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 (¿= 3.5.0)

LazyData true

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

Suggests devtools,
httptest,
knitr,
RefManageR,
rmarkdown,
roxygen2,
testthat (¿= 3.0.0)

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

RoxygenNote 7.1.2

VignetteBuilder knitr

Encoding UTF-8

Config/testthat/edition 3

R topics documented:

`Allindices` *Index summary*

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

```
data(Woylie)
Allindices(Woylie,
           genus = "genus_name", species = "species_name",
           sourcetype = 0)
```

`Count` *Search count of literature*

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, level, genus, species, 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").
`level`	Taxonomic level. Genus ("genus") or species ("species").
`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",
      level = "species",
      genus = "Osphranter", species = "rufus")

## End(Not run)
## Not run:
Count(db = "scopus",
      search = "t",
```

```
      level = "species",
      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,
  level,
  genus,
  species,
  synonyms,
  additionalkeywords,
  language = 0
)
```

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").
`level`	Taxonomic level. Genus ("genus") or species ("species").
`genus`	Genus classification from the binomial name.
`species`	Species classification from the binomial name.
`synonyms`	Alternate species names.
`additionalkeywords`	Optional search terms.
`language`	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",
      level = "species",
      genus = "Osphranter", species = "rufus")

## End(Not run)
## Not run:
Fetch(db = "scopus",
      search = "t",
      level = "species",
      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

```
getYear(data = Woylie,
        genus = "Bettongia", species = "penicillata")
```

plotAllindices *Index plot*

Description

Plots the indices of a single species or combined.

Usage

```
plotAllindices(data)
```

Arguments

data	The dataframe generated from Allindices.

Value

ggplot

Examples

```
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

```
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)
```

SourceType *Source type*

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

```
data(Woylie)
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

```
data(Woylie)
SpH5(Woylie)
```

SpHAfterdate *Species h-index with a given time frame*

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

```
data(Woylie)
SpHAfterdate(Woylie, "2000-01-01")
```

`SpHindex` *Species h-index*

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

```
data(Woylie)
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

```
data(Woylie)
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

```
data(Woylie)
SpMindex(Woylie)
```

`TotalCite` *Total citations*

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

```
data(Woylie)
TotalCite(Woylie)
```

TotalJournals *Total journals*

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

```
data(Woylie)
TotalJournals(Woylie)
```

TotalPub *Total publications*

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

```
data(Woylie)
TotalPub(Woylie)
```

`YearsPublishing` *Years since first publication*

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

```
data(Woylie)
YearsPublishing(Woylie)
```

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