Package 'rYoutheria'

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Type Package

Title Access to the YouTheria Mammal Trait Database

Description A programmatic interface to web-services of YouTheria. YouTheria is
an online database of mammalian trait data <http://www.utheria.org/>.

Version 1.0.3

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VignetteBuilder knitr

URL https://github.com/BiologicalRecordsCentre/rYoutheria

BugReports https://github.com/biologicalrecordscentre/rYoutheria/issues

Depends R (>= 3.0.0)

Imports plyr, RJSONIO, reshape2, RCurl

Suggests knitr, testthat, roxygen2

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RoxygenNote 5.0.1

NeedsCompilation no

Repository CRAN

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R topics documented:

getCountries *Get country names from YouTheria*

Description

Retrieves a `data.frame` of country names and IDs from YouTheria.

Usage

```
getCountries()
```

Value

A dataframe of country names and IDs. These names can be used in getMeasurementData to restrict the search to a specific country

Examples

```
## Not run:
# Get a dataframe of all countries
getCountries()

## End(Not run)
```

getLocData *Get location information from YouTheria*

Description

Retrieves location information stored on YouTheria

Usage

```
getLocData(country = NULL, StudyUnitId = NULL)
```

Arguments

country   Character specifying the country within which to search for locations. for a list
              of countries used getCountries().

StudyUnitId   Numeric specifying the StudyUnitId to search for

Value

A dataframe in which each rows gives the details of a study unit

Examples

```
## Not run:
# Get a dataframe of Indian study units
Indian_StudyUnits <- getLocData(country = 'India')

## End(Not run)
```

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getMeasurementData *Get a table of trait measurements from YouTheria*

Description

Retrieves a data.frame of trait measurements with facilities to select by location, species name and/or measurement type.

Usage

```
getMeasurementData(measurementType = NA, MSW93Binomial = NA,
  MSW05Binomial = NA, country = NULL, StudyUnitId = NULL,
  locationData = TRUE, locationOnly = FALSE, cast = TRUE,
  silent = FALSE)
```

Arguments

measurementType

Measurement types to collect data for. If NULL (default), all measurement types are returned. Can also be 'numeric' or 'character' (or a list of either type) and will filter by MeasurementTypeID and the measurement respectivly. MeasurementTypeIDs and names can be found using getMeasurementTypes().

MSW93Binomial Character giving the latin name of a species (or list of species) for which measurements are required. Naming should follow Mammal Species of the World 1993.

MSW05Binomial Character giving the latin name of a species (or list of species) for which measurements are required. Naming should follow Mammal Species of the World 2005.

country Character specifying the country from which you wish to collect data. If NULL all data is retrieved. If specified then locationOnly is set to TRUE

StudyUnitId Numeric specifying the StudyUnitId from which you wish to collect data. If NULL all data is retrieved

locationData Logial dictating whether location information should be added to the output. Defualt is FALSE but is set to TRUE if either StudyUnitId or country are specified.

locationOnly If TRUE data is only be returned if it has location information.

cast If TRUE (default) then the data is cast so that each observation is one row in the output. If false then each observation has one row for each data element recorded (i.e. range, mean, units, etc)

silent If TRUE progress reporting is silenced

Value

A `data.frame` with each row giving a trait measurement

Examples

```
## Not run:
# Select measurement type by id
M14 <- getMeasurementData(14)
M22_7_2 <- getMeasurementData(c(22,7,2))

# Select measurement type by name
WM <- getMeasurementData('Wing Morphology')
WM_TN <- getMeasurementData(c('Wing Morphology','Teat Number'))

# Select by measurement type and species name
PpPr_bodymass <- getMeasurementData(measurementType = 1,
                         MSW93Binomial = c('Pongo pygmaeus','Peroryctes raffrayana'))

#Select by measurement type, species name and location
Ob_Activity_Tanz <- getMeasurementData(measurementType = 'Activity Cycle',
                               MSW05Binomial = 'Oryx beisa',
                               country = 'Tanzania')

## End(Not run)
```

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getMeasurementTypes   *Get Measurement Types*

Description

Retrieves a `data.frame` of measurement types available from YouTheria.

Usage

```
getMeasurementTypes(measurementType = NULL)
```

Arguments

measurementType

> If NULL (default), then all measurement types are returned. Can also be 'numeric' or 'character' (or a list of either type) and will filter by Id and Name respectivly in the resulting data.frame.

Value

A dataframe of measurement types giving their Id and Name

Examples

```
## Not run:
# Get a dataframe of all measurement types
AllMT <- getMeasurementTypes()

# Seach by name
BM_MT <- getMeasurementTypes('Body Mass')
BM_LL_MT <- getMeasurementTypes(c('Body Mass','Limb Length'))

# Search by ID
MT1 <- getMeasurementTypes(1)
MT123 <- getMeasurementTypes(1:3)

## End(Not run)
```

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rYoutheria	*The rYoutheria package*

Description

The rYouTheria package harnesses the YouTheria wedsite's APIs to give easy access to a large amount of mammal trait data. The package allows the user to select data by species, location and measurement type. More information can be found out about the YouTheria dataset at http://www.utheria.org/

Click on the index link below for more information on each function

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YoutheriaToDF	*Convert data returned from API to a dataframe*

Description

Takes the list returned by `fromJSON(getURL(url))`, where url is the ValueByType controller in the YouTheria API, and returns a data.frame. This code is faster than using plyr.

Usage

```
YoutheriaToDF(x)
```

Arguments

x	a list of trait data as returned by `fromJSON(getURL(url))`.

Value

A `data.frame` of melted trait data

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