

Package ‘specieshindex’

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Type Package

Title How (scientifically) popular is a given species?

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Description Finds the h-index of a species.

Depends R (\geq 3.5.0)

LazyData true

Imports rscopus,

wosr,
rbace,
taxize,
dplyr,
tidyr,
data.table,
httr,
XML,
ggplot2,
ggpubr

Suggests devtools,

httpptest,
knitr,
RefManageR,
rmarkdown,
roxygen2,
testthat (\geq 3.0.0)

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URL <https://github.com/jessicatytam/specieshindex>

RoxygenNote 7.1.2

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Allindices	<i>Index summary</i>
------------	----------------------

Description

This function returns a dataframe of the summary of all of the indices.

Usage

```
Allindices(data, genus, species, sourcetype = 0)
```

Arguments

- data The dataframe generated from [Fetch](#).
- genus Genus classification from the binomial name.
- species Species classification from the binomial name.
- sourcetype Source type; default is 0, enter 1 to add SourceType variables.

Value

A datarame of all of the indices in the package.

Examples

```
## Not run:
Woylie <- Fetch(db = "scopus",
               search = "tak",
               level = "species",
               genus = "Bettongia", species = "penicillata")

## End(Not run)
Allindices(Woylie,
           genus = "Bettongia", species = "penicillata",
           sourcetype = 0)
```

Count	<i>Search count of literature</i>
-------	-----------------------------------

Description

This function counts the total number of search results from Scopus, Web of Science, or BASE. A check will be conducted via [gnr_resolve](#) to validate the genus and species names.

Usage

```
Count(db, search, genus, species = NULL, synonyms, additionalkeywords)
```

Arguments

- db Literature database. Scopus ("scopus"), Web of Science ("wos"), or Base ("base").
- search Search fields. Title only ("t") or title, abstract, and keywords ("tak").
- genus Genus classification from the binomial name.
- species Species classification from the binomial name.
- synonyms Alternate species names.
- additionalkeywords Optional search terms.

Value

Search count of the genus or species with the given `genus` and/or `species`.

Examples

```
## Not run:
Count(db = "scopus",
      search = "t",
      genus = "Osphranter", species = "rufus")

## End(Not run)
## Not run:
Count(db = "scopus",
      search = "t",
      genus = "Osphranter", species = "rufus",
      synonyms = "Macropus rufus",
      additionalkeywords = "conserv*")

## End(Not run)
```

Fetch

Fetch citation records

Description

This function fetches citation information from Scopus, Web of Science, or BASE. Duplicates are to be removed by the user after fetching the data.

Usage

```
Fetch(
  db,
  search,
  genus,
  species = NULL,
  synonyms,
  additionalkeywords,
  language = 0
)
```

Arguments

<code>db</code>	Literature database. Scopus ("scopus"), Web of Science ("wos"), or Base ("base").
<code>search</code>	Search fields. Title only ("t") or title, abstract, and keywords ("tak").
<code>genus</code>	Genus classification from the binomial name.
<code>species</code>	Species classification from the binomial name.
<code>synonyms</code>	Alternate species names.
<code>additionalkeywords</code>	Optional search terms.
<code>language</code>	Language of the paper; default is 0, enter 1 to retrieve the variable. Scopus only.

Value

A dataframe of the genus' or species' citation records with the given **genus** and/or **species**.

Examples

```
## Not run:
Fetch(db = "scopus",
      search = "t",
      genus = "Osphranter", species = "rufus")

## End(Not run)
## Not run:
Fetch(db = "scopus",
      search = "t",
      genus = "Osphranter", species = "rufus",
      synonyms = "Macropus rufus",
      additionalkeywords = "conserv*")

## End(Not run)
```

getYear*Extract year*

Description

Extracts the year of each publication of the output from any of the Fetch functions and counts the number of publications each year.

Usage

```
getYear(data, genus, species)
```

Arguments

data	Output from any of the fetch function.
genus	Genus classification from the binomial name.
species	Species classification from the binomial name.

Value

A dataframe with the year and frequency of the publications

Examples

```
## Not run:
Woylie <- Fetch(db = "scopus",
               search = "tak",
               level = "species",
               genus = "Bettongia", species = "penicillata")

## End(Not run)
getYear(data = Woylie,
        genus = "Bettongia", species = "penicillata")
```

Koala

Koala.

Description

A dataset with some literature on Koalas

Usage

Koala

Format

A data frame :

citations number of cites
journal journal
authkeywords authkeywords
cover_date cover_date
cover_display_date cover_display_date
dc_creator dc_creator
dc_description dc_description
dc_identifier dc_identifier
description description
doi doi
eid eid
pii pii
prism_aggregationType prism_aggregationType
prism_eIssn prism_eIssn
prism_issn prism_issn
prism_pageRange prism_pageRange

prism_url prism_url
source_id source_id
subtype subtype
title title ...

Source

<http://www.diamondse.info/>

languages	<i>languages</i>
-----------	------------------

Description

A dataset with some literature on languages

Usage

languages

Format

A data frame :

language names of languages ...

Source

somewhere?

Platypus	<i>Platypus</i>
----------	-----------------

Description

A dataset with some literature on Platypus

Usage

Platypus

Format

A data frame :

citations number of cites

journal journal

authkeywords authkeywords

cover_date cover_date

cover_display_date cover_display_date

dc_creator dc_creator

dc_description dc_description

dc_identifier dc_identifier

description description

doi doi

eid eid

pii pii

prism_aggregationType prism_aggregationType

prism_eIssn prism_eIssn

prism_issn prism_issn

prism_pageRange prism_pageRange

prism_url prism_url

source_id source_id

subtype subtype

title title ...

Source

WOS

plotAllindices	<i>Index plot</i>
----------------	-------------------

Description

Plots the indices of a single species or combined.

Usage

plotAllindices(data)

Arguments

data The dataframe generated from [Allindices](#).

Value

ggplot

Examples

```
## Not run:
Woylie <- Fetch(db = "scopus",
               search = "tak",
               level = "species",
               genus = "Bettongia", species = "penicillata")
Quokka <- Fetch(db = "scopus",
               search = "tak",
               level = "species",
               genus = "Setonix", species = "brachyurus")
Platypus <- Fetch(db = "scopus",
                 search = "tak",
                 level = "species",
                 genus = "Ornithorhynchus", species = "anatinus")
Koala <- Fetch(db = "scopus",
              search = "tak",
              level = "species",
              genus = "Phascolarctos", species = "cinereus")

## End(Not run)
W <- Allindices(Woylie,
               genus = "Bettongia", species = "penicillata")
Q <- Allindices(Quokka,
               genus = "Setonix", species = "brachyurus")
P <- Allindices(Platypus,
               genus = "Ornithorhynchus", species = "anatinus")
K <- Allindices(Koala,
               genus = "Phascolarctos", species = "cinereus")
CombineSp <- dplyr::bind_rows(W, Q, P, K)
plotAllindices(CombineSp)
```

plotPub

*Publication plot***Description**

Plots the publication by year of a single species or combined.

Usage

```
plotPub(data)
```

Arguments

data The dataframe generated from [getYear](#).

Value

ggplot

Examples

```
## Not run:
Woylie <- Fetch(db = "scopus",
               search = "tak",
               level = "species",
               genus = "Bettongia", species = "penicillata")
Quokka <- Fetch(db = "scopus",
               search = "tak",
               level = "species",
               genus = "Setonix", species = "brachyurus")
Platypus <- Fetch(db = "scopus",
                 search = "tak",
                 level = "species",
                 genus = "Ornithorhynchus", species = "anatinus")
Koala <- Fetch(db = "scopus",
               search = "tak",
               level = "species",
               genus = "Phascolarctos", species = "cinereus")

## End(Not run)
extract_year_W <- getYear(data = Woylie,
                          genus = "Bettongia", species = "penicillata")
extract_year_Q <- getYear(data = Quokka,
                          genus = "Setonix", species = "brachyurus")
extract_year_P <- getYear(data = Platypus,
                          genus = "Ornithorhynchus", species = "anatinus")
extract_year_K <- getYear(data = Koala,
                          genus = "Phascolarctos", species = "cinereus")
Combine_pub <- rbind(extract_year_W, extract_year_Q, extract_year_P, extract_year_K)
plotPub(Combine_pub)
```

Quokka	<i>Quokka</i>
--------	---------------

Description

A dataset with some literature on Quokka

Usage

Quokka

Format

A data frame :

citations number of cites

journal journal

authkeywords authkeywords

cover_date cover_date

cover_display_date cover_display_date

dc_creator dc_creator

dc_description dc_description

dc_identifier dc_identifier

description description

doi doi

eid eid

pii pii

prism_aggregationType prism_aggregationType

prism_eIssn prism_eIssn

prism_issn prism_issn

prism_pageRange prism_pageRange

prism_url prism_url

source_id source_id

subtype subtype

title title ...

Source

WOS

SourceType	<i>Source type</i>
------------	--------------------

Description

This function calculates the total number of items for each document type.

Usage

SourceType(data)

Arguments

data The dataframe generated from [Fetch](#).

Value

A dataframe with each document and their counts.

Examples

```
## Not run:
Woylie <- Fetch(db = "scopus",
                search = "tak",
                level = "species",
                genus = "Bettongia", species = "penicillata")

## End(Not run)
SourceType(Woylie)
```

SpH5

Species h5 index

Description

This function calculates the h-index of a species in the past 5 years.

Usage

```
SpH5(data)
```

Arguments

data The dataframe generated from [Fetch](#).

Value

H5 index.

References

Suzuki, H. (2012). *Google Scholar Metrics for Publications*. Retrieved from <https://scholar.googleblog.com/2012/04/google-scholar-metrics-for-publications.html>.

Examples

```
## Not run:
Woylie <- Fetch(db = "scopus",
                search = "tak",
                level = "species",
                genus = "Bettongia", species = "penicillata")

## End(Not run)
SpH5(Woylie)
```

SpHAfterdate	<i>Species h-index with a given time frame</i>
--------------	--

Description

This function calculates the h-index using a given date up till the newest record.

Usage

```
SpHAfterdate(data, date)
```

Arguments

data	The dataframe generated from Fetch .
date	The lower limit of the timeframe.

Value

H-index of the given time period.

Examples

```
## Not run:
Woylie <- Fetch(db = "scopus",
               search = "tak",
               level = "species",
               genus = "Bettongia", species = "penicillata")

## End(Not run)
SpHAfterdate(Woylie, "2000-01-01")
```

SpHindex	<i>Species h-index</i>
----------	------------------------

Description

This function calculates the h-index of a species.

Usage

```
SpHindex(data)
```

Arguments

data	The dataframe generated from Fetch .
------	--

Value

H-index.

References

Bertoli-Barsotti, L. & Lando, T. (2015). On a formula for the h-index. *Journal of Informetrics*, 9(4), 762-776.

Hirsch, J. (2005). An index to quantify an individual's scientific research output. *Proceedings of the National Academy of Sciences of the United States of America*, 102(46), 16569-16572.

Examples

```
## Not run:
Woylie <- Fetch(db = "scopus",
               search = "tak",
               level = "species",
               genus = "Bettongia", species = "penicillata")

## End(Not run)
SpHindex(Woylie)
```

Spi10

Species i10 index

Description

This function calculates the i10 index of a species. i10 index counts all of the publications with 10 or more citations.

Usage

```
Spi10(data)
```

Arguments

data The dataframe generated from [Fetch](#).

Value

i10 index.

References

Cornell University (2019). *i10-index*. Retrieved from <https://guides.library.cornell.edu/c.php?g=32272&p=203393>.

Examples

```
## Not run:
Woylie <- Fetch(db = "scopus",
               search = "tak",
               level = "species",
               genus = "Bettongia", species = "penicillata")

## End(Not run)
Spi10(Woylie)
```

SpMindex

Species m-index

Description

This function calculates the m-index of species. M-index uses the h-index and divides it by the number of years of activity.

Usage

```
SpMindex(data)
```

Arguments

data The dataframe generated from [Fetch](#).

Value

M-index.

References

University of Pittsburgh (2019). *Research Impact and Metrics: Author metrics*. Retrieved from <https://pitt.libguides.com/bibliometricIndicators/AuthorMetrics>.

Examples

```
## Not run:
Woylie <- Fetch(db = "scopus",
               search = "tak",
               level = "species",
               genus = "Bettongia", species = "penicillata")

## End(Not run)
SpMindex(Woylie)
```

TotalCite	<i>Total citations</i>
-----------	------------------------

Description

This function calculates the total number of citations.

Usage

```
TotalCite(data)
```

Arguments

data The dataframe generated from [Fetch](#).

Value

A numerical value of the total number of citations.

Examples

```
## Not run:
Woylie <- Fetch(db = "scopus",
               search = "tak",
               level = "species",
               genus = "Bettongia", species = "penicillata")

## End(Not run)
TotalCite(Woylie)
```

TotalJournals	<i>Total journals</i>
---------------	-----------------------

Description

This function calculates the total number of journals.

Usage

```
TotalJournals(data)
```

Arguments

data The dataframe generated from [Fetch](#).

Value

An integer of the total number of journals.

Examples

```
## Not run:
Woylie <- Fetch(db = "scopus",
               search = "tak",
               level = "species",
               genus = "Bettongia", species = "penicillata")

## End(Not run)
TotalJournals(Woylie)
```

TotalPub	<i>Total publications</i>
----------	---------------------------

Description

This function calculates the total number of publications.

Usage

```
TotalPub(data)
```

Arguments

data The dataframe generated from [Fetch](#).

Value

An integer of the total number of publications.

Examples

```
## Not run:
Woylie <- Fetch(db = "scopus",
               search = "tak",
               level = "species",
               genus = "Bettongia", species = "penicillata")

## End(Not run)
TotalPub(Woylie)
```

Woylie	<i>Woylie</i>
--------	---------------

Description

A dataset with some literature on Woylie

Usage

Woylie

Format

A data frame :

citations number of cites

journal journal

authkeywords authkeywords

cover_date cover_date

cover_display_date cover_display_date

dc_creator dc_creator

dc_description dc_description

dc_identifier dc_identifier

description description

doi doi

eid eid

pii pii

prism_aggregationType prism_aggregationType

prism_eIssn prism_eIssn

prism_issn prism_issn

prism_pageRange prism_pageRange

prism_url prism_url

source_id source_id

subtype subtype

title title ...

Source

WOS

YearsPublishing	<i>Years since first publication</i>
-----------------	--------------------------------------

Description

The number of years since the first publication in relation to the species.

Usage

```
YearsPublishing(data)
```

Arguments

`data` The dataframe generated from [Fetch](#).

Value

Number of years.

Examples

```
## Not run:
Woylie <- Fetch(db = "scopus",
               search = "tak",
               level = "species",
               genus = "Bettongia", species = "penicillata")

## End(Not run)
YearsPublishing(Woylie)
```

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