

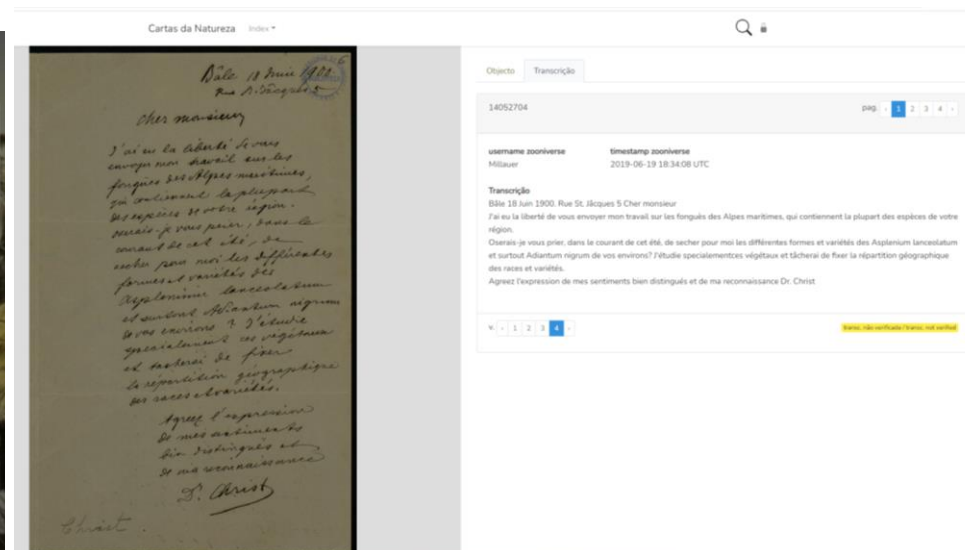
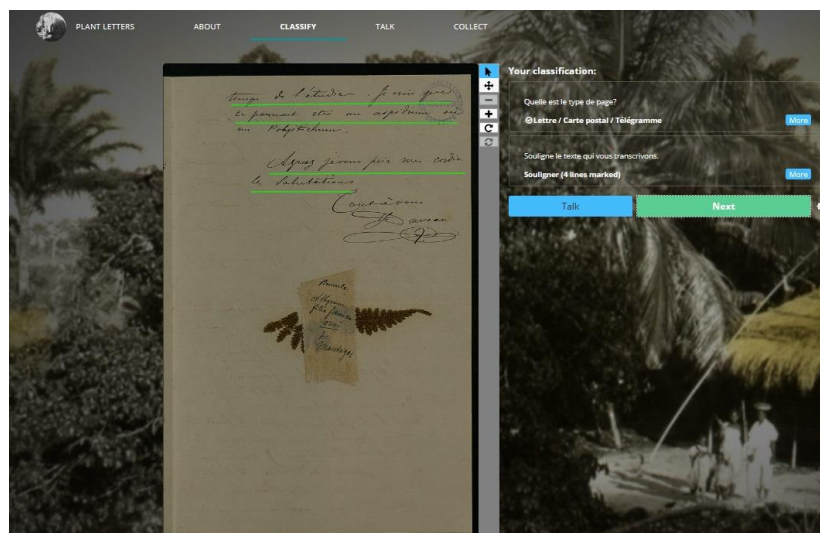
# The importance of historical biodiversity data transcribed from botanical garden archives: results from the citizen science project 'Plant Letters' on Zooniverse

Ana Margarida Silva

[anamargarida.silva@uc.pt](mailto:anamargarida.silva@uc.pt)

Joaquim Santos

António Carmo Gouveia



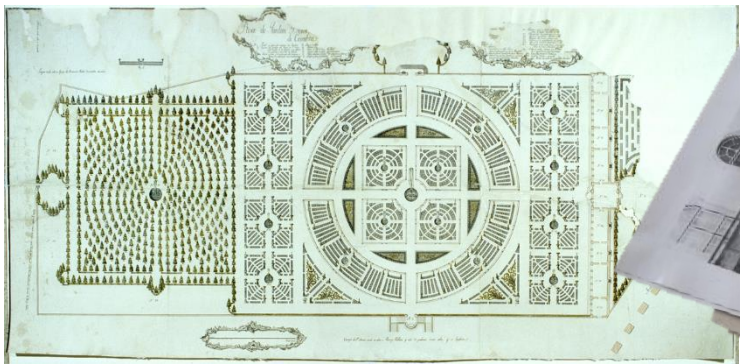
▪ Symposium on Scientific Archives | June 27-28, 2023



## Botany in UC | archive

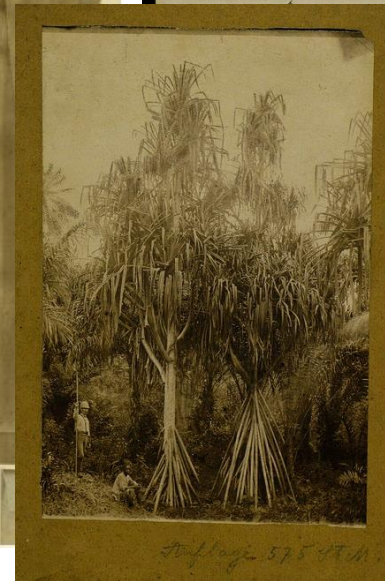
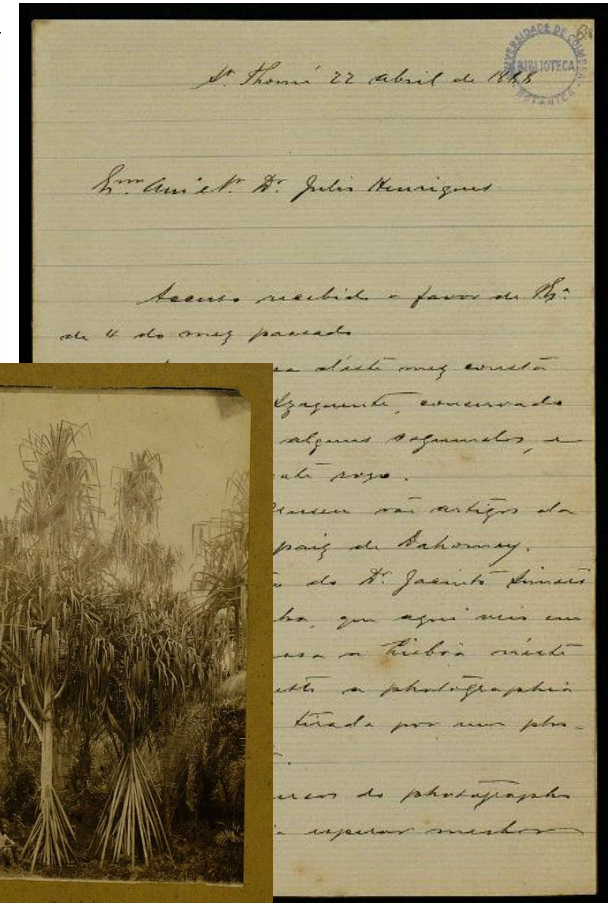
The Botany Archive was born from the activity of the Faculty of Natural Philosophy and the Botanic Garden of the University of Coimbra, from 1772.

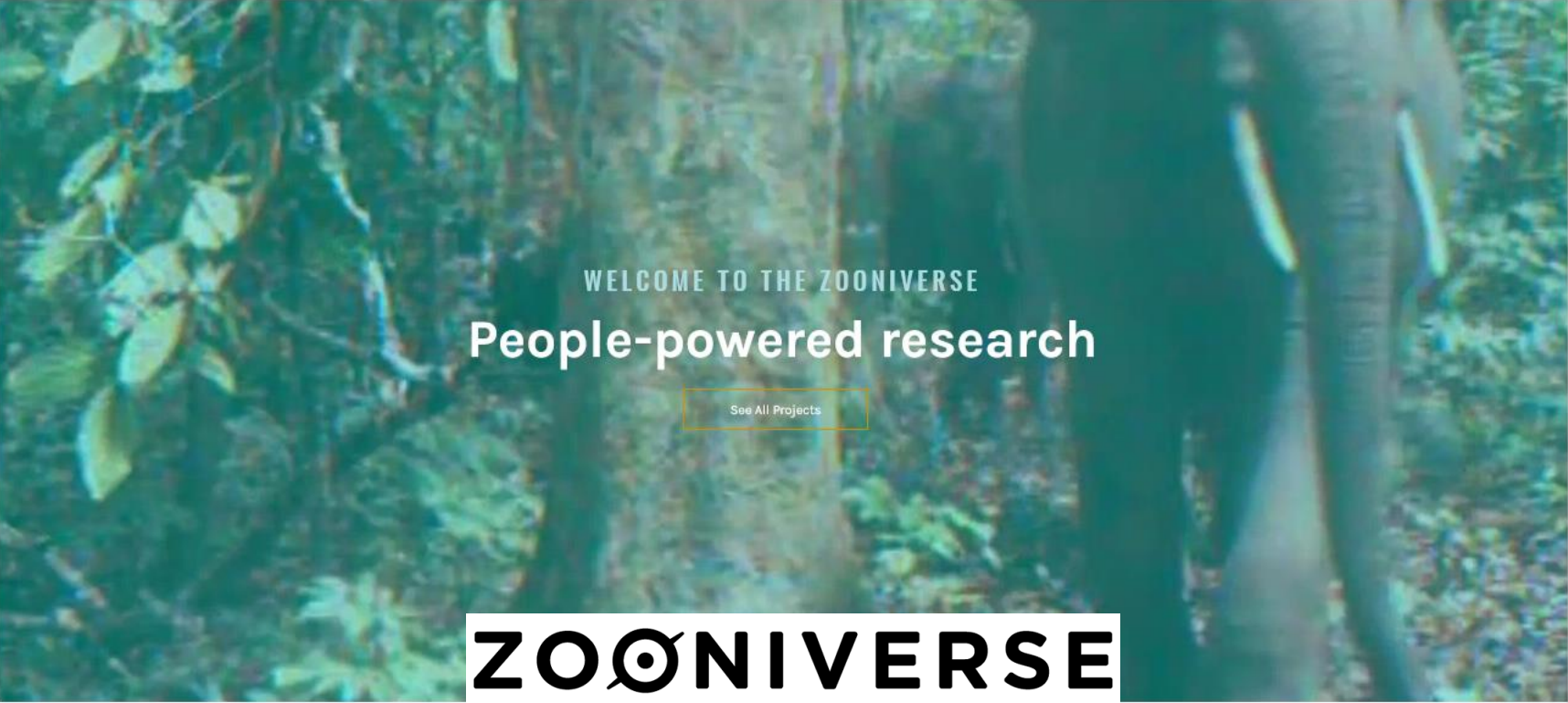
Covering mainly the 19<sup>th</sup> and 20<sup>th</sup> centuries, the Botany Archive includes textual, photographic and filmic information from the Botanic Garden (part in the UC Archive), the Botanical Institute (DCV), the Botanical Museum (today in the UC Science Museum) and UC Herbarium.



# Botanic Archive and Botanic Collections

*Pandanus thomensis* Henr. (pau-esteira)





WELCOME TO THE ZOONIVERSE  
People-powered research

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# ZOONIVERSE

## FEATURED PROJECTS



SEABIRDWATCH



PELICAMS



NEST QUEST GO: WAXWINGS & CROSSBILLS

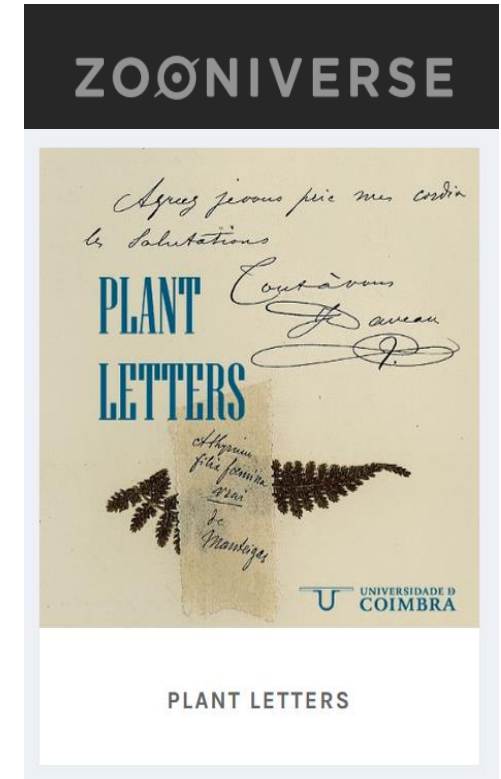


SEABIRD SOUNDSCAPES

# Plant Letters | Zooniverse

## DATA TRANSCRIPTION

- stages of the scientific processes of collecting, classifying and taxonomy of plants;
- historical locations of plants, distribution areas and abundance of species;
- records of the circulation of biological material (plant and seed exchanges);
- participation of local assistants and indigenous knowledge systems
- reconstruct the path of herbarium specimens and museum objects in the UC's natural history collections;
- analyze the networks of botanical knowledge production.

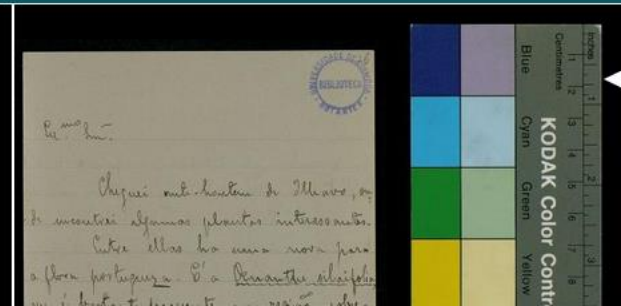
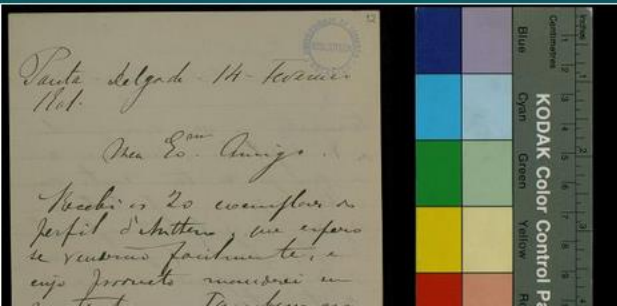




Coming Soon: NEW SETS OF LETTERS!

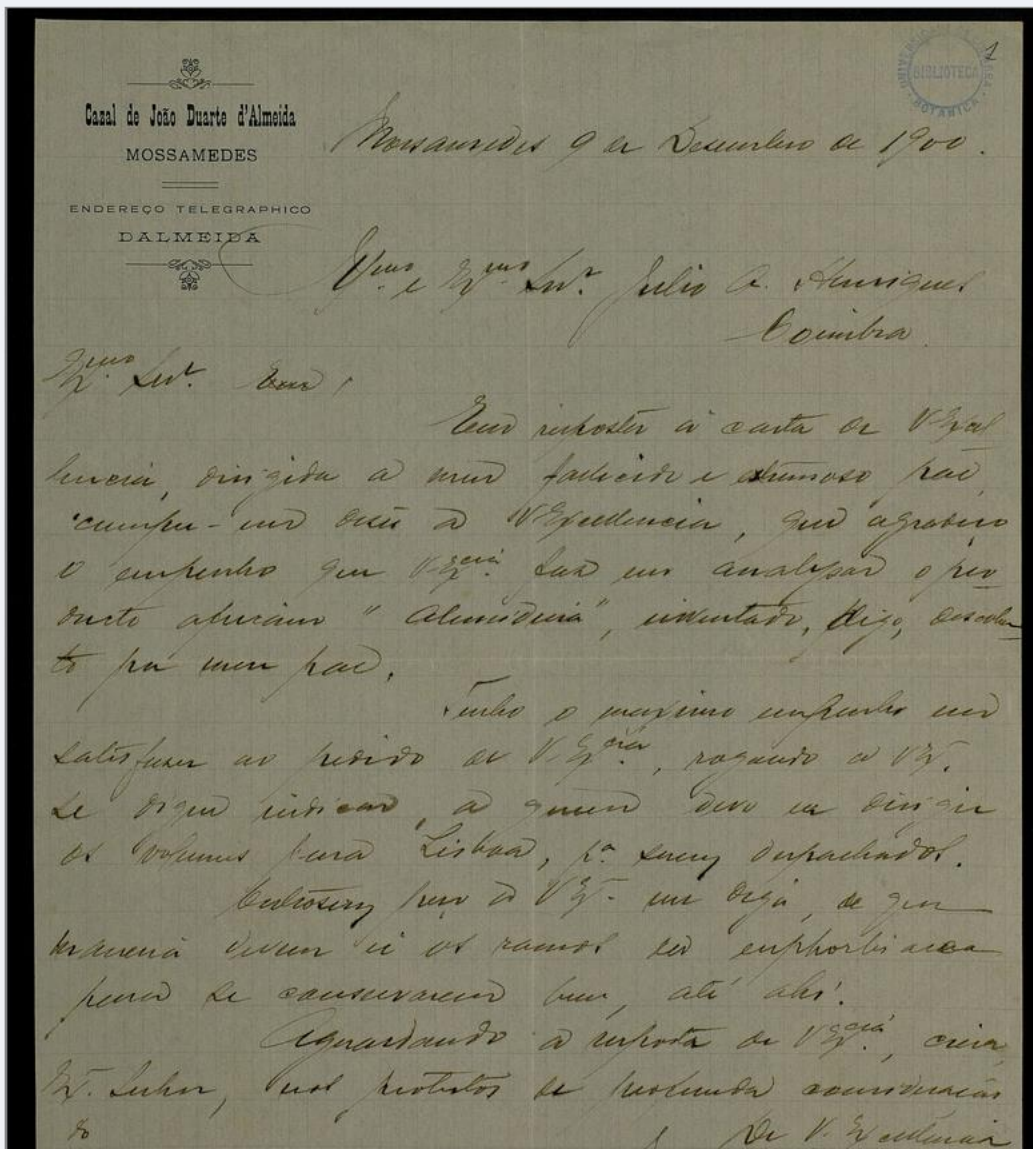
Help us find plant species,  
locations and people hidden in XIX  
century handwritten letters!

[Learn more](#)



No one is talking about **Plant Letters** right now.

[Join in](#)



## TASK

## TUTORIAL

Sublinhe a frase a transcrever

Sublinhar 0 drawn

NEED SOME HELP WITH THIS TASK?

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FIELD GUIDE



Universidade do Porto - Faculdade de Ciências

SECÇÃO DE BOTANICA



Eu. <sup>mo</sup> Lur.

Ando actualmente com a revisão dos graphi-  
dias, dos lichenes, mas encontro certas dificuldades  
na determinação de algumas formas portuguesas.

Por favor, tente transcrever todas as palavras na linha que sublinhou.

na determinação de algumas formas portuguesas

deletion

insertion

unclear

OK



TASK

TUTORIAL

Sublinhe a frase a transcrever

Sublinhar

1 drawn

NEED SOME HELP WITH THIS TASK?

Back

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FIELD GUIDE



## Plant Letters | results

- 1018 documents [letters, postcards, multiple pages]
- 17 April 2019 - January 2021
- **1052 participants**
- **3,809,000 characters transcribed** [the King James Bible is ca. 3,116,480]
- **ca. 641,000 words**
- 32 documents (13%) without any transcribed character

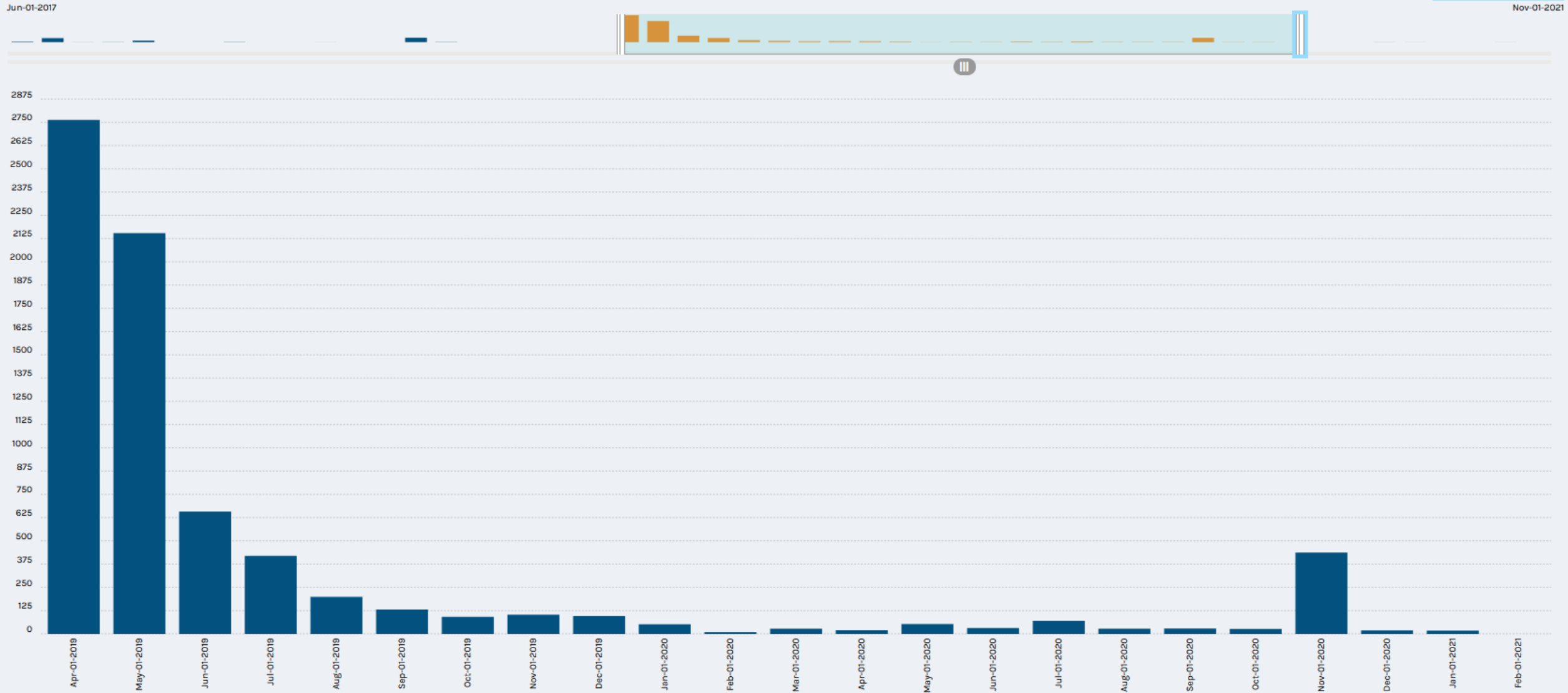


# Plant Letters | classifications

Classifications per  for

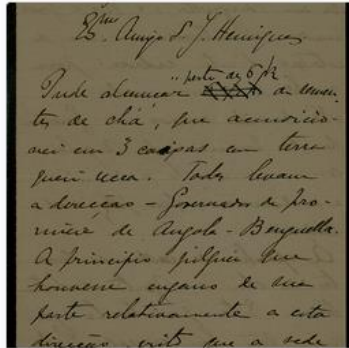
Current date range: Apr-01-2019 to Feb-01-2021

Reset date range



Angola

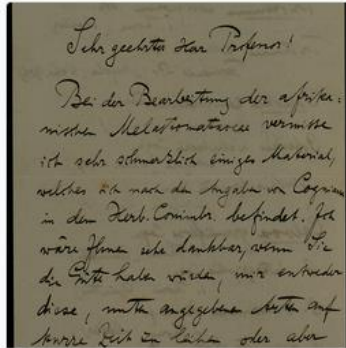
Pesquisar

 Pesquisar também nos metadados

14117596

transc. incompleta

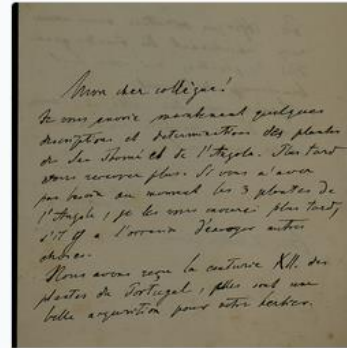
[Carta], 1900 Mar. 17, Ponta Delgada, a J. Henriques, [Coimbra] [manuscrito] / Bruno T. Carreiro.



14044831

transc. incompleta

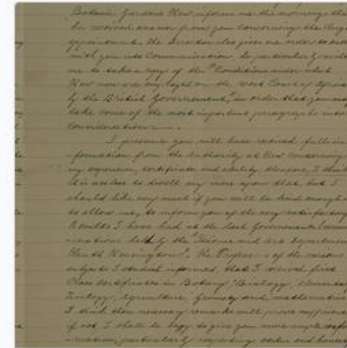
[Brief], 1897 Juli 17, Berlin, [an Júlio Henriques], Coimbra [manuscrito] / Ernest Gilg.



14052863

transc. incompleta

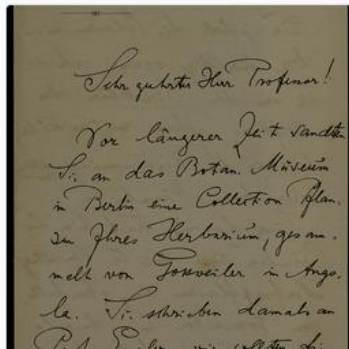
[Lettre], 1893 jan. 15, Berlin, [à Júlio Henriques], Coimbra [manuscrito] / A. Engler.



14052163

transc. incompleta

[Letter], 1898 Oct. 20, London, [to] Mr. J. A. Henriques, Coimbra [manuscrito] / John Gossweiler.



14044840

transc. incompleta

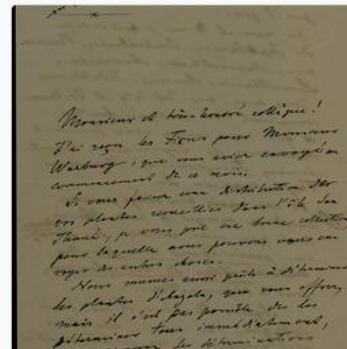
[Brief], 1905 März 13, Berlin, [an



14052838

transc. incompleta

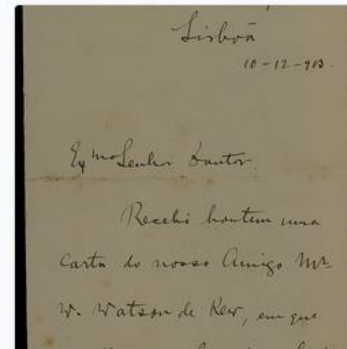
Postkarte, 1898 Jan. 31, Berlin,



14052855

transc. incompleta

[Lettre], 1904, mai. 20, Berlin, [à



14118054

transc. incompleta

[Carta], 1913 Dez. 10, Lisboa, [a

## Plant Letters | Open Access

### TRANSCRIPTOR

. document image transcription platform;

. allows viewing, searching and browsing the document information;

. analysis and correction of transcripts obtained from Zooniverse;

. expansion potential with other functionalities – research methods that include *thesaurus* and hierarchical trees (taxonomy, geography).



Zum Geschenk zu machen.  
Die fehlende Arten sind folgende:

- Tristemma albiflorum Bth.  
S. Thome (Moller)
- Tristemma littorale Bth.  
Fernando-Po, Angola (Wehr. 906)
- Osbeckia zambeziensis Cogn.  
Zambesi (Carvalho)
- Osbeckia Welwitschii Cogn.  
Angola (Wehr. n. 907.)
- Osbeckia hirsuta Cogn.  
Angola (Wehr. 905)
- Calvoa grandiflora Cogn.  
S. Thome (Quintus)
- C. integrifolia Cogn.  
S. Thome (Quintus)
- C. crassinoda Hook. f.  
S. Thome (Moller)
- C. sinuata Hook. f.  $\text{P}$   
Principe (Bartr)
- C. Henriquesii Cogn.  
S. Thome (Quintus)
- C. hirsuta Hook. S. Thome (Quintus)

Objecto Transcrição

14044831

pag. 1 2 3 4

username zooniverse

timestamp zooniverse

sedebat

2019-05-29 20:45:35 UTC

## Transcrição

zum Geschenk zu machen.

Die fehlenden Arten sind folgende:

Tristemma albiflorum Bth. St. Thome (Moller)

Tristemma littorale Bth. Fernando-Po, Angola (Wehr. 906)

Osbeckia zambeziensis Cogn.

Zambesi ([unclear]Carvalho[unclear])

Osbeckia welwitschii Cogn.

Angola (Wehr. n. 907.)

Osbeckia hirsuta Cogn.

Angola (Wehr. 905)

Calvoa grandiflora Cogn. S. Thomé ([unclear]/[unclear])

C. integrifolia Cogn. S. Thomé ([unclear]/[unclear])

Calvoa crassinoda Hook. f. S. Thomé (Moller)

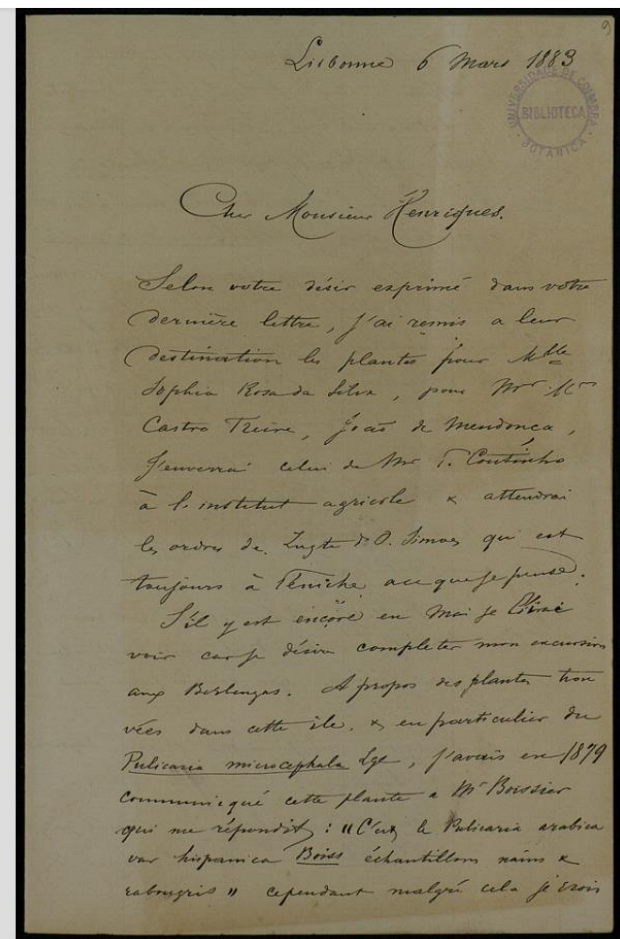
C. sinuata Hook. f. Principé ([unclear]Bartr.[unclear])

C. Henriquesii Cogn. S. Thomé ([unclear]/[unclear])

C. hirsuta Hook. f. s. Thomé ([unclear]/[unclear])

v. 1 2 3 4

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Objecto Transcrição

14052784

pag. 1 2 3 4

username zooniverse	timestamp zooniverse
Noharr	2019-11-02 09:10:30 UTC

## Transcrição

Lisbonne 6 mars 1883

Cher Monsieur Henriques.

Selon votre désir exprimé dans votre dernière letter, j'ai remis a leur destination les plantes pour Mlle.

Sophia Rosada Silva, pour Mr. [unclear]Mme[unclear] Castro [unclear]Treine[unclear] João de Mendonca,

J'enverrai celui de Mr. T. Coutinho à l'institut agricole & attendrai

[unclear]Simos[unclear]

qui est

[unclear]Lusita[unclear]

[unclear]de O.[unclear]

les ordres de

toujours a Péniche au que je pense..

[unclear]l'irae[unclear]

S'il y est encore en Mai je

voir car je désire compléter mon excursion

aux Berlengas. A propos des plantes trou

vées dans cette île, & en particulier du

*Pulicaria microcephala* Lge, j'avais en 1879

communiqué cette plante a Mr. Boissier

qui me répondit: "C'est le *Pulicaria arabica*

var *hispanica* Boiss échantillons nains &

rabougris" cependant malgré cela je crois

Objecto Transcrição

14052784

pag. 1 2 3 4

username zooniverse	timestamp zooniverse
not-logged-in-55ea08406223bf067e8e	2019-10-25 11:04:23 UTC

## Transcrição

Selon votre désir exprimé dans votre dernière lettre,

j'ai remis a leur destination les plantes pour

Mme Sophia Rosanda Silva, pour Mr Wm Castro T(?), Joao de Mendonça,

J'enverrai celui de Mr T. Coutinho à l'institut agricole

x attendrai les ordres de [unclear]Z(?) d'O. Simas[unclear] qui est toujours à [unclear]Téniche[unclear] au que je pense.

S'il y est encore en Mai je [unclear][unclear] voir car je désire compléter mon excursion aux[unclear] Bestanges[unclear].

A propos des plantes trouvées dans cette île,

x en particulier du *Pulicaria microcephala* Lge,

j'avais en 1879 communiqué cette plante a Mr Boissier qui me répondit:

"C'est le *Pulicaria arabica* var *hispanica* Boiss échantillons nains x [unclear]rabrugris[unclear]"

ependant malgré cela je crois

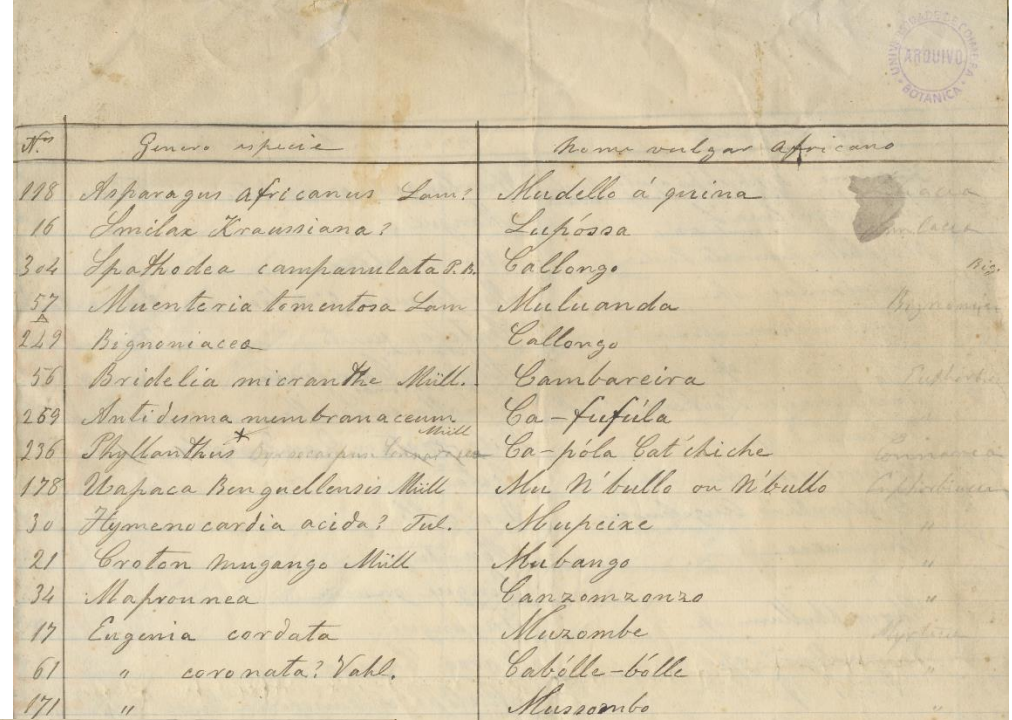
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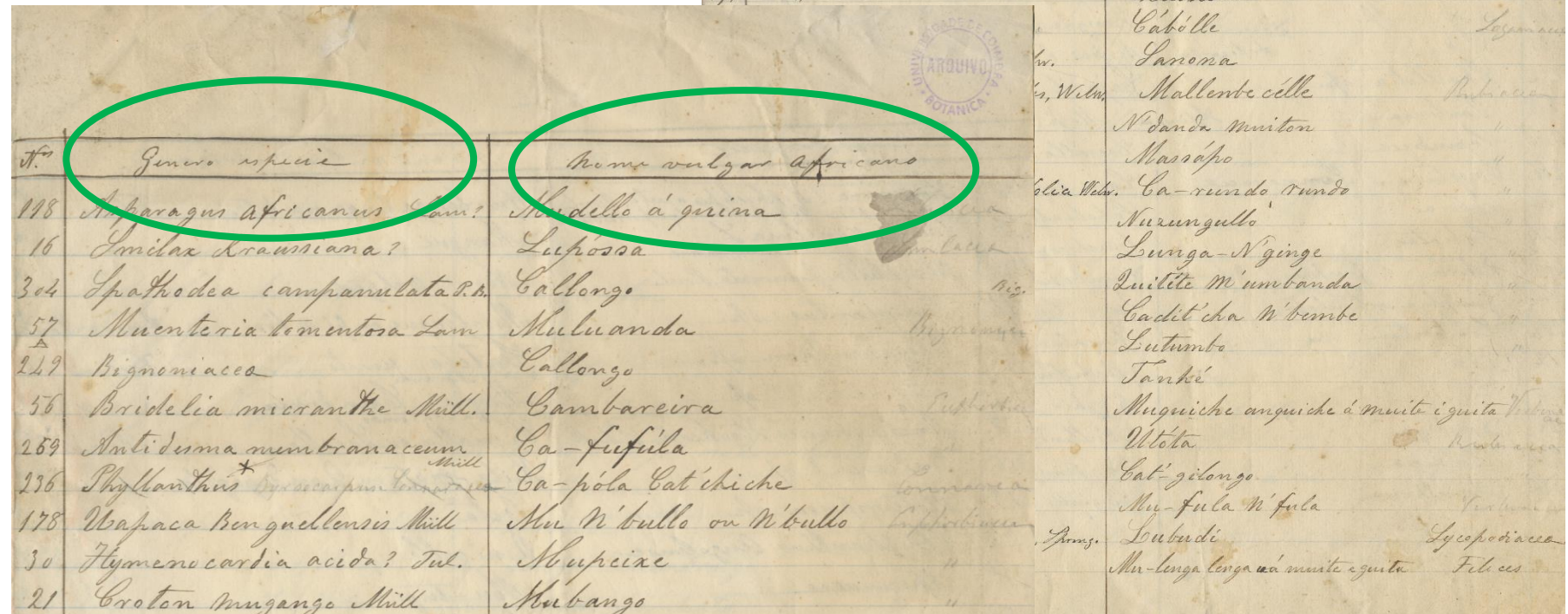


# Interesting topics

- Sharing archival heritage
- Decolonize archives and collections
- Participatory science in archives



no.	Genere specie	Nome vulgar africano
118	<i>Asparagus africanus</i> Lam?	Mudello à girina
16	<i>Smilax Kraussiana?</i>	Lufóssa
304	<i>Spathodea campanulata</i> R. & P.	Callongo
57	<i>Muenteria tomentosa</i> Lam	Muluanda
229	Bignoniaceae	Callongo
56	<i>Bridelia micrantha</i> Mill.	Cambareira
259	<i>Antidesma membranaceum</i> Mill	Ca-fufula
236	<i>Phyllanthus</i> <sup>*</sup>	Ca-pola Cat'chiche
178	<i>Uapaca Benguelensis</i> Mill	Mu Ni'bullo or Ni'bullo
30	<i>Hymenocardia acida?</i> Tul.	Mupeixe
21	<i>Croton mugango</i> Mill	Mubango
34	<i>Maprounea</i>	Canzomanzo
17	<i>Eugenia cordata</i>	Muxombe
61	" <i>coromata?</i> Vahl.	Cabille-bille
171	"	Muxombe



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21	<i>Croton mugango</i> Mill	Mubango

## EXPLORE

A base de dados 'Cartas da Natureza' contém a transcrição pesquisável do conteúdo de cartas do **Arquivo de Botânica** do Departamento de Ciências da Vida da Universidade de Coimbra (UC), feita por centenas de cidadãos-cientistas de todo o mundo, a partir da plataforma **Zooniverse**.

Esta documentação, produzida entre ca. 1870 e 1928, resulta da atividade do Instituto, Herbário e Jardim Botânico da UC e integra mais de 1100 correspondentes.

Entre outras pesquisas que poderá fazer, esta informação contém: localizações históricas de plantas, áreas de distribuição e abundância de espécies; registos de circulação de material biológico (trocas de plantas e sementes); processos científicos de colheita, classificação e taxonomia de plantas; dados para reconstrução do percurso de espécimes de herbário e objetos museológicos nas coleções de história natural da UC; vestígios das redes de produção de conhecimento botânico. Explore a informação a partir da caixa de pesquisa ou dos índices.

Todos estes dados, obtidos com a colaboração essencial e voluntária de cidadãos-cientistas, e importantes para a conservação presente e futura da biodiversidade, são aqui disponibilizados de acordo com os princípios da ciência aberta. Agradecemos a tod@s que participaram!

<https://cartasdanatureza.uc.pt/>

The database 'Plant Letters' makes available the searchable content of letters from the **Botany Archive** of the Department of Life Sciences of the University of Coimbra, transcribed by hundreds of citizen-scientists from all over the world, through the platform **Zooniverse**.

This documentation was produced between the 1870s and 1920s as part of the activity of the Institute, Herbarium and Botanic Garden of the University of Coimbra, with more than 1100 correspondents.

Among other things, you will find: historical records of plants, distribution areas and abundance of species; records of biological material circulation (exchanges of plants and seeds); scientific processes of plant collection, classification, and taxonomy; data for reconstructing the contexts of herbarium specimens and museum objects in the university natural history collections; traces of the international networks of botanical knowledge production. Explore the information through the search box or the indexes.

All this data, retrieved with the crucial collaboration of voluntary citizen scientists, and valuable for the present and future conservation of biodiversity, is provided here in compliance with the principles of open science. THANK YOU ALL!

temps de l'étudier. Je crois que  
ce pourrait être un aspidium ou  
un Polystichum.



Ayez je vous prie mes cordia  
les salutations

Coutà vous  
Je vous  
J.



# Plant Letters | team

Ana Margarida Dias da Silva [anamargarida.silva@uc.pt](mailto:anamargarida.silva@uc.pt)

António C. Gouveia (coordinator – [gouveia.ac@uc.pt](mailto:gouveia.ac@uc.pt))

Joaquim Santos

Joana Cabral Oliveira

Teresa Girão

Helena Freitas

M. Teresa Gonçalves

## Thank you!



CENTRO DE  
ECOLOGIA  
FUNCIONAL



UNIVERSIDADE D  
COIMBRA



BIODIVERSITY  
SAFEGUARD  
FOR  
SUSTAINABLE  
DEVELOPMENT



# ZOONIVERSE

*Aguez jevous prie mes cordin  
les salutations*

**PLANT  
LETTERS**

*Contavous  
de aveau  
P.*



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COIMBRA

PLANT LETTERS