

Package ‘rredlist’

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Type Package

Title 'IUCN' Red List Client

Description 'IUCN' Red List (<<http://apiv3.iucnredlist.org/api/v3/docs>>) client.
The 'IUCN' Red List is a global list of threatened and endangered species.
Functions cover all of the Red List 'API' routes. An 'API' key is required.

Version 0.2.0

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URL <https://github.com/ropenscilabs/rredlist>

BugReports <https://github.com/ropenscilabs/rredlist/issues>

Imports httr (>= 1.2.0), jsonlite (>= 1.1)

Suggests roxygen2 (>= 5.0.1), testthat, covr

RoxygenNote 5.0.1

NeedsCompilation no

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R topics documented:

rredlist-package	2
rl_citation	3
rl_common_names	4
rl_countries	5
rl_habitats	5
rl_history	6
rl_measures	7
rl_narrative	8
rl_regions	9
rl_search	10

rl_sp	11
rl_sp_category	12
rl_sp_citation	13
rl_sp_count	14
rl_sp_country	14
rl_synonyms	15
rl_threats	16
rl_version	17
Index	19

rredlist-package	<i>rredlist - IUCN Red List Client</i>
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Description

rredlist - IUCN Red List Client

Authentication

IUCN requires you to get your own API key, an alphanumeric string that you need to send in every request. Get it at <http://apiv3.iucnredlist.org/api/v3/token>. Keep this key private. You can pass the key in to each function via the key parameter, but it's better to store the key either as an environment variable (IUCN_REDLIST_KEY) or an R option (iucn_redlist_key) - we suggest using the former option.

High vs. Low level package APIs

High level API High level functions do the HTTP request and parse data to a data.frame for ease of downstream use. The high level functions have no underscore on the end of the function name, e.g., [rl_search](#)

Low level API The parsing to data.frame in the high level API does take extra time. The low level API only does the HTTP request, and gives back JSON without doing any more parsing. The low level functions DO have an underscore on the end of the function name, e.g., [rl_search_](#)

No Spatial

This package does not include support for the spatial API, described at <http://apiv3.iucnredlist.org/spatial>

Citing the Red List API

The citation is IUCN 2015. IUCN Red List of Threatened Species. Version 2015-4 <www.iucnredlist.org>. You can get this programatically via [rl_citation](#)

Rate limiting

From the IUCN folks: Too many frequent calls, or too many calls per day might get your access blocked temporarily. If you're a heavy API user, the Red List Unit asked that you contact them, as there might be better options. They suggest a 2-second delay between your calls if you plan to make a lot of calls.

Author(s)

Scott Chamberlain <myrmecocystus@gmail.com>

rl_citation	<i>Get the citation Red List API version</i>
-------------	--

Description

Get the citation Red List API version

Usage

```
rl_citation(key = NULL, ...)
```

Arguments

key	A IUCN API token
...	Curl options passed to GET

Value

API citation as character string

Examples

```
## Not run:  
rl_citation()  
  
## End(Not run)
```

r1_common_names	<i>Get common names for a given taxonomic name</i>
-----------------	--

Description

Get common names for a given taxonomic name

Usage

```
r1_common_names(name = NULL, key = NULL, parse = TRUE, ...)
```

```
r1_common_names_(name = NULL, key = NULL, ...)
```

Arguments

name	(character) Binomial taxonomic name
key	A IUCN API token
parse	(logical) Whether to parse to list (FALSE) or data.frame (TRUE). Default: TRUE
...	Curl options passed to GET

Value

A list, with the data in the result slot, unless using a function with a trailing underscore, in which case json as character string is returned.

References

API docs at <http://apiv3.iucnredlist.org/api/v3/docs>

Examples

```
## Not run:  
r1_common_names('Loxodonta africana')  
r1_common_names_('Loxodonta africana')  
  
## End(Not run)
```

rl_countries	<i>Get countries</i>
--------------	----------------------

Description

Get countries

Usage

```
rl_countries(key = NULL, parse = TRUE, ...)
```

```
rl_countries_(key = NULL, ...)
```

Arguments

key	A IUCN API token
parse	(logical) Whether to parse to list (FALSE) or data.frame (TRUE). Default: TRUE
...	Curl options passed to GET

Value

A list, with the data in the result slot, unless using a function with a trailing underscore, in which case json as character string is returned.

References

API docs at <http://apiv3.iucnredlist.org/api/v3/docs>

Examples

```
## Not run:  
rl_countries()  
rl_countries_()  
  
## End(Not run)
```

rl_habitats	<i>Get species habitats by taxon name, IUCN id, and region</i>
-------------	--

Description

Get species habitats by taxon name, IUCN id, and region

Usage

```
rl_habitats(name = NULL, id = NULL, region = NULL, key = NULL,
            parse = TRUE, ...)

rl_habitats_(name = NULL, id = NULL, region = NULL, key = NULL, ...)

rl_history_(name = NULL, id = NULL, region = NULL, key = NULL, ...)
```

Arguments

name	(character) Binomial taxonomic name
id	(character) IUCN id
region	(character) Binomial taxonomic name
key	A IUCN API token
parse	(logical) Whether to parse to list (FALSE) or data.frame (TRUE). Default: TRUE
...	Curl options passed to GET

Value

A list, with the data in the result slot, unless using a function with a trailing underscore, in which case json as character string is returned.

References

API docs at <http://apiv3.iucnredlist.org/api/v3/docs>

Examples

```
## Not run:
rl_habitats('Fratercula arctica')
rl_habitats('Fratercula arctica', region = 'europe')
rl_habitats(id = 12392)
rl_habitats(id = 22694927, region = 'europe')

rl_habitats_('Fratercula arctica')
rl_habitats_(id = 12392)

## End(Not run)
```

rl_history

Get historical assessments by taxon name, IUCN id, and region

Description

Get historical assessments by taxon name, IUCN id, and region

Usage

```
rl_history(name = NULL, id = NULL, region = NULL, key = NULL,  
           parse = TRUE, ...)
```

Arguments

name	(character) Binomial taxonomic name
id	(character) IUCN id
region	(character) Binomial taxonomic name
key	A IUCN API token
parse	(logical) Whether to parse to list (FALSE) or data.frame (TRUE). Default: TRUE
...	Curl options passed to GET

Value

A list, with the data in the result slot, unless using a function with a trailing underscore, in which case json as character string is returned.

References

API docs at <http://apiv3.iucnredlist.org/api/v3/docs>

Examples

```
## Not run:  
rl_history('Loxodonta africana')  
rl_history('Ursus maritimus', region = 'europe')  
rl_history(id = 12392)  
rl_history(id = 22823, region = 'europe')  
  
rl_history_('Loxodonta africana')  
rl_history_(id = 12392)  
  
## End(Not run)
```

rl_measures	<i>Get species conservation measures by taxon name, IUCN id, and region</i>
-------------	---

Description

Get species conservation measures by taxon name, IUCN id, and region

Usage

```
rl_measures(name = NULL, id = NULL, region = NULL, key = NULL,
            parse = TRUE, ...)

rl_measures_(name = NULL, id = NULL, region = NULL, key = NULL, ...)
```

Arguments

name	(character) Binomial taxonomic name
id	(character) IUCN id
region	(character) Binomial taxonomic name
key	A IUCN API token
parse	(logical) Whether to parse to list (FALSE) or data.frame (TRUE). Default: TRUE
...	Curl options passed to GET

Value

A list, with the data in the result slot, unless using a function with a trailing underscore, in which case json as character string is returned.

References

API docs at <http://apiv3.iucnredlist.org/api/v3/docs>

Examples

```
## Not run:
rl_measures('Fratercula arctica')
rl_measures('Fratercula arctica', region = 'europe')
rl_measures(id = 12392)
rl_measures(id = 22694927, region = 'europe')

rl_measures_('Fratercula arctica')
rl_measures_(id = 22694927, region = 'europe')

## End(Not run)
```

rl_narrative

Get species narrative information by taxon name, IUCN id, and region

Description

Get species narrative information by taxon name, IUCN id, and region

Usage

```
rl_narrative(name = NULL, id = NULL, region = NULL, key = NULL,
             parse = TRUE, ...)

rl_narrative_(name = NULL, id = NULL, region = NULL, key = NULL, ...)
```

Arguments

name	(character) Binomial taxonomic name
id	(character) IUCN id
region	(character) Binomial taxonomic name
key	A IUCN API token
parse	(logical) Whether to parse to list (FALSE) or data.frame (TRUE). Default: TRUE
...	Curl options passed to GET

Value

A list, with the data in the result slot, unless using a function with a trailing underscore, in which case json as character string is returned.

References

API docs at <http://apiv3.iucnredlist.org/api/v3/docs>

Examples

```
## Not run:
rl_narrative('Fratercula arctica')
rl_narrative('Fratercula arctica', region = 'europe')
rl_narrative(id = 12392)
rl_narrative(id = 22694927, region = 'europe')

rl_narrative_('Fratercula arctica')
rl_narrative_('Fratercula arctica', region = 'europe')

## End(Not run)
```

rl_regions

Get regions

Description

Get regions

Usage

```
rl_regions(key = NULL, parse = TRUE, ...)
```

```
rl_regions_(key = NULL, ...)
```

Arguments

key	A IUCN API token
parse	(logical) Whether to parse to list (FALSE) or data.frame (TRUE). Default: TRUE
...	Curl options passed to GET

Value

A list, with the data in the result slot, unless using a function with a trailing underscore, in which case json as character string is returned.

References

API docs at <http://apiv3.iucnredlist.org/api/v3/docs>

Examples

```
## Not run:
rl_regions()
rl_regions(parse = FALSE)
rl_regions_()

## End(Not run)
```

r1_search

Search by taxon name, IUCN id, and region

Description

Search by taxon name, IUCN id, and region

Usage

```
r1_search(name = NULL, id = NULL, region = NULL, key = NULL,
  parse = TRUE, ...)
```

```
r1_search_(name = NULL, id = NULL, region = NULL, key = NULL, ...)
```

Arguments

name	(character) Binomial taxonomic name
id	(character) IUCN id
region	(character) Binomial taxonomic name
key	A IUCN API token
parse	(logical) Whether to parse to list (FALSE) or data.frame (TRUE). Default: TRUE
...	Curl options passed to GET

Value

A list, with the data in the result slot, unless using a function with a trailing underscore, in which case json as character string is returned.

References

API docs at <http://apiv3.iucnredlist.org/api/v3/docs>

Examples

```
## Not run:
rl_search('Fratercula arctica')
rl_search('Fratercula arctica', region = 'europe')
rl_search(id = 12392)
rl_search(id = 22694927, region = 'europe')

rl_search('Fratercula arctica', parse = FALSE)
rl_search_('Fratercula arctica')
rl_search_('Fratercula arctica', region = 'europe')

## End(Not run)
```

rl_sp

Get species

Description

Get species

Usage

```
rl_sp(page, key = NULL, parse = TRUE, ...)
```

```
rl_sp_(page, key = NULL, ...)
```

Arguments

page (integer) Page to get. Default: 1
 key A IUCN API token
 parse (logical) Whether to parse to list (FALSE) or data.frame (TRUE). Default: TRUE
 ... Curl options passed to [GET](#)

Examples

```
## Not run:
rl_sp(page = 3)

## End(Not run)
```

rl_sp_category	<i>Get species by category</i>
----------------	--------------------------------

Description

Get species by category

Usage

```
rl_sp_category(category, key = NULL, parse = TRUE, ...)
rl_sp_category_(category, key = NULL, parse = TRUE, ...)
```

Arguments

category (character) 2 letter category code
 key A IUCN API token
 parse (logical) Whether to parse to list (FALSE) or data.frame (TRUE). Default: TRUE
 ... Curl options passed to [GET](#)

Examples

```
## Not run:
rl_sp_category('VU')
rl_sp_category('EN')
rl_sp_category('EX')
rl_sp_category('EX', parse = FALSE)
rl_sp_category_('EX')

## End(Not run)
```

rl_sp_citation	<i>Get citations by taxon name, IUCN id, and region</i>
----------------	---

Description

Get citations by taxon name, IUCN id, and region

Usage

```
rl_sp_citation(name = NULL, id = NULL, region = NULL, key = NULL,
              parse = TRUE, ...)
```

```
rl_sp_citation_(name = NULL, id = NULL, region = NULL, key = NULL, ...)
```

Arguments

name	(character) Binomial taxonomic name
id	(character) IUCN id
region	(character) Binomial taxonomic name
key	A IUCN API token
parse	(logical) Whether to parse to list (FALSE) or data.frame (TRUE). Default: TRUE
...	Curl options passed to GET

Value

A list, with the data in the result slot, unless using a function with a trailing underscore, in which case json as character string is returned.

References

API docs at <http://apiv3.iucnredlist.org/api/v3/docs>

Examples

```
## Not run:
rl_sp_citation('Balaena mysticetus')
rl_sp_citation('Balaena mysticetus', region = 'europe')
rl_sp_citation(id = 12392)

rl_sp_citation(id = 2467, region = 'europe')
rl_sp_citation(id = 2467, region = 'europe', parse = FALSE)
rl_sp_citation_(id = 2467, region = 'europe')

## End(Not run)
```

rl_sp_count	<i>Get total species count of taxa in the Red List</i>
-------------	--

Description

Get total species count of taxa in the Red List

Usage

```
rl_sp_count(key = NULL, parse = TRUE, ...)
```

```
rl_sp_count_(key = NULL, ...)
```

Arguments

key	A IUCN API token
parse	(logical) Whether to parse to list (FALSE) or data.frame (TRUE). Default: TRUE
...	Curl options passed to GET

Value

A list, with the data in the `result` slot, unless using a function with a trailing underscore, in which case json as character string is returned.

References

API docs at <http://apiv3.iucnredlist.org/api/v3/docs>

Examples

```
## Not run:
rl_sp_count()
rl_sp_count_()

## End(Not run)
```

rl_sp_country	<i>Get species by country</i>
---------------	-------------------------------

Description

Get species by country

Usage

```
rl_sp_country(country, key = NULL, parse = TRUE, ...)
```

```
rl_sp_country_(country, key = NULL, ...)
```

Arguments

country	(character) Country 2 letter character code
key	A IUCN API token
parse	(logical) Whether to parse to list (FALSE) or data.frame (TRUE). Default: TRUE
...	Curl options passed to GET

Value

A list, with the data in the `result` slot, unless using a function with a trailing underscore, in which case json as character string is returned.

References

API docs at <http://apiv3.iucnredlist.org/api/v3/docs>

Examples

```
## Not run:
rl_sp_country('AZ')
rl_sp_country('NZ')

# don't parse to data.frame, gives list
rl_sp_country('NZ', parse = FALSE)
# don't parse at all, get json back
rl_sp_country_('NZ')

# curl options
library("httr")
res <- rl_sp_country('NZ', config=verbose())

## End(Not run)
```

rl_synonyms

Get species synonym information by taxonomic name

Description

Get species synonym information by taxonomic name

Usage

```
rl_synonyms(name = NULL, key = NULL, parse = TRUE, ...)
```

```
rl_synonyms_(name = NULL, key = NULL, ...)
```

Arguments

name	(character) Binomial taxonomic name
key	A IUCN API token
parse	(logical) Whether to parse to list (FALSE) or data.frame (TRUE). Default: TRUE
...	Curl options passed to GET

Value

A list, with the data in the result slot, unless using a function with a trailing underscore, in which case json as character string is returned.

References

API docs at <http://apiv3.iucnredlist.org/api/v3/docs>

Examples

```
## Not run:
rl_synonyms('Loxodonta africana')
rl_synonyms('Loxodonta africana', parse = FALSE)
rl_synonyms_('Loxodonta africana')

## End(Not run)
```

r1_threats

Get species threats by taxon name, IUCN id, and region

Description

Get species threats by taxon name, IUCN id, and region

Usage

```
r1_threats(name = NULL, id = NULL, region = NULL, key = NULL,
  parse = TRUE, ...)
```

```
r1_threats_(name = NULL, id = NULL, region = NULL, key = NULL, ...)
```


Arguments

name	(character) Binomial taxonomic name
id	(character) IUCN id
region	(character) Binomial taxonomic name
key	A IUCN API token
parse	(logical) Whether to parse to list (FALSE) or data.frame (TRUE). Default: TRUE
...	Curl options passed to GET

Value

A list, with the data in the result slot, unless using a function with a trailing underscore, in which case json as character string is returned.

References

API docs at <http://apiv3.iucnredlist.org/api/v3/docs>

Examples

```
## Not run:
rl_threats('Fratercula arctica')
rl_threats('Fratercula arctica', region = 'europe')
rl_threats(id = 12392)
rl_threats(id = 22694927, region = 'europe')
rl_threats_('Fratercula arctica')

## End(Not run)
```

rl_version	<i>Get the Red List API version</i>
------------	-------------------------------------

Description

Get the Red List API version

Usage

```
rl_version(key = NULL, ...)
```

Arguments

key	A IUCN API token
...	Curl options passed to GET

Value

API version as character string

Examples

```
## Not run:  
rl_version()  
  
## End(Not run)
```

Index

*Topic **package**

redlist-package, 2

GET, 3–17

rl_citation, 2, 3

rl_common_names, 4

rl_common_names_(rl_common_names), 4

rl_countries, 5

rl_countries_(rl_countries), 5

rl_habitats, 5

rl_habitats_(rl_habitats), 5

rl_history, 6

rl_history_(rl_habitats), 5

rl_measures, 7

rl_measures_(rl_measures), 7

rl_narrative, 8

rl_narrative_(rl_narrative), 8

rl_regions, 9

rl_regions_(rl_regions), 9

rl_search, 2, 10

rl_search_, 2

rl_search_(rl_search), 10

rl_sp, 11

rl_sp_(rl_sp), 11

rl_sp_category, 12

rl_sp_category_(rl_sp_category), 12

rl_sp_citation, 13

rl_sp_citation_(rl_sp_citation), 13

rl_sp_count, 14

rl_sp_count_(rl_sp_count), 14

rl_sp_country, 14

rl_sp_country_(rl_sp_country), 14

rl_synonyms, 15

rl_synonyms_(rl_synonyms), 15

rl_threats, 16

rl_threats_(rl_threats), 16

rl_version, 17

rredlist (rredlist-package), 2

rredlist-package, 2