EM NÚMEROS - AGOSTO

**+3,908,924**

registros de  
ocorrência de  
espécies

**+789**

conjuntos de dados

**+2**

data-publishing  
institutions



# Portugal

A GBIF Voting Participant from Europe  
Names of countries, territories and islands are based on the ISO 3166-1 standard.

## Summary

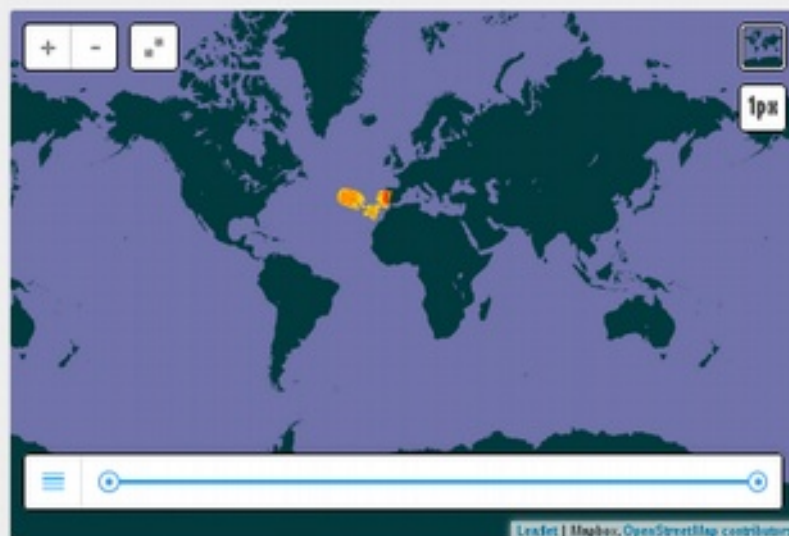
## Data About

## Data Publishing

## Participation

## News and Events

## Publications



## Data about Portugal

- 897 occurrence datasets with 971,716 records.
- No checklist datasets.
- No metadata-only datasets relevant to Portugal.
- 33 countries contribute data about Portugal.

[View records shown on the map](#)



## Data from Portugal

- 14 occurrence datasets with 308,483 records.
- 2 checklist datasets with 6,388 records.
- No metadata-only datasets.
- Portugal publishes data covering 94 countries, territories and islands.

[View records shown on the map](#)

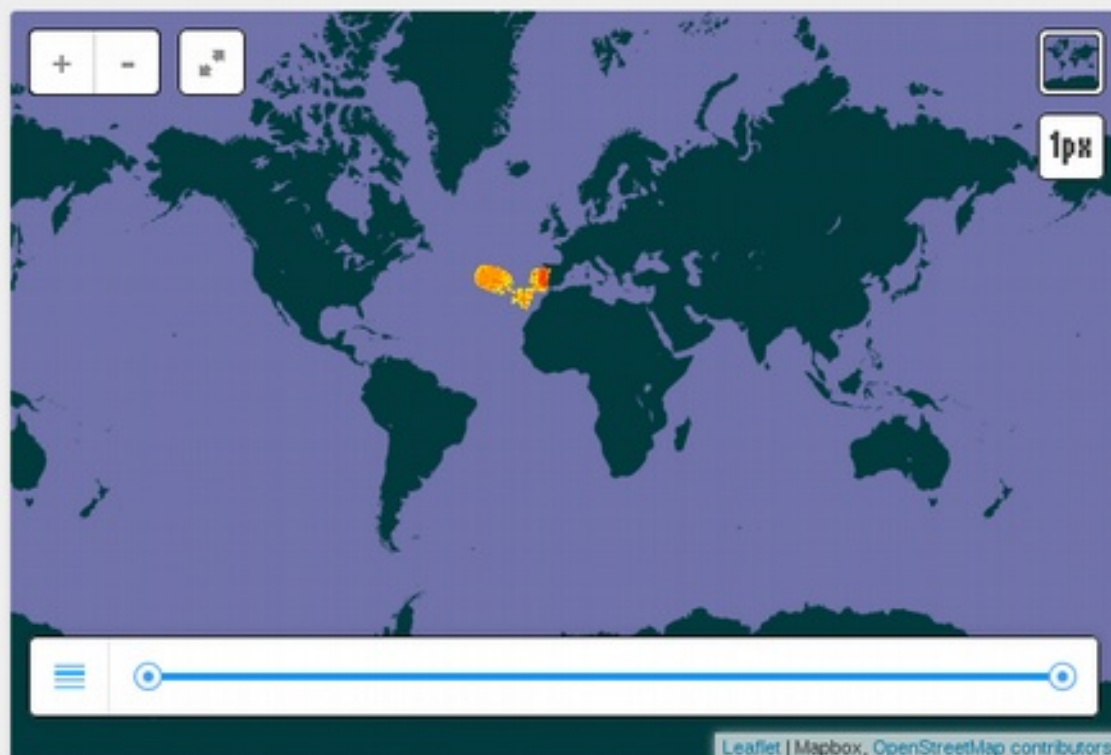




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[Summary](#)[Data About](#)[Data Publishing](#)[Participation](#)[News and Events](#)[Publications](#)

## Data about Portugal

- [897 occurrence datasets](#) with [971,716 records](#).
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- [33 countries](#) contribute data about Portugal.

[View records shown on the map](#)

## Largest occurrence datasets about Portugal

- [EOD - eBird Observation Dataset](#)

225,216 occurrences in Portugal out of 1,522,522,122 (14.8%)



# Portugal

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[Summary](#)[Data About](#)[Data Publishing](#)[Participation](#)[News and Events](#)[Publications](#)

## Data from Portugal

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[View records shown on the map](#)

## Latest datasets published

- [Flora-On: occurrence data of the flora of mainland Portugal](#)

Occurrence dataset. Updated 24 Jul 2015. 140,687 records (122,487 now referenced). Published by [Associação Portuguesa de Botânica](#)



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[Summary](#)[Data About](#)[Data Publishing](#)[Participation](#)[News and Events](#)[Publications](#)

## Participation

### MEMBER STATUS

Voting Participant

### GBIF PARTICIPANT SINCE

2001

### GBIF REGION

Europe

### HEAD OF DELEGATION

[Ana Morgado](#)

### PARTICIPANT NODE MANAGER

[Rui Figueira](#)

## Node

### NODE NAME

GBIF Portugal

### ADDRESS

Instituto de Investigação Científica  
Tropical (IICT)  
Rua da Junqueira, nº 86-1º  
1300-344  
Lisboa  
Portugal

### NODE ESTABLISHED

2013

### WEBSITE

<http://www.gbif.pt>

## Learn more

[HISTORY](#)[SOCIAL MEDIA](#)





# Portugal

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[Summary](#)[Data About](#)[Data Publishing](#)[Participation](#)[News and Events](#)[Publications](#)

## News and events tagged with Portugal



### EVENT

#### [XVII Congress of European Mycologists](#)

The theme of the congress is Working with Fungi. This congress is the latest in an unbroken series going back almost sixty years.

Scheduled on 21 September 2015

### NEWS ARTICLE

#### [XVII Congress of European Mycologists](#)

Projects in Africa, Latin America and Europe will engage 19 Participants.

4 months ago

### EVENT

#### [2nd workshop France-Portugal-Spain GBIF Mentoring project 2014](#)

The Portuguese Node of GBIF hosted the second meeting of the GBIF mentoring project France-Portugal-Spain, between the 28-30 of April at the Burnay Palace, Instituto de Investigação Científica Tropical (ICT), Lisbon.

1 year ago

## News from node



- [Workshop sobre a Partilha de Dados Científicos sobre Biodiversidade em Angola](#)  
10 hours ago
- [Inquérito sobre aptidão dos dados GBIF para modelação da distribuição de espécies](#)  
4 days ago
- [Mais materiais disponíveis em Português](#)  
6 days ago
- [Publicação do Relatório Anual de 2014 do GBIF](#)  
1 week ago
- [Lançado o pré-anúncio à apresentação de propostas BID para África](#)  
1 month ago
- [Publicada a tradução portuguesa do manual Princípios sobre a Qualidade de Dados](#)



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## Uses of GBIF in scientific research

Peer-reviewed research citing GBIF as a data source, with at least one author from Portugal.

Extracted from the [Mendeley GBIF Public Library](#).

## List of publications

CHEFAOUI, R., ASSIS, J., DUARTE, C., SERRÃO, E., 2015.

### Large-Scale Prediction of Seagrass Distribution Integrating Landscape Metrics and Environmental Factors: The Case of *Cymodocea nodosa* (Mediterranean–Atlantic)

*Estuaries and Coasts*.

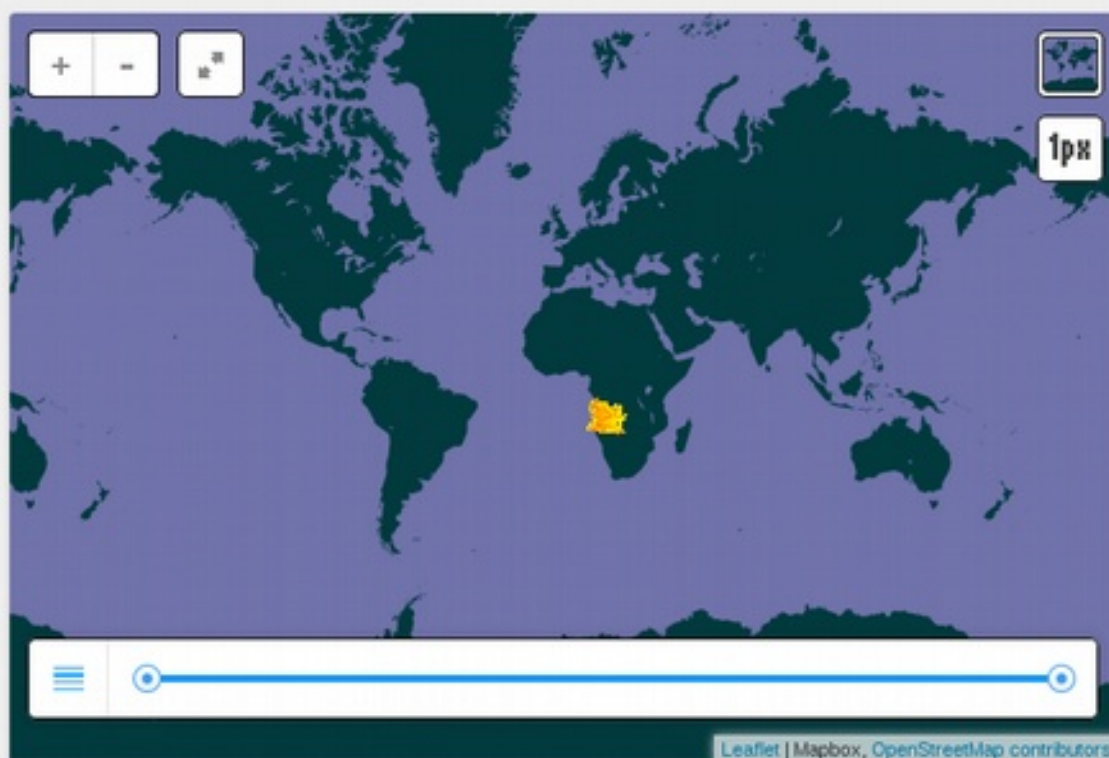
Understanding the factors that affect seagrass meadows encompassing their entire range of distribution is challenging yet important for their conservation. Here, we predict the realized and potential distribution for the species *Cymodocea nodosa* modelling its environmental niche in the Mediterranean and adjacent Atlantic coastlines. We use a combination of environmental variables and landscape metrics to perform a suite of predictive algorithms which enables examination of the niche and find suitable habitats for the species. The most relevant environmental variables defining the distribution of *C. nodosa* were sea surface temperature (SST) and salinity. We found suitable habitats at SST from 5.8 °C to 26.4 °C and salinity ranging from 17.5 to 39.3. Optimal values of mean winter wave height ranged between 1.2 and 1.5 m, while waves higher than 2.5 m seemed to limit the presence of the species. The influence of nutrients and pH, despite having weight on the models, was not so clear in terms of ranges that confine the distribution of the species. Landscape metrics able to capture variation in the coastline enhanced significantly the accuracy of the models, despite the limitations caused by the scale of the study. We found potential suitable areas not occupied by the seagrass mainly in coastal regions of North Africa and the Adriatic coast of Italy. The present study describes the realized and potential distribution of a seagrass species, providing the first spatial model of the factors that can be shaping the environmental niche of *C. nodosa* throughout its range. We identified the variables controlling its





# Angola

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[Summary](#)[Data About](#)[Data Publishing](#)[News and Events](#)[Publications](#)

## Data about Angola

- [393 occurrence datasets](#) with [155,377 records](#).
- No checklist datasets.
- No metadata-only datasets relevant to Angola.
- [25 countries](#) contribute data about Angola.

[View records shown on the map](#)

### JOIN THE COMMUNITY

[Join GBIF Community Site](#)  
[Sign up to GBits newsletter](#)

### WHO'S PARTICIPATING

[Countries](#)  
[Organizations](#)

### KEY DOCUMENTS

[Disclaimer](#)  
[Data use agreement](#)

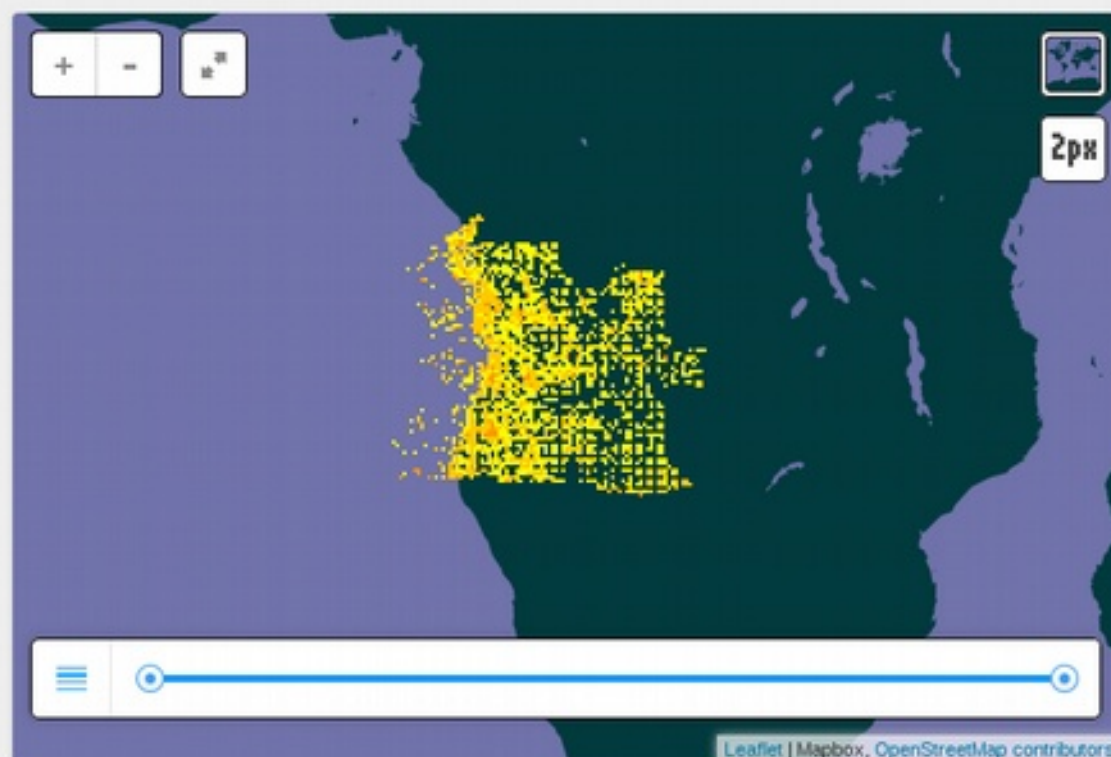
### FOR DEVELOPERS

[Portal API](#)  
[Developer blog](#)



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## Largest occurrence datasets about Angola

- [IICT Herbario LISC](#)

49,267 occurrences in Angola out of 69,994 (70.34%)

## Largest occurrence datasets about Angola

- [IICT Herbário LISC](#)  
43,267 occurrences in Angola out of 68,304 (63.34%).
- [Natural History Museum \(London\) Collection Specimens](#)  
12,561 occurrences in Angola out of 2,401,794 (0.52%).
- [Bibliographic records of Angola mammals](#)  
9,879 occurrences in Angola out of 9,879 (100%).
- [AMNH Bird Collection](#)  
7,644 occurrences in Angola out of 833,709 (0.92%).
- [Fishbase](#)  
6,936 occurrences in Angola out of 931,045 (0.74%).
- [LISU Herbario Angola](#)  
6,040 occurrences in Angola out of 6,065 (99.59%).

## Countries, territories or islands publishing data about Angola

- [Portugal](#) 62,299 occurrences, 23.43% geo-referenced.
- [United States](#) 59,842 occurrences, 36.68% geo-referenced.
- [United Kingdom](#) 26,805 occurrences, 41.67% geo-referenced.
- [Germany](#) 12,428 occurrences, 85.30% geo-referenced.
- [South Africa](#) 7,113 occurrences, 61.34% geo-referenced.
- [Netherlands](#) 5,457 occurrences, 55.71% geo-referenced.

[View all 25 results...](#)

## Data trends

### Records by kingdom

The number of available records categorized by kingdom. "Unknown"

### Species count by kingdom

The number of species with available occurrence records, categorized by

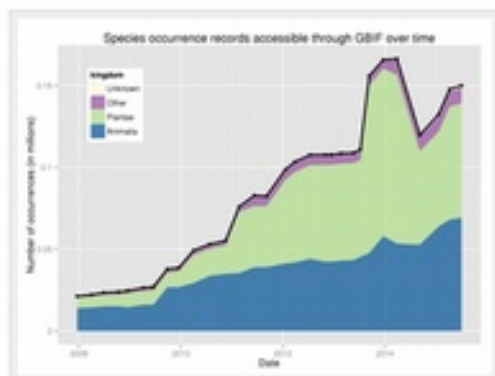
You can explore more data trends, allowing you to visualize data mobilization over time through



## Data trends

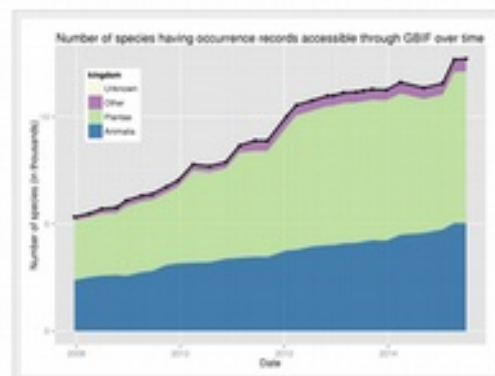
### Records by kingdom

The number of available records categorized by kingdom. "Unknown" includes records with taxonomic information that cannot be linked to available taxonomic checklists.



### Species count by kingdom

The number of species with available occurrence records, categorized by kingdom.



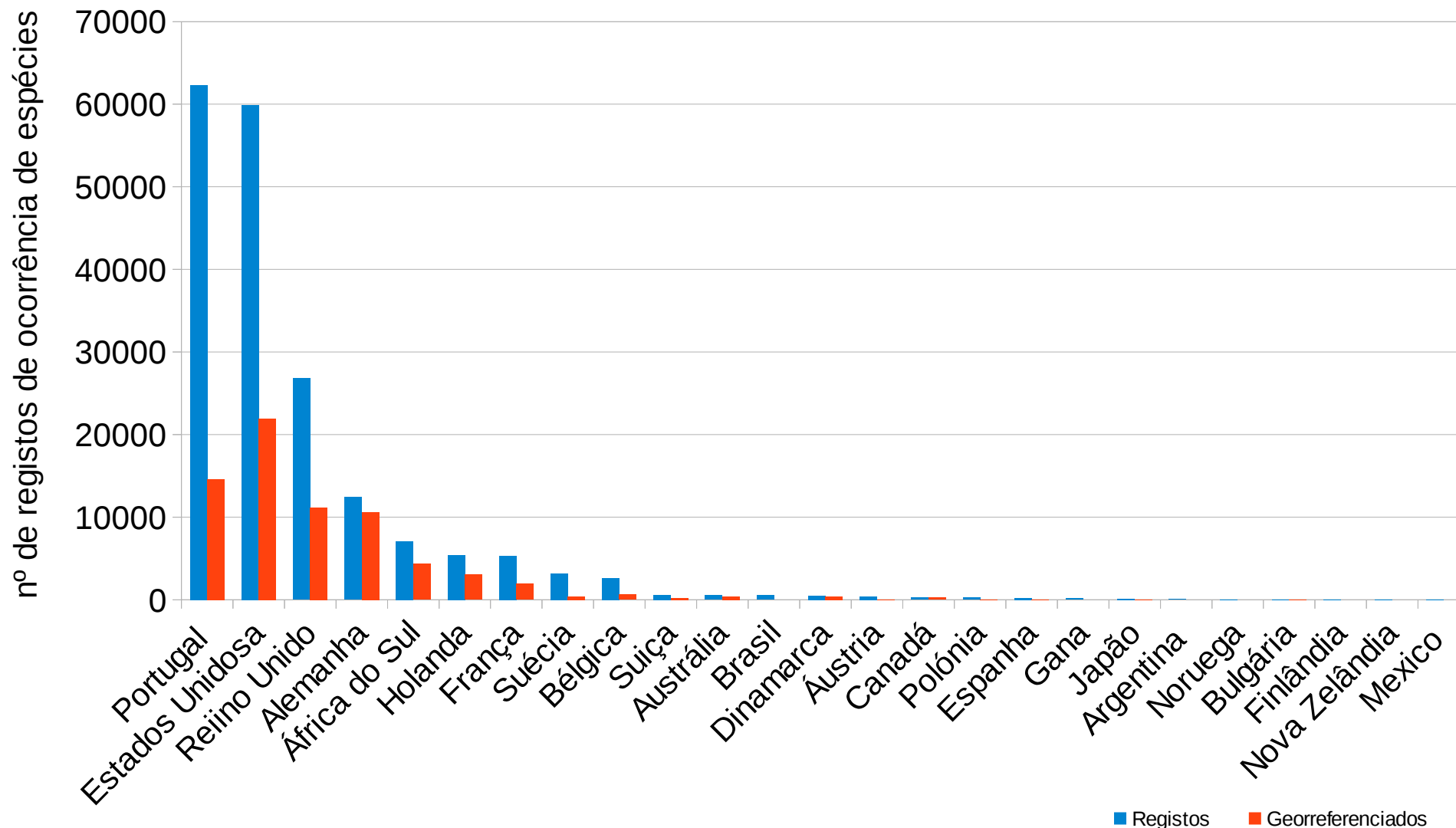
You can explore more data trends, allowing you to visualize data mobilization over time through different lenses – by kingdom, by types of record, by completeness and precision of the data, and much more:

[View more trends](#)

## Occurrence located in Angola

	Specimen		Observation		Fossil		Living		All (incl. "unknown")	
	Records	Georef.	Records	Georef.	Records	Georef.	Records	Georef.	Records	Georef.
Animalia	54119	16746	14558	5768	401	250	0	0	73367	31362
Archaea	0	0	0	0	0	0	0	0	0	0
Bacteria	56	1	0	0	0	0	10	0	67	1
Chromista	146	131	788	788	2	0	1	0	543	525
Fungi	809	97	14	0	0	0	7	0	831	97
Plantae	70390	13388	78	68	17	0	10	1	71082	13446

# 25 países publicadores de dados



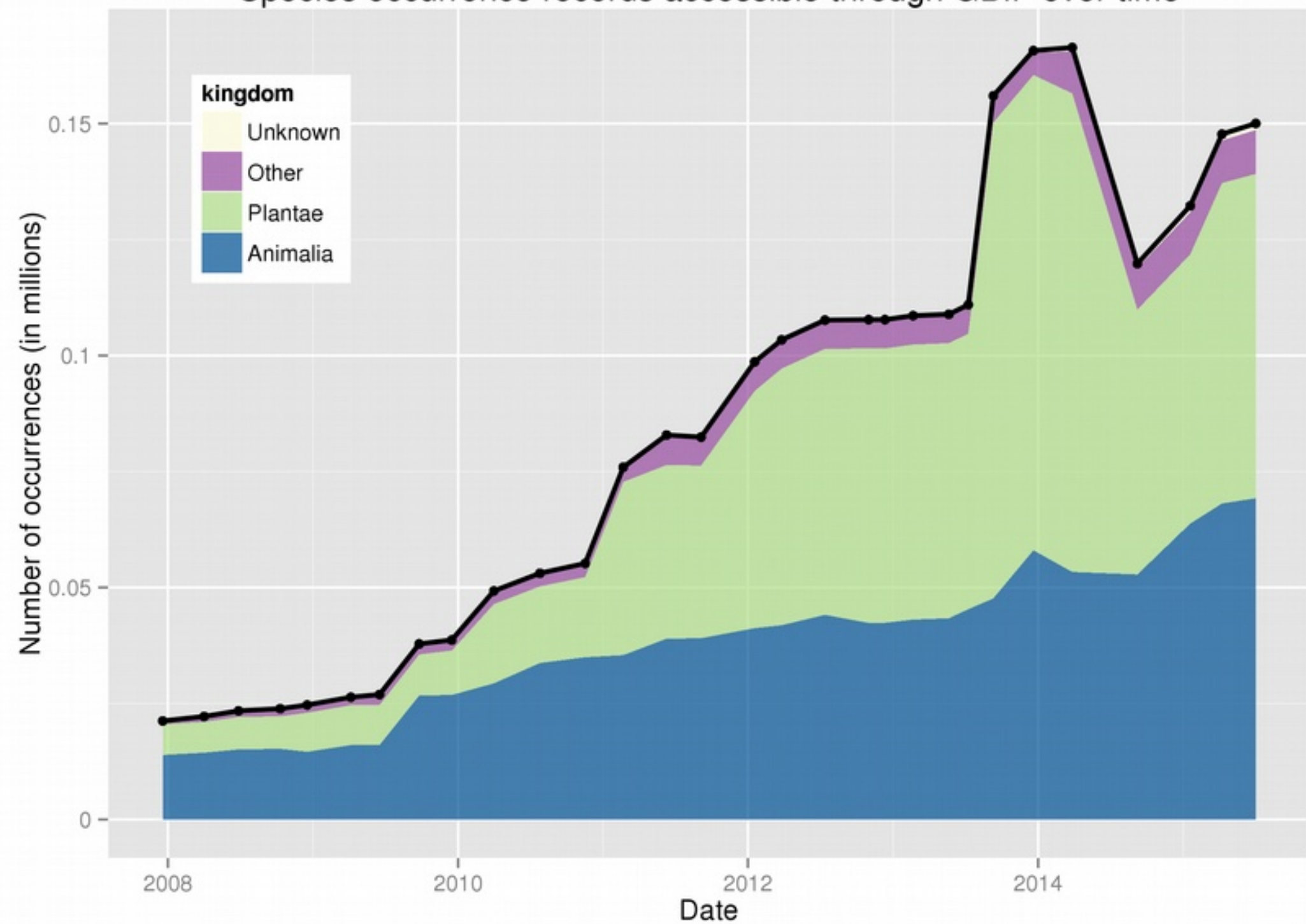
393 Conjuntos de dados



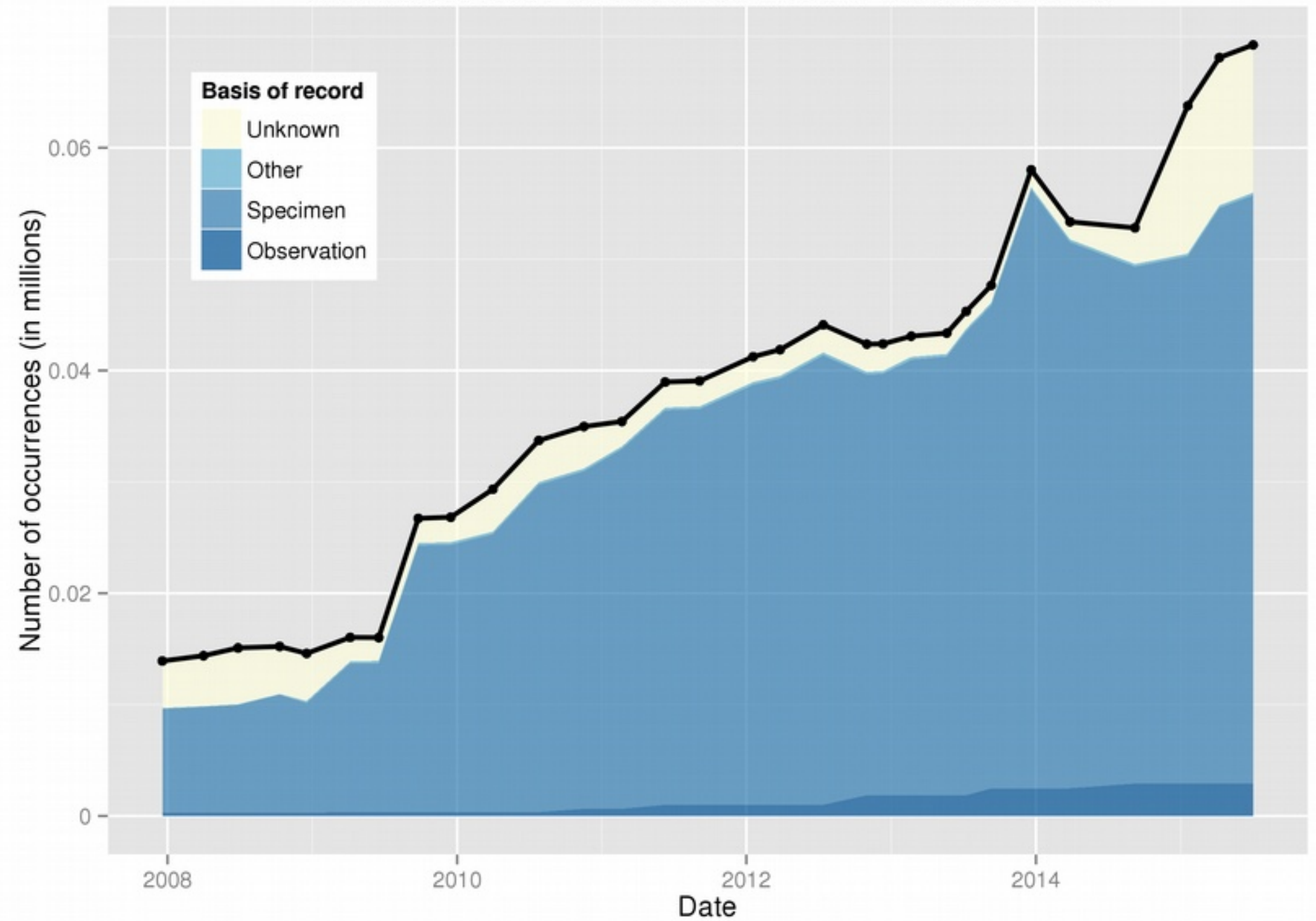
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Plantae	70390	13388	78	68	17	0	10	1	71082	13446
Protozoa	35	3	15970	15970	24	9	0	0	8044	7997
Viruses	0	0	0	0	0	0	0	0	0	0
Unknown	19	11	0	0	0	0	0	0	20	11
Total	126744	30573	31858	23044	454	261	28	1	155377	53872

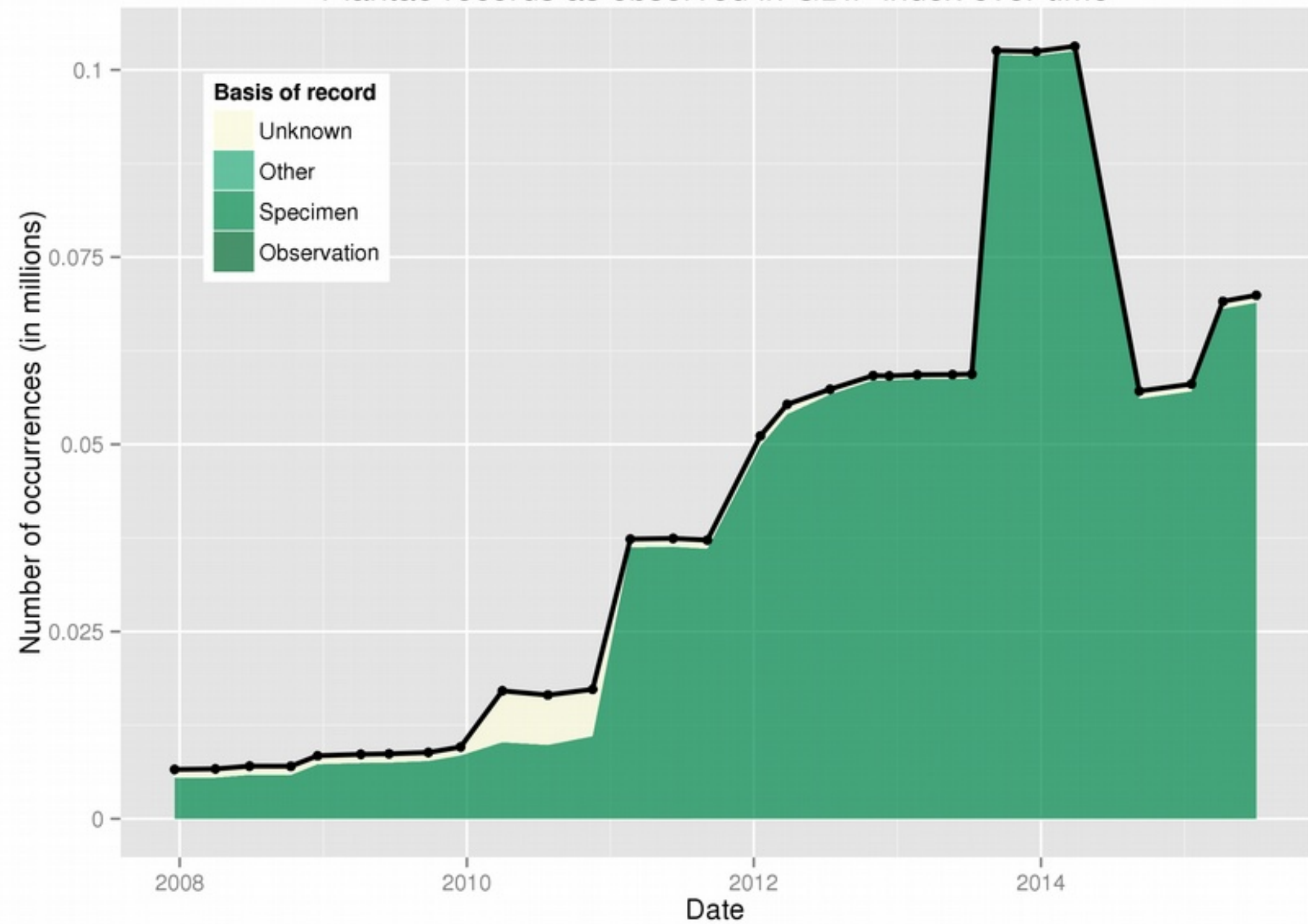
Species occurrence records accessible through GBIF over time



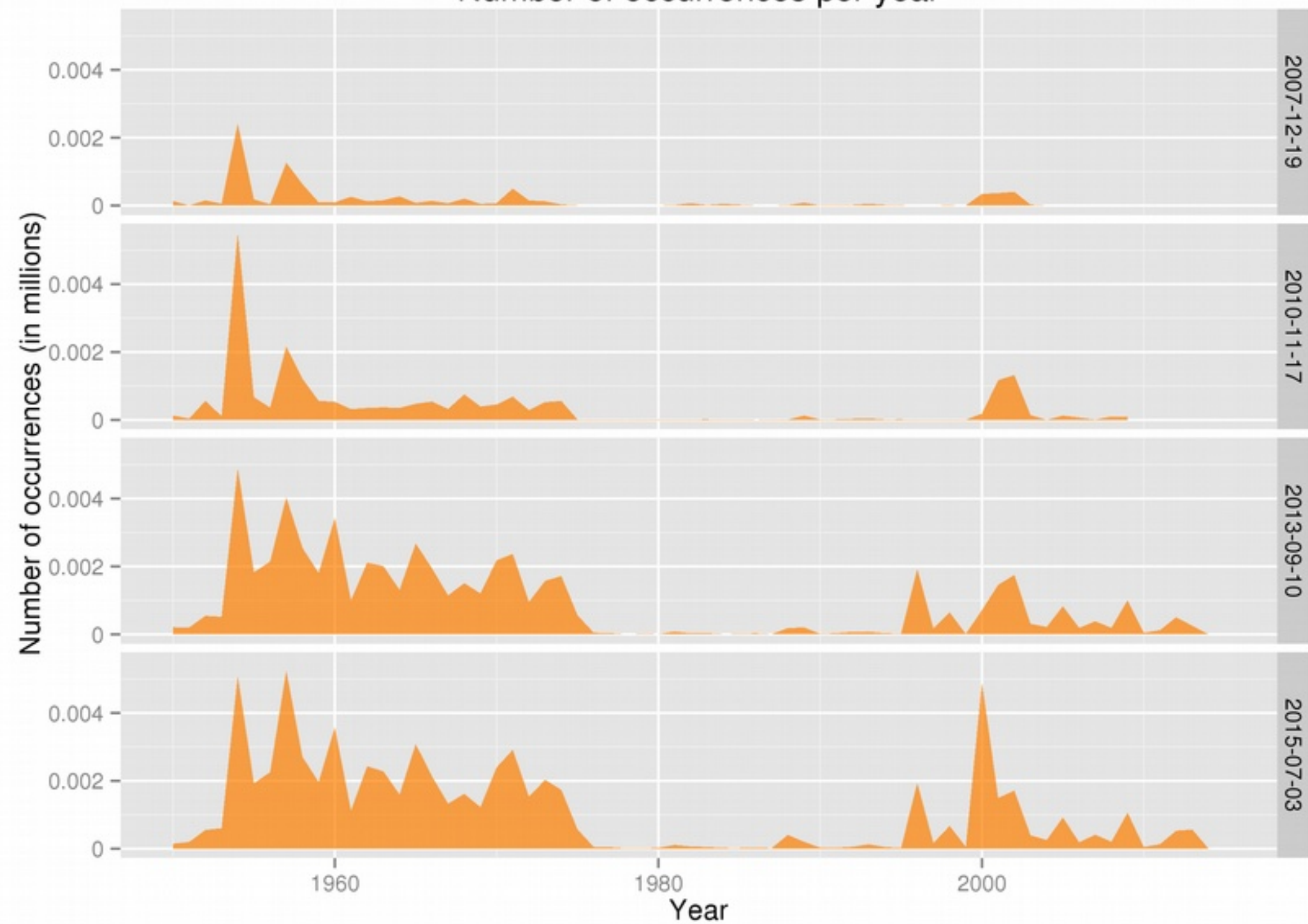
Animalia records as observed in GBIF index over time



Plantae records as observed in GBIF index over time



Number of occurrences per year





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ROMEIRAS, M., FIGUEIRA, R., DUARTE, M., BEJA, P., DARBYSHIRE, I., 2014.

### [Documenting biogeographical patterns of African timber species using herbarium records: a conservation perspective based on native trees from Angola.](#)

*PloS one* 9(7) e103403.

In many tropical regions the development of informed conservation strategies is hindered by a dearth of biodiversity information. Biological collections can help to overcome this problem, by providing baseline information to guide research and conservation efforts. This study focuses on the timber trees of Angola, combining herbarium (2670 records) and bibliographic data to identify the main timber species, document biogeographic patterns and identify conservation priorities. The study recognized 18 key species, most of which are threatened or near-threatened globally, or lack formal conservation assessments. Biogeographical analysis reveals three groups of species associated with the enclave of Cabinda and northwest Angola, which occur primarily in Guineo-Congolian rainforests, and evergreen forests and woodlands. The fourth group is widespread across the country, and is mostly associated with dry forests. There is little correspondence between the spatial pattern of species groups and the ecoregions adopted by WWF, suggesting that these may not provide an adequate basis for conservation planning for Angolan timber trees. Eight of the species evaluated should be given high conservation priority since they are of global conservation concern, they have very restricted distributions in Angola, their historical collection localities are largely outside protected areas and they may be under increasing logging pressure. High conservation priority was also attributed to another three species that have a large proportion of their global range concentrated in Angola and that occur in dry forests where

# Documenting Biogeographical Patterns of African Timber Species Using Herbarium Records: A Conservation Perspective Based on Native Trees from Angola

Maria M. Romeiras<sup>1,2\*</sup>, Rui Figueira<sup>1,3</sup>, Maria Cristina Duarte<sup>1,3</sup>, Pedro Beja<sup>3</sup>, Iain Darbyshire<sup>4</sup>

**1** Tropical Botanical Garden, Tropical Research Institute (ICT), Lisbon, Portugal, **2** Centre for Biodiversity, Functional and Integrative Genomics (BIOFIG), Faculty of Sciences, University of Lisbon, Lisbon, Portugal, **3** CIBIO - Research Center in Biodiversity and Genetic Resources/InBIO, University of Porto, Vairão, Portugal, **4** Royal Botanic Gardens, Kew, Richmond, United Kingdom

## Abstract

In many tropical regions the development of informed conservation strategies is hindered by a dearth of biodiversity information. Biological collections can help to overcome this problem, by providing baseline information to guide research and conservation efforts. This study focuses on the timber trees of Angola, combining herbarium (2670 records) and bibliographic data to identify the main timber species, document biogeographic patterns and identify conservation priorities. The study recognized 18 key species, most of which are threatened or near-threatened globally, or lack formal conservation assessments. Biogeographical analysis reveals three groups of species associated with the enclave of Cabinda and northwest Angola, which occur primarily in Guineo-Congolian rainforests, and evergreen forests and woodlands. The fourth group is widespread across the country, and is mostly associated with dry forests. There is little correspondence between the spatial pattern of species groups and the ecoregions adopted by WWF, suggesting that these may not provide an adequate basis for conservation planning for Angolan timber trees. Eight of the species evaluated should be given high conservation priority since they are of global conservation concern, they have very restricted distributions in Angola, their historical collection localities are largely outside protected areas and they may be under increasing logging pressure. High

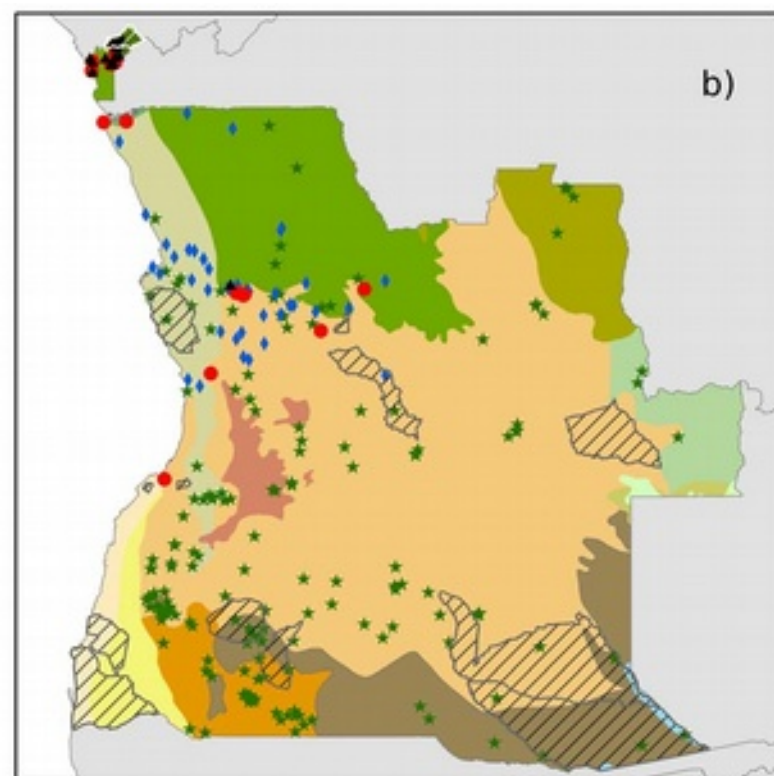


a)

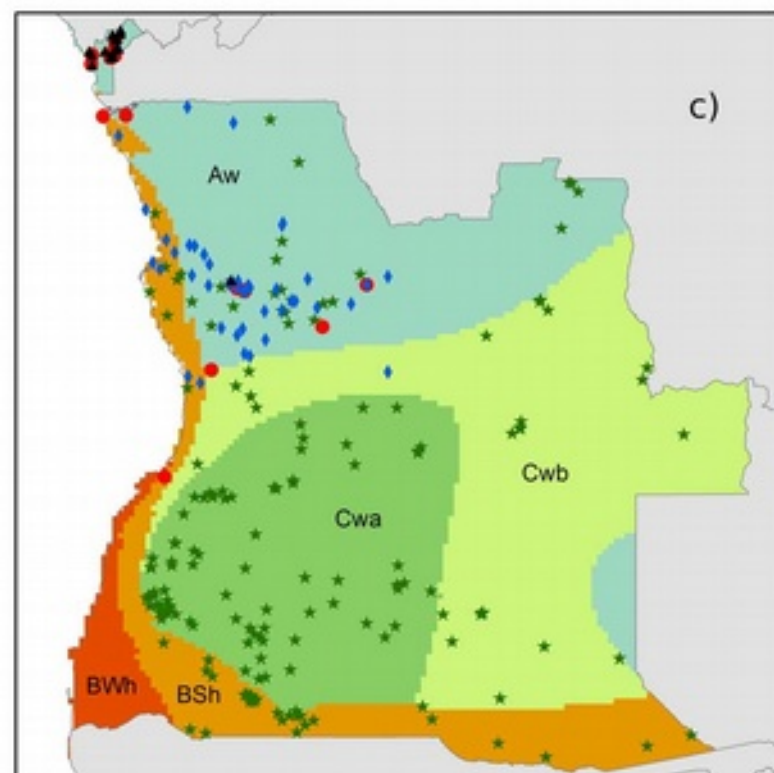
*Entandrophragma candollei**Terminalia superba**Milicia excelsa**Khaya ivorensis**Entandrophragma cylindricum**Gossweilerodendron balsamiferum**Oxystigma oxyphyllum**Entandrophragma angolense**Entandrophragma utile**Guibourtia arnoldiana**Bobgunnia fistuloides**Pterocarpus tinctorius**Khaya anthotheca**Guibourtia coleosperma**Pterocarpus angolensis**Diospyros mespiliformis**Azelia quanzensis**Entandrophragma spicatum*

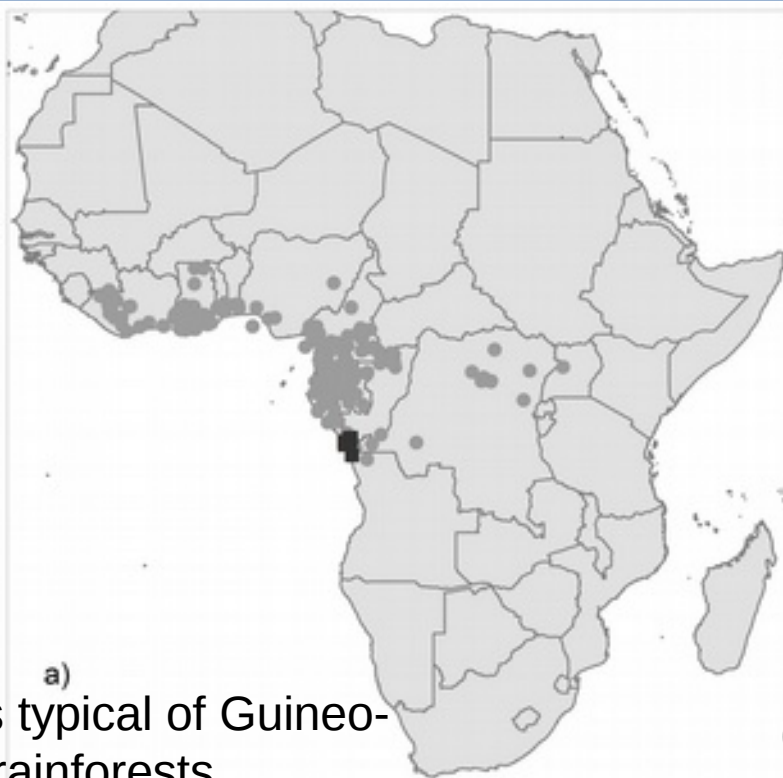
4 3 2 1 0

b)

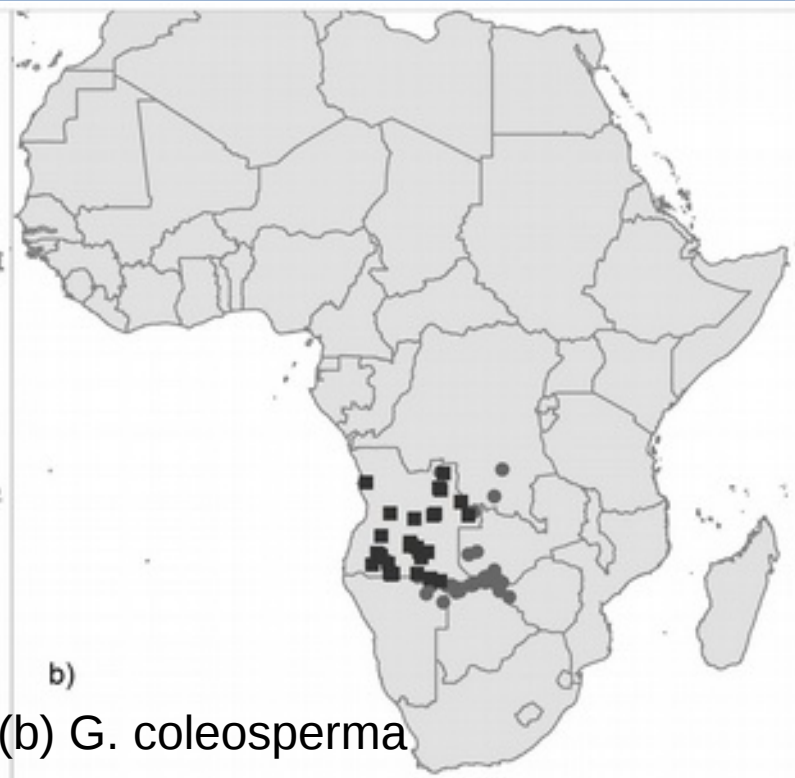


c)

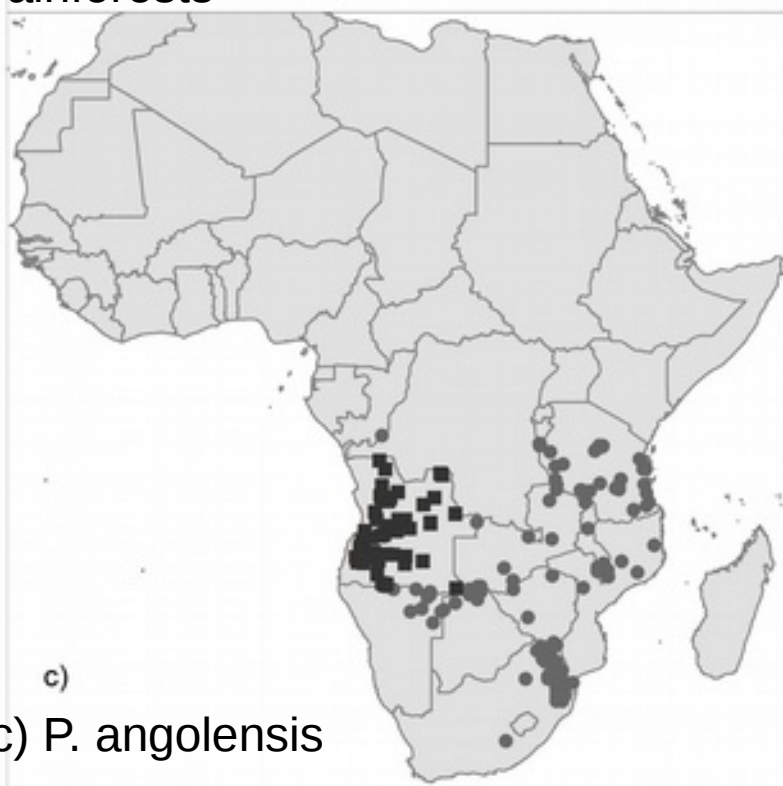




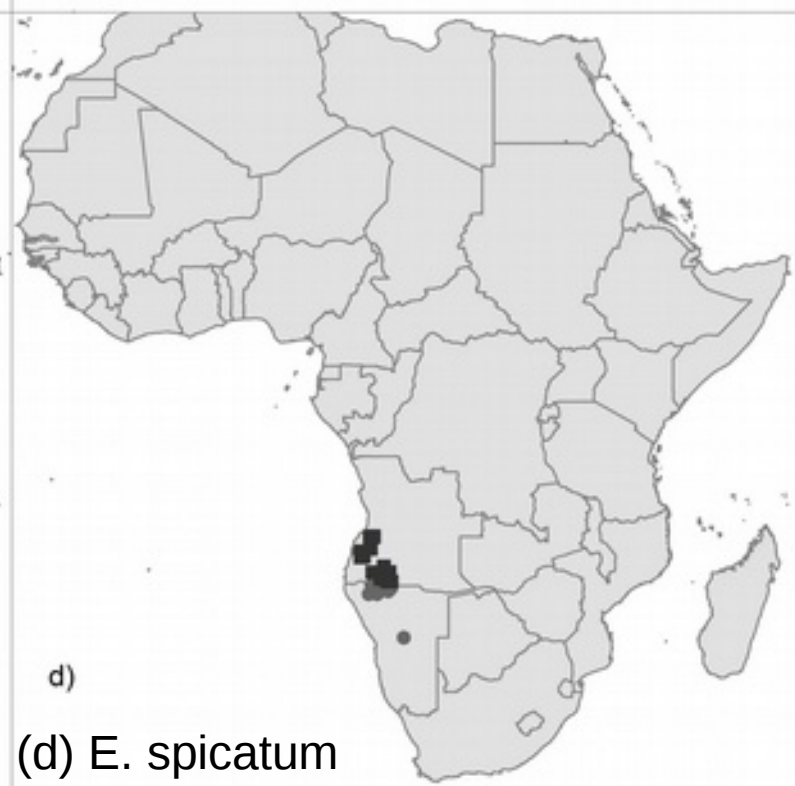
a)  
(a) Species typical of Guineo-Congolian rainforests



b)  
(b) *G. coleosperma*



c)  
(c) *P. angolensis*



d)  
(d) *E. spicatum*



# Mammal Review



Mammal Review ISSN 0305-1838

## REVIEW

### **A biogeographical regionalization of Angolan mammals**

Patrícia RODRIGUES *Instituto de Investigação Científica Tropical, R. da Junqueira, 86 – 1º, 1300-344 Lisboa, Portugal, and CIBIO/InBio – Centro de Investigação em Biodiversidade e Recursos Genéticos, Universidade do Porto, Campus Agrário de Vairão, 4485-661 Vairão, Portugal.*

*E-mail: patriciarodrigues@cibio.up.pt*

Rui FIGUEIRA *Instituto de Investigação Científica Tropical, R. da Junqueira, 86 – 1º, 1300-344 Lisboa, Portugal, and CIBIO/InBio – Centro de Investigação em Biodiversidade e Recursos Genéticos, Universidade do Porto, Campus Agrário de Vairão, 4485-661 Vairão, Portugal.*

*E-mail: rui.figueira@iict.pt*

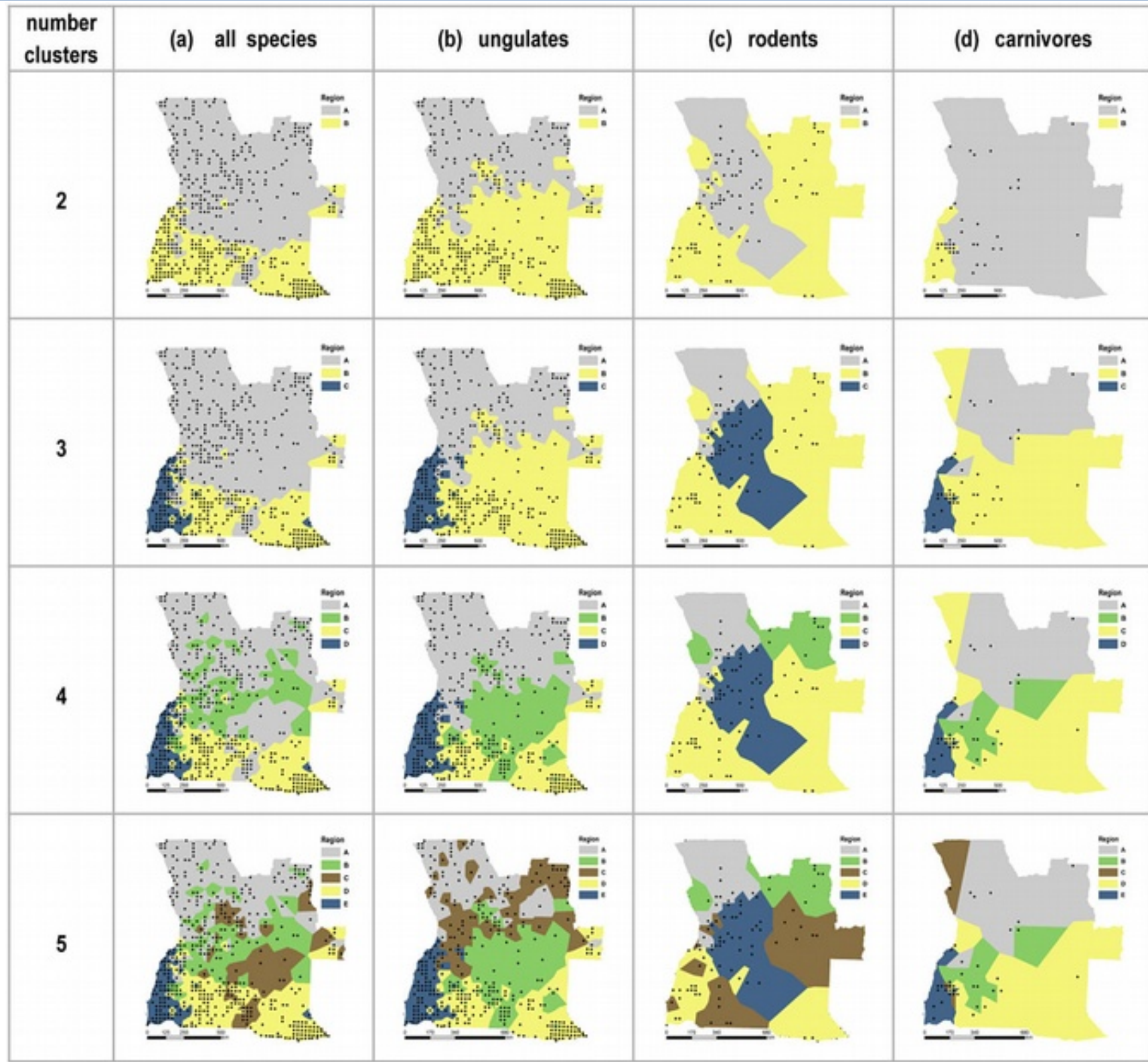
Pedro VAZ PINTO *CIBIO/InBio – Centro de Investigação em Biodiversidade e Recursos Genéticos, Universidade do Porto, Campus Agrário de Vairão, 4485-661 Vairão, Portugal, Departamento de Biologia, Faculdade de Ciências, Universidade do Porto, Rua do Campo Alegre s/n. 4169-007 Porto, Portugal, ISCED – Instituto Superior de Ciências da Educação da Huíla, Rua Sarmiento Rodrigues, Lubango, Angola, and The Kissama Foundation, Rua Joaquim Capango nº49, 1ºD, Luanda, Angola.*

*E-mail: pedrovazpinto@gmail.com*

Miguel B. ARAÚJO *Departamento de Biogeografía y Cambio Global, Museo Nacional de Ciencias Naturales, CSIC, Calle José Gutiérrez Abascal, 2, 28006 Madrid, Spain, CIBIO/InBio, Universidade de Évora, Largo dos Colegiais, 7000 Évora, Portugal, and Center for Macroecology, Evolution and Climate, Natural History Museum of Denmark, University of Copenhagen, Universitetsparken 15, DK-2100 Copenhagen, Denmark. E-mail: maraujo@mncn.csic.es*

Pedro BEJA\* *CIBIO/InBio – Centro de Investigação em Biodiversidade e Recursos Genéticos, Universidade do Porto, Campus Agrário de Vairão, 4485-661 Vairão, Portugal, Departamento de Biologia, Faculdade de Ciências, Universidade do Porto, Rua do Campo Alegre s/n. 4169-007 Porto,*



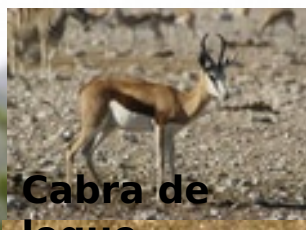




**Búfalo vermelho**



**Antílope salta rochas**



**Cabra de leque**



**Órix**

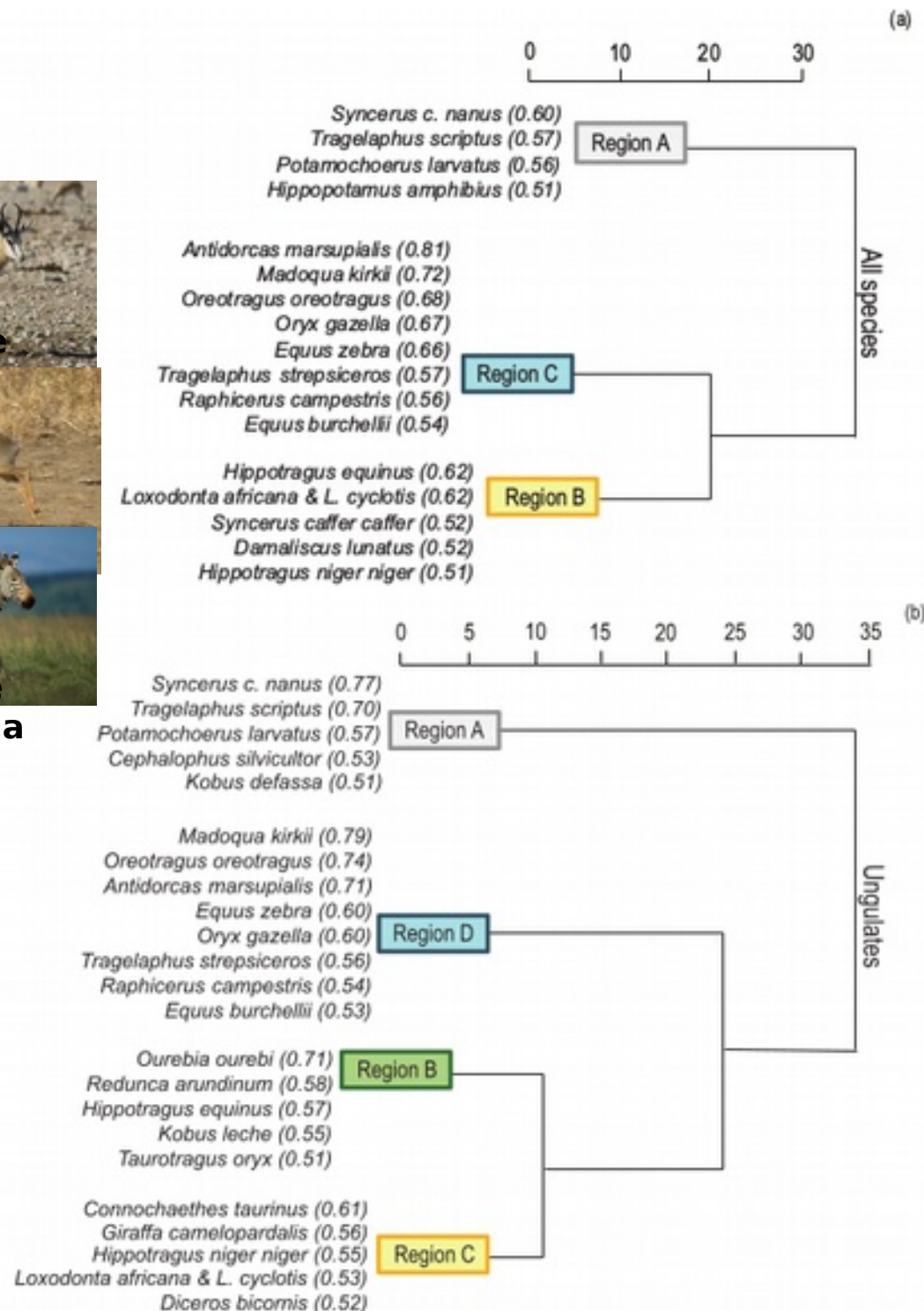


**Dik-dik**



**Zebra de montanha**

**Fig. 3.** Dendrograms of the dissimilarity for the overall dataset (all species; a) and for the ungulate species dataset (b), and the biotic regions, built with Ward's Minimum Variance clustering with  $\beta_{sim}$  index of dissimilarity. Indicator species are shown for each biotic region, and their IndVal for each biotic region is given in parentheses. The top horizontal axis represents  $\beta_{sim}$  dissimilarity values.



Obrigado!

Rui Figueira  
Instituto de Investigação Científica Tropical  
Nó Portugêses do GBIF  
Rua da Junqueira, 86-1º  
1300-344 Lisboa, Portugal  
rui.figueira@iict.pt  
www.gbif.pt



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