Package ‘natserv’

October 13, 2022

Title 'NatureServe' Interface

Includes methods to get data, image metadata, search taxonomic names, and make maps.

Version 1.0.0

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URL https://docs.ropensci.org/natserv,
https://github.com/ropensci/natserv

BugReports https://github.com/ropensci/natserv/issues

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Author Scott Chamberlain [aut, cre] (<https://orcid.org/0000-0003-1444-9135>),
 rOpenSci [fnd] (https://ropensci.org/)

Maintainer Scott Chamberlain <myrmecocystus@gmail.com>

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\textbf{R topics documented:}

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natserv-package & \textit{natserv} \\
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\textbf{Description}

Interface to NatureServe https://www.natureserve.org/

\textbf{Author(s)}

Scott Chamberlain <myrmecocystus@gmail.com>

\begin{tabular}{ll}
\hline
nat_states & \textit{A data.frame with 49 rows and 2 columns} \\
\hline
\end{tabular}

\textbf{Description}

- state (character) state 2 letter abbreviation
- state_name (character) state full name
ns_altid  Get taxon by uid, id, or elCode

Description

Get taxon by uid, id, or elCode

Usage

ns_altid(uid = NULL, id = NULL, el_code = NULL, ...)

Arguments

uid (character) A NatureServe taxon id (The taxon’s Element Global UID)
id The primary key value (ELEMENT_GLOBAL_ID) of the record within Central Biotics
el_code The Biotics Element Code (ELCODE_BCD) of the record
... Curl options passed on to verb-GET

Details

see https://explorer.natureserve.org/api-docs/#_taxon_data_model for details on the response data

Value

A list with lots of elements

References

https://explorer.natureserve.org/api-docs/

Examples

```r
## Not run:
ns_altid(uid = "ELEMENT_GLOBAL.2.154701")
nst_altid(id = "154701")
nst_altid(el_code = "PDRAN0F010")
## End(Not run)
```
ns_ecohier

*Get a summary of the upper level hierarchy for an Ecosystem record*

**Description**

Get a summary of the upper level hierarchy for an Ecosystem record

**Usage**

```r
ns_ecohier(uid, ...)
```

**Arguments**

- `uid` *(character)* A NatureServe taxon id (The taxon’s Element Global UID)
- `...` Curl options passed on to `verb=GET`

**Details**

see [https://explorer.natureserve.org/api-docs/#_taxon_data_model](https://explorer.natureserve.org/api-docs/#_taxon_data_model) for details on the response data

**Value**

A list with lots of elements

**References**

[https://explorer.natureserve.org/api-docs/](https://explorer.natureserve.org/api-docs/)

**Examples**

```r
## Not run:
ns_ecohier("ELEMENT_GLOBAL.2.683060")

## End(Not run)
```

ns_export

*Search exports*

**Description**

Search exports
Usage

```r
ns_export(
  text = NULL,
  text_adv = NULL,
  status = NULL,
  location = NULL,
  record_type = NULL,
  record_subtype = NULL,
  modified_since = NULL,
  format = "json",
  lang = "en",
  ...
)
```

```r
ns_export_status(id, ...)
```

Arguments

- **text** (character) basic text search, equivalent to `text_adv` with `matchAgainst="allNames"` and `operator="similarTo"`
- **text_adv** (list) advanced search, must specify the following three elements: `searchToken`, `matchAgainst`, and `operator`. see [https://explorer.natureserve.org/api-docs/#_advanced_text_search_parameter](https://explorer.natureserve.org/api-docs/#_advanced_text_search_parameter)
- **status** (character) conservation status, one of G1, G2, G3, G4, G5, GNR, GNA, GU. case insensitive
- **location** (list) location, country and sub-country. specify either nation OR nation and subnation. each expects a two-letter ISO code
- **record_type** (character) limit results by record type, one of "species" or "ecosystem"
- **record_subtype** (character) limit results by record sub-type, one of: "class", "subclass", "formation", "division", "macrogpou", "group", "alliance", "association", "terrestrial_ ecological_system"
- **modified_since** (character) search for records modified since a given time. value must be a date and time with a UTC offset in ISO 8601 format. optional
- **format** (character) output format, one of "json" or "xlsx"
- **lang** (character) language, one of "en", "es", or "fr"
- **...** Curl options passed on to `verb=GET`
- **id** (character) a job id, from output of `ns_export()`

Value

- `ns_export()` returns a single character string (a job id)
- `ns_export_status()` returns a list of metadata concerning the status of the export

References

[https://explorer.natureserve.org/api-docs/](https://explorer.natureserve.org/api-docs/)
Examples

```r
## Not run:
x <- ns_export(text = "robin")
res <- ns_export_status(x)
str(res)
res$data$state
res$data$errorMessage
res$data$url

w <- ns_export(text_adv = list(searchToken = "western",
   matchAgainst="allScientificNames", operator="startsWith"))
m <- ns_export_status(w)
head(jsonlite::fromJSON(m$data$url))

## End(Not run)
```

---

### ns_id

**Get taxon by uid**

#### Description

Get taxon by uid

#### Usage

```r
ns_id(uid, ...)
```

#### Arguments

- `uid` (character) A NatureServe taxon id (The taxon’s Element Global UID). required.
- `...` Curl options passed on to `verb=GET`

#### Details

see https://explorer.natureserve.org/api-docs/#_taxon_data_model for details on the response data

#### Value

A list with lots of elements

#### References

https://explorer.natureserve.org/api-docs/

#### Examples

```r
## Not run:
ns_id("ELEMENTGLOBAL.2.154701")

## End(Not run)
```
ns_search_comb

Combined search

Description
Combined search

Usage

ns_search_comb(
  text = NULL,
  text_adv = NULL,
  status = NULL,
  location = NULL,
  record_type = NULL,
  record_subtype = NULL,
  modified_since = NULL,
  page = NULL,
  per_page = NULL,
  ...
)

Arguments

  text (character) basic text search, equivalent to text_adv with matchAgainst="allNames" and operator="similarTo"

  text_adv (list) advanced search, must specify the following three elements: searchToken, matchAgainst, and operator. see https://explorer.natureserve.org/api-docs/#_advanced_text_search_parameter

  status (character) conservation status, one of G1, G2, G3, G4, G5, GH, GX, GNR, GNA, GU. case insensitive

  location (list) location, country and sub-country. specify either nation OR nation and subnation. each expects a two-letter ISO code

  record_type (character) limit results by record type, one of "species" or "ecosystem"

  record_subtype (character) limit results by record sub-type, one of: "class", "subclass", "formation", "division", "macrogoup", "group", "alliance", "association", "terrestrial_ecological_system"

  modified_since (character) search for records modified since a given time. value must be a date and time with a UTC offset in ISO 8601 format. optional

  page (integer) Zero-indexed page number; default: 0. optional

  per_page (integer) Records per page; default: 20. optional

  ... Curl options passed on to verb-GET

References

https://explorer.natureserve.org/api-docs/
See Also

Other search: `ns_search_eco()`, `ns_search_spp()`

Examples

```r
## Not run:
ns_search_comb(text = "robin")
ns_search_comb(text_adv = list(searchToken = "western",
    matchAgainst="allScientificNames", operator="startsWith")
ns_search_comb(status = "G1")
ns_search_comb(location = list(nation = "US"))
ns_search_comb(location = list(nation = "US", subnation = "VA"))
ns_search_comb(record_type = "species")
ns_search_comb(record_subtype = "macrogroup")
ns_search_comb(modified_since = "2020-04-30T00:00:00+0000")
ns_search_comb(page = 0, per_page = 2)

## End(Not run)
```

---

**ns_search_eco**

_Ecosystem search_

**Description**

Ecosystem search

**Usage**

```r
ns_search_eco(
    text = NULL,
    text_adv = NULL,
    status = NULL,
    location = NULL,
    ecosystem_taxonomy = NULL,
    record_subtype = NULL,
    modified_since = NULL,
    page = NULL,
    per_page = NULL,
    ...
)
```

**Arguments**

- `text` (character) basic text search, equivalent to `text_adv` with `matchAgainst="allNames"` and `operator="similarTo"

- `text_adv` (list) advanced search, must specify the following three elements: `searchToken`, `matchAgainst`, and `operator`. see [https://explorer.natureserve.org/api-docs/#_advanced_text_search_parameter](https://explorer.natureserve.org/api-docs/#_advanced_text_search_parameter)
status (character) conservation status, one of G1, G2, G3, G4, G5, GH, GX, GNR, GNA, GU. case insensitive

location (list) location, country and sub-country. specify either nation OR nation and subnation. each expects a two-letter ISO code

ecosystem_taxonomy (character) the classification code of the higher level (ancestor) ecosystem. E.g.'s: "1" (Class code), "1.B" (Subclass code), "1.B.2" (Formation code), "1.B.2.Nd" (Division code), "M886" (Macrogroup key), "G206" (Group key), "A3328" (Alliance Key)

record_subtype (character) limit results by record sub-type, one of: "class", "subclass", "formation", "division", "macrogroup", "group", "alliance", "association", "terrestrial_ecological_system"

modified_since (character) search for records modified since a given time. value must be a date and time with a UTC offset in ISO 8601 format. optional

page (integer) Zero-indexed page number; default: 0. optional

per_page (integer) Records per page; default: 20. optional

... Curl options passed on to verb-GET

References

https://explorer.nature.org/api-docs/

See Also

Other search: ns_search_comb(), ns_search_spp()

Examples

```r
## Not run:
ns_search_eco(text = "robin")
names_search_eco(text_adv = list(searchToken = "bird",
        matchAgainst = "allNames", operator="similarTo"))
names_search_eco(status = "G1")
names_search_eco(location = list(nation = "US"))
names_search_eco(location = list(nation = "US", subnation = "VA"))
names_search_eco(ecosystem_taxonomy = "M067")
names_search_eco(record_subtype = "macrogroup")
names_search_eco(modified_since = "2020-04-30T00:00:00+0000")
names_search_eco(page = 0, per_page = 2)

## End(Not run)
```
Species search

Usage

```r
ns_search_spp(
    text = NULL,
    text_adv = NULL,
    status = NULL,
    location = NULL,
    species_taxonomy = NULL,
    record_subtype = NULL,
    modified_since = NULL,
    page = NULL,
    per_page = NULL,
    ...)
```

Arguments

- **text** (character) basic text search, equivalent to text_adv with matchAgainst="allNames" and operator="similarTo"
- **text_adv** (list) advanced search, must specify the following three elements: searchToken, matchAgainst, and operator. see https://explorer.natureserve.org/api-docs/#_advanced_text_search_parameter
- **status** (character) conservation status, one of G1, G2, G3, G4, G5, GH, GX, GNR, GNA, GU. case insensitive
- **location** (list) location, country and sub-country. specify either nation OR nation and subnation. each expects a two-letter ISO code
- **species_taxonomy** (list) species taxonomy. either a list with level and scientificTaxonomy (a scientific name), or with just informalTaxonomy (a vernacular name). possible level values: "kingdom", "phylum", "class", "order", "family", "genus"
- **record_subtype** (character) limit results by record sub-type, one of: "class", "subclass", "formation", "division", "macrogroup", "group", "alliance", "association", "terrestrial_ ecological_system"
- **modified_since** (character) search for records modified since a given time. value must be a date and time with a UTC offset in ISO 8601 format. optional
- **page** (integer) Zero-indexed page number; default: 0. optional
- **per_page** (integer) Records per page; default: 20. optional
- ... Curl options passed on to verb=GET
ns_search_spp

References

https://explorer.natureserve.org/api-docs/

See Also

Other search: ns_search_comb(), ns_search_eco()

Examples

```r
## Not run:
ns_search_spp(text = "robin")
network_search_spp(text_adv = list(searchToken = "bird",
       matchAgainst = "allNames", operator="similarTo"))
network_search_spp(status = "G1")
network_search_spp(location = list(nation = "US"))
network_search_spp(location = list(nation = "US", subnation = "VA"))
network_search_spp(species_taxonomy = list(scientificTaxonomy = "Animalia", level = "kingdom"))
network_search_spp(species_taxonomy = list(informalTaxonomy = "birds"))
network_search_spp(record_subtype = "macrogroup")
network_search_spp(modified_since = "2020-04-30T00:00:00+0000")
network_search_spp(page = 0, per_page = 2)

## End(Not run)
```
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