Package ‘rcites’

February 12, 2023

Type Package
Title R Interface to the Species+ Database
Version 1.3.0
Description A programmatic interface to the Species+ <https://speciesplus.net/> database via the Species+/CITES Checklist API <https://api.speciesplus.net/>.
BugReports https://github.com/ropensci/rcites/issues
License MIT + file LICENSE
Depends R (>= 3.1.0)
Imports cli, curl, htr, jsonlite
Suggests knitr, testthat, tibble, rmarkdown, rworldmap (>= 1.3.6), vcr (> 1.2.0)
Encoding UTF-8
RoxygenNote 7.2.3
VignetteBuilder knitr
Config/testthat/edition 3
NeedsCompilation no
Author Kevin Cazelles [aut, cre] (<https://orcid.org/0000-0001-6619-9874>), Jonas Geschke [aut] (<https://orcid.org/0000-0002-5654-9313>), Ignasi Bartomeus [aut] (<https://orcid.org/0000-0001-7893-4389>), Jonathan Goldenberg [ctb], Marie-Bé Leduc [ctb], Yasmine Verzelen [ctb], Noam Ross [rev], Margaret Siple [rev]
Maintainer Kevin Cazelles <kevin.cazelles@gmail.com>
Repository CRAN
Date/Publication 2023-02-12 21:50:02 UTC
print.spp

R topics documented:

print.spp ................................................................. 2
set_token ............................................................... 3
spp_cites_legislation ................................................ 4
spp_distributions ...................................................... 5
spp_eu_legislation ..................................................... 7
spp_references .......................................................... 8
spp_taxonconcept ..................................................... 9

Index 12

print.spp    Print methods for objects of class spp_raw*.

Description

Print the outputs of a Species+ API call.

Usage

## S3 method for class 'spp_raw'
print(x, ...)

## S3 method for class 'spp_raw_multi'
print(x, ...)

## S3 method for class 'spp_cites_leg'
print(x, ...)

## S3 method for class 'spp_cites_leg_multi'
print(x, ...)

## S3 method for class 'spp_distr'
print(x, ...)

## S3 method for class 'spp_distr_multi'
print(x, ...)

## S3 method for class 'spp_eu_leg'
print(x, ...)

## S3 method for class 'spp_eu_leg_multi'
print(x, ...)

## S3 method for class 'spp_refs'
print(x, ...)
set_token

```r
## S3 method for class 'spp.refs_multi'
print(x, ...)

## S3 method for class 'spp.taxon'
print(x, ...)
```

### Arguments
- `x`: an object of class `spp_raw*`.
- `...`: ignored.

### Value
The JSON result.

<table>
<thead>
<tr>
<th><code>set_token</code></th>
<th><code>Login helper function</code></th>
</tr>
</thead>
</table>

### Description
Set and forget the authentication token for the current session.

### Usage
```
set_token(token = NULL)
forget_token()
```

### Arguments
- `token`: a character string (with quotes) containing your token. If `NULL`, then the token can be passed without quotes (not as a character string) after a prompt.

### Functions
- `set_token()`: set the environment variable `SPECIESPLUS_TOKEN`.
- `forget_token()`: forget the environment variable `SPECIESPLUS_TOKEN`.

### References
[https://api.speciesplus.net/documentation](https://api.speciesplus.net/documentation)

### Examples
```r
## Not run:
# NB: the token below is not working and should not be used
set_token("8QW6Qgh57sBG2k0gtt")

## End(Not run)
```
spp_cites_legislation

Description

Retrieve current CITES appendix listings and reservations, CITES quotas, and CITES suspensions for a given taxon concept.

Usage

spp_cites_legislation(
  taxon_id,
  scope = "current",
  language = "en",
  raw = FALSE,
  token = NULL,
  verbose = TRUE,
  pause = 1,
  ...
)

Arguments

taxon_id: a vector of character strings containing species’ taxon concept identifiers (see spp_taxonconcept()).

scope: vector of character strings indicating the time scope of legislation, values are taken among current, historic and all. Default is current.

language: vector of character strings indicating the language for the text of legislation notes, values are taken among en (English), fr (French) and es (Spanish). Default is en.

raw: a logical. Should raw data be returned?

token: a character string containing the authentication token, see https://api.speciesplus.net/documentation. Default is set to NULL and requires the environment variable SPECIESPLUS_TOKEN to be set directly in Renviron. Alternatively, set_token() can be used to set SPECIESPLUS_TOKEN for the current session.

verbose: a logical. Should extra information be reported on progress?

pause: a duration (in second) to suspend execution for (see Sys.sleep()). This was added cause the web API returns a 404 error too many requests in a short time interval.

... Further named parameters, see httr::GET().
spp_distributions

Value

If `raw` is set to `TRUE` then an object of class `spp_raw` (or `spp_raw_multi` if `length(taxon_id) > 1`) is returned which is essentially a list of lists (see option as = 'parsed' in `httr::content()`). Otherwise, an object of class `spp_cites_leg` (or `spp_cites_leg_multi` if `length(taxon_id) > 1`) is returned which is a list of three data frames:

1. `cites_listings`: lists CITES annex listings EU suspensions,
2. `cites_quotas`: lists CITES quotas,
3. `cites_suspensions`: lists CITES suspensions.

References

https://api.speciesplus.net/documentation/v1/cites_legislation/index.html

Examples

```r
## Not run:
# this calls will only work if a token is set and valid
res1 <- spp_cites_legislation(taxon_id = 4521)
res2 <- spp_cites_legislation(taxon_id = c("4521", "3210", "10255"))
res3 <- spp_cites_legislation(taxon_id = 4521, scope = "all",
                             verbose = FALSE, config=httr::verbose())
res4 <- spp_cites_legislation(taxon_id = 4521, language = "fr")
## End(Not run)
```

---

**spp_distributions**

*Get distributions data available for a given taxon concept*

Description

Retrieve distributions data available for a given taxon concept for which the taxon identifier is known.

Usage

```r
spp_distributions(
  taxon_id,
  language = "en",
  raw = FALSE,
  token = NULL,
  verbose = TRUE,
  pause = 1,
  ...
)
```
Arguments

taxon_id
a vector of character strings containing species’ taxon concept identifiers (see `spp_taxonconcept()`).

language
vector of character strings indicating the language for the names of distributions, values are taken among en (English), fr (French) and es (Spanish). Default is en.

raw
a logical. Should raw data be returned?

token
a character string containing the authentication token, see https://api.speciesplus.net/documentation. Default is set to NULL and requires the environment variable SPECIESPLUS_TOKEN to be set directly in Renviron. Alternatively, set_token() can be used to set SPECIESPLUS_TOKEN for the current session.

verbose
a logical. Should extra information be reported on progress?

pause
a duration (in second) to suspend execution for (see `Sys.sleep()`). This was added cause the web API returns a 404 error too many requests in a short time interval.

... Further named parameters, see `httr::GET()`.

Value

If raw is set to TRUE then an object of class spp_raw (or spp_raw_multi if length(taxon_id)>1) is returned which is essentially a list of lists (see option as = 'parsed' in `httr::content()`). Otherwise, an object of class spp_distr (or spp_distr_multi if length(taxon_id) > 1) is returned which is a list of two data frames:

1. distributions: lists distributions for a given taxon concept,
2. references: lists the corresponding references. In case taxon_id includes several elements

References

https://api.speciesplus.net/documentation/v1/distributions/index.html

Examples

```r
# Not run:
# this calls will only work if a token is set and valid
res1 <- spp_distributions(taxon_id = '4521')
res2 <- spp_distributions(taxon_id = c('4521', '3210', '10255'))
res3 <- spp_distributions(taxon_id = '4521', raw = TRUE)
res4 <- spp_distributions(taxon_id = '4521', language = 'fr',
             verbose = FALSE, config = `httr::progress()`)  
```
spp_eu_legislation  

Get current EU annex listings, SRG opinions, and EU suspensions

Description

Retrieve current EU annex listings, SRG opinions, and EU suspensions for a given taxon concept (identifier must be known).

Usage

spp_eu_legislation(
  taxon_id,
  scope = "current",
  language = "en",
  raw = FALSE,
  token = NULL,
  verbose = TRUE,
  pause = 1,
  ...  
)

Arguments

taxon_id  a vector of character strings containing species’ taxon concept identifiers (see spp_taxonconcept()).

scope  vector of character strings indicating the time scope of legislation, values are taken among current, historic and all. Default is set to current.

language  vector of character strings indicating the language for the text of legislation notes, values are taken among en (English), fr (French) and es (Spanish). Default is en.

raw  a logical. Should raw data be returned?

token  a character string containing the authentication token, see https://api.speciesplus.net/documentation. Default is set to NULL and requires the environment variable SPECIESPLUS_TOKEN to be set directly in Renviron. Alternatively, set_token() can be used to set SPECIESPLUS_TOKEN for the current session.

verbose  a logical. Should extra information be reported on progress?

pause  a duration (in second) to suspend execution for (see Sys.sleep()). This was added cause the web API returns a 404 error too many requests in a short time interval.

...  Further named parameters, see http::GET().
spp_references

Value

If raw is set to TRUE then an object of class spp_raw (or spp_raw_multi if length(taxon_id)>1) is returned which is essentially a list of lists (see option as = ’parsed’ in httr::content()). Otherwise, an object of class spp_eu_leg (or spp_eu_leg_multi if length(taxon_id)>1) is returned which is a list of two data frames:

1. eu_listings: lists EU annex listings EU suspensions,
2. eu_decisions: lists EU decisions

References

https://api.speciesplus.net/documentation/v1/eu_legislation/index.html

Examples

## Not run:
# this calls will only work if a token is set and valid
res1 <- spp_eu_legislation(taxon_id = '4521')
res2 <- spp_eu_legislation(taxon_id = c('4521', '3210', '10255'))
res3 <- spp_eu_legislation(taxon_id = '4521', scope = 'historic')
res4 <- spp_eu_legislation(taxon_id = '4521', scope = 'all', language='fr',
verbose = FALSE, config=httr::verbose())

## End(Not run)
**Arguments**

- **taxon_id**
  - A vector of character strings containing species’ taxon concept identifiers (see `spp_taxonconcept()`).

- **raw**
  - A logical. Should raw data be returned?

- **token**
  - A character string containing the authentification token, see [https://api.speciesplus.net/documentation](https://api.speciesplus.net/documentation). Default is set to NULL and requires the environment variable `SPECIESPLUS_TOKEN` to be set directly in `Renviron`. Alternatively, `set_token()` can be used to set `SPECIESPLUS_TOKEN` for the current session.

- **verbose**
  - A logical. Should extra information be reported on progress?

- **pause**
  - A duration (in second) to suspend execution for (see `Sys.sleep()`). This was added cause the web API returns a 404 error too many requests in a short time interval.

... Further named parameters, see `httr::GET()`.

**Value**

If `raw` is set to TRUE then an object of class `spp_raw` (or `spp_raw_multi` if `length(taxon_id) > 1`) is returned which is essentially a list of lists (see option as = 'parsed' in `httr::content()`). Otherwise, an object of class `spp_refs` (or `spp_refs_multi` if `length(taxon_id) > 1`) is returned which is a list of one data frame:

- references that includes the identifier of the reference and the corresponding citation.

**References**

[https://api.speciesplus.net/documentation/v1/references/index.html](https://api.speciesplus.net/documentation/v1/references/index.html)

**Examples**

```r
## Not run:
# this calls will only work if a token is set and valid
res1 <- spp_references(taxon_id = '4521')
res2 <- spp_references(c('4521', '3210', '10255'))
res3 <- spp_references(taxon_id = '4521', raw = TRUE, verbose = FALSE, config = httr::progress())

## End(Not run)
```

---

**spp_taxonconcept**

Get taxon concepts for a search term

**Description**

Retrieve the taxon concept of a specific taxon (scientific name).
Usage

spp_taxonconcept(
  query_taxon,
  taxonomy = "CITES",
  with_descendants = FALSE,
  language = NULL,
  updated_since = NULL,
  per_page = 500,
  pages = NULL,
  raw = FALSE,
  token = NULL,
  verbose = TRUE,
  pause = 1,
  ...
)

Arguments

query_taxon a character string containing the query (e.g. species). Scientific taxa only (max 255 characters).

taxonomy filter taxon concepts by taxonomy, accepts either 'CITES' or 'CMS' as its value. Default sets to 'CITES'.

with_descendants a logical. Should the search by name be broadened to include higher taxa?

language filter languages returned for common names. Value should be a vector of character strings including one or more country codes (two-letters country code ISO 3166-1 alpha-2). Default is set to NULL, showing all available languages.

updated_since a timestamp. Only entries updated after (and including) this timestamp will be pulled.

per_page an integer that indicates how many objects are returned per page for paginated responses. Default set to 500 which is the maximum.

pages a vector of integer that contains page numbers. Default is set to NULL, i.e. all pages are accessed.

raw a logical. Should raw data be returned?

token a character string containing the authentication token, see https://api.speciesplus.net/documentation. Default is set to NULL and requires the environment variable SPECIESPLUS_TOKEN to be set directly in Renviron. Alternatively, set_token() can be used to set SPECIESPLUS_TOKEN for the current session.

verbose a logical. Should extra information be reported on progress?

pause a duration (in second) to suspend execution for (see Sys.sleep()). This was added cause the web API returns a 404 error too many requests in a short time interval.

... Further named parameters, see http::GET().
spp_taxonconcept

Value

If `raw = TRUE`, then a object of class `spp_raw` is returned, which is a list of lists. If `raw = FALSE`, then an object of class `spp_taxon` is returned, it is a collection of seven data frames:

1. `all_id`: general information for all entries, including non-active taxon concepts,
2. `general`: includes general information for active taxon concepts,
3. `higher_taxa`: includes taxonomy information,
4. `accepted_names`: list of accepted names (only for synonyms),
5. `common_names`: list of common names (only for accepted names),
6. `synonyms`: list of synonyms (only for accepted names),
7. `cites_listing`: list of current CITES listings with annotations (missing if `taxonomy == 'CMS'`).

References

https://api.speciesplus.net/documentation/v1/taxon_concepts/index.html

Examples

```r
## Not run:
# this calls will only work if a token is set and valid
res1 <- spp_taxonconcept(query_taxon = "Loxodonta africana")
res2 <- spp_taxonconcept(query_taxon = "Amazilia versicolor", raw = TRUE)
res3 <- spp_taxonconcept(query_taxon = "", taxonomy = "CMS", pages = c(1, 3),
  language = "EN", config = httr::progress())
res4 <- spp_taxonconcept(query_taxon = "", per_page = 20, pages = 44)
```

## End(Not run)
Index

forget_token(set_token), 3

httr::content(), 5, 6, 8, 9
httr::GET(), 4, 6, 7, 9, 10

print.spp, 2
print.spp_cites_leg(print.spp), 2
print.spp_cites_leg_multi(print.spp), 2
print.spp_distr(print.spp), 2
print.spp_distr_multi(print.spp), 2
print.spp_eu_leg(print.spp), 2
print.spp_eu_leg_multi(print.spp), 2
print.spp_raw(print.spp), 2
print.spp_raw_multi(print.spp), 2
print.spp.refs(print.spp), 2
print.spp.refs_multi(print.spp), 2
print.spp_taxon(print.spp), 2

set_token, 3
set_token(), 4, 7, 9
spp_cites_legislation, 4
spp_distributions, 5
spp_eu_legislation, 7
spp_references, 8
spp_taxonconcept, 9
spp_taxonconcept(), 4, 6, 7, 9
Sys.sleep(), 4, 6, 7, 9, 10