

Package ‘specieshindex’

March 9, 2021

Type Package

Title How (scientifically) popular is a given species?

Version 0.1.1

Date 2021-01-19

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Description Finds the h-index of a species.

Depends R (≥ 3.5.0)

LazyData true

Imports rscopus,
taxize,
dplyr,
httr,
XML

Suggests testthat,
knitr,
roxygen2,
devtools,
rmarkdown,
ggplot2,
RefManageR

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

RoxygenNote 7.1.1

VignetteBuilder knitr

Encoding UTF-8

R topics documented:

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Allindices	<i>Index summary</i>
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Description

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

Usage

```
Allindices(data, genus, species)
```

Arguments

- data The dataframe generated from [FetchSpT](#) or [FetchSpTAK](#).
- genus Genus classification from the binomial name.
- species Species classification from the binomial name.

Value

A datarame of all of the indices in the package.

Examples

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

ARRatio	<i>Article:Review ratio</i>
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Description

This function calculates the percentage ratio of article:review.

Usage

```
ARRatio(data)
```

Arguments

data The dataframe generated from [FetchSpT](#) or [FetchSpTAK](#).

Value

A character value of the percentage ratio of the number of articles and reviews.

Examples

```
data(Woylie)
ARRatio(Woylie)
```

CountSpT	<i>Search count expanded - title only</i>
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Description

This function counts the total number of search results. It counts the publications with the binomial name in the title only. A check will be conducted via [gnr_resolve](#) to validate the genus and species names.

Usage

```
CountSpT(
  genus,
  species,
  synonyms,
  additionalkeywords,
  APIkey,
  datatype = "application/xml"
)
```

Arguments

<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>APIkey</code>	Scopus API key needed to access and download data from their database.
<code>datatype</code>	Formats the URL to be sent to the API. The default is "application/xml".

Value

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

References

Chamberlain, S. & Szocs, E. (2013). taxize - taxonomic search and retrieval in R. *F1000Research*, 2, 191.

Examples

```
## Not run:
CountSpT("Bettongia", "penicillata", APIkey = "myAPI")

#lower case letter in genus is also accepted and will return identical results

CountSpT("bettongia", "penicillata", APIkey = "myAPI")

## End(Not run)
## Not run:
CountSpT("Bettongia", "penicillata", "conserv*", "myAPI")

#lower case letter in genus is also accepted and will return identical results

CountSpT("bettongia", "penicillata", "conserv*", "myAPI")

## End(Not run)
```

CountSpTAK

Search count expanded - title, abstract, and keywords

Description

This function counts the total number of search results. It counts the publications with the binomial name in the title, abstract, and keywords. A check will be conducted via [gnr_resolve](#) to validate the genus and species names.

Usage

```
CountSpTAK(  
  genus,  
  species,  
  synonyms,  
  additionalkeywords,  
  APIkey,  
  datatype = "application/xml"  
)
```

Arguments

genus	Genus classification from the binomial name.
species	Species classification from the binomial name.
synonyms	Alternate species names.
additionalkeywords	Optional search terms.
APIkey	Scopus API key needed to access and download data from their database.
datatype	Formats the URL to be sent to the API. The default is "application/xml".

Value

Search count of the species with the given genus and species.

References

Chamberlain, S. & Szocs, E. (2013). taxize - taxonomic search and retrieval in R. *F1000Research*, 2, 191.

Examples

```
## Not run:  
CountSpTAK("Bettongia", "penicillata", APIkey = "myAPI")  
  
#lower case letter in genus is also accepted and will return identical results  
  
CountSpTAK("bettongia", "penicillata", APIkey = "myAPI")  
  
## End(Not run)  
## Not run:  
CountSpTAK("Bettongia", "penicillata", "conserv*", "myAPI")  
  
#lower case letter in genus is also accepted and will return identical results  
  
CountSpTAK("bettongia", "penicillata", "conserv*", "myAPI")  
  
## End(Not run)
```

FetchSpT

Fetch data - title only

Description

This function fetches citation information from Scopus using genus and species name found in the title of the publications. Duplicates are removed after fetching the data.

Usage

```
FetchSpT(genus, species, synonyms, additionalkeywords, language = 0, APIkey)
```

Arguments

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.
APIkey	Scopus API key needed to access and download data from their database.

Value

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

Examples

```
## Not run:
FetchSpT("Bettongia", "penicillata", APIkey = "myAPI")

#lower case letter in genus is also accepted and will return identical results

FetchSpT("bettongia", "penicillata", APIkey = "myAPI")

## End(Not run)
## Not run:
FetchSpT("Bettongia", "penicillata", "conserv*", "myAPI")

#lower case letter in genus is also accepted and will return identical results

FetchSpT("bettongia", "penicillata", "conserv*", "myAPI")

## End(Not run)
```

FetchSpTAK*Fetch data - title, abstract and keywords*

Description

This function fetches citation information from Scopus using genus and species name found in the title, abstract and keywords of the publications. Duplicates are removed after fetching the data.

Usage

```
FetchSpTAK(genus, species, synonyms, additionalkeywords, language = 0, APIkey)
```

Arguments

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.
APIkey	Scopus API key needed to access and download data from their database.

Value

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

Examples

```
## Not run:
FetchSpTAK("Bettongia", "penicillata", APIkey = "myAPI")

#lower case letter in genus is also accepted and will return identical results

FetchSpTAK("bettongia", "penicillata", APIkey = "myAPI")

## End(Not run)
## Not run:
FetchSpTAK("Bettongia", "penicillata", "conserv*", "myAPI")

#lower case letter in genus is also accepted and will return identical results

FetchSpTAK("bettongia", "penicillata", "conserv*", "myAPI")

## End(Not run)
```

Koala

Koala dataset

Description

Citation records of koala (*Phascolarctos cinereus*) from Scopus. Data was retrieved on 10 July 2020.

Usage

Koala

Format

A data frame with 773 rows and 20 variables

Source

<http://api.elsevier.com/content/search/scopus>

languages

Languages

Description

List of languages of documents found on Scopus. Data was retrieved on 9 March 2021.

Usage

languages

Format

A csv file with the complete list of languages of documents found on Scopus.

Source

<https://www.elsevier.com/solutions/scopus/how-scopus-works/content>

Platypus

Platypus dataset

Description

Citation records of platypus (*Ornithorhynchus anatinus*) from Scopus. Data was retrieved on 10 July 2020.

Usage

Platypus

Format

A data frame with 321 rows and 20 variables

Source

<http://api.elsevier.com/content/search/scopus>

Quokka

Quokka dataset

Description

Citation records of quokka (*Setonix brachyurus*) from Scopus. Data was retrieved on 10 July 2020.

Usage

Quokka

Format

A data frame with 242 rows and 20 variables

Source

<http://api.elsevier.com/content/search/scopus>

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 [FetchSpT](#) or [FetchSpTAK](#).

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 [FetchSpT](#) or [FetchSpTAK](#).
date The lower limit of the timeframe.

Value

H-index of the given time period.

Examples

```
data(Woylie)
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 [FetchSpT](#) or [FetchSpTAK](#).

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 [FetchSpT](#) or [FetchSpTAK](#).

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 [FetchSpT](#) or [FetchSpTAK](#).

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)
```

TotalArt	<i>Total Article</i>
----------	----------------------

Description

This function calculates the total number of articles.

Usage

```
TotalArt(data)
```

Arguments

data The dataframe generated from [FetchSpT](#) or [FetchSpTAK](#).

Value

An integer of the total number of articles.

Examples

```
data(Woylie)
TotalArt(Woylie)
```

TotalCite	Total citations
-----------	-----------------

Description

This function calculates the total number of citations.

Usage

```
TotalCite(data)
```

Arguments

data The dataframe generated from [FetchSpT](#) or [FetchSpTAK](#).

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 [FetchSpT](#) or [FetchSpTAK](#).

Value

An integer of the total number of journals.

Examples

```
data(Woylie)
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 [FetchSpT](#) or [FetchSpTAK](#).

Value

An integer of the total number of publications.

Examples

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

TotalRev	<i>Total reviews</i>
----------	----------------------

Description

This function calculates the total number of reviews.

Usage

```
TotalRev(data)
```

Arguments

data The dataframe generated from [FetchSpT](#) or [FetchSpTAK](#).

Value

An integer of the total number of reviews.

Examples

```
data(Woylie)
TotalRev(Woylie)
```

Woylie

Woylie dataset

Description

Citation records of woylie (*Bettongia penicillata*) from Scopus. Data was retrieved on 10 July 2020.

Usage

Woylie

Format

A data frame with 113 rows and 20 variables

Source

<http://api.elsevier.com/content/search/scopus>

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 [FetchSpT](#) or [FetchSpTAK](#).

Value

Number of years.

Examples

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


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