Package ‘natserv’

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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

LazyData true

VignetteBuilder knitr

Language en-US

Encoding UTF-8

Depends R(>= 3.2.1)

Imports crul (>= 0.7.0), jsonlite, tibble

Suggests testthat, knitr, vcr

RoxygenNote 7.1.0

X-schema.org-applicationCategory Taxonomy

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X-schema.org-isPartOf https://ropensci.org

NeedsCompilation no

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**R topics documented:**

- natserv-package .................................................. 2
- nat_states ............................................................ 2
- ns_altid .............................................................. 3
- ns_ecohier ............................................................ 4
- ns_export .............................................................. 4
- ns_id ................................................................. 6
- ns_search_comb .................................................... 7
- ns_search_eco ....................................................... 8
- ns_search_spp ....................................................... 10

**Index**

<table>
<thead>
<tr>
<th>natserv-package</th>
<th>natserv</th>
</tr>
</thead>
<tbody>
<tr>
<td>nat_states</td>
<td></td>
</tr>
</tbody>
</table>

**Description**

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

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**nat_states**

A data.frame with 49 rows and 2 columns

**Description**

- state (character) state 2 letter abbreviation
- state_name (character) state full name
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

## Not run:
ns_altid(uid = "ELEMENT_GLOBAL.2.154701")
ns_altid(id = "154701")
ns_altid(el_code = "PDRAN0F010")

## End(Not run)
ns_ecohier

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

Usage
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 for details on the response data

Value
A list with lots of elements

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

Examples
## Not run:
ns_ecohier("ELEMENT_GLOBAL.2.683060")

## End(Not run)
ns_export

Usage

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

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

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

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/
### Examples
```r
## Not run:
x <- ns_export(text = "robin")
res <- ns_export_status(x)
str(res)
res$state
res$data$error$Message
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("ELEMENT_GLOBAL.2.154701")

## End(Not run)
```
Description

Combined search

Usage

```r
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="similiarTo"

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", "macrogroug", "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: \texttt{ns_search_eco()}, \texttt{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)
```

\texttt{ns_search_eco} \hspace{1cm} \textit{Ecosystem search}

Description

Ecosystem search

Usage

\begin{verbatim}
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,
   ...
)
\end{verbatim}

Arguments

- \texttt{text} (character) basic text search, equivalent to \texttt{text_adv} with matchAgainst="allNames" and operator="similarTo"
- \texttt{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

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.natureserve.org/api-docs/

See Also

Other search: ns_search_comb(), ns_search_spp()

Examples

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

## End(Not run)
Species search

Usage

```
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")
ns_search_spp(text_adv = list(searchToken = "bird",
    matchAgainst = "allNames", operator="similarTo"))
ns_search_spp(status = "G1")
ns_search_spp(location = list(nation = "US"))
ns_search_spp(location = list(nation = "US", subnation = "VA"))
ns_search_spp(species_taxonomy = list(scientificTaxonomy = "Animalia", level = "kingdom"))
ns_search_spp(species_taxonomy = list(informalTaxonomy = "birds"))
ns_search_spp(record_subtype = "macrogroup")
ns_search_spp(modified_since = "2020-04-30T00:00:00+0000")
ns_search_spp(page = 0, per_page = 2)

## End(Not run)
```
Index

*Topic **data**
  nat_states, 2

*Topic **package**
  natserv-package, 2

nat_states, 2
natserv (natserv-package), 2
natserv-package, 2
ns_altid, 3
ns_ecohier, 4
ns_export, 4
ns_export_status (ns_export), 4
ns_id, 6
ns_search_comb, 7, 9, 11
ns_search_eco, 8, 8, 11
ns_search_spp, 8, 9, 10