Package 'stacomiR'

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Title Fish Migration Monitoring

Description Graphical outputs and treatment for a database of fish pass
monitoring. It is a part of the 'STACOMI' open source project developed in
France by the French Office for Biodiversity institute to centralize
data obtained by fish pass monitoring. This version is available in French and
English. See <http://stacomir.r-forge.r-project.org/> for more information on
'STACOMI'.

License GPL (>= 2)

Encoding UTF-8

URL https://forgemia.inra.fr/stacomi/stacomir

BugReports https://forgemia.inra.fr/stacomi/stacomir/-/issues

Collate 'create_generic.R' 'data.R' 'fun_table_per_dis.R'
'fun_write_monthly.R' 'fungraph.R' 'fungraph_glasseel.R'
'funschema.R' 'funstat.R' 'funtable.R' 'ref_choice.R'
'ref_coe.R' 'ref_dc.R' 'ref_df.R' 'ref_env.R' 'ref_horodate.R'
'ref_list.R' 'ref_par.R' 'ref_parqual.R' 'ref_parquan.R'
'ref_stage.R' 'ref_taxa.R' 'ref_textbox.R' 'ref_timestep.R'
'ref_timestep_daily.R' 'ref_year.R' 'report_annual.R'
'report_dc.R' 'report_df.R' 'utilities.R' 'report_env.R'
'report_ge_weight.R' 'report_ope.R' 'report_mig.R'
'report_sample_char.R' 'report_mig_char.R' 'report_mig_mult.R'
'report_mig_env.R' 'report_mig_interannual.R'
'report_sea_age.R' 'report_silver_eel.R' 'report_species.R'
'setAs.R' 'stacomi.R' 'stacomiR-package.R'

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LazyData true

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Suggests testthat, viridis, knitr, rmarkdown

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R **topics documented:**

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barplot,report_annual-method

barplot method for object report_annual-class

Description

barplot method for object report_annual-class

Usage

```
## S4 method for signature 'report_annual'
barplot(height, legend.text = NULL, ...)
```

Arguments

height	An object of class report_annual
legend.text	See barplot help
...	additional arguments passed to barplot

Value

No return value, called for side effects

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

See Also

report_annual-class for examples

---

calcule   *Generic method for calculations*

Description

Generic method for calculations

Usage

```
calcule(object, ...)
```

Arguments

object   Object

...   Additional parms

Author(s)

cedric.briand

---

calcule,report_ge_weight-method
                    Calcule method for report_ge_weight

Description

Calcule method for report_ge_weight

Usage

```
## S4 method for signature 'report_ge_weight'
calcule(object, silent = FALSE)
```

Arguments

`object`	An object of class report_ge_weight-class
`silent`	Boolean, if TRUE, information messages are not displayed, only warnings and errors

Value

An object of class report_ge_weight-class with `@calcdata[["data"]]` (essentially a selection of columns and renaming from `@data`) and coe daily coefficients extracted from the database `@calcdata[["coe"]]` and prepared for graphs

Author(s)

Cedric Briand `<cedric.briand@eptb-vilaine.fr>`

`calcule,report_mig-method`

Transforms migration per period to daily migrations, and performs the conversion from weights to number is data are stored as weights (glass eel).

Description

The calculation must be launched once data are filled by the connect method. Currently the negative argument has no effect.

Usage

```
## S4 method for signature 'report_mig'
calcule(object, negative = FALSE, silent = FALSE)
```

Arguments

`object`	An object of class report_mig-class
`negative`	a boolean indicating if a separate sum must be done for positive and negative values, if true, positive and negative counts return different rows
`silent`	Boolean, if TRUE, information messages are not displayed, only warnings and errors

Value

report_mig with calcdata slot filled. It is a list with one element per counting device containing

method In the case of instantaneous periods (video counting) the sum of daily values is done by the fun_report_mig_mult method and the value indicated in method is "sum". If any migration monitoring period is longer than a day, then the migration is split using the fun_report_mig_mult_overlaps function and the value indicated in the method is "overlaps" as the latter method uses the overlap package to split migration period.

data the calculated data.

contient_poids A boolean which indicates, in the case of glass eel, that the function fun_weight_conversion has been run to convert the weights to numbers using the weight to number coefficients in the database (see report_ge_weight).

negative A parameter indicating if negative migration (downstream in the case of upstream migration devices) have been converted to positive numbers, not developed yet

Note

The class report_mig does not handle escapement rates nor 'devenir' i.e. the destination of the fishes.

---

calcule,report_mig_char-method

Computes data to a standard format for the summary and plot methods.

Description

Merges the content of the list elements 'parqual' and 'parquan' in the data slot, and creates a single dataframe with one line per qualitative and quantitative pair. This methods allow to cross one quantity (e.g. length) with a qualitative parameter (e.g. sex).

Usage

```
## S4 method for signature 'report_mig_char'
calcule(object, silent = FALSE)
```

Arguments

object	An object of class report_mig_char-class
silent	Boolean default FALSE, if TRUE information messages not displayed

Value

An object of class report_mig_char-class with slot @calcdata filled

---

calcule,report_mig_env-method

Calculations for migration in the class report_mig_env-class

Description

Runs the calcule method in report_mig_mult-class

Usage

```
## S4 method for signature 'report_mig_env'
calcule(object, silent = FALSE)
```

Arguments

object	An object of class report_mig_env-class
silent	Boolean default FALSE, if TRUE information messages not displayed

Value

report_mig_env-class with data in slot r_mig_env@report_mig_mult@calcdata

---

calcule,report_mig_interannual-method

calcule method for report_mig_interannual

Description

Performs the calculation of seasonal coefficients for the plot(plot.type="seasonal") method. The numbers are split according to the period chosen, one of "day","week","month","2 weeks", French labels are also accepted as arguments. Once this is done, the seasonality of the migration is displayed using the day when the first fish was seen, then the days (or period) corresponding to 5, 50 , 95, and 100 percent of the migration. The duration of 90

Usage

```
## S4 method for signature 'report_mig_interannual'
calcule(object, silent = FALSE, timesplit = "mois")
```

Arguments

object	An object of class report_mig_interannual-class
silent	Boolean, if TRUE, information messages are not displayed, only warnings and errors
timesplit	One of "day","week","month","2 weeks", "jour","semaine","quinzaine","mois"

Value

An object of class report_mig_interannual-class with calcdata slot filled.

Note

The class report_mig_interannual does not handle escapement rates nor 'devenir' i.e. the destination of the fishes.

Author(s)

Marion Legrand

---

calcule,report_mig_mult-method

> *#' Transforms migration per period to daily migrations, and performs the conversion from weights to number is data are stored as weights (glass eel). This calculation is performed in a loop for all dc.*

Description

The calculation must be launched once data are filled by the connect method. Currently the negative argument has no effect.

Usage

```
## S4 method for signature 'report_mig_mult'
calcule(object, negative = FALSE, silent = FALSE)
```

Arguments

object	An object of class report_mig_mult-class
negative	a boolean indicating if a separate sum must be done for positive and negative values, if true, positive and negative counts return different rows
silent	Default FALSE, should messages be stopped

Value

report_mig_mult with a list in slot calcdata. For each dc one will find a list with the following elements

method In the case of instantaneous periods (video counting) the sum of daily values is done by the fun_report_mig_mult method and the value indicated in method is 'sum'. If any migration monitoring period is longer than a day, then the migration is split using the fun_report_mig_mult_overlaps function and the value indicated in the method is 'overlaps' as the latter method uses the overlap package to split migration period.

data the calculated data. If weight are present, the columns display weight or numbers, the total number is 'Effectif_total' and corresponds to the addition of numbers and numbers converted from weight, the total weight is 'Poids_total'+'poids_depuis_effectifs' and corresponds to weighed glass eel plus glass eel number converted in weights. CALCULE corresponds to calulated number, MESURE to measured numbers, EXPERT to punctual expertise of migration (for instance measured in other path, or known migration of fishes passing the dam but not actually counted, PONCTUEL to fishes counted by visual identification but not by the counting apparatus (in case of technical problem for instance)

contient_poids A boolean which indicates, in the case of glass eel, that the function fun_weight_conversion has been run to convert the weights to numbers using the weight to number coefficients in the database (see report_ge_weight).

negative A parameter indicating if negative migration (downstream in the case of upstream migration devices) have been converted to positive numbers, not developed yet

Note

The class does not handle escapement rates, though structurally those are present in the database. If you want to use those you will have to do the calculation manually from the data in `report_mig_mult@data`.

---

calcule,report_sample_char-method
Calculation for report_sample_char

Description

In that class, most treatments are done in the query, this method checks that data are available and fills information for year, month, two weeks, week, doy

Usage

```
## S4 method for signature 'report_sample_char'
calcule(object, silent = FALSE)
```

Arguments

object	An object of class report_sample_char-class
silent	Boolean, if TRUE, information messages are not displayed, only warnings and errors

Value

An object of class report_sample_char-class with slot @data filled

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

---

calcule,report_sea_age-method

Split data according to the limits set in the limit1hm, and limit2hm arguments of the [report_sea_age-class](#).

Description

If no value are provided in the limit1hm slot, an error is returned, if no value is provided in the limit2hm slot a default upper value for salmon size is taken to ensure all salmon are either of age 1 or 2, but no age 3 are returned

Usage

```
## S4 method for signature 'report_sea_age'
calcule(object, silent)
```

Arguments

object	An object of class [report_sea_age-class](#)
silent	Default FALSE, if TRUE the program should no display messages

Value

An object of class [report_sea_age-class](#) with calculated data in slot calcdata

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

---

calcule,report_silver_eel-method

Calculate individual silver eel parameters.

Description

This calcule method for report_silver_eel, will transform data from long (one line per size characteristic, size, weight, eye diameter, pectoral fin measurement, lateral line and constrast) to wide format (one line per silver eel). It will also calculate Durif silvering index and Pankhurst and Fulton's K.

Usage

```
## S4 method for signature 'report_silver_eel'
calcule(object, silent)
```

Arguments

object	An object of class [report_silver_eel-class](#)
silent	Boolean, if TRUE, information messages are not displayed, only warnings and errors

Value

An object of class [report_silver_eel-class](#) with slot calcdata filled, as a list for each counting device

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

---

calcule,report_species-method
calcule method for report_species

Description

The number will be split according to the split argument passed to the class, e.g. per year or month or week. Data from different DC will be grouped. Counts are given per taxa, unless there are several stages, in which case the counts correspond to taxa + stage.

Usage

```
## S4 method for signature 'report_species'
calcule(object, silent = FALSE)
```

Arguments

object	An object of class [report_species-class](#)
silent	Boolean, if TRUE, information messages are not displayed, only warnings and errors

Value

An object of class [report_species-class](#) with calcdata slot filled.

---

charge *Generic method to load referentials*

Description

Generic method to load referentials

Usage

```
charge(object, ...)
```

Arguments

object   Object

...   Additional parm

Author(s)

cedric.briand

---

charge,ref_choice-method
Loading method for Refchoice referential objects

Description

Loading method for Refchoice referential objects

Usage

```
## S4 method for signature 'ref_choice'
charge(object, vecteur, label, selected)
```

Arguments

object   An object of class ref_choice

vecteur   A vector of name, see example code.

label   Labels for the choices

selected   An integer indicating which object is selected at launch

Value

An S4 object of class ref_choice-class

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

See Also

Other referential objects: ref_choice-class, ref_coe-class, ref_dc-class, ref_df-class,
ref_horodate-class, ref_list-class, ref_par-class, ref_parqual-class, ref_parquan-class,
ref_stage-class, ref_taxa-class, ref_year-class

Examples

```
## Not run:
object=new('ref_choice')
charge(object,vecteur=c('oui','non'),label='essai',selected=as.integer(1))

## End(Not run)
```

---

charge,ref_coe-method   *loads the coefficients for the period defined in class*

Description

The slots datedebut and datefin have to be filled before using charge

Usage

```
## S4 method for signature 'ref_coe'
charge(object)
```

Arguments

object   An object of class ref_coe-class

Value

An object of class ref_coe-class

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

Examples

```
## Not run:
object<- new('ref_coe')
object@datedebut<-strptime('01/01/1996',format='%d/%m/%Y')
object@datefin<-strptime('01/01/1997',format='%d/%m/%Y')
charge(object)

## End(Not run)
```

charge,ref_dc-method   *Method to load the counting devices of the control station*

Description

Method to load the counting devices of the control station

Usage

```
## S4 method for signature 'ref_dc'
charge(object)
```

Arguments

object   An object of class ref_dc-class

Value

an object of class ref_dc with data loaded

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

---

charge,ref_df-method   *Loading method for DF referential objects*

Description

Loading method for DF referential objects

Usage

```
## S4 method for signature 'ref_df'
charge(object)
```

Arguments

object   An object of class ref_df-class

Value

An object of class ref_df with df loaded

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

Examples

```
## Not run:
 object=new('ref_df')
charge(object)

## End(Not run)
```

---

charge,ref_env-method   *Loading method for ref_env referential object*

Description

Loading method for ref_env referential object

Usage

```
## S4 method for signature 'ref_env'
charge(object)
```

Arguments

object   An object of class ref_env-class

Value

An S4 object of class ref_env with data loaded from the database

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

Examples

```
## Not run:
 object=new('ref_env')
 charge(object)

## End(Not run)
```

```
charge,ref_list-method
```
Loading method for ref_list referential objects

Description

Loading method for ref_list referential objects

Usage

```
## S4 method for signature 'ref_list'
charge(object, listechoice, label)
```

Arguments

object	An object of class [ref_list-class](#)
listechoice	A character vector setting the possible values in which the user can select
label	A label for refliste

Value

An S4 object of class [ref_list-class](#)

An S4 object of class [ref_list-class](#)

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

Examples

```
## Not run:
 object=new('ref_list')
charge(object)

## End(Not run)
```

charge,ref_par-method   *Loading method for ref_par referential objects*

Description

Loading method for ref_par referential objects

Usage

```
## S4 method for signature 'ref_par'
charge(object)
```

Arguments

object   An object of class ref_par-class

Value

An S4 object of class ref_par

An S4 object of class ref_par-class

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

Examples

```
## Not run:
 object=new('ref_par')
charge(object)

## End(Not run)
```

charge,ref_parqual-method
                        Loading method for Reparqual referential objects

Description

Loading method for Reparqual referential objects

Usage

```
## S4 method for signature 'ref_parqual'
charge(object)
```

Arguments

object   An object of class [ref_parqual-class](#)

Value

An S4 object of class ref_parqual

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

Examples

```
## Not run:
 object=new('ref_parqual')
 charge(object)

## End(Not run)
```

---

charge,ref_parquan-method

Loading method for Reparquan referential objects

Description

Loading method for Reparquan referential objects

Usage

```
## S4 method for signature 'ref_parquan'
charge(object)
```

Arguments

object   An object of class [ref_parquan-class](#)

Value

An S4 object of class [ref_parquan-class](#) with data loaded

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

Examples

```
## Not run:
 object=new('ref_parquan')
 charge(object)

## End(Not run)
```

---

charge,ref_stage-method

Loading method for ref_stage referential objects

Description

Loading method for ref_stage referential objects

Usage

```
## S4 method for signature 'ref_stage'
charge(object)
```

Arguments

object   An object of class ref_stage-class

Value

An S4 object of class ref_stage-class with all stages available in the database

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

Examples

```
## Not run:
 object=new('ref_stage')
 charge(object)

## End(Not run)
```

charge,ref_taxa-method

Loading method for ref_taxa referential objects

Description

Loading method for ref_taxa referential objects

Usage

```
## S4 method for signature 'ref_taxa'
charge(object)
```

Arguments

object   An object of class [ref_taxa-class](#)

Value

An S4 object of class ref_taxa

An S4 object of class [ref_taxa-class](#) with all taxa loaded from the database

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

Examples

```
## Not run:
 object=new('ref_taxa')
 charge(object)
## End(Not run)
```

charge,ref_textbox-method

Loading method for ref_textbox referential objects

Description

Loading method for ref_textbox referential objects

Usage

```
## S4 method for signature 'ref_textbox'
charge(object, title, label)
```

Arguments

`object`	An object of class ref_textbox-class
`title`	A title for the frame
`label`	A label for the TextBox

Value

An S4 object of class ref_textbox-class

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

Examples

```
## Not run:
 object=new('ref_textbox')
charge(object,title='un titre',label='20')

## End(Not run)
```

---

charge,ref_year-method

Loading method for ref_year referential objects

Description

Selects year available either in the bjo table if report_object==report_mig_interannual) or in the t_operation_ope table

Usage

```
## S4 method for signature 'ref_year'
charge(object, objectreport = "report_ge_weight")
```

Arguments

`object`	An object of class ref_year-class
`objectreport`	The object report, default `report_ge_weight` other possible value report_mig_interannual

Value

object An object of class ref_year-class with slot data filled with the available years for the corresponding report

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

Examples

```
## Not run:
object=new("ref_year")
charge(object)
 validObject(annee)
showMethods("charge")

## End(Not run)
```

---

charge,report_mig-method

Loads additional data on migration control operations, df (fishway) dc (counting device).

Description

this method creates additional classes in envir_stacomi for later use in plot (operations, DF operation, DC operation). So unlike in most report classes where the charge method is only used by the graphical interface, it is necessary to run charge for report_mig.

Usage

```
## S4 method for signature 'report_mig'
charge(object, silent = FALSE)
```

Arguments

object	An object of class report_mig-class
silent	Should the program be returning messages

Value

An object of class report_mig-class with slots filled from values assigned in envir_stacomi environment

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

`charge,report_mig_env-method`

charge method for report_mig_env class

Description

#' Unique the other report classes where the charge method is only used by the graphical interface to collect and test objects in the environment envir_stacomi, and see if the right choices have been made in the graphical interface, this methods runs the charge,report_mig_mult-method and needs to be called from the command line (see examples)

Usage

```
## S4 method for signature 'report_mig_env'
charge(object, silent = FALSE)
```

Arguments

object   An object of class report_mig_env-class

silent   Should the function remain silent (boolean)

Value

An object of class report_mig_env-class with data set from values assigned in envir_stacomi environment

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

`charge,report_mig_mult-method`

charge method for report_mig_mult

Description

For the report_mig_mult class the charge method must be run to load data on migration control operations fishway operations, and counting devices operations as data from those are displayed in the main plots. For other classes the charge method is only used by the graphical interface (shiny)

Usage

```
## S4 method for signature 'report_mig_mult'
charge(object, silent = FALSE)
```

Arguments

object	An object of class report_mig_mult-class
silent	Default FALSE, if TRUE the program should no display messages

Value

An object of class report_mig_mult-class with slots filled from values assigned in envir_stacomi environment

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

---

charge_complement   *Generic method to load additional data*

Description

Generic method to load additional data

Usage

```
charge_complement(object, ...)
```

Arguments

object	Object
...	Additional parms

Author(s)

cedric.briand

---

charge_complement,ref_parqual-method
                    Loads an additional dataset this method is loaded to obtain the possible values of a qualitative parameter. Here data only contains one line

---

Description

Loads an additional dataset this method is loaded to obtain the possible values of a qualitative parameter. Here data only contains one line

Usage

```
## S4 method for signature 'ref_parqual'
charge_complement(object)
```

Arguments

object   An object of class ref_parqual-class

Value

An S4 object of class ref_parqual-class with the valqual slot filled

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

Examples

```
## Not run:
 dc_selected=6
taxa_selected=2038
 stage_selected='AGJ'
 object=new('ref_parqual')
 object<-charge(object)
 charge_complement(object)

## End(Not run)
```

---

charge_with_filter,ref_par-method
                              Loading method for ref_par *referential objects searching only*
                              those parameters existing for a DC, a Taxa, and a stage

---

Description

Loading method for ref_par referential objects searching only those parameters existing for a
DC, a Taxa, and a stage

Usage

```
## S4 method for signature 'ref_par'
charge_with_filter(object, dc_selected, taxa_selected, stage_selected)
```

Arguments

object   An object of class ref_par-class

dc_selected   A counting device selected for the report

taxa_selected   The taxa selected for the report

stage_selected   The stage selected for the report

Value

An S4 object of class [ref_par-class](#)

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

Examples

```
## Not run:
 object=new('ref_par')
charge_with_filter(object,dc_selected=6,taxa_selected=2038,stage_selected=c('AGJ','CIV'))

## End(Not run)
```

---

charge_with_filter,ref_parqual-method

Loading method for Reparqual referential objects searching only those parameters existing for a DC, a Taxon, and a stage

---

Description

Loading method for Reparqual referential objects searching only those parameters existing for a DC, a Taxon, and a stage

Usage

```
## S4 method for signature 'ref_parqual'
charge_with_filter(object, dc_selected, taxa_selected, stage_selected)
```

Arguments

object	An object of class [ref_parqual-class](#)
dc_selected	The dc set in the report object
taxa_selected	The taxa set in the report object
stage_selected	The stage set in the report object

Value

An S4 object of class [ref_parqual-class](#)

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

Examples

```
## Not run:
 dc_selected=6
 taxa_selected=2038
 stage_selected='AGJ'
 object=new('ref_parqual')
 charge_with_filter(object,dc_selected,taxa_selected,stage_selected)

## End(Not run)
```

---

charge_with_filter,ref_parquan-method

Loading method for Reparquan referential objects searching only those parameters existing for a DC (counting device), a Taxon, and a stage

---

Description

Loading method for Reparquan referential objects searching only those parameters existing for a DC (counting device), a Taxon, and a stage

Usage

```
## S4 method for signature 'ref_parquan'
charge_with_filter(object, dc_selected, taxa_selected, stage_selected)
```

Arguments

object	An object of class ref_parquan-class
dc_selected	The dc set in the report object
taxa_selected	The taxa set in the report object
stage_selected	The stage set in the report object

Value

An S4 object of class ref_parquan-class with data loaded showing available parameters for one DC

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

Examples

```
## Not run:
 dc_selected=6
taxa_selected=2038
 stage_selected='AGJ'
 object=new('ref_parquan')
 charge_with_filter(object,dc_selected,taxa_selected,stage_selected)

## End(Not run)
```

---

charge_with_filter,ref_stage-method

Loading method for ref_stage referential objects searching only those stages existing for a DC and a Taxon

---

Description

Loading method for ref_stage referential objects searching only those stages existing for a DC and a Taxon

Usage

```
## S4 method for signature 'ref_stage'
charge_with_filter(object, dc_selected, taxa_selected)
```

Arguments

object	An object of class ref_stage-class
dc_selected	The selected counting device
taxa_selected	The selected species

Value

An S4 object of class ref_stage-class listing all stages available for one DC and one taxon

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

Examples

```
## Not run:
 dc_selected=6
taxa_selected=2038
 object=new('ref_stage')
 charge_with_filter(object,dc_selected,taxa_selected)

## End(Not run)
```

```
charge_with_filter,ref_taxa-method
```
Loading method for ref_taxa referential objects searching only taxa existing for a DC

Description

Loading method for ref_taxa referential objects searching only taxa existing for a DC

Usage

```
## S4 method for signature 'ref_taxa'
charge_with_filter(object, dc_selected)
```

Arguments

object	An object of class ref_taxa-class
dc_selected	A counting device selected, only taxa attached to this dc are selected

Value

An S4 object of class ref_taxa-class with all taxa present on a DC (counting device)

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

Examples

```
## Not run:
 dc_selected=6
 object=new('ref_taxa')
 charge_with_filter(object,dc_selected=dc_selected)
## End(Not run)
```

```
choice_c,ref_choice-method
```
Choice_c method for ref_choice referential objects

Description

Choice_c method for ref_choice referential objects

Usage

```
## S4 method for signature 'ref_choice'
choice_c(object, selectedvalue)
```

Arguments

`object`	An object of class [ref_choice-class](#)
`selectedvalue`	the value selected in the combo

Value

An S4 object of class [ref_choice-class](#)

Author(s)

Cedric Briand `<cedric.briand@eptb-vilaine.fr>`

Examples

```
## Not run:
object=new('ref_list')
object<-charge(object,vecteur=c('1','2'),label='please choose')
object<-choice_c(object)

## End(Not run)
```

`choice_c,ref_dc-method`

Command line interface to select a counting device

Description

the choice_c method is intended to have the same behaviour as choice (which creates a widget in the graphical interface) but from the command line. The parameters for dc are transformed to integer as the ref_dc only takes integer in the dc slots. The method also loads the stations and ouvrages (dams) associated with the counting device (dc). The values passed to the choice_c method are then checked with the setValidty method. Finally, if an objectreport is passed as a parameter, the method will do a charge_with_filter to select only the taxa present in the counting devices

Usage

```
## S4 method for signature 'ref_dc'
choice_c(object, dc)
```

Arguments

`object`	an object of class ref_dc
`dc`	a character vector of dc chosen

Value

An object of class ref_dc with dc selected

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

Examples

```
## Not run:
win=gwindow()
group=ggroup(container=win,horizontal=FALSE)
object=new('ref_dc')
object<-charge(object)
objectreport=new('report_mig_mult')
choice_c(object=object,objectreport=objectreport,dc=1)

## End(Not run)
```

---

choice_c,ref_df-method

Command line interface to choose a fishway

Description

the choice_c method is intended to have the same behaviour as choice (which creates a widget in the graphical interface) but from the command line. The parameters for dF are transformed to integer as the ref_df only takes integer in the df slots. DF are third in hierarchy in the stacomi database Station>ouvrage>DF>DC>operation. This class is only used in the report_df class.

Usage

```
## S4 method for signature 'ref_df'
choice_c(object, df)
```

Arguments

object	an object of class [ref_df-class](#)
df	a character vector of df chosen

Value

An object of class ref_df with df selected

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

Examples

```
## Not run:
win=gwindow()
group=ggroup(container=win,horizontal=FALSE)
object=new('ref_df')
object<-charge(object)
objectreport=new('report_mig_mult')
choice_c(object=object,objectreport=objectreport,dc=1)

## End(Not run)
```

---

choice_c,ref_env-method

Command line interface to select a monitoring station

Description

the choice_c method is intended to have the same behaviour as choice (which creates a widget in the graphical interface) but from the command line.

Usage

```
## S4 method for signature 'ref_env'
choice_c(object, stationMesure)
```

Arguments

object   an object of class ref_env

stationMesure   a character vector of the monitoring station code (corresponds to stm_libelle in the tj_stationmesure_stm table)

Value

an object of class ref_env-class with the monitoring station selected

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

`choice_c,ref_horodate-method`

Choice_c method for ref_horodate

Description

Choice_c method for ref_horodate

Usage

```
## S4 method for signature 'ref_horodate'
choice_c(
  object,
  nomassign = "horodate",
  funoutlabel = "nous avons le choix dans la date\n",
  horodate,
  silent = FALSE
)
```

Arguments

object	An object of class [ref_horodate-class](#)
nomassign	The name assigned in environment envir_stacomi
funoutlabel,	text displayed by the interface
horodate	The horodate to set, formats "%d/%m/%Y %H:%M:%s", "%d/%m/%y %H:%M:%s", "%Y-%m-%d %H:%M:%s" formats can also be passed with the date set to the minute %d/%m/%Y %H:%M or the day %d/%m/%Y . . . are accepted. The choice_c method assigns and
silent	Default FALSE, should messages be displayed

Value

An object of class [ref_horodate-class](#) with slot *horodate* set, and assigns an object of class POSIXt with name nomassign in envir_stacomi

---

`choice_c,ref_list-method`

Choice_c method for ref_list referential objects

Description

Choice_c method for ref_list referential objects

Usage

```
## S4 method for signature 'ref_list'
choice_c(object, selectedvalue)
```

Arguments

object	An object of class ref_list-class
selectedvalue	the value selected in the combo

Value

An S4 object of class ref_list-class

Note

the choice method assigns an object of class refList named ref_list in the environment envir_stacomi

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

Examples

```
## Not run:
object=new('ref_list')
object<-charge(object,vecteur=c('1','2'),label='please choose')
object<-choice_c(object)

## End(Not run)
```

```
choice_c,ref_par-method
```
Command line interface to select a parameter

Description

Command line interface to select a parameter

Usage

```
## S4 method for signature 'ref_par'
choice_c(object, par, silent = FALSE)
```

Arguments

object	an object of class ref_par-class
par	A character vector of par
silent	Default FALSE but not used there

Value

An object of class ref_par-class

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

---

choice_c,ref_stage-method

choice_c method for ref_stage

Description

the choice_c method is intended to have the same behaviour as choice (which creates a widget in the graphical interface) but from the command line. The values passed to the choice_c method for stage is the code. Any numeric value will be discarded

Usage

```
## S4 method for signature 'ref_stage'
choice_c(object, stage, silent = FALSE)
```

Arguments

object	An object of class ref_stage-class
stage	the vector of stages chosen
silent	Boolean, if TRUE, information messages are not displayed

Value

An S4 object of class ref_stage-class with the stage selected in the data slot

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

Examples

```
## Not run:
object=new('ref_stage')
object<-charge(object)

## End(Not run)
```

```
choice_c,ref_taxa-method
```
choice_c method for ref_taxa

Description

the choice_cc method is intended to have the same behaviour as choice (which creates a widget in the graphical interface) but from the command line. The values passed to the choice_c method for taxa can be either numeric (2038 = Anguilla anguilla) or character.

Usage

```
## S4 method for signature 'ref_taxa'
choice_c(object, taxa)
```

Arguments

object	An object from the class ref_taxa
taxa	The vector of taxa, can be either code (numeric) or latin name

Value

An S4 object of class ref_taxa-class with data filtered according to the taxa

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

Examples

```
## Not run:
object=new('ref_taxa')
object<-charge(object)
objectreport=new('report_mig_mult')
choice_c(object=object,'Anguilla anguilla')

## End(Not run)
```

---

choice_c,ref_textbox-method

Choice_c method for ref_textbox referential objects

Description

Choice_c method for ref_textbox referential objects

Usage

```
## S4 method for signature 'ref_textbox'
choice_c(object, value, nomassign = "ref_textbox")
```

Arguments

object	An object of class [ref_textbox-class](#)
value	The value to set
nomassign	The name with which the object will be assigned in envir_stacomi

Value

An S4 object of class [ref_textbox-class](#) label selected

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

---

choice_c,ref_timestep_daily-method

choice_c method for class ref_timestep_daily

Description

the choice_c method is intended to have the same behaviour as choice (which creates a widget in the graphical interface) but from the command line.

Usage

```
## S4 method for signature 'ref_timestep_daily'
choice_c(object, datedebut, datefin)
```

Arguments

`object`	An object of class [ref_timestep_daily-class](#)
`datedebut`	A character (format `'15/01/1996'` or `'1996-01-15'` or `'15-01-1996'`), or POSIXct object
`datefin`	A character

Value

An S4 object of class [ref_timestep_daily-class](#) with date selected

Author(s)

Cedric Briand `<cedric.briand@eptb-vilaine.fr>`

Examples

```
## Not run:
 object=new('ref_dc')
 object<-charge(object)
 choice_c(object=object,datedebut='2012-01-01',datefin='2013-01-01')

## End(Not run)
```

---

choice_c,ref_year-method

choice_c method for ref_year referential from the command line

---

Description

The choice_c method will issue a warning if the year is not present in the database Allows the selection of year and the assignment in environment envir_stacomi

Usage

```
## S4 method for signature 'ref_year'
choice_c(
  object,
  annee,
  nomassign = "ref_year",
  funoutlabel = gettext("Year selected\n", domain = "R-stacomiR"),
  silent = FALSE
)
```

Arguments

object	An object of class [ref_year-class](#)
annee	The year to select, either as a character or as a numeric
nomassign	The name to be assigned in envir_stacomi
funoutlabel	The label that appears in funout
silent	Stops messages from being displayed if silent=TRUE, default FALSE

Value

object An object of class [ref_year-class](#) with year selected

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

Examples

```
## Not run:
object=new("ref_year")
object<-charge(object)
win=gwindow(title="test ref_year")
group=ggroup(container=win,horizontal=FALSE)
choice(object,nomassign="ref_year",funoutlabel="essai",titleFrame="essai ref_year",preselect=1)
dispose(win)

## End(Not run)
```

---

choice_c,report_annual-method
command line interface for [report_annual-class](#)

Description

The choice_c method fills in the data slot for classes [ref_dc-class](#), [ref_taxa-class](#), [ref_stage-class](#) and two slots of [ref_year-class](#)

Usage

```
## S4 method for signature 'report_annual'
choice_c(object, dc, taxa, stage, start_year, end_year, silent = FALSE)
```

Arguments

object	An object of class [report_annual-class](#)
dc	A numeric or integer, the code of the dc, coerced to integer,see [choice_c,ref_dc-method](#)
taxa	Either a species name in latin or the SANDRE code for species (ie 2038=Anguilla anguilla), it should match the ref.tr_taxon_tax referential table in the stacomi database, see [choice_c,ref_taxa-method](#)
stage	A stage code matching the ref.tr_stadedeveloppement_std table in the stacomi database, see [choice_c,ref_stage-method](#)
start_year	The starting the first year, passed as character or integer
end_year	the finishing year
silent	Boolean, if TRUE, information messages are not displayed

Value

An object of class [report_annual-class](#) with data selected

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

---

choice_c,report_dc-method

command line interface for report_dc class

Description

The choice_c method fills in the data slot for ref_dc, and then uses the choice_c methods of these object to "select" the data.

Usage

```
## S4 method for signature 'report_dc'
choice_c(object, dc, horodatedebut, horodatefin, silent = FALSE)
```

Arguments

object	An object of class [ref_dc-class](#)
dc	The dc to set
horodatedebut	A POSIXt or Date or character to fix the date of beginning of the report
horodatefin	A POSIXt or Date or character to fix the last date of the report
silent	Should program be silent or display messages

Value

An object of class ref_dc-class with data selected

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

---

choice_c,report_df-method

command line interface for report_df class

Description

The choice_c method fills in the data slot for ref_df, and then uses the choice_c methods of these object to "select" the data.

Usage

```
## S4 method for signature 'report_df'
choice_c(object, df, horodatedebut, horodatefin, silent = FALSE)
```

Arguments

object	An object of class ref_df-class
df	The df to set
horodatedebut	A POSIXt or Date or character to fix the date of beginning of the report
horodatefin	A POSIXt or Date or character to fix the last date of the report
silent	Should program be silent or display messages

Value

An object of class ref_df-class with data selected

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

choice_c,report_env-method

command line interface for report_env class

Description

The choice_c method fills in the data slot for ref_env-class by runnning the charge method of this object. It then runs the choice method on this object. It also applies the choice method for objects of class ref_horodate-class

Usage

```
## S4 method for signature 'report_env'
choice_c(object, stationMesure, datedebut, datefin, silent = FALSE)
```

Arguments

object	An object of class report_env-class
stationMesure	A character, the code of the monitoring station, which records environmental parameters choice_c,ref_env-method
datedebut	The starting date as a character, formats like %Y-%m-%d or %d-%m-%Y can be used as input
datefin	The finishing date of the report, for this class this will be used to calculate the number of daily steps.
silent	Boolean default FALSE, if TRUE information messages not displayed.

Value

An object of class report_env-class with data selected

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

choice_c,report_ge_weight-method

command line interface for report_ge_weight-class

Description

command line interface for report_ge_weight-class

Usage

```
## S4 method for signature 'report_ge_weight'
choice_c(object, dc, start_year, end_year, selectedvalue, silent = FALSE)
```

Arguments

object	An object of class report_ge_weight-class
dc	A numeric or integer, the code of the dc, coerced to integer,see choice_c,ref_dc-method
start_year	The starting the first year, passed as character or integer
end_year	the finishing year, must be > start_year (minimum one year in august to the next in august)
selectedvalue	A character to select and object in the ref_list-class
silent	Boolean, if TRUE, information messages are not displayed

Value

An object of class report_ge_weight-class with data selected The choice_c method fills in the data slot for classes ref_dc-class ref_year-class ref_coe-class ref_list-class

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

---

choice_c,report_mig-method

command line interface for report_mig class

Description

The choice_c method fills in the data slot for ref_dc, ref_taxa, ref_stage, and refref_timestep_daily and then uses the choice_c methods of these object to select the data.

Usage

```
## S4 method for signature 'report_mig'
choice_c(object, dc, taxa, stage, datedebut, datefin)
```

Arguments

object	An object of class report_mig-class
dc	A numeric or integer, the code of the dc, coerced to integer,see choice_c,ref_dc-method
taxa	Either a species name in latin or the SANDRE code for species (ie 2038=Anguilla anguilla), these should match the ref.tr_taxon_tax referential table in the stacomi database, see choice_c,ref_taxa-method

stage	A stage code matching the ref.tr_stadedeveloppement_std table in the stacomi database see choice_c,ref_stage-method
datedebut	The starting date as a character, formats like %Y-%m-%d or %d-%m-%Y can be used as input
datefin	The finishing date of the report, for this class this will be used to calculate the number of daily steps.

Value

An object of class report_mig-class with data selected

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

---

choice_c,report_mig_char-method

command line interface for report_mig_char class

Description

command line interface for report_mig_char class

Usage

```
## S4 method for signature 'report_mig_char'
choice_c(
  object,
  dc,
  taxa,
  stage,
  parquan = NULL,
  parqual = NULL,
  horodatedebut,
  horodatefin,
  echantillon = c("with", "without"),
  silent = FALSE
)
```

Arguments

object	An object of class report_mig_char-class
dc	A numeric or integer, the code of the dc, coerced to integer,see choice_c,ref_dc-method
taxa	'2220=Salmo salar', can be a vector with several values these should match the ref.tr_taxon_tax referential table in the stacomi database, see choice_c,ref_taxa-method

stage	The stages selected, can be a vector with several values
parquan	Quantitative parameter
parqual	Qualitative parameter
horodatedebut	The starting date as a character, formats like %Y-%m-%d or %d-%m-%Y can be used as input
horodatefin	The finishing date of the report, for this class this will be used to calculate the number of daily steps
echantillon	'with' can be 'without', checking without modifies the query in the connect method so that subsamples are not allowed
silent	Default FALSE, if TRUE the program should no display messages

Value

An object of class report_sea_age-class The choice_c method fills in the data slot for classes ref_dc-class, ref_taxa-class, ref_stage-class, ref_par-class and two slots of ref_horodate-class and then uses the choice_c methods of these object to select the data.

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

---

choice_c,report_mig_env-method
command line interface for report_env class

Description

command line interface for report_env class

Usage

```
## S4 method for signature 'report_mig_env'
choice_c(
  object,
  dc,
  taxa,
  stage,
  stationMesure,
  datedebut,
  datefin,
  silent = FALSE
)
```

Arguments

object	An object of class report_env-class
dc	A numeric or integer, the code of the dc, coerced to integer,see choice_c,ref_dc-method
taxa	'2038=Anguilla anguilla', these should match the ref.tr_taxon_tax referential table in the stacomi database, see choice_c,ref_taxa-method
stage	'AGJ=Yellow eel', 'AGG=Silver eel', 'CIV=glass eel'
stationMesure	A character, the code of the monitoring station, which records environmental parameters choice_c,ref_env-method
datedebut	The starting date as a character, formats like %Y-%m-%d or %d-%m-%Y can be used as input
datefin	The finishing date of the report, for this class this will be used to calculate the number of daily steps.
silent	Boolean default FALSE, if TRUE information messages not displayed.

Value

An object of class report_env-class with data selected

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

---

choice_c,report_mig_interannual-method
command line interface for report_mig_interannual class

Description

command line interface for report_mig_interannual class

Usage

```
## S4 method for signature 'report_mig_interannual'
choice_c(object, dc, taxa, stage, start_year, end_year, silent = FALSE)
```

Arguments

object	An object of class report_mig_interannual-class
dc	A numeric or integer, the code of the dc, coerced to integer,see choice_c,ref_dc-method
taxa	Either a species name in latin or the SANDRE code for species (ie 2038=Anguilla anguilla), it should match the ref.tr_taxon_tax referential table in the stacomi database, see choice_c,ref_taxa-method

stage	A stage code matching the ref.tr_stadedeveloppement_std table in the stacomi database, see choice_c,ref_stage-method
start_year	The starting the first year, passed as character or integer
end_year	the finishing year
silent	Boolean, if TRUE, information messages are not displayed

Value

An object of class report_mig_interannual-class with data selected The choice_c method fills in the data slot for classes ref_dc-class, ref_taxa-class, ref_stage-class and two slots of ref_year-class

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

---

choice_c,report_mig_mult-method

command line used to build report_mig_mult class

Description

The choice_c method fills in the data slot for ref_dc, ref_taxa, ref_stage and then uses the choice_c methods of these object to 'select' the data.

Usage

```
## S4 method for signature 'report_mig_mult'
choice_c(object, dc, taxa, stage, datedebut, datefin, silent = FALSE)
```

Arguments

object	An object of class report_mig-class
dc	A numeric or integer, the code of the dc, coerced to integer,see choice_c,ref_dc-method
taxa	Either a species name in latin or the SANDRE code for species (ie 2038=Anguilla anguilla), these should match the ref.tr_taxon_tax referential table in the stacomi database, see choice_c,ref_taxa-method
stage	A stage code matching the ref.tr_stadedeveloppement_std table in the stacomi database see choice_c,ref_stage-method
datedebut	The starting date as a character, formats like %Y-%m-%d or %d-%m-%Y can be used as input
datefin	The finishing date of the report, for this class this will be used to calculate the number of daily steps.
silent	Should messages be hided default FALSE

Value

An object of class report_mig_mult-class with data selected

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

---

choice_c,report_sample_char-method

command line interface for report_sample_char class

Description

#' The choice_c method fills in the data slot for classes ref_dc-class, ref_taxa-class, ref_stage-class, ref_par-class and two slots of ref_horodate-class and then uses the choice_c methods of these object to select the data.

Usage

```
## S4 method for signature 'report_sample_char'
choice_c(
  object,
  dc,
  taxa,
  stage,
  par,
  horodatedebut,
  horodatefin,
  silent = FALSE
)
```

Arguments

object	An object of class report_sample_char-class
dc	A numeric or integer, the code of the dc, coerced to integer,see choice_c,ref_dc-method
taxa	Either a species name in latin or the SANDRE code for species (ie 2038=Anguilla anguilla), these should match the ref.tr_taxon_tax referential table in the stacomi database, see choice_c,ref_taxa-method
stage	A stage code matching the ref.tr_stadedeveloppement_std table in the stacomi database, see choice_c,ref_stage-method
par	A parameter matching th ref.tg_parametre_par table in the stacomi database, see choice_c,ref_par-method
horodatedebut	The starting date as a character, formats like %Y-%m-%d or %d-%m-%Y can be used as input

| horodatefin | The finishing date of the report, for this class this will be used to calculate the number of daily steps. |
| silent | Boolean, if TRUE, information messages are not displayed |

Value

An object of class report_mig-class with data selected

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

---

choice_c,report_sea_age-method

command line interface for report_sea_age class

Description

#' The choice_c method fills in the data slot for classes ref_dc-class, ref_taxa-class, ref_stage-class, ref_par-class and two slots of ref_horodate-class and then uses the choice_c methods of these object to select the data.

Usage

```
## S4 method for signature 'report_sea_age'
choice_c(
  object,
  dc,
  taxa = 2220,
  stage = c("5", "11", "BEC", "BER", "IND"),
  par = c("1786", "1785", "C001", "A124"),
  horodatedebut,
  horodatefin,
  limit1hm,
  limit2hm,
  silent = FALSE
)
```

Arguments

object	An object of class report_sea_age-class
dc	A numeric or integer, the code of the dc, coerced to integer, see choice_c,ref_dc-method
taxa	'2220=Salmo salar', these should match the ref.tr_taxon_tax referential table in the stacomi database, see choice_c,ref_taxa-method
stage	'5','11','BEC','BER','IND'

par	Parameters chosen for the report are measured body size (1786), measured fork length (1785),video size (C001) and number of year at sea (A124)
horodatedebut	The starting date as a character, formats like %Y-%m-%d or %d-%m-%Y can be used as input
horodatefin	The finishing date of the report, for this class this will be used to calculate the number of daily steps.
limit1hm	Size limit of a salmon for an one sea winter fish
limit2hm	Size limit of a salmon for a two sea winter fish
silent	Default FALSE, if TRUE the program should no display messages

Value

An object of class report_sea_age-class

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

---

choice_c,report_silver_eel-method

command line interface for report_silver_eel class

Description

#' The choice_c method fills in the data slot for classes ref_dc-class, ref_taxa-class, ref_stage-class, ref_par-class and two slots of ref_horodate-class and then uses the choice_c methods of these object to select the data.

Usage

```
## S4 method for signature 'report_silver_eel'
choice_c(
  object,
  dc,
  taxa = 2038,
  stage = "AGG",
  par = c("1786", "CCCC", "BBBB", "CONT", "LINP", "A111", "PECT"),
  horodatedebut,
  horodatefin,
  silent = FALSE
)
```

Arguments

object	An object of class report_silver_eel-class
dc	A numeric or integer, the code of the dc, coerced to integer,see choice_c,ref_dc-method
taxa	'2038=Anguilla anguilla', these should match the ref.tr_taxon_tax referential table in the stacomi database, see choice_c,ref_taxa-method
stage	'AGG'
par	Parameters chosen for the report are body size (1786), vertical eye diameter (BBBB), horizontal eye diameter (CCCC), body contrast (CONT), presence of punctuation on the lateral line (LINP), length of the pectoral fin (PECT)
horodatedebut	The starting date as a character, formats like %Y-%m-%d or %d-%m-%Y can be used as input
horodatefin	The finishing date of the report, for this class this will be used to calculate the number of daily steps.
silent	Boolean, if TRUE, information messages are not displayed

Value

An object of class report_mig-class

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

---

choice_c,report_species-method

command line interface for report_species-class

Description

command line interface for report_species-class

Usage

```
## S4 method for signature 'report_species'
choice_c(
  object,
  dc,
  taxa = "all",
  split = "none",
  start_year,
  end_year,
  silent = FALSE
)
```

Arguments

`object`	An object of class report_species-class
`dc`	A numeric or integer, the code of the dc, coerced to integer,see choice_c,ref_dc-method
`taxa`	Either 'all' (default) or a species name in latin or the SANDRE code for species (ie 2038=Anguilla anguilla), it should match the ref.tr_taxon_tax referential table in the stacomi database, see choice_c,ref_taxa-method
`split`	one of c('none','week','month','year')
`start_year`	The starting the first year, passed as character or integer
`end_year`	the finishing year
`silent`	Boolean, if TRUE, information messages are not displayed

Value

An object of class report_species-class with data selected

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

---

coef_durif	*Silvering index coefficients from Caroline Durif (2009) to predict silvering stage from morphological parameters*

Description

Classification scores are calculated by multiplying the metrics BL = body length, W = weight, MD = mean eye diameter (Dv+Dh)/2, and FL length of the pectoral fin, with each parameter p as S=Constant+BL*p(bl)+W*p(W)... The stage chosen is the one achieving the highest score

Usage

```
coef_durif
```

Format

An object of class matrix (inherits from array) with 5 rows and 6 columns.

References

Durif, C.M., Guibert, A., and Elie, P. 2009. Morphological discrimination of the silvering stages of the European eel. In American Fisheries Society Symposium. pp. 103-111. `https://fishlarvae.org/common/SiteMedia/durif%20et%20al%202009b.pdf`

---

colortable   *Builds a table with colors to merge with a dataframe for later use in*
                            ggplot. An initial check will be done on the name of the color vector.
                            A data frame is built. It contains a column color which is a factor. The
                            factor order match the order of the vector (not the alphabetical order
                            of the colors).

Description

Builds a table with colors to merge with a dataframe for later use in ggplot. An initial check will be
done on the name of the color vector. A data frame is built. It contains a column color which is a
factor. The factor order match the order of the vector (not the alphabetical order of the colors).

Usage

```
colortable(
  color = NULL,
  vec,
  palette = "Set2",
  color_function = c("brewer.pal", "gray.colors", "random")
)
```

Arguments

color	Either null (default) or a named vector of colors, the names should correspond to the values of vec
vec	The vector to match the color with, if a named vector or color is supplied the names should match
palette,	the name of the RColorBrewer palette, defaults to "Set2", ignored for other color gradient functions and if a named vector of colors is provided
color_function,	
	the name of the function used to brew the colors, one for "brewer.pal", "gray.colors", "random", default to "brewer.pal, this argument is ignored if a named vector of color is passed.

Value

A dataframe with two columns, the vector (name) and the color (color) as a reordered factor

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

---

connect,report_annual-method

connect method for report_annual class this method performs the sum over the year attention this function does not count subsamples.

Description

connect method for report_annual class this method performs the sum over the year attention this function does not count subsamples.

Usage

```
## S4 method for signature 'report_annual'
connect(object, silent = FALSE)
```

Arguments

object	An object of class report_annual-class
silent	Stops messages from being displayed if silent=TRUE, default FALSE

Value

An instantiated object with values filled with user choice

An object of class report_annual-class including a dataframe with column effectif, comprising the sum of report_mig counts

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

---

connect,report_dc-method

connect method for report_dc

Description

loads the working periods and type of arrest or disfunction of the DC

Usage

```
## S4 method for signature 'report_dc'
connect(object, silent = FALSE)
```

Arguments

object	An object of class [report_dc-class](#)
silent	boolean, default FALSE, if TRUE messages are not displayed

Value

An object of class [report_dc-class](#) with slot data filled from the database

Author(s)

cedric.briand

---

connect,report_df-method

connect method for report_df

Description

connect method for report_df

Usage

```
## S4 method for signature 'report_df'
connect(object, silent = FALSE)
```

Arguments

object	An object of class [report_df-class](#) loads the working periods and type of arrest or disfunction of the DF
silent	Boolean, TRUE removes messages.

Value

An object of class report_df with slot data filled from the database

Author(s)

cedric.briand

---

connect,report_env-method

connect method for report_env class

Description

connect method for report_env class

Usage

```
## S4 method for signature 'report_env'
connect(object, silent = FALSE)
```

Arguments

object	An object of class [report_env-class](#)
silent	Default FALSE, if TRUE the program should no display messages

Value

An object of class [report_env-class](#) with slot data filled from the database

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

---

connect,report_ge_weight-method

connect method for report_Poids_moyen

Description

The connect method adapts queries according to user choices, mean weight w is calculated as car_valeur_quantitatif/lot_effectif. These coefficients are stored in the database, and the connect method loads them from the table using the [ref_coe-class](#)

Usage

```
## S4 method for signature 'report_ge_weight'
connect(object, silent = TRUE)
```

Arguments

object	An object of class [report_ge_weight-class](#)
silent	Should the method be silent

Value

An object of class [report_ge_weight-class](#) with slots data and coe filled from the database

Note

dates for the request are from august to august (a glass eel season)

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

---

connect,report_mig-method

connect method for report_mig

Description

uses the report_mig_mult method

Usage

```
## S4 method for signature 'report_mig'
connect(object, silent = FALSE)
```

Arguments

object	An object of class [report_mig-class](#)
silent	Boolean default FALSE, if TRUE information messages not displayed

Value

report_mig with slot @data filled from the database

---

connect,report_mig_char-method

connect method for report_mig_char

Description

uses the report_mig_mult method

Usage

```
## S4 method for signature 'report_mig_char'
connect(object, silent = FALSE)
```

Arguments

object	An object of class [report_mig_char-class](#)
silent	Boolean default FALSE, if TRUE information messages not displayed

Value

An object of class [report_mig_char-class](#) with list in @data$parquan and @data$parqual filled in from the database

---

connect,report_mig_env-method

connect method for report_mig_env class

Description

connect method for report_mig_env class

Usage

```
## S4 method for signature 'report_mig_env'
connect(object, silent = FALSE)
```

Arguments

object	An object of class [report_mig_env-class](#)
silent	Default FALSE, if TRUE the program should no display messages

Value

an object of report_mig_env class

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

---

connect,report_mig_interannual-method
connect method for report_mig_interannual

Description

This method will check if the data in the t_reportjournalier_bjo table has no missing data, if missing the program will load missing data. As a second step, the program will check if the numbers in the table t_reportjournalier_bjo differ from those in the database, and propose to re-run the report_mig (which has a write_database methode to write daily reports) for those years.

Usage

```
## S4 method for signature 'report_mig_interannual'
connect(object, silent = FALSE, check = TRUE)
```

Arguments

object	An object of class [report_mig_interannual-class](#)
silent	Stops messages from being displayed if silent=TRUE, default FALSE
check	Checks that data are corresponding between report_annual and report_mig

Value

report_mig_interannual an instantiated object with values filled with user choice

Note

We expect different results between daily reports from the t_reportjournalier_bjo table and the annual sums from report_annual for glass eels as those may have been weighted and not only counted. The t_reportjournalier_bjo table used by report_mig_interannual contains the sum of glass eel numbers converted from weights and those directly counted. The report_annual does not.

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

---

connect,report_mig_mult-method

connect method for report_mig_mult

Description

this method loads data from the database for report_mig but also fills the table of conversion coefficient, if the taxa is eel. It also calls connect method for report_df-class, report_dc-class and report_ope-class associated with the report and used by the fungraph and fungraph_glasseel functions. As a side effect it assigns objects report_dc-class, report_df-class and report_ope-class in environment envir_stacomi

Usage

```
## S4 method for signature 'report_mig_mult'
connect(object, silent = FALSE)
```

Arguments

object	An object of class report_mig_mult-class
silent	Boolean, if TRUE messages are not displayed

Value

An object of class report_mig_mult-class with slot @data filled from the database

---

connect,report_ope-method

connect method for report_ope

Description

connect method for report_ope

Usage

```
## S4 method for signature 'report_ope'
connect(object, silent = FALSE)
```

Arguments

object	An object of class report_ope-class load data from the operation table, one dataset per DC
silent	Boolean, TRUE removes messages.

Value

An object of class report_ope-class with slot data @data filled

Author(s)

cedric.briand

---

connect,report_sample_char-method

connect method for report_sample_char

Description

connect method for report_sample_char

Usage

```
## S4 method for signature 'report_sample_char'
connect(object, silent = FALSE)
```

Arguments

object	An object of class report_sample_char-class
silent	Boolean if TRUE messages are not displayed

Value

An object of class report_sample_char-class with slot data @data filled

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

---

connect,report_sea_age-method

connect method for report_sea_age

Description

connect method for report_sea_age

Usage

```
## S4 method for signature 'report_sea_age'
connect(object, silent = FALSE)
```

Arguments

object	An object of class [report_sea_age-class](#)
silent	Default FALSE, if TRUE the program should no display messages

Value

An object of class [report_sea_age-class](#) with slot data @data filled

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

---

connect,report_silver_eel-method

connect method for report_silver_eel

Description

connect method for report_silver_eel

Usage

```
## S4 method for signature 'report_silver_eel'
connect(object, silent = FALSE)
```

Arguments

object	An object of class [report_silver_eel-class](#)
silent	Boolean if TRUE messages are not displayed

Value

An object of class [report_silver_eel-class](#) with slot data @data filled

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

---

connect,report_species-method

connect method for report_species

Description

connect method for report_species

Usage

```
## S4 method for signature 'report_species'
connect(object, silent = FALSE)
```

Arguments

object	An object of class report_species
silent	Boolean, if TRUE, information messages are not displayed

Value

An object of class report_species-class with data slot filled with slot data @data filled

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

---

envir_stacomi | *Environment where most objects from the package are stored and then loaded by the charge method*

Description

envir_stacomi envir_stacomi <- new.env(parent = baseenv()) is the environment where most object created by the interface are stored

This is where the graphical interface stores its objects try ls(envir=envir_stacomi)

This is where the graphical interface stores its objects try ls(envir=envir_stacomi)

Usage

```
envir_stacomi

envir_stacomi

envir_stacomi
```

Format

An object of class `environment` of length 0.

An object of class `environment` of length 0.

An object of class `environment` of length 0.

Author(s)

Cedric Briand `<cedric.briand@eptb-vilaine.fr>`

---

fn_connect_report_mig_interannual

Get table content for table t_bilanmigrationjournalier_bjo in report_mig_interannual

---

Description

Each time a report mig runs, it can write its content in the t_bilanmigrationjournalier_bjo table which stores the results of the report_mig with one value per day

Usage

```
fn_connect_report_mig_interannual(years, taxa, stage, dc)
```

Arguments

years	A vector of years
taxa	One taxa
stage	One stage
dc	A vector of counting devices

Value

a data frame with the content of table t_bilanmigrationjournalier_bjo in the database

---

| fungraph | *Function for report_mig graphs including numbers DF DC operations* |

Description

This graph is for species other than glass eel

Usage

```
fungraph(
  report_mig,
  tableau,
  time.sequence,
  taxa,
  stage,
  dc = NULL,
  silent,
  color = NULL,
  color_ope = NULL,
  ...
)
```

Arguments

report_mig	An object of class report_mig
tableau	A data frame with the with the following columns : No.pas,debut_pas,fin_pas, ope_dic_identifiant,lot_tax_code,lot_std_code,type_de_quantite,MESURE,CALCULE, EXPERT,PONCTUEL,Effectif_total,taux_d_echappement,coe_valeur_coefficient
time.sequence	A vector POSIXt
taxa	The species
stage	The stage
dc	The DC
silent	Message displayed or not
color	Default NULL, a vector of color in the following order, working, stopped, 1...5 types of operation for the fishway or DC, measured, calculated, expert, direct observation. If null will be set to brewer.pal(12,"Paired")[c(8,10,4,6,1,2,3,5,7)]
color_ope	Default NULL, a vector of color for the operations. Default to brewer.pal(4,"Paired")
...	additional parameters passed to matplot, main, ylab, ylim, lty, pch, bty, cex.main, it is currently not a good idea to change xlim (numbers are wrong, the month plot covers all month, and legend placement is wrong

Value

No return value, called for side effects

Note

this function is intended to be called from the plot method in report_mig_mult and report_mig

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

---

fungraph_glasseel	*Graph function for glass eel migration. Differs from fungraph as it does not draw the ggplot graph for month*

Description

This graph will also plot numbers and bars according to whether the glass eel have been counted through weight or numbers

Usage

```
fungraph_glasseel(
  report_mig,
  table,
  time.sequence,
  taxa,
  stage,
  dc = null,
  silent,
  color = NULL,
  color_ope = NULL,
  ...
)
```

Arguments

report_mig	an object of class report_mig-class or an object of class report_mig_mult-class
table	a data frame with the results
time.sequence	a vector POSIXt
taxa	the species
stage	the stage
dc	the counting device, default to null, only necessary for report_mig_mult-class
silent	Message displayed or not
color	Default NULL, a vector of length 11 of color in the following order, numbers, weight, working, stopped, 1...5 types of operation, the 2 latest colors are not used but kept for consistency with fungraph for the fishway, if null will be set to brewer.pal(12,"Paired")[c(4,6,1,2,3,5,7,8,10,11,12)]
color_ope	Default NULL, a vector of color for the operations. Default to brewer.pal(4,"Paired")
...	additional parameters passed to plot, main, ylab, cex.main, font.main, type, xlim, ylim, lty, bty, pch it is not possible to change xlim

Value

No return value, called for side effects

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

---

funstat   *Function to calculate statistics per month*

Description

Function to calculate statistics per month

Usage

```
funstat(tableau, time.sequence, taxa, stage, DC, silent)
```

Arguments

tableau	A table with the following columns : No.pas,debut_pas,fin_pas, ope_dic_identifiant,lot_tax_code,lot_std_ EXPERT,PONCTUEL,Effectif_total,taux_d_echappement,coe_valeur_coefficient
time.sequence	Passed from report_mig or report_mig_mult
taxa	Taxa
stage	The Stage
DC	The counting device
silent	Message displayed or not

Value

No return value, called for side effects

Note

this function is intended to be called from within the summary method

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

funtable	*function to print and save statistics in .csv and .html formats for report_mig and report_mig_mult class*

Description

function to print and save statistics in .csv and .html formats for report_mig and report_mig_mult class

Usage

```
funtable(tableau, time.sequence, taxa, stage, DC, resum, silent)
```

Arguments

tableau	A table with the following columns : No.pas,debut_pas,fin_pas, ope_dic_identifiant,lot_tax_code,lot_std_EXPERT,PONCTUEL,Effectif_total,taux_d_echappement,coe_valeur_coefficient
time.sequence	Passed from report_mig or report_mig_mult
taxa	Taxa
stage	The Stage
DC	The counting device
resum	A summary table generated by funstat
silent	If TRUE, all messages turned off (except warnings and errors)

Value

No return value, called for side effects

Note

this function is intended to be called from within the summary method

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

fun_aggreg_for_plot	*Calculates a data.frame where all components within the list calcdata are aggregated and formatted for plot*

Description

Calculates a data.frame where all components within the list calcdata are aggregated and formatted for plot

Usage

```
fun_aggreg_for_plot(object)
```

Arguments

object   An object of class report_mig_mult-class

Value

A data.frame

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

fun_char_spe	*function used to remove special non utf8 character which cause the gtk interface to crash*

Description

function used to remove special non utf8 character which cause the gtk interface to crash

Usage

```
fun_char_spe(text)
```

Arguments

text   a text string which might contain no utf8 characters

Value

text

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

---

fun_date_extraction   *This function extracts temporal characteristics from a dataframe*

Description

This function extracts temporal characteristics from a dataframe

Usage

```
fun_date_extraction(
  data,
  nom_coldt,
  annee = TRUE,
  mois = TRUE,
  quinzaine = FALSE,
  semaine = TRUE,
  semaine_std = FALSE,
  jour_an = FALSE,
  jour_mois = TRUE,
  heure = FALSE
)
```

Arguments

`data`	a data frame containing a Date or POSIXt column
`nom_coldt`	the name of the column containing date or POSIXt entry to be processed
`annee`	logical do you want a column describing year to be added to the dataframe
`mois`	logical, add column with month
`quinzaine`	logical, add column with 15 days
`semaine`	logical, add column with weeks
`semaine_std`	logical, add column with standard weeks (using isoweek from lubridate)
`jour_an`	logical, add column with day of year
`jour_mois`	logical, add column with day of month
`heure`	logical, add column with hour

Value

The dataframe with date column filled

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

---

fun_report_mig_interannual

statistics per time period

Description

statistics per time period

Usage

```
fun_report_mig_interannual(dat, year = NULL, timesplit = NULL)
```

Arguments

dat	a data frame with columns ("bjo_annee","bjo_jour","bjo_labelquantite","bjo_valeur")
year	The year to exclude from the historical series (it will be plotted against the historical series)
timesplit	"week" "2 weeks" "month" as provided to seq.POSIXt, default NULL

Value

a data frame with mean, max, and min calculated for each timesplit

---

fun_report_mig_mult   *Calculate daily migration by simple repartition*

Description

Function to calculate daily migration from migration monitoring whose length is less than one day, typically video recording whose period are instant events.

Usage

```
fun_report_mig_mult(time.sequence, datasub, negative = FALSE)
```

Arguments

time.sequence	the time sequence to be filled in with new data
datasub	the initial dataset
negative	'boolean', default FALSE, TRUE indicates a separate sum for negative and positive migrations

Value

A data.frame with number summed over over the time.sequence. The function returns the same output than fun_report_mig_mult_overlaps but is intended to work faster. In the data.frame, the total number is 'Effectif_total' and corresponds to the addition of numbers and numbers converted from weight, the total weight is 'Poids_total'+'poids_depuis_effectifs' and corresponds to weighed glass eel plus glass eel number converted in weights.

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

---

fun_report_mig_mult_overlaps

Function to calculate daily migration using overlaps functions

---

Description

Function to calculate daily migration from migration monitoring whose length is more than one day, this calculation relies on the (false) assumption that migration is evenly spread over time.

Usage

```
fun_report_mig_mult_overlaps(time.sequence, datasub, negative = FALSE)
```

Arguments

time.sequence	the time sequence to be filled in with new data
datasub	the initial dataset
negative	'boolean', default FALSE, TRUE indicates a separate sum for negative and positive migrations to time.sequence period and summed over the new sequence. A migration operation spanning several days will be converted to 'daily' values assuming that the migration was regular over time. The function returns one row per taxa, stages, counting device. It does not account for the destination of taxa. It returns separate rows for quantities and numbers. Several columns are according to the type of measure (MESURE, CALCULE, PONCTUEL or EXPERT).

Value

A data.frame with daily migrations

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

See Also

calcule,report_mig_mult-method

---

fun_schema   *Creates a list of available schemas in the db*

Description

Creates a list of available schemas in the db

Usage

```
fun_schema()
```

Value

A table with of data providers with org_code, the user of each schema, and org_description the description of the schema

---

fun_stage_durif   *Function to calculate the stages from Durif*

Description

Function to calculate the stages from Durif

Usage

```
fun_stage_durif(data)
```

Arguments

data   A dataset with columns BL, W, Dv, Dh, FL corresponding to body length (mm), Weight (g), vertical eye diameter (mm), vertical eye diameter (mm), and pectoral fin length (mm)

Value

A data.frame with durif stages per individual

Author(s)

Laurent Beaulaton <laurent.beaulaton@ofb.fr>

---

fun_table_per_dis   *functions called in DF and DC*

Description

functions called in DF and DC

Usage

```
fun_table_per_dis(
  typeperiode,
  tempsdebut,
  tempsfin,
  libelle,
  color,
  date = TRUE
)
```

Arguments

typeperiode	ref.tr_typearretdisp_tar(per_tar_code) the code of the period (see table ref.tr_typearretdisp_tar)
tempsdebut	ref.tr_typearretdisp_tar(per_date_debut) starting timestamp of the period
tempsfin	The postgres column ref.tr_typearretdisp_tar(per_date_fin) ending timestamp of the period
libelle	The postgres column ref.tr_typearretdisp_tar(libelle)description of the period type
color	A named vector of color matching libelle.
date	Boolean, should the function return a POSIXt or date value

Value

A list

Note

returns either POSIXt or date if date=TRUE

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

---

fun_weight_conversion   *returns a table where weights and number are calculated from number and weights respectively performs a query to collect the conversion coefficients*

Description

returns a table where weights and number are calculated from number and weights respectively performs a query to collect the conversion coefficients

Usage

```
fun_weight_conversion(tableau, time.sequence, silent)
```

Arguments

tableau	Table issued from report_mig
time.sequence	Time sequence from report_mig
silent	If silent=TRUE do not display messages

Value

tableau, the data frame with weight converted to numbers

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

---

fun_write_monthly   *This writes monthly data in t_reportmensuel_mens table*

Description

This writes monthly data in t_reportmensuel_mens table

Usage

```
fun_write_monthly(report_mig, resum, silent)
```

Arguments

report_mig	an object of class report_mig
resum	data frame with summary per month
silent	Suppresses messages

Value

No return value, called for side effects

Note

This function is launched by fun_write_daily, the resum dataset is created by the funstat function

---

getvalue   *Generic method getvalue*

Description

Generic method getvalue

Usage

```
getvalue(object, ...)
```

Arguments

object   Object
...   Additional parms

Author(s)

cedric.briand

---

graphdate   *function used for some lattice graphs with dates*

Description

function used for some lattice graphs with dates

Usage

```
graphdate(vectordate)
```

Arguments

vectordate   date or POSIXt

Value

vectordate (without class)

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

---

model   *Generic for prediction*

Description

Generic for prediction

Usage

```
model(object, ...)
```

Arguments

object   Object

...   Additional parms

Author(s)

cedric.briand

---

model,report_ge_weight-method

                                  *model method for report_ge_weight' this method uses samples col-
                                  lected over the season to model the variation in weight of glass eel or
                                  yellow eels.*

Description

model method for report_ge_weight' this method uses samples collected over the season to model
the variation in weight of glass eel or yellow eels.

Usage

```
## S4 method for signature 'report_ge_weight'
model(object, model.type = "seasonal", silent = FALSE)
```

Arguments

object   An object of class report_ge_weight-class

model.type   default 'seasonal', 'seasonal1','seasonal2','manual'.

silent   Default FALSE, if TRUE the program should no display messages

Details

Depending on model.type several models are produced

model.type='seasonal'. The simplest model uses a seasonal variation, it is fitted with a sine wave curve allowing a cyclic variation w ~ a*cos(2*pi*(d'-T)/365)+b with a period T. The modified day d' used is this model is set at 1 the 1st of august doy = d' + d0; d0 = 212, doy=julian days

model.type='seasonal1'. A time component is introduced in the model, which allows for a long term variation along with the seasonal variation. This long term variation is is fitted with a gam, the time variable is set at zero at the beginning of the first day of observed values. The seasonal variation is modeled on the same modified julian time as model.type='seasonal' but here we use a cyclic cubic spline cc, which allows to return at the value of d0=0 at d=365. This model was considered as the best to model size variations by Diaz & Briand in prep. but using a large set of values over years.

model.type='seasonal2'. The seasonal trend in the previous model is now modelled with a sine curve similar to the sine curve used in seasonal. The formula for this is $sin(\omega vt) + cos(\omega vt)$, where vt is the time index variable ω is a constant that describes how the index variable relates to the full period (here, $2\pi/365 = 0.0172$). The model is written as following $w\,cos(0.0172*doy) + sin(0.0172*doy) + s(time)$.

model.type='manual'. The dataset don (the raw data), coe (the coefficients already present in the database, and newcoe the dataset to make the predictions from, are written to the environment envir_stacomi. please see example for further description on how to fit your own model, build the table of coefficients, and write it to the database.

Value

An object of class [report_ge_weight-class](#) with `@calcdata[["import_coe"]]` filled.

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

```
plot,report_annual,missing-method
```
Plot method for report_annual

Description

Plot method for report_annual

Usage

```
## S4 method for signature 'report_annual,missing'
plot(x, plot.type = "point", silent = FALSE)
```

Arguments

x	An object of class [report_annual-class](#)
plot.type	Default point
silent	Stops displaying the messages.

   • plot.type="point": ggplot+geom_point'

Value

No return value, called for side effects

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

See Also

[report_mig_interannual-class](#) for examples

---

plot,report_dc,missing-method
Different plots for report_dc

Description

plot.type=1 A barplot of the operation time per month

plot.type=2 Barchat giving the time per type of operation

plot.type=2 Rectangle plots drawn along a line

plot.type=4 Plots per day drawn over the period to show the operation of a df, days in x, hours in y

Usage

```
## S4 method for signature 'report_dc,missing'
plot(
  x,
  plot.type = 1,
  silent = FALSE,
  main = NULL,
 color_type_oper = c(`Fonc normal` = "#76BEBE", `Arr ponctuel` = "#FF6700", `Arr maint`
    = "#9E0142", Dysfonc = "#EE1874", `Non connu` = "#999999"),
  color_etat = c(`TRUE` = "#0F313A", `FALSE` = "#CEB99A")
)
```

Arguments

`x`	An object of class [report_dc-class]().
`plot.type`	1 to 4, barplot, barchart, rectangle plot and box showing details of daily operation, a plot with adjacent rectangles.
`silent`	Stops displaying the messages default to FALSE
`main`	The title of the graph, if NULL a default title will be plotted with the number of the DF.
`color_type_oper`	
	Named vector of color for the graph, must match type operation default to c("Fonc normal" = "#76BEBE", "Arr ponctuel" = "#FF6700", "Arr maint" = "#9E0142", "Dysfonc" = "#EE1874", "Non connu" = "#999999").
`color_etat`	Named vector state value (must match the names "TRUE", "FALSE").

Value

Nothing but prints the different plots.

Note

The program cuts periods which overlap between two month. The splitting of different periods into month is assigned to the `envir_stacomi` environment.

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

```
plot,report_df,missing-method
```
Different plots for report_df

Description

plot.type=1 A barplot of the operation time per month

plot.type=2 Barchat giving the time per type of operation

plot.type=2 Rectangle plots drawn along a line

plot.type=4 Plots per day drawn over the period to show the operation of a df, days in x, hours in y

Usage

```
## S4 method for signature 'report_df,missing'
plot(
  x,
  plot.type = 1,
  silent = FALSE,
  main = NULL,
```

```
  color_type_oper = c(`Fonc normal` = "#1B9E77", `Arr ponctuel` = "#E6AB02", `Arr maint`
     = "#9E0142", Dysfonc = "#E41A1C", `Non connu` = "#999999"),
   color_etat = c(`TRUE` = "chartreuse3", `FALSE` = "orangered3")
)
```

Arguments

x	An object of class [report_df-class]().
plot.type	1 to 4.
silent	Stops displaying the messages.
main	The title of the graph, if NULL a default title will be plotted with the number of the DF.
color_type_oper	
	Named vector of color for the graph, must match type operation default to c("Fonc normal" = "#1B9E77","Arr ponctuel" = "#E6AB02", "Arr maint" = "#9E0142", "Dysfonc" = "#E41A1C","Non connu" = "#999999").
color_etat	Named vector state value (must match the names "TRUE", "FALSE").

Value

Nothing but prints the different plots.

Note

The program cuts periods which overlap between two month. The splitting of different periods into month is assigned to the `envir_stacomi` environment.

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

```
plot,report_env,missing-method
```
                                   Plot method for report_env

---

Description

Plot method for report_env

Usage

```
## S4 method for signature 'report_env,missing'
plot(x, silent = FALSE)
```

Arguments

x	An object of class [report_env-class]()
silent	Stops displaying the messages

Value

Nothing, called for its side effect of plotting data

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

---

plot,report_ge_weight,missing-method
Plot method for report_ge_weight'

Description

Plot method for report_ge_weight'

Usage

```
## S4 method for signature 'report_ge_weight,missing'
plot(x, plot.type = 1, silent = FALSE)
```

Arguments

x	An object of class report_ge_weight-class
plot.type	Default '1'. '1' plot of mean weight of glass eel against the mean date of operation (halfway between start, and end of operation). The ggplot 'p' can be accessed from envir_stacomi using get('p',envir_stacomi). '2' standard plot of current coefficent. '3' same as '1' but with size according to number.
silent	Stops displaying the messages

Value

Nothing, called for its side effect of plotting data

Note

the model method provides plots for the fitted models

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

```
plot,report_mig,ANY-method
```
Plots of various type for report_mig.

Description

plot.type="standard" calls [fungraph](#) and [fungraph_glasseel](#) functions to plot as many "report_mig" as needed, the function will test for the existence of data for one dc, one taxa, and one stage

plot.type="step" creates Cumulated graphs for report_mig_mult. Data are summed per day for different dc taxa and stages

plot.type="multiple" Method to overlay graphs for report_mig_mult (multiple dc/taxa/stage in the same plot)

Usage

```
## S4 method for signature 'report_mig,ANY'
plot(
  x,
  y,
  plot.type = "standard",
  color = NULL,
  color_ope = NULL,
  silent = FALSE,
  ...
)
```

Arguments

x	An object of class report_mig
y	From the formals but missing
plot.type	One of "standard","step". Defaut to standard the standard report_mig with dc and operation displayed, can also be step or multiple
color	Default NULL, argument passed for the plot.type="standard" method. A vector of color in the following order : (1) working, (2) stopped, (3:7) 1...5 types of operation, (8:11) numbers, weight, NULL, NULL (if glass eel), (8:11) measured, calculated, expert, direct observation for other taxa. If null will be set to brewer.pal(12,"Paired")[c(8,10,4,6,1,2,3,5,7)]
color_ope	Default NULL, argument passed for the plot.type="standard" method. A vector of color for the operations. Default to brewer.pal(4,"Paired")
silent	Stops displaying the messages.
...	Additional arguments passed to matplot or plot if plot.type="standard", see ... in [fungraph_glasseel](#) and [fungraph](#)

Value

Nothing, called for its side effect

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

---

plot,report_mig_char,missing-method

plot method for report_mig_char

Description

plot method for report_mig_char

Usage

```
## S4 method for signature 'report_mig_char,missing'
plot(x, color_parm = NULL, plot.type = "qual", silent = FALSE, ...)
```

Arguments

x	An object of class report_mig_char
color_parm	A named vector for the colors of either parameters (if plot.type=quant) or levels for parameters (if plot.type=qual).
plot.type	One of 'qual', 'quant' 'crossed' default to qual
silent	Boolean default FALSE, if TRUE information messages not displayed
...	Additional parameters

Value

Nothing, called for its side effect of plotting data

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

plot,report_mig_env,missing-method
               Plot method for report_mig_env

Description

Plot method for report_mig_env

Usage

```
## S4 method for signature 'report_mig_env,missing'
plot(x, color_station = NULL, color_dc = NULL, silent = FALSE)
```

Arguments

x	An object of class [report_mig_env](#)
color_station	A named vector of station color (e.g. c("temp_gabion"="red","coef_maree"="blue","phases_lune"="green default null
color_dc	A named vector giving the color for each dc default null (e.g. c("5"="#4D4D4D","6"="#E6E6E6","12"="#
silent	Stops displaying the messages.

Value

Nothing, called for its side effect of plotting

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

plot,report_mig_interannual,missing-method
               Plot method for report_mig_interannual

Description

Several of these plots are scaled against the same year,i.e.the comparison is based on year 2000, meaning that day 1 would correspond to the first date of 2000, which is also a saturday, the last day of the week.

Usage

```
## S4 method for signature 'report_mig_interannual,missing'
plot(
  x,
  plot.type = "standard",
  timesplit = "month",
  year_choice = NULL,
  alpha = 1,
  silent = FALSE
)
```

Arguments

x	An object of class report_mig_interannual-class
plot.type	Default standard
timesplit	Used for plot.type barchart or dotplot, Default month other possible values are day, week, 2 weeks, month French values "jour" "semaine" "quinzaine" "mois" are also accepted.
year_choice	The year chosen to calculate statistics which will be plotted against the historical series, should be a character vector of length one e.g. '2012', default NULL, when NULL the latest year is selected.
alpha,	argument passed when plot.type=barchart, pointrange, standard default 1
silent	Stops displaying the messages.

plot.type="line" One line per daily report_mig, a reference year is highlighted with year_choice, this graph does not react to argument timesplit

plot.type="standard" The year selected in year_choice is displayed against a ribbon of historical values

plot.type="density" Creates density plot to compare seasonality, data computed by 15 days period, this graph ignore the timesplit argument

plot.type="step" Creates step plots to compare seasonality, the year chosen in year_choice (or the interface if silent =FALSE, and year_choice=NULL, is the latest if silent=TRUE, or it can be selected in the droplist. It is highlighted against the other with a dotted line

plot.type="barchart" Comparison of daily migration of one year against periodic migration for the other years available in the chronicle, different periods can be chosen with argument timesplit

plot.type="pointrange" Pointrange graphs, different periods can be chosen with argument timesplit

plot.type="seasonal" Plot to display summary statistics about the migration period, different periods can be chosen with argument timesplit, this graph ignores argument year_choice

Value

Nothing, called for its side effect of plotting

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

---

plot,report_mig_mult,missing-method

Plots of various type for report_mig_mult

Description

plot.type='standard' calls [fungraph](#) and [fungraph_glasseel](#) functions to plot as many 'report_mig'
   as needed, the function will test for the existence of data for one dc, one taxa, and one stage

plot.type='step' creates Cumulated graphs for report_mig_mult. Data are summed per day for
   different dc taxa and stages

plot.type='multiple' Method to overlay graphs for report_mig_mult (multiple dc/taxa/stage in the
   same plot)

Usage

```
## S4 method for signature 'report_mig_mult,missing'
plot(
  x,
  plot.type = "standard",
  color = NULL,
  color_ope = NULL,
  silent = FALSE,
  ...
)
```

Arguments

x	An object of class report_mig_mult
plot.type	One of 'standard','step','multiple'. Defaut to standard the standard report_mig with dc and operation displayed, can also be step or multiple
color	Default NULL, argument passed for the plot.type='standard' method. A vector of color in the following order : (1) working, (2) stopped, (3:7) 1...5 types of operation, (8:11) numbers, weight, NULL, NULL (if glass eel), (8:11) measured, calculated, expert, direct observation for other taxa. If null will be set to brewer.pal(12,'Paired')[c(8,10,4,6,1,2,3,5,7)]
color_ope	Default NULL, argument passed for the plot.type='standard' method. A vector of color for the operations. Default to brewer.pal(4,'Paired')
silent	Stops most messages from being displayed
...	Additional arguments passed to matplot or plot if plot.type='standard', see ... in [fungraph_glasseel](#) and [fungraph](#)

Value

Nothing, called for its side effect of plotting

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

---

plot,report_sample_char,missing-method

Plots of various type for reportcarlot

Description

Plots of various type for reportcarlot

Usage

```
## S4 method for signature 'report_sample_char,missing'
plot(x, plot.type = "1", silent = FALSE)
```

Arguments

x	An object of class report_sample_char
plot.type	One of '1','violin plot'. Defaut to 1 , can also be 2 boxplot or 3 points.
silent	Stops displaying the messages

Value

Nothing, called for its side effect, plotting

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

---

plot,report_sea_age,missing-method
                        Plots of various type for report_sea_age

---

Description

Plots of various type for report_sea_age

Usage

```
## S4 method for signature 'report_sea_age,missing'
plot(x, plot.type = "1", silent = FALSE)
```

Arguments

x	An object of class [report_sea_age-class](#)
plot.type	Default "1"
	plot.type="1" density plot by sea age
	plot.type="2" Density plot by sea age and dc
silent	Default FALSE, if TRUE the program should no display messages.

Value

Nothing, called for its side effect of plotting

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

---

plot,report_silver_eel,missing-method
                        Plots of various type for report_silver_eel

---

Description

Plots of various type for report_silver_eel

Usage

```
## S4 method for signature 'report_silver_eel,missing'
plot(x, plot.type = c("1", "2", "3", "4"), silent = FALSE)
```

Arguments

x	An object of class report_silver_eel-class
plot.type	Default "1"

plot.type="1" Lattice plot of Durif's stages according to Body Length and Eye Index (average of vertical and horizontal diameters). If several DC are provided then a comparison of data per dc is provided

plot.type="2" Lattice plot giving a comparison of Durif's stage proportion over time, if several DC are provided an annual comparison is proposed, if only one DC is provided then the migration is split into month.

plot.type="3" Series of graphs showing mean Fulton's coefficient, Pankhurst eye index, along with a size weight analysis and regression using robust regression (rlm more robust to the presence of outliers)

plot.type="4" Lattice cloud plot of Pankurst~ Body Length ~ weight)

silent	Stops displaying the messages

Value

A lattice xy.plot if `plot.type` =1, a lattice barchart if `plot.type=2`, nothing but plots a series of graphs in a single plot if `plot.type=3`, a lattice cloud object if `plot.type=4`

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

```
plot,report_species,missing-method
```
Plot method for report_species

Description

Plot method for report_species

Usage

```
## S4 method for signature 'report_species,missing'
plot(x, plot.type = "pie", color = NULL, silent = FALSE)
```

Arguments

x	An object of class report_species-class
plot.type	Default pie #'

plot.type='pie' A pie'

plot.type='barchart' A barchart

color	Default NULL, a vector of colors of length corresponding to the number of taxa-stage different values, use unique(bilesp@calcdata$taxa_stage) to get that number. The color applies to both pie and barchart plots
silent	Stops displaying the messages

Value

Nothing, called for producing plots

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

---

print,report_dc-method

Method to print the command line of the object.

Description

Method to print the command line of the object.

Usage

```
## S4 method for signature 'report_dc'
print(x, ...)
```

Arguments

x	An object of class report_dc
...	Additional parameters passed to print

Value

Nothing, called for its side effect

Author(s)

cedric.briand

---

print,report_df-method

Method to print the command line of the object

Description

Method to print the command line of the object

Usage

```
## S4 method for signature 'report_df'
print(x, ...)
```

Arguments

x	An object of class report_df
...	Additional parameters passed to print

Value

Nothing, called for its side effect of printing data

Author(s)

cedric.briand

---

print,report_mig-method

Method to print the command line of the object

Description

Method to print the command line of the object

Usage

```
## S4 method for signature 'report_mig'
print(x, ...)
```

Arguments

x	An object of class report_mig
...	Additional parameters passed to print

Author(s)

cedric.briand

`print,report_mig_mult-method`
                    Method to print the command line of the object

---

Description

Method to print the command line of the object

Usage

```
## S4 method for signature 'report_mig_mult'
print(x, ...)
```

Arguments

x   An object of class report_mig_mult

...   Additional parameters passed to print

Author(s)

cedric.briand

`print,report_sample_char-method`
                    Method to print the command line of the object

---

Description

Method to print the command line of the object

Usage

```
## S4 method for signature 'report_sample_char'
print(x, ...)
```

Arguments

x   An object of class report_sample_char

...   Additional parameters passed to print

Author(s)

cedric.briand

```
print,report_sea_age-method
```
Method to print the command line of the object

Description

Method to print the command line of the object

Usage

```
## S4 method for signature 'report_sea_age'
print(x, ...)
```

Arguments

x	An object of class report_sea_age
...	Additional parameters passed to print

Author(s)

cedric.briand

```
print,report_silver_eel-method
```
Method to print the command line of the object

Description

Method to print the command line of the object

Usage

```
## S4 method for signature 'report_silver_eel'
print(x, ...)
```

Arguments

x	An object of class report_silver_eel
...	Additional parameters passed to print

Value

NULL, prints data in the console

Author(s)

cedric.briand

---

ref_choice-class   *Class 'ref_choice'*

Description

ref_choice referential class allows to choose within several values with radiobuttons interface

Slots

listechoice A character vector giving possible choices

label A character, title of the box giving the possible choices

selected An Integer the initial selected value (as an index), first=1 used in gradio

Objects from the Class

Objects can be created by calls of the form new('ref_choice', listechoice=character() ,label=character() ,selected=integer()).

Author(s)

cedric.briand@eptb-vilaine.fr

See Also

Other referential objects: charge, ref_choice-method, ref_coe-class, ref_dc-class, ref_df-class, ref_horodate-class, ref_list-class, ref_par-class, ref_parqual-class, ref_parquan-class, ref_stage-class, ref_taxa-class, ref_year-class

---

ref_coe-class   *Class 'ref_coe'*

Description

Enables to load conversion coefficients quantity-number. This class only exists to load the data with its method charge. It is not used directly as component of the graphical interface, as the year is already loaded in the different report objects

Slots

data A data.frame

datedebut A 'POSIXlt'

datefin A 'POSIXlt'

Objects from the Class

Objects can be created by calls of the form new('ref_coe').

Note

Class loading coefficient of conversion between quantity (weights or volumes of glass eel) and numbers between a starting and finishing date

Author(s)

cedric.briand@eptb-vilaine.fr

See Also

Other referential objects: `charge`, `ref_choice-method`, `ref_choice-class`, `ref_dc-class`, `ref_df-class`, `ref_horodate-class`, `ref_list-class`, `ref_par-class`, `ref_parqual-class`, `ref_parquan-class`, `ref_stage-class`, `ref_taxa-class`, `ref_year-class`

---

ref_dc-class   *Class 'ref_dc'*

Description

Description of a control device.

Slots

dc_selected Object of class 'integer', The selected device

ouvrage Object of class 'integer', the attached dam

station Object of class 'character', the attached migration monitoring station, this is necessary to join the table of escapements calculated at the station level.

data Object of class 'data.frame' data pertaining to the control device

Objects from the Class

Objects can be created by calls of the form new('ref_dc', dc_selected=integer(), ouvrage=integer(),data=data.fr

Author(s)

cedric.briand@eptb-vilaine.fr

See Also

Other referential objects: `charge`, `ref_choice-method`, `ref_choice-class`, `ref_coe-class`, `ref_df-class`, `ref_horodate-class`, `ref_list-class`, `ref_par-class`, `ref_parqual-class`, `ref_parquan-class`, `ref_stage-class`, `ref_taxa-class`, `ref_year-class`

---

ref_df-class   *Class 'ref_df'*

Description

Representation of a fishway, contains description data of all fishways from the database along with the selected fishways (df) (integer) Objects from the Class: Objects can be created by calls of the form new('ref_df', df_selected=integer(), ouvrage=integer(),data=data.frame()).

Arguments

df_selected	Object of class 'integer' The identifier of the fishway
ouvrage	Object of class 'integer' The attached dam
data	Object of class 'data.frame' Data concerning the fishway

Author(s)

cedric.briand@eptb-vilaine.fr

See Also

Other referential objects: charge, ref_choice-method, ref_choice-class, ref_coe-class, ref_dc-class, ref_horodate-class, ref_list-class, ref_par-class, ref_parqual-class, ref_parquan-class, ref_stage-class, ref_taxa-class, ref_year-class

---

ref_env-class   *Class 'ref_env'*

Description

Enables to load measure stations and to select one of them

Slots

dataframe Data concerning the measure station

env_selected The selected measure station

Objects from the Class

Objects can be created by calls of the form new('ref_env', ...).

Author(s)

cedric.briand@eptb-vilaine.fr

---

ref_horodate-class   *Class ref_horodate*

Description

choice of date with method to show current and previous year

Slots

`horodate` a "POSIXt"

Objects from the Class

Objects can be created by calls of the form new("ref_horodate", ...{}).

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

See Also

Other referential objects: `charge`, `ref_choice-method`, `ref_choice-class`, `ref_coe-class`, `ref_dc-class`, `ref_df-class`, `ref_list-class`, `ref_par-class`, `ref_parqual-class`, `ref_parquan-class`, `ref_stage-class`, `ref_taxa-class`, `ref_year-class`

---

ref_par-class   *Class 'ref_par'*

Description

Class enabling to load the list of parameters and select one of them

Slots

`data` A data.frame

`par_selected` A character vector corresponding to par_code

`data='data.frame'` the list of parameters

Objects from the Class

Objects can be created by calls of the form

Author(s)

cedric.briand@eptb-vilaine.fr

See Also

Other referential objects: charge, ref_choice-method, ref_choice-class, ref_coe-class, ref_dc-class, ref_df-class, ref_horodate-class, ref_list-class, ref_parqual-class, ref_parquan-class, ref_stage-class, ref_taxa-class, ref_year-class

---

ref_parqual-class   *Class 'ref_parqual'*

Description

Class enabling to load the list of qualitative parameters and to select one of them. It inherits from 'ref_par', uses its 'choice' method

Slots

valqual='data.frame' the list of qualitative parameters

Author(s)

cedric.briand@eptb-vilaine.fr

See Also

Other referential objects: charge, ref_choice-method, ref_choice-class, ref_coe-class, ref_dc-class, ref_df-class, ref_horodate-class, ref_list-class, ref_par-class, ref_parquan-class, ref_stage-class, ref_taxa-class, ref_year-class

---

ref_parquan-class   *Class 'ref_parquan'*

Description

Class enabling to load the list of quantitative parameters and to select one of them. It inherits from 'ref_par', uses its 'choice' method

Author(s)

cedric.briand@eptb-vilaine.fr

See Also

Other referential objects: charge, ref_choice-method, ref_choice-class, ref_coe-class, ref_dc-class, ref_df-class, ref_horodate-class, ref_list-class, ref_par-class, ref_parqual-class, ref_stage-class, ref_taxa-class, ref_year-class

---

ref_stage-class *Class 'ref_stage'*

Description

Representation of a fish phase

Slots

data A data frame containing data loaded from the database by either charge or charge_with_filter methods

stage_selected Contains the code 'tax_code' of the stage selected by choice_c() method

Objects from the Class

Objects can be created by calls of the form new('ref_stage', data='data.frame').

list('data') Object of class 'data.frame' ~ The phases available in the database

: Object of class 'data.frame' ~ The phases available in the database

Author(s)

cedric.briand@eptb-vilaine.fr

See Also

Other referential objects: [charge,](#) [ref_choice-method,](#) [ref_choice-class,](#) [ref_coe-class,](#) [ref_dc-class,](#) [ref_df-class,](#) [ref_horodate-class,](#) [ref_list-class,](#) [ref_par-class,](#) [ref_parqual-class,](#) [ref_parquan-class,](#) [ref_taxa-class,](#) [ref_year-class](#)

---

ref_taxa-class *Class 'ref_taxa'*

Description

Loading and selection of fish species. This class is a referential class, and it is integrated into refreport objects.

Slots

data A 'data.frame' of species available in the database

taxa_selected Contains the code 'tax_code' of the taxa selected by choice_c() method

Objects from the Class

Objects can be created by calls of the form new('ref_taxa', ...).

Author(s)

cedric.briand@eptb-vilaine.fr

See Also

Other referential objects: charge, ref_choice-method, ref_choice-class, ref_coe-class, ref_dc-class, ref_df-class, ref_horodate-class, ref_list-class, ref_par-class, ref_parqual-class, ref_parquan-class, ref_stage-class, ref_year-class

---

ref_textbox-class   *ref_textbox referencial class*

Description

allows to a put a value within a glabel

Slots

title='character' the title of the box giving the possible choices

labels the logical parameters choice

checked a vector

Author(s)

cedric.briand@eptb-vilaine.fr

---

ref_timestep-class   *Class "ref_timestep"*

Description

Describes a time step

Objects from the Class

Objects can be created by calls of the form new("ref_timestep",dateDebut="POSIXt",step_duration=numeric(),nb_s

list("dateDebut") Object of class "POSIXt" Starting date

: Object of class "POSIXt" Starting date

list("step_duration") Object of class "numeric" Step length

: Object of class "numeric" Step length

list("nb_step") Object of class "numeric" Number of steps

: Object of class "numeric" Number of steps

list("nocurrent_step") Object of class "integer" Number of the current step

: Object of class "integer" Number of the current step

Author(s)

cedric.briand@eptb-vilaine.fr

See Also

[ref_timestep_daily](#)

---

ref_timestepChar-class

Class "ref_timestepChar"

Description

Character to represent a ref_timestep

Objects from the Class

Objects can be created by calls of the form new("ref_timestepChar", ...{})

Author(s)

cedric.briand@eptb-vilaine.fr

See Also

[ref_timestep](#)

Examples

```
showClass("ref_timestepChar")
```

---

ref_timestep_daily-class

Class 'ref_timestep_daily'

Description

Representation of a ref_timestep object with a step length equal to one day. It receives an inheritance from ref_timestep

Details

validity_ref_timestep_daily

Objects from the Class

Objects can be created by calls of the form new('ref_timestep_daily',dateDebut='POSIXt',step_duration=numeric(

list('dateDebut') Object of class 'POSIXt' Starting date

: Object of class 'POSIXt' Starting date

list('step_duration') Object of class 'numeric' Step length

: Object of class 'numeric' Step length

list('nb_step') Object of class 'numeric' Number of steps

: Object of class 'numeric' Number of steps

list('nocurrent_step') Object of class 'integer' Number of the current step

: Object of class 'integer' Number of the current step

Author(s)

cedric.briand@eptb-vilaine.fr

See Also

[ref_timestep](#)

---

ref_year-class   *Year reference class*

Description

Class used to select one or several years

Slots

data A data.frame with the list of possible years selected as numerics

year_selected A numeric vector

Objects from the Class

Objects can be created by calls of the form new("ref_year", data=data.frame(), year_selected=numeric()).

Author(s)

cedric.briand@eptb-vilaine.fr

See Also

Other referential objects: [charge](#), [ref_choice-method](#), [ref_choice-class](#), [ref_coe-class](#), [ref_dc-class](#), [ref_df-class](#), [ref_horodate-class](#), [ref_list-class](#), [ref_par-class](#), [ref_parqual-class](#), [ref_parquan-class](#), [ref_stage-class](#), [ref_taxa-class](#)

report_annual-class   *Class "report_annual"*

Description

This class displays annual migration counts, for several counting device, taxa or stages.

Slots

dc Object of class [ref_dc-class](), the counting device, multiple values allowed

data Object of class "data.frame" data for report lot

taxa An object of class [ref_taxa-class](), multiple values allowed

stage An object of class [ref_stage-class](), multiple values allowed

start_year Object of class [ref_year-class](). ref_year allows to choose year of beginning

end_year Object of class [ref_year-class]() ref_year allows to choose last year of the report

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

See Also

Other report Objects: [report_dc-class](), [report_df-class](), [report_env-class](), [report_ge_weight-class](),
[report_mig-class](), [report_mig_char-class](), [report_mig_env-class](), [report_mig_interannual-class](),
[report_mig_mult-class](), [report_sample_char-class](), [report_sea_age-class](), [report_silver_eel-class](),
[report_species-class]()

Examples

```
# launching stacomi without database for demo
stacomi(database_expected=FALSE)
# the following piece of script will load the Arzal dataset and connected to iav postgres schema
# it requires a working database
# prompt for user and password but you can set appropriate options for host, port and dbname
## Not run:
stacomi(database_expected=TRUE, sch='iav')
if (interactive()){
if (!exists("user")){
user <- readline(prompt="Enter user: ")
password <- readline(prompt="Enter password: ")
}
}
options(
stacomiR.dbname = "bd_contmig_nat",
stacomiR.host ="localhost",
stacomiR.port = "5432",
stacomiR.user = user,
```

```
stacomiR.user = password
)
  r_ann<-new("report_annual")
  r_ann<-choice_c(r_ann,
  dc=c(5,6,12),
  taxa=c("Anguilla anguilla"),
  stage=c("AGJ","AGG"),
  start_year="1996",
  end_year="2015",
  silent=FALSE)
  r_ann<-connect(r_ann)

## End(Not run)
# the following dataset has been generated by the previous code
data(r_ann)
xtr_ann<-stacomiR::xtable(r_ann,
dc_name=c("Passe bassins","Piege anguille RG","Piege anguille RD"),
tax_name="Anguille",
std_name=c("Arg.","Jaun."))
# below not run but one can create a file as following
## Not run:
  path=file.path(path.expand(get("datawd",envir=envir_stacomi)),
  paste(paste(r_ann@dc@dc_selected,collapse="+"),"_",
  paste(r_ann@taxa@taxa_selected,collapse="+"),"_",
  paste(r_ann@stage@stage_selected,collapse="+"),"_",
  r_ann@start_year@year_selected,":",
  r_ann@end_year@year_selected,".html",sep=""),fsep ="/")
# here you can add an argument file=path
  print(xtr_ann,type="html")

# the following uses the "addtorow" argument which creates nice column headings,
# format.args creates a thousand separator
# again this will need to be saved in a file using the file argument
  print(xtr_ann,
  add.to.row=get("addtorow",envir_stacomi),
  include.rownames = TRUE,
  include.colnames = FALSE,
  format.args = list(big.mark = " ", decimal.mark = ",")
  )
# barplot transforms the data, further arguments can be passed as to barplot
  barplot(r_ann)
  barplot(r_ann,
  args.legend=list(x="topleft",bty = "n"),
  col=c("#CA003E","#1A9266","#E10168","#005327","#FF9194"))

# An example with custom arguments for legend.text (overriding plot defauts)
  data(r_ann_adour)
  if (requireNamespace("RColorBrewer", quietly = TRUE)){
lesdc<-r_ann_adour@dc@data$dc_code[r_ann_adour@dc@data$dc%in%r_ann_adour@dc@dc_selected]
    barplot(r_ann_adour,
legend.text=lesdc,
args.legend=list(x="topleft",bty = "n"),
col=RColorBrewer::brewer.pal(9,"Spectral"),
```

```
beside=TRUE)
  }
  plot(r_ann_adour)

## End(Not run)
```

---

report_dc-class   *Class "report_dc" report du fonctionnement du dispositif de comptage*

Description

The counting device is not always working. It may me stopped either following a monitoring protocol, or due to malfunction of the device, this class allows to draw graphics allowing an overview of the device operation

Slots

data A data frame

dc An object of class `ref_dc-class`

horodatedebut An object of class `ref_horodate-class`

horodatefin An object of class `ref_horodate-class`

Objects from the Class

Objects can be created by calls of the form `new("report_dc", ...)`.

Author(s)

Cedric Briand `<cedric.briand@eptb-vilaine.fr>`

See Also

Other report Objects: [report_annual-class](), [report_df-class](), [report_env-class](), [report_ge_weight-class](), [report_mig-class](), [report_mig_char-class](), [report_mig_env-class](), [report_mig_interannual-class](), [report_mig_mult-class](), [report_sample_char-class](), [report_sea_age-class](), [report_silver_eel-class](), [report_species-class]()

Examples

```
# An example that will work only if the database is present
# and the program installed and comprises the schema iav
# prompt for user and password but you can set appropriate options for host, port and dbname
## Not run:
if (interactive()){
if (!exists("user")){
user <- readline(prompt="Enter user: ")
```

```
password <- readline(prompt="Enter password: ")
}

options(
stacomiR.dbname = "bd_contmig_nat",
stacomiR.host ="localhost",
stacomiR.port = "5432",
stacomiR.user = user,
stacomiR.password = password
)
}
 stacomi(TRUE,sch="iav")
  r_dc=new("report_dc")
  r_dc<-choice_c(r_dc,
  5,
  horodatedebut="2000-01-01",
  horodatefin="2015-12-31",
  silent=TRUE)
  r_dc<-connect(r_dc)

##

  # this dataset has been loaded by the previous lines
  ############################################################
# Without connexion to the database (use dataset r_dc)
  ############################################################
# this option allows to launch the program without the interface to display
# some of the program features.
stacomi(database_expected=FALSE)
  data("r_dc")
  plot(r_dc,plot.type="1")
  plot(r_dc,plot.type="2")
  plot(r_dc,plot.type="3",main="trial title")
  plot(r_dc,plot.type="4",main="trial title")
# the following will write in the datawd folder
    summary(r_dc)

## End(Not run)
```

---

report_df-class   *Report on fishway operation*

Description

Fishways (DF) are of various nature, from very simple eel ladders fed by water discharged from the
river, to more complex fishways with levels adjusted by the opening of various gates and regulators.

The objective of this class is to provide an assessment of the working status of a fishway throughout the year. A number of fishes ascending a fishway has meaning only if we know that the fishway is operational, and that the counting operated on the fishway has remained operational. In the database the operation of the fishway (DF) and counting device (DC) is agregated in one table (t_periodefonctdispositif_per). The column per_etat_fonctionnement indicates whether the fishway is operational (with a boolean) and the column per_tar_code indicates the status of either the fishway or DC. In the database four types of operation are set, "1"=normal operation, "2"=Device stopped in normal operation (ie lift ascending, high tide...), "3"="Stopped for maintenance or other problem", "4"="Works but not fully operational,i.e.flow problem, flood, clogged with debris...", "5"="Not known")

Slots

data A data frame

df An object of class ref_df-class

horodatedebut An object of class ref_horodate-class

horodatefin An object of class ref_horodate-class

Objects from the Class

Objects can be created by calls of the form new("report_df").

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

See Also

Other report Objects: report_annual-class, report_dc-class, report_env-class, report_ge_weight-class, report_mig-class, report_mig_char-class, report_mig_env-class, report_mig_interannual-class, report_mig_mult-class, report_sample_char-class, report_sea_age-class, report_silver_eel-class, report_species-class

Examples

```
stacomi(
database_expected=FALSE)
# An example that will work with the database installed only and schema iav in the database
# prompt for user and password but you can set appropriate options for host, port and dbname

## Not run:
stacomi(
database_expected=TRUE, sch='iav')
if (interactive()){
if (!exists("user")){
user <- readline(prompt="Enter user: ")
password <- readline(prompt="Enter password: ")
}
}
options(
```

```
stacomiR.dbname = "bd_contmig_nat",
stacomiR.host ="localhost",
stacomiR.port = "5432",
stacomiR.user = user,
stacomiR.user = password
)
  r_df=new("report_df")
  r_df<-choice_c(r_df,
  1,
  horodatedebut="2015-01-01",
  horodatefin="2015-12-31",
  silent=TRUE)
  Sys.setenv(TZ='GMT')
  # the times at Arzal are recorded continuously
  # they are converted to date when a time appears while the hour is changing
  # hence the following
  r_df<-connect(r_df)

## End(Not run)

data("r_df")
plot(r_df,plot.type="4")
# the following examples work but take a while to compute
## Not run:
  plot(r_df,plot.type="1")
  plot(r_df,plot.type="2",main="A nice title")
  plot(r_df,plot.type="3",main="A nice title")

## End(Not run)
```

report_env-class   *class report_env simple output of one or several environmental conditions...*

Description

Annual overview of environmental conditions. This class enables to draw some plot, but will mostly used to build joined graphs crossing the information from report_mig_mult-class and report_mig_env-class

Slots

horodatedebut ref_horodate-class

horodatefin ref_horodate-class

stationMesure ref_env-class

data data.frame

Author(s)

cedric.briand@eptb-vilaine.fr

See Also

Other report Objects: `report_annual-class`, `report_dc-class`, `report_df-class`, `report_ge_weight-class`, `report_mig-class`, `report_mig_char-class`, `report_mig_env-class`, `report_mig_interannual-class`, `report_mig_mult-class`, `report_sample_char-class`, `report_sea_age-class`, `report_silver_eel-class`, `report_species-class`

Examples

```
stacomi(
database_expected=FALSE)
## Not run:
if (interactive()){
if (!exists("user")){
user <- readline(prompt="Enter user: ")
password <- readline(prompt="Enter password: ")
}
}
options(
stacomiR.dbname = "bd_contmig_nat",
stacomiR.host ="localhost",
stacomiR.port = "5432",
stacomiR.user = user,
stacomiR.user = password
)
  r_env<-new("report_env")
  r_env<-choice_c(r_env,
  stationMesure=c("temp_gabion","coef_maree"),
  datedebut="2008-01-01",
  datefin="2008-12-31",
  silent=FALSE)
  r_env<-connect(r_env)


## End(Not run)

data("r_env")
plot(r_env,silent=TRUE)
```

---

report_ge_weight-class

Trend of wet weight in glass eel

Description

In trapping ladders, glass eel are seldom counted, as they are too tiny to handle and too numerous to count. The usual operation is to weight them, or to use a bucket to measure their volume. These weights or volumes will later need to be converted to numbers. The glass eel weight may follow a seasonal pattern. It's the case for Anguilla anguilla glass eel in the Bay of Biscay. Weights can be modelled using sine wave curves, or more complex gam models. This class has a model method to try those models, which can also be used to extact coefficients manually to manually test more complex models. Some plots are provided to display the coefficients stored in the database, and the model results. A parameter provided in the graphical interface or in the command line (slot liste) takes values '1', '>1', 'tous' which mean respectively use only individual sample of glass eels, or use 'group weights' which can be more close to the real weight of glass eel during counts as glass eel are not completely drained from their water during handling to preserve their mucus. The list choice 'tous' means that both individual and group weights are selected.

Slots

data A `'data.frame'` data for report lot

calcdata A list containing two processed data frames, data and coe

dc Object of class [ref_dc-class](), the counting device

start_year Object of class [ref_year-class](). ref_year allows to choose the year of beginning

end_year Object of class [ref_year-class]() ref_year allows to choose last year of the report

coe Object of class [ref_coe-class]() class loading coefficient of conversion between quantity (weights or volumes of glass eel) and numbers

liste Object of class [ref_list-class]() ref_list referential class choose within a list, here the choice is whether subsamples or not. Subsamples in the stacomi database are samples with a non null value for parent sample. Migration counts are never made on subsamples but those can be integrated to calculate mean weights.

Note

In this class some tools are available to import glass eel measurement from experimental fishing in the estuary. For the charge method dates for the request are from august to august (a glass eel season)

Author(s)

Cedric Briand `<cedric.briand@eptb-vilaine.fr>`

See Also

Other report Objects: [report_annual-class](), [report_dc-class](), [report_df-class](), [report_env-class](), [report_mig-class](), [report_mig_char-class](), [report_mig_env-class](), [report_mig_interannual-class](), [report_mig_mult-class](), [report_sample_char-class](), [report_sea_age-class](), [report_silver_eel-class](), [report_species-class]()

Examples

```
require(stacomiR)
# launching stacomi without selecting the scheme or interface
stacomi(
database_expected=FALSE, sch='iav')
# this requires a working database with the schema iav
# prompt for user and password but you can set appropriate options for host, port and dbname
## Not run:
stacomi(
database_expected=TRUE, sch='iav')
if (interactive()){
if (!exists("user")){
user <- readline(prompt="Enter user: ")
password <- readline(prompt="Enter password: ")
}
}
options(
stacomiR.dbname = "bd_contmig_nat",
stacomiR.host ="localhost",
stacomiR.port = "5432",
stacomiR.user = user,
stacomiR.user = password
)
  #create an instance of the class
  r_gew<-new("report_ge_weight")
  r_gew@liste<-charge(object=r_gew@liste,listechoice=c("=1",">1","tous"),label="")
  # here I'm using weights when number are larger than 1i.e.wet weight
  # always choose a date from one year to the next eg 2010 to 2011
  # as the dates are from august to august
  r_gew<-choice_c(r_gew,
  dc=c(6),
  start_year="2009",
  end_year="2015",
  selectedvalue=">1",
  silent=FALSE)
  r_gew<-connect(r_gew)
  r_gew<-calcule(r_gew)

## End(Not run)
# load the dataset generated by previous lines
data("r_gew")
# the calculation will fill the slot calcdata

# A ggplot showing the trend in weight
plot(r_gew, plot.type=1)
# A plot showing both the data and the trend as recorded in the database
plot(r_gew, plot.type=2)
# Same as plot.type=1 but with size according to size of the sample,
# usefull for wet weights where weight are recorded on a number of glass eel
plot(r_gew, plot.type=3)
## Not run:
# First model with nls, see Guerault and Desaunay (1993)
```

```
    model(r_gew,model.type="seasonal")
    model(r_gew,model.type="seasonal1")

## End(Not run)
```

---

report_mig-class   *Migration report for one DC, one species and one stage*

Description

This class performs a migration summary. A migration monitoring operation can correspond to a single horodate (in the case of some video monitoring operation) or comprise a period which does not necessarily span a full day. The daily migration is calculated by splitting the operation between days, and the migration is either grouped or split according to the lenth of the different time spans.

Slots

dc Object of class ref_dc-class: the control device

taxa Object of class ref_taxa-class: the species

stage Object of class ref_stage-class : the stage of the fish

timestep Object of class ref_timestep_daily-class : the time step constrained to daily value and 365 days

data Object of class data.frame with data filled in from the connect method

calcdata A "list" of calculated daily data, one per dc, filled in by the calcule method

coef_conversion A data.frame of daily weight to number conversion coefficients, filled in by the connect method if any weight are found in the data slot.

time.sequence Object of class POSIXct : a time sequence of days generated by the calcule method

Note

In practise, the report_mig class uses methods (calcule, connect...) from the more elaborate report_mig_mult-class

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

See Also

Other report Objects: report_annual-class, report_dc-class, report_df-class, report_env-class, report_ge_weight-class, report_mig_char-class, report_mig_env-class, report_mig_interannual-class, report_mig_mult-class, report_sample_char-class, report_sea_age-class, report_silver_eel-class, report_species-class

Examples

```
stacomi(database_expected=FALSE)
# If you have a working database
# the following line of code will create the r_mig dataset from the iav (default)
# schema in the database
## Not run:
stacomi(database_expected=TRUE)
if (interactive()){
if (!exists("user")){
user <- readline(prompt="Enter user: ")
password <- readline(prompt="Enter password: ")
}
}
options(
stacomiR.dbname = "bd_contmig_nat",
stacomiR.host ="localhost",
stacomiR.port = "5432",
stacomiR.user = user,
stacomiR.user = password
)
  stacomi(
  database_expected=TRUE)
  r_mig=new("report_mig")
  r_mig=choice_c(r_mig,
  dc=5,
  taxa=c("Chelon ramada"),
  stage=c("IND"),
  datedebut="2015-01-01",
  datefin="2015-12-31")
  r_mig<-charge(r_mig)
  # launching charge will also load classes associated with the report
  # e.g. report_ope, report_df, report_dc
  r_mig<-connect(r_mig)
  #######################
# calculations
  #######################
  r_mig<-calcule(r_mig,silent=TRUE)

## End(Not run)
#######################
# loading data
## use the following to get the raw data loaded by the connect method
# not shown there as the database and program might not be installed
# All three classes report... were created by the charge and connect method
# of report_mig_mult
# in the previous example
###############################
data("r_mig")
data("r_mig_ope")
assign("report_ope",r_mig_ope,envir=envir_stacomi)
data("r_mig_df")
assign("report_df",r_mig_df,envir=envir_stacomi)
```

```
data("r_mig_dc")
assign("report_dc",r_mig_dc,envir=envir_stacomi)


#Individual plot for all DC (standard), taxa and stage where data present
#silent argument to stop all messages
plot(r_mig,plot.type="standard",silent=TRUE)
#cumulated migration at the station (all stages and DC grouped)
plot(r_mig,plot.type="step")

# data will be written in the data directory specified in datawd argument to stacomi default "~"
#file

## Not run:
  summary(r_mig,silent=TRUE)

## End(Not run)
# this will write the daily report for later in in the reportnMigrationInterannuelle-class
## Not run:
  write_database(r_mig,silent=TRUE,dbname="bd_contmig_nat",host="localhost",port=5432)

## End(Not run)
```

---

report_mig_char-class   *Migration report along with quantitative and qualitative characteristics*

Description

Migration along with qualitative or quantitative characteristics or both (e.g.) weight of eels according to the size class per period of time, weight of fish according to gender, number of fish per age class. This class does not split migration evenly over time period. So, unlike calculations made in class report_mig and report_mig_mult the whole time span of the migration operation is not considered, only the date of beginning of the operation is used to perform calculations.

Slots

calcdata A 'list' of calculated data, filled in by the calcule method

data A data.frame inherited from report_sample_char-class

dc An object of class ref_dc-class inherited from report_sample_char-class

taxa An object of class ref_taxa-class inherited from report_sample_char-class

stage An object of class ref_stage-class inherited from report_sample_char-class

horodatedebut An object of class ref_horodate-class inherited from report_sample_char-class

horodatefin An object of class ref_horodate-class inherited from report_sample_char-class

par An object of class ref_par-class inherited from report_sample_char-class

echantillon An object of class ref_choice-class, vector of choice

parquan An object of class ref_parquan-class, quantitative parameter

parqual An object of class ref_parqual-class, qualitative parameter

Objects from the Class

Objects can be created by calls of the form new('report_mig_char', ...). they are loaded by the interface using interface_report_mig_char function.

Note

The main difference between this class and report_sample_char-class is that this class allows to select (or not) the samples, and that it handles quantitative and qualitative parameters separately.

Author(s)

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See Also

Other report Objects: report_annual-class, report_dc-class, report_df-class, report_env-class, report_ge_weight-class, report_mig-class, report_mig_env-class, report_mig_interannual-class, report_mig_mult-class, report_sample_char-class, report_sea_age-class, report_silver_eel-class, report_species-class

Examples

```
require(stacomiR)

stacomi(
database_expected=FALSE, sch='logrami')
# this requires a database with the schema logrami
# prompt for user and password but you can set appropriate options for host, port and dbname
## Not run:
stacomi(database_expected=TRUE, sch='logrami')
if (interactive()){
if (!exists("user")){
user <- readline(prompt="Enter user: ")
password <- readline(prompt="Enter password: ")
}
}
options(
stacomiR.dbname = "bd_contmig_nat",
stacomiR.host ="localhost",
stacomiR.port = "5432",
stacomiR.user = user,
stacomiR.user = password
)
  r_mig_char <- new("report_mig_char")
  # here parqual is not in the list
  # so this is equivalent to parqual=NULL
  # default for echantillon is "with"
  r_mig_char <- choice_c(r_mig_char,
  dc=c(107,108,101),
  taxa=c("Salmo salar"),
  stage=c('5','11','BEC','BER','IND'),
```

```
  parquan=c('C001','1786','1785'),
  horodatedebut="2012-01-01",
  horodatefin="2012-12-31",
  silent=FALSE)
  # r_mig_char<-charge(r_mig_char) not necessary there
  r_mig_char <- connect(r_mig_char)


## End(Not run)
# load the dataset generated by previous lines
data("r_mig_char")

r_mig_char<-calcule(r_mig_char, silent=TRUE)
plot(r_mig_char,plot.type="quant", silent=TRUE)
# one quantitative parameter found, manual choice of color
plot(r_mig_char,plot.type="quant",color_parm=c("C001"="red"), silent=TRUE)
# age will be plotted as a qualitative variable
# here we split size data accoding to the limit known between different ages from
# scale reading in the Loire
r_mig_char <- setasqualitative(r_mig_char,par='C001',
breaks=c(0,675,850,2000),
labels=c("age 1","age 2","age 3"))
r_mig_char<-calcule(r_mig_char, silent=TRUE)
plot(r_mig_char, plot.type="qual", silent=TRUE)
plot(r_mig_char, plot.type="crossed")
plot(r_mig_char, plot.type="crossed",
    color_parm=c("age 1"="#379ec6","age 2"="#173957","age 3"="#b09953"))
xt<-xtable(r_mig_char)
# use method print.xtable to get the output
```

---

report_mig_env-class   *Class "report_mig_env"*

Description

Enables to compute an annual overview of fish migration and environmental conditions in the same chart. Environmental conditions may trigger migration events, variation in flow or temperatures can be plotted along migration to check graphically for a possible relation. To enable this, environmental conditions are loaded from an "environmental monitoring station", which records environmental parameters and is attached to a migratory station in the database. This class enables both continuous output (temperature -flow) as well as discrete parameters (qualitative = moon phase, type of operation of a gate, opening of a gate...) which will be displayed on the graph. Values are scaled so that single plot can display migration numbers and environmental parameters. Environmental parameters when stored at a time scale lower that a day are averaged per day, unless they are qualitative parameters, in which case only the first event of the day is displayed on the annual plot.

Slots

report_mig_mult report_mig_mult-class

report_env report_env-class

Author(s)

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See Also

Other report Objects: report_annual-class, report_dc-class, report_df-class, report_env-class,
report_ge_weight-class, report_mig-class, report_mig_char-class, report_mig_interannual-class,
report_mig_mult-class, report_sample_char-class, report_sea_age-class, report_silver_eel-class,
report_species-class

Other report Objects: report_annual-class, report_dc-class, report_df-class, report_env-class,
report_ge_weight-class, report_mig-class, report_mig_char-class, report_mig_interannual-class,
report_mig_mult-class, report_sample_char-class, report_sea_age-class, report_silver_eel-class,
report_species-class

Examples

```
require(stacomiR)
stacomi(
database_expected=FALSE)
# the following will load the data provided the user has access to the database
# with data in the iav example scheme.
# prompt for user and password but you can set appropriate options for host, port and dbname
## Not run:
stacomi(
database_expected=TRUE)
if (interactive()){
if (!exists("user")){
user <- readline(prompt="Enter user: ")
password <- readline(prompt="Enter password: ")
}
}
options(
stacomiR.dbname = "bd_contmig_nat",
stacomiR.host ="localhost",
stacomiR.port = "5432",
stacomiR.user = user,
stacomiR.user = password
)
  r_mig_env<-new("report_mig_env")
  r_mig_env<-choice_c(r_mig_env,
  dc=c(5,6,12),
  taxa=c("Anguilla anguilla"),
  stage=c("AGJ","AGG","CIV"),
  stationMesure=c("temp_gabion","coef_maree","phases_lune"),
```

```
    datedebut="2008-01-01",
    datefin="2008-12-31",
    silent=FALSE)
    r_mig_env<-charge(r_mig_env) # this is necessary to load operations, DF and DC
    r_mig_env<-connect(r_mig_env)
    r_mig_env<-calcule(r_mig_env,silent=TRUE)

## End(Not run)

data("r_mig_env")
# An example of plot with custom colors.
plot(r_mig_env,
color_station=c("temp_gabion"="red","coef_maree"="blue","phases_lune"="pink"),
  color_dc=c("5"="yellow","6"="orange","12"="purple")
)
```

---

report_mig_interannual-class

Class "report_mig_interannual"

Description

When daily report are written in the t_reportjournalier_bjo table by the report_mig-class they can be used by this class to display interannual comparisons of migration. When running its connect method, this class will run the report_mig-class for each year where data are missing, or where the annual sum in the t_reportjournalier_bjo table differs from the counts generated by the report_annual-class : rows have been changed in the database. Different charts are produced with different period grouping. See write_database,report_mig-method for details about how this method inserts data in the t_reportjournalier_bjo table.

Slots

dc An object of class ref_dc-class, the counting device

data A data.frame data loaded from the daily migration table t_bilanmigrationjournalier_bjo

taxa An object of class ref_taxa-class, there can only be one taxa

stage An object of class ref_stage-class, there can only be one stage

start_year An object of class ref_year-class. ref_year allows to choose year of beginning

end_year An object of class ref_year-class ref_year allows to choose last year of the report

calcdata A list of calculated data, filled in by the calcule method

Author(s)

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See Also

Other report Objects: report_annual-class, report_dc-class, report_df-class, report_env-class,
report_ge_weight-class, report_mig-class, report_mig_char-class, report_mig_env-class,
report_mig_mult-class, report_sample_char-class, report_sea_age-class, report_silver_eel-class,
report_species-class

Examples

```
require(stacomiR)
# launching stacomi without selecting the scheme or interface
stacomi(
database_expected=FALSE, sch='pmp')
# If you have connection to the database with the pmp scheme
# prompt for user and password but you can set appropriate options for host, port and dbname
## Not run:
stacomi(database_expected=TRUE, sch="pmp")
if (interactive()){
if (!exists("user")){
user <- readline(prompt="Enter user: ")
password <- readline(prompt="Enter password: ")
}
}
options(
stacomiR.dbname = "bd_contmig_nat",
stacomiR.host ="localhost",
stacomiR.port = "5432",
stacomiR.user = user,
stacomiR.user = password
)

  # (longest historical dataset available
  # in France for eel ...) this suppose you have access to the pmp schema...
  # a glimpse of the dataset is still available in the r_mig_interannual dataset
  # loaded in the package...
  r_mig_interannual <- new("report_mig_interannual")
  r_mig_interannual <- choice_c(r_mig_interannual,
  dc=c(16),
  taxa=c("Anguilla anguilla"),
  stage=c("PANG"),
  start_year="1990",
  end_year="2015",
    year_choice=NULL,
  silent=TRUE)
  r_mig_interannual <- charge(r_mig_interannual)
  r_mig_interannual <- connect(r_mig_interannual, check=TRUE)
  r_mig_interannual <- calcule(r_mig_interannual, silent=TRUE)

## End(Not run)
#############otherwise use this #####################
# load the dataset generated by previous lines
data("r_mig_interannual")
```

```
##########################################################
# the first plot is of little interest, it allows to see what data
# are available... simple lines
# For irregular operations like those reported at the enfrenaux eel ladder....
plot(r_mig_interannual,plot.type="line", year_choice=2015, silent=TRUE)

# a plot to show the seasonality, this graph may be misleading if the
# migration is not monitored all year round. Note the y unit is not very informative
# you need to have the viridis package loaded to run this example
plot(r_mig_interannual,plot.type="density",year_choice=2015, silent=TRUE)
## Not run:
  if (requireNamespace("ggplot2", quietly = TRUE)&
  requireNamespace("viridis", quietly = TRUE)){
g<-get("g",envir=envir_stacomi)
g+
ggplot2::scale_fill_manual(values=viridis::viridis(22))+
ggplot2::ggtitle("Saisonnalite de la migration aux Enfrenaux")
  }
  ##########################################
# the standard plot is showing daily values
  ##########################################
  plot(r_mig_interannual,plot.type="standard",year_choice=2015,silent=TRUE)
# Manual edition of the graph produced
  if (requireNamespace("ggplot2", quietly = TRUE)){
    g1<-get("g1",envir=envir_stacomi)
    g1<-g1+ggplot2::ggtitle("Les Enfrenaux")+
ggplot2::scale_fill_manual(name="Source",
values=c("purple","#0A0C01"),
labels = c("historical set","2015 values"))+
ggplot2::scale_colour_manual(name="Source", values="#B8EA00",
labels = c("historical mean")) +
ggplot2::ylab("Nombre d'anguilles")
    print(g1)
  }
  ##########################################################
# Another graph to show a "manual" processing of the data
# and their extraction from the data slot
  ##########################################################
  if (requireNamespace("ggplot2", quietly = TRUE)&
      requireNamespace("viridis", quietly = TRUE)){
    dat<-fun_date_extraction(r_mig_interannual@data, # data to import
"bjo_jour", # name of the column where dates are found
annee=FALSE,
mois=TRUE,
semaine =TRUE,
jour_mois=FALSE)
# sum per month
    res<-dplyr::select(dat,bjo_valeur,bjo_annee,semaine)
    res<-dplyr::group_by(res,bjo_annee,semaine)
    res<-dplyr::summarize(res,effectif=sum(bjo_valeur))
    ggplot2::ggplot(res, ggplot2::aes(x = semaine, y = bjo_annee,fill=effectif)) +
        ggplot2::geom_tile(colour="black") + ggplot2::coord_fixed() +
        viridis::scale_fill_viridis(begin=0,option="D") + ggplot2::theme_bw()+
```

```
        ggplot2::theme(panel.background= ggplot2::element_rect(fill = "#9360A9"),
panel.grid.major=ggplot2::element_line(colour="#C1DB39"),
panel.grid.minor=ggplot2::element_line(colour="#7DD632"))+
        ggplot2::ylab("year")+ggplot2::xlab("week")+
        ggplot2::ggtitle("Historical trend at Les Enfrenaux Eel trap")

 }
 ###############################################
# barchart with different splitting periods
# the migration is displayed against seasonal data
# extacted from all other years loaded in the report
 ###############################################
# available arguments for timesplit are "quinzaine" and "mois" and "semaine"
# with the silent=TRUE argument, it's always the latest year that is selected,
# otherwise the user is prompted with a choice, to select the year he wants
# to compare will all others...
 plot(r_mig_interannual,plot.type="barchart",timesplit="quinzaine",year_choice=2015,silent=TRUE)
# Comparison with historical values. Each year and 2 weeks values
# is a point on the graph...
 plot(r_mig_interannual,plot.type="pointrange",timesplit="mois",year_choice=2015,silent=TRUE)
 ###############################################
# Step plot
# different years shown in the graph
# the current year (or the selected year if silent=FALSE)
# is displayed with a dotted line
 ###############################################
 plot(r_mig_interannual,plot.type="step",year_choice=2015,silent=TRUE)
 if (requireNamespace("ggplot2", quietly = TRUE)&
 requireNamespace("viridis", quietly = TRUE)){
g<-get("g",envir=envir_stacomi) + ggplot2::theme_minimal()
g+viridis::scale_color_viridis(discrete=TRUE)+
ggplot2::ggtitle("Cumulated migration step plot
at les Enfrenaux eel trap")

 }
 ###############################################
# Plots for seasonality of the salmon migration
# using a Loire river dataset (Vichy fishway)
 ###############################################
 data("r_mig_interannual_vichy")
# the following show how data are processed to get
# statistics for seaonal migration, daily values
 r_mig_interannual_vichy<-calcule(r_mig_interannual_vichy,
     timesplit="jour",year_choice=2012,silent=TRUE)
#r_mig_interannual_vichy@calcdata #check this to see the results
# statistics for seaonal migration, weekly values
 r_mig_interannual_vichy<-calcule(r_mig_interannual_vichy,timesplit="semaine"
                                 ,year_choice=2012,silent=TRUE)
#r_mig_interannual_vichy@calcdata

# the plot method also runs the calcule method
 plot(r_mig_interannual_vichy,plot.type="seasonal",
     timesplit="semaine", year_choice=2012, silent=TRUE)
```

```
  plot(r_mig_interannual_vichy,plot.type="seasonal",
      timesplit="mois", year_choice=2012, silent=TRUE)
  plot(r_mig_interannual_vichy,plot.type="seasonal",
      timesplit="jour",year_choice=2012, silent=TRUE)


  ################################################
# Plots for seasonality using another Loire river dataset
# with the migration of Lampreys (Petromyzon marinus)
# recorded at the the Descarte DF (Vienne)
  ################################################
# run this only if you are connected to the lograml dataset
stacomi(database_expected = TRUE, sch = 'lograml')
  bmi_des<-new("report_mig_interannual")
  bmi_des<-choice_c(bmi_des,
  dc=c(23),
  taxa=c("Petromyzon marinus"),
  stage=c("5"),
  start_year="2007",
  end_year="2014",
  silent=TRUE)
  bmi_des<-connect(bmi_des)
  bmi_des<-calcule(bmi_des,timesplit="semaine")
  plot(bmi_des,plot.type="seasonal",timesplit="semaine",year_choice=2014)
  plot(bmi_des,plot.type="seasonal",timesplit="jour",year_choice=2014)
  plot(bmi_des,plot.type="seasonal",timesplit="mois",year_choice=2014)

## End(Not run)
```

---

report_mig_mult-class   *Migration reports for multiple DC / species / stages*

Description

Migration counts for several Fish counting devices (DC), several taxa and several stages. This migration count can be built either by the graphical interface or from the command line (see examples).

Slots

dc An object of class ref_dc-class

taxa An object of class [ref_taxa-class](#)

stage An object of class [ref_stage-class](#)

timestep An object of class [ref_timestep_daily-class](#)

data A data.frame containing raw data filled by the connect method

calcdata A 'list' of calculated daily data, one per dc, filled in by the calcule method

coef_conversion A data frame of daily weight to number conversion coefficients, filled in by the
connect method if any weight are found in the data slot.

time.sequence A POSIXt time sequence

Note

A Migration report comes from a migration monitoring : the fishes are monitored in a section of
river, this section is called a control station (station). Most often, there is a dam, one or several
fishways (DF) which comprise one or several counting devices (DC). On each counting device,
the migration is recorded. It can be either an instant recording (video control) or the use of traps,
Operations are monitoring operations during a period. For each operation, several species of fishes
can be recorded (samples). In the case of migratory fishes the stage of development is important as
it may indicate generic migrations, to and fro, between the river and the sea.

Hence a Multiple Migration report is built from several one or several counting devices (DC), one
or several Taxa (Taxon), one or several stages (stage). The migration can be also recorded not as
numbers, but in the case of glass eels, as weight, which will be later transformed to number, from
daily conversion coefficients. The methods in this class test whether the counts are numbers or
another type of quantity. This class makes different calculations than report_mig, it does not handle
escapement coefficients, it uses quantities other than numbers if necessary (only used for glass eel
in the connect method).

Author(s)

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See Also

Other report Objects: `report_annual-class`, `report_dc-class`, `report_df-class`, `report_env-class`,
`report_ge_weight-class`, `report_mig-class`, `report_mig_char-class`, `report_mig_env-class`,
`report_mig_interannual-class`, `report_sample_char-class`, `report_sea_age-class`, `report_silver_eel-class`,
`report_species-class`

Examples

```
library(stacomiR)

stacomi(database_expected=FALSE)
## launches the application in the command line
## here an example of loading
## the following lines will only run if you have the program installed
## and the iav scheme available in the database
## this example generates the r_mig_mult dataset
# prompt for user and password but you can set appropriate options for host, port and dbname
## Not run:
  stacomi(
  database_expected=TRUE)
if (interactive()){
if (!exists("user")){
user <- readline(prompt="Enter user: ")
password <- readline(prompt="Enter password: ")
```

```
}
}
options(
stacomiR.dbname = "bd_contmig_nat",
stacomiR.host ="localhost",
stacomiR.port = "5432",
stacomiR.user = user,
stacomiR.password = password
)
  r_mig_mult <- new("report_mig_mult")
  r_mig_mult <- choice_c(r_mig_mult,
  dc=c(5,6,12),
  taxa=c("Anguilla anguilla"),
  stage=c("AGG","AGJ","CIV"),
    datedebut="2011-01-01",
    datefin="2011-12-31")
  r_mig_mult <- charge(r_mig_mult)
  # launching charge will also load classes associated with the report
  # e.g. report_ope, report_df, report_dc
  r_mig_mult <- connect(r_mig_mult)
  # calculations
  r_mig_mult <- calcule(r_mig_mult,silent=TRUE)

## End(Not run)

# Use this as example if you don't have a connexion to the database
data("r_mig_mult")
# The following re-create the object at the time of loading
# All three classes were created by the charge and connect
# method of report_mig_mult in the previous example
data("r_mig_mult_ope")
assign("report_ope",r_mig_mult_ope,envir=envir_stacomi)
data("r_mig_mult_df")
assign("report_df",r_mig_mult_df,envir=envir_stacomi)
data("r_mig_mult_dc")
assign("report_dc",r_mig_mult_dc,envir=envir_stacomi)
# use the following to get the raw data loaded by the connect method
# not shown there as the database and program might not be installed

#Individual plot for all DC, taxa and stage where data present


## Not run:
plot(r_mig_mult,plot.type="standard",silent=TRUE)
# colors in the following order (glass eel)
# working, stopped, 1...5 types of operation,numbers, weight, 2 unused colors
# for yellow eel and other taxa
# stopped, 1...5 types of operation, ponctuel, expert, calcule,mesure,working,
  plot(r_mig_mult,plot.type="standard",
  color=c("#DEF76B","#B950B5","#9ABDDA","#781A74","#BF9D6E","#FFC26E",
  "#A66F24","#012746","#6C3E00","#DC7ED8","#8AA123"),
  color_ope=c("#5589B5","#FFDB6E","#FF996E","#1C4D76"),
```

```
   silent=TRUE)
#For the following plot, beware, all stages and DC are grouped. This can make sense
# for instance if you want to display the cumulated migration for one species
# in several counting devices located on the same dam...
  plot(r_mig_mult,plot.type="step",silent=TRUE)


# Combined plot for ggplot2
  plot(r_mig_mult,plot.type="multiple",silent=TRUE)
# Data will be written in the data directory specified in
# the datawd argument to stacomi, default "~"
  summary(r_mig_mult,silent=FALSE)

## End(Not run)
```

---

report_ope-class   *Report on operations*

Description

Operations are monitoring operations generated between two dates. In the case of video monitoring or similar, they can be instantaneous

Objects from the Class

Objects can be created by calls of the form new("report_ope").

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

---

report_sample_char-class

Class 'report_sample_char'

Description

The report_sample_char class is used to load and display sample characteristics, which can be either continuous or discrete variable, for instance, it can be used to analyze size or sex structure during a given period.

Slots

data A data frame

dc An object of class ref_dc-class: the control devices

taxa An object of class ref_taxa-class: the species

stage An object of class ref_stage-class : the stages of the fish

par An object of class ref_par-class: the parameters used

horodatedebut An object of class ref_horodate-class

horodatefin An object of class ref_horodate-class

Objects from the Class

Objects can be created by calls of the form new('report_sample_char', ...)

Note

This class is displayed by interface_report_sample_char, in the database, the class calls the content
of the view vue_lot_ope_car

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

See Also

Other report Objects: report_annual-class, report_dc-class, report_df-class, report_env-class,
report_ge_weight-class, report_mig-class, report_mig_char-class, report_mig_env-class,
report_mig_interannual-class, report_mig_mult-class, report_sea_age-class, report_silver_eel-class,
report_species-class

Examples

```
# launching stacomi without connection to the database
stacomi( database_expected=FALSE)
# If you have a working database
# the following line of code will create the r_sample_char
# dataset from the iav (default) schema in the database
## Not run:
stacomi(database_expected=TRUE) # uses default option sch = 'iav'
# prompt for user and password, you can set these in the options,
# including dbname and host
if (interactive()){
if (!exists("user")){
user <- readline(prompt="Enter user: ")
password <- readline(prompt="Enter password: ")
}
}
options(
stacomiR.dbname = "bd_contmig_nat",
stacomiR.host ="localhost",
```

```
stacomiR.port = "5432",
stacomiR.user = user,
stacomiR.user = password
)
  #create an instance of the class
  r_sample_char <- new("report_sample_char")
  # the following will load data for size,
  # parameters 1786 (total size) C001 (size at video control)
  # dc 5 and 6 are fishways located on the Arzal dam
  # two stages are selected
  r_sample_char <- choice_c(r_sample_char,
  dc=c(5,6),
  taxa=c("Anguilla anguilla"),
  stage=c("AGJ","CIV"),
  par=c(1785,1786,1787,"C001"),
  horodatedebut="2013-01-01",
  horodatefin="2013-12-31",
  silent=FALSE)
  # two warning produced, ignored if silent=TRUE
  r_sample_char <- connect(r_sample_char)
  r_sample_char <- calcule(r_sample_char,silent=TRUE)


## End(Not run)
# load the dataset generated by previous lines
data("r_sample_char")

# A "violin" plot
plot(r_sample_char,plot.type="1",silent=TRUE)
# get the plot from envir_stacomi to change labels for name
# if you use require(ggplot2) the :: argument is not needed
# e.g. write require(ggplot2);g<-get("g",envir=envir_stacomi)
# g+xlab("size")+ylab("year")
if (requireNamespace("ggplot2", quietly = TRUE)){
  g<-get("g",envir=envir_stacomi)
  g+ggplot2::xlab("size")+ggplot2::ylab("year")
}
# A boxplot per month
plot(r_sample_char,plot.type="2",silent=TRUE)
# A xyplot
plot(r_sample_char,plot.type="3",silent=TRUE)

## Not run:

  ####################################
# an example graph created manually from data
  ####################################
# two variables one on DC, one on stage
# passing dc information to the stage variable
  r_sample_char@data$std_libelle[r_sample_char@data$ope_dic_identifiant==5]<-
      "Yellow eel (vert. slot fishway)"
  r_sample_char@data$std_libelle[r_sample_char@data$std_libelle=="Anguille jaune"]<-
      "Yellow eel (ramp)"
```

```
    r_sample_char@data$std_libelle[r_sample_char@data$std_libelle=="civelle"]<-
        "Glass eel (ramp)"
# creating a boxplot with custom output : an example
# again if you use require(ggplot2) the :: argument is not needed

  if (requireNamespace("ggplot2", quietly = TRUE)){
g<-ggplot2::ggplot(r_sample_char@data)+
ggplot2::geom_boxplot(ggplot2::aes(x=annee,
y =car_valeur_quantitatif,
fill = std_libelle))+
ggplot2::xlab("size")+ggplot2::ylab("year")+
ggplot2::scale_fill_manual("stage & fishway",
values=c("Yellow eel (vert. slot fishway)"="blue",
"Yellow eel (ramp)"="turquoise3",
"Glass eel (ramp)"="Cyan"))+
ggplot2::theme_bw()
print(g)
  }

# get a simple summary using Hmisc::describe

  summary(r_sample_char)
# get the command line to create the object using choice_c
# when the graphical interface has been used
  print(r_sample_char)

## End(Not run)
```

---

report_sea_age-class   *Class "report_sea_age"*

Description

the report_sea_age class is used to dispatch adult salmons to age class according to their size and
to basin dependent limits set by the user. Once checked with graphs and summary statistics, the
results are to be written to the database.

Slots

data A data frame with data generated from the database

calcdata A list of dc with processed data. This lists consists of two elements

- (1) data A dataset with age set to be used by the plot and summary methods
- (2) tj_caracteristitiquelot_car A dataset to import into the database

dc Object of class [ref_dc-class](#): the control devices

taxa Object of class [ref_taxa-class](#): the species

stage Object of class [ref_stage-class](#) : the stages of the fish

par Object of class [ref_par-class](#): the parameters used

horodatedebut An object of class `ref_horodate-class`

horodatefin An object of class `ref_horodate-class`

limit1hm The size limit, in mm between 1 sea winter fishes and 2 sea winter fishes

limit2hm The size limit, in mm between 2 sea winter fishes and 3 sea winter fishes

Objects from the Class

Objects can be created by calls of the form new("report_sea_age", ...)

Note

This class is displayed by interface_report_sea_age

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

See Also

Other report Objects: `report_annual-class`, `report_dc-class`, `report_df-class`, `report_env-class`, `report_ge_weight-class`, `report_mig-class`, `report_mig_char-class`, `report_mig_env-class`, `report_mig_interannual-class`, `report_mig_mult-class`, `report_sample_char-class`, `report_silver_eel-class`, `report_species-class`

Examples

```
require(stacomiR)
stacomi(
database_expected=FALSE)
# If you have a working database
# the following line of code will create the r_seaa dataset
# from the logrami schema in the database
## Not run:
stacomi(database_expected=TRUE, sch='logrami')
# overrides the default option sch = 'iav'
# prompt for user and password, you can set these in the options,
  # including dbname and host
if (interactive()){
if (!exists("user")){
user <- readline(prompt="Enter user: ")
password <- readline(prompt="Enter password: ")
}
}
options(
stacomiR.dbname = "bd_contmig_nat",
stacomiR.host ="localhost",
stacomiR.port = "5432",
stacomiR.user = user,
stacomiR.user = password
)
  #create an instance of the class
```

```
r_seaa<-new("report_sea_age")
r_seaa<-choice_c(r_seaa,
dc=c(107,108,101),
horodatedebut="2012-01-01",
horodatefin="2012-12-31",
limit1hm=675,
limit2hm=875,
silent=FALSE
)
r_seaa<-connect(r_seaa)
r_seaa<-calcule(r_seaa)


## End(Not run)
# load the dataset generated by previous lines
# Salmons from the loire on two dams
data("r_seaa")
# the calculation will fill the slot calcdata

# stages are in r_seaa@calcdata[["6"]][,"stage"]
#look at data structure using str(r_seaa@calcdata[["6"]])

# plot data to confirm the split by limits is correct
plot(r_seaa, plot.type=1)

# if there are several dc, data it split by dc
plot(r_seaa, plot.type=2)
## Not run:
# print a summary statistic, and save the output in a list for later use
  stats<-summary(r_seaa)


  write_database(r_seaa)

## End(Not run)
```

---

report_silver_eel-class

Class "report_silver_eel"

Description

the report_silver_eel class is used to calculate various statistics about the silver eel run. It comprises calculation of various maturation index such as Durif's stages and Pankhurst eye index. The objective is to provide standardized output to the stations monitoring the silver eel run.

Slots

data A data frame with data generated from the database

calcdata A list of dc with processed data. Each dc contains a data frame with

- (1) qualitative data on body contrast (CONT), presence of punctuation on the lateral line (LINP)
- (2) quantitative data "BL" Body length,"W" weight,"Dv" vertical eye diameter,"Dh" horizontal eye diameter,"FL" pectoral fin length
- (3) calculated durif stages, Pankhurst's index, Fulton's body weight coefficient K_ful
- (4) other columns containing data pertaining to the sample and the control operation: lot_identifiant,ope_identifiant, ope_dic_identifiant,ope_date_debut,ope_date_fin,dev_code (destination code of fish), dev_libelle (text for destination of fish)

dc Object of class [ref_dc-class](): the control devices

taxa An object of class [ref_taxa-class](): the species

stage An object of class [ref_stage-class]() : the stages of the fish

par An object of class [ref_par-class](): the parameters used

horodatedebut An object of class [ref_horodate-class]()

horodatefin An object of class [ref_horodate-class]()

Objects from the Class

Objects can be created by calls of the form new("report_silver_eel", ...)

Note

This class is displayed by interface_report_silver_eel

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

See Also

Other report Objects: [report_annual-class](), [report_dc-class](), [report_df-class](), [report_env-class](), [report_ge_weight-class](), [report_mig-class](), [report_mig_char-class](), [report_mig_env-class](), [report_mig_interannual-class](), [report_mig_mult-class](), [report_sample_char-class](), [report_sea_age-class](), [report_species-class]()

Examples

```
# launching stacomi without selecting the scheme or interface
stacomi( database_expected=FALSE)
# the following script will load data from the two Anguillere monitored in the Somme

# If you have a working database
# the following line of code will create the r_silver dataset
# from the "fd80." schema in the database
## Not run:
stacomi(database_expected=TRUE, sch="fd80.") # overrides the default option sch = 'iav'
# prompt for user and password, you can set these in the options,
# including dbname and host
if (interactive()){
```

```
if (!exists("user")){
user <- readline(prompt="Enter user: ")
password <- readline(prompt="Enter password: ")
}
}
options(
stacomiR.dbname = "bd_contmig_nat",
stacomiR.host ="localhost",
stacomiR.port = "5432",
stacomiR.user = user,
stacomiR.user = password
)

  #create an instance of the class
  r_silver<-new("report_silver_eel")
  r_silver<-choice_c(r_silver,
  dc=c(2,6),
  horodatedebut="2010-09-01",
  horodatefin="2016-10-04",
  silent=FALSE)
  r_silver<-connect(r_silver)

## End(Not run)
# load the dataset generated by previous lines
data("r_silver")
# the calculation will fill the slot calcdata
r_silver<-calcule(r_silver)
# stages are in r_silver@calcdata[["6"]][,"stage"]
#look at data structure using str(r_silver@calcdata[["6"]])

# standard plot as drawn by Laurent Beaulaton (Analyse des donnees d'argenture acquises en France)
# showing Durif's stage according to size and eye diameter
plot(r_silver, plot.type=1)

# number per month or year and Durif's stage (year if number of dc >1)
plot(r_silver, plot.type="2")

# plot showing fulton's coefficient, and size weight graphs
# inspired from Acou et al., 2009
# Differential Production and Condition Indices of Premigrant
# Eels in Two Small Atlantic Coastal Catchments
# of France
plot(r_silver, plot.type="3")
# get a list of summary data and print output to screen

plot(r_silver, plot.type="4")
# print a summary statistic, and save the output in a list for later use
stats<-summary(r_silver)
```

report_species-class   *Counts of number per taxa/stages*

Description

This class is used to make the assessment of all species, and their number. It is intended as a simple way to check what fishes are present (taxa + development stage). It was altered to include ref_taxa, to allow excluding some of the most numerous taxa from reports. The taxa is reported unless a taxa has several stages, in which case the different stages for the taxa will be reported Using the split arguments the calc method of the class will count numbers, subsamples are not accounted for in the Overview. The split argument currently takes values year or month. The class is intended to be used over long periods e.g years. The plot method writes either an histogram or a pie chart of number per year/week/month.

Slots

dc an object of class ref_dc-class

taxa Object of class ref_taxa-class: the species

start_year Object of class ref_year-class

end_year Object of class ref_year-class

data data.frame

calcdata data.frame with data processed by the calc method

split Object of class ref_list-class ref_list referential class choose within a list

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

See Also

Other report Objects: report_annual-class, report_dc-class, report_df-class, report_env-class, report_ge_weight-class, report_mig-class, report_mig_char-class, report_mig_env-class, report_mig_interannual-class, report_mig_mult-class, report_sample_char-class, report_sea_age-class, report_silver_eel-class

Examples

```
# launching stacomi without selecting the scheme or interface
stacomi( database_expected=FALSE)
# the following script will load data
# from the two Anguillere monitored in the Somme
# If you have a working database
# the following line of code will create the bilesp dataset from the "iav."
# schema in the database

## Not run:
  bilesp<-new("report_species")
  # split is one of "none", "year", "week", "month
  bilesp<-choice_c(bilesp,
  dc=c(5,6,12),
  split="year",
  start_year="2008",
```

```
      end_year="2012",
      silent=FALSE)
      bilesp <- connect(bilesp)
      bilesp <- calcule(bilesp)
      plot(bilesp, plot.type="pie", silent=FALSE)
      plot(bilesp, plot.type="barplot", silent=FALSE)
      bilesp <- choice_c(bilesp,
      dc=c(5,6,12),
      split="month",
      start_year="2015",
      end_year="2016",
      silent=FALSE)
      bilesp <- charge(bilesp)
      bilesp <- connect(bilesp)
      plot(bilesp, plot.type="pie", silent=FALSE)
      plot(bilesp, plot.type="barplot", silent=FALSE)
      #length(unique(bilesp@calcdata$taxa_stage)) # 15
      # here creating a vector of length 15 with nice blending colours
if (requireNamespace("grDevices", quietly = TRUE)) {
mycolorrampblue <-
grDevices::colorRampPalette(c("#395B74", "#010F19"))
mycolorrampyellow <-
grDevices::colorRampPalette(c("#B59C53", "#271D00"))
mycolorrampred <-
grDevices::colorRampPalette(c("#B56F53", "#270B00"))
  color<-c(mycolorrampblue(5),
  mycolorrampyellow(5),
  mycolorrampred(5))
  plot(bilesp,plot.type="barplot",color=color,silent=TRUE)
}
      summary(bilesp)

## End(Not run)
```

---

r_ann   *Annual migration of yellow and silver eel for three fishways / counting devices at the Arzal dam (data from 1995 to 2016)*

Description

The dataset corresponds to the three fishways located on the Arzal dam, filled with annual data

Usage

```
r_ann
```

Format

An object of class report_annual-class with data slot loaded.

---

r_ann_adour	*Annual migration of salmon in the Adour and tributaries*

Description

The dataset corresponds to the fishways DC=33:40 of the Adour for adult migrant salmons from 1996 to 2005 (annual counts). It has been kindly provided as an example set by the Migradour association.

Usage

```
r_ann_adour
```

Format

An object of class report_annual-class with data slot loaded.

---

r_dc	*Counting Device (DC) operation from 2000 to 2015 at the Arzal dam (Vilaine, France)*

Description

This data corresponds to the data collected at the vertical slot fishway camera from 2000 to 2015. It represents an object of class report_dc-class with data loaded

Usage

```
r_dc
```

Format

An object of class report_dc with 4 slots:

data A dataframe with 544 obs. of 7 variables

> **per_dis_identifiant** The number of the DC
>
> **per_date_debut** Starting time a POSIXct
>
> **per_date_fin** Ending time a POSIXct
>
> **ope_dic_identifiant** DC id
>
> **per_commentaires** A comment
>
> **per_etat_fonctionnement** Integer 1= working, 0 not working
>
> **per_tar_code** The type of operation ('1'=normal operation, '2'=Device stopped in normal operation (e.g. the trap is disactivated for the duration of the fish sorting and counting by operators), '3'='Stopped for maintenance or other problem', '4'='Works but not fully operational, i.e. the camera is not working properly because of high turbidity...', '5'='Not known')

libelle label corresponding to per_tar_code

df the `ref_dc` object with 3 slots filled with data corresponding to the iav postgres schema

horodatedebut the `ref_horodate` with horodate set for starting date

horodatefin the `ref_horodate` with horodate set for ending date

---

r_df   *Overview of the fishway operation at Arzal in (Vilaine France).*

Description

This dataset corresponds to the data collected at the vertical slot fishway in 2015, the fishway is working daily with a cycle depending on tide. This dataset is used to show an example of detailed output for an object of class report_df-class with data loaded

Usage

    r_df

Format

An object of class report_df with 4 slots:

data A dataframe with 4261 obs. of 7 variables

  per_dis_identifiant The number of the DF

  per_date_debut Starting time a POSIXct

  per_date_fin Ending time a POSIXct

  ope_dic_identifiant DF id

  per_commentaires A comment

  per_etat_fonctionnement Integer 1= working, 0 not working

  per_tar_code The type of operation ('1'=normal operation, '2'=Device stopped in normal operation (ie lift ascending, high tide...), '3'='Stopped for maintenance or other problem', '4'='Works but not fully operational,i.e.flow problem, flood, clogged with debris...', '5'='Not known')

  libelle label corresponding to per_tar_code

df the `ref_df` object with 3 slots filled with data corresponding to the iav postgres schema

horodatedebut the `ref_horodate` with horodate set for starting date

horodatefin the `ref_horodate` with horodate set for ending date'

---

r_env *An object of class report_env with data loaded*

Description

The dataset corresponds to the daily temperatures and moon phases in Arzal (Vilaine estuary, France). This environmental station is used to analyze conditions in which fish migrated at Arzal dam

Usage

    r_env

Format

An object of class report_env-class with data slot loaded:

stationMesure the ref_env object with 5 slots filled with data corresponding to the iav postgres schema

horodatedebut object of class ref_horodate-class : the start date selected

horodatefin object of class ref_horodate-class : the end date selected

data A dataframe with 723 rows and 6 variables

> **env_date_debut** start date
>
> **env_date_fin** end date
>
> **env_methode_obtention** method of data collection, measured, calculated...
>
> **env_val_identifiant** the value of the parameter if qualitative
>
> **env_valeur_quantitatif** the value of the parameter if quantitative
>
> **env_stm_identifiant** station id

---

r_gew *Wet weight of glass eel from the trapping ladder (Arzal, Vilaine France)*

Description

Data correspond to glass eel collected in the Vilaine at the trapping ladder (Arzal, France). The years selected are 2009 to 2012, the query used in the report_ge_weight-class loads from 2008-08-01 to 2012-08-01 Glass eel are too numerous to be counted. They are weighted and in the stacomi database, a table with daily coefficients (in N glass eel/g) to transform weight into number. The weight is called a 'wet weight' as we don't wan't to drain any of the mucus in glass eel when weighting them. Samples of 50 to 200 glass eel are weighted and then counted to provide an idea of the seasonal evolution of wet weight.

Usage

```
r_gew
```

Format

An object of class `report_ge_weight` of length 1.

---

r_mig	*Video counting of Marine lamprey (Petromyzon marinus) in 2012 in the Vilaine (France)*

Description

This dataset corresponds to the data collected at the vertical slot fishway in 2012, video recording marine lamprey migration

Usage

```
r_mig
```

Format

An object of class report_mig with 8 slots:

dc the `ref_dc` object with 4 slots filled with data corresponding to the iav postgres schema

taxa the `ref_taxa` the taxa selected

stage the `ref_stage` the stage selected

timestep the `ref_timestep_daily` calculated for all 2015

data A dataframe with 10304 rows and 11 variables

    ope_identifiant operation id

    lot_identifiant sample id

    lot_identifiant sample id

    ope_dic_identifiant dc id

    lot_tax_code species id

    lot_std_code stage id

    value the value

    type_de_quantite either effectif (number) or poids (weights)

    lot_dev_code destination of the fishes

    lot_methode_obtention method of data collection, measured, calculated...

coef_conversion A data frame with 0 observations : no quantity are reported for video recording of mullets, only numbers

time.sequence A time sequence generated for the report, used internally

---

r_mig_char   *Qualitative and quantitative parameters describing Salmon migration*
                              at Decize (Loire)

Description

The dataset corresponds to the characteristics (qualitative and quantitative) of salmo salar migrating at Decize (Loire river) and Vichy (Allier river) counting device in 2012. It has been loaded as an example for the report_mig_char-class and kindly provided by Loire Grands Migrateurs (LOGRAMI).

Usage

```
r_mig_char
```

Format

An object of class report_mig_char-class with data slot loaded:

calcdata slot to be filled with the calcule method

data A list of 2 elements

> **parqual** values of all the qualitative parameters
>
> **parquan** values of all the quantitative parameters

dc the ref_dc : the control devices selected

taxa the ref_taxa : Salmo salar selected

stage the ref_stage : the stages selected

par an object of class ref_par-class: the parameters used

horodatedebut an object of class ref_horodate-class : the start date selected

horodatefin an object of class ref_horodate-class : the end date selected

---

r_mig_dc   *Counting device operation for the video recording (Arzal dam, Vilaine,*
                              France).

Description

This dataset corresponds to the data collected in the vertical slot fishway for the video recording operation. It is loaded along with r_mig to demonstrate the use of the report_mig-class when the database is not loaded

Usage

```
r_mig_dc
```

Format

An object of class report_dc-class

---

r_mig_df *Fishway operation for the vertical slot fishway (Arzal dam, Vilaine, France).*

Description

This dataset corresponds to the data collected at in the vertical slot fishway it is loaded along with r_mig and used to demonstrate the report_mig-class when the database is not installed.

Usage

```
r_mig_df
```

Format

An object of class report_df-class

---

r_mig_env *An object of class report_mig_env with data loaded*

Description

The dataset correspond to data loaded for the Arzal dam (Vilaine) in 2008, two quantitative parameters (temperature and tide coefficient) and a qualitative parameter (moon phase) are loaded.

Usage

```
r_mig_env
```

Format

An object of class report_env-class with data slot loaded:

report_mig_mult An object of class report_mig_mult-class

report_env An object of class report_env-class#'

---

r_mig_interannual *Daily glass eel and elver migration from 1984 to 2016 in the Sevre Niortaise*

Description

The first eel trapping ladder in France was built by Antoine Legault and the team from Rennes in the Sevre Niortaise, Marais Poitevin. Also refurbished several times since 1984 it has been operational at the same location and provides one of the longest series of eel migration. For this reason, the dataset has been loaded as an example for the report_mig_interannual-class. It has been kindly provided by the parc du Marais Poitevin. The stage corresponds to small eels (elvers) less than 150 mmm stage name 'PANG'

Usage

```
r_mig_interannual
```

Format

An object of class report_mig_interannual-class with data loaded.

---

r_mig_interannual_vichy

Seasonality of salmon migration at the Vichy counting station (Loire)

Description

This data corresponds to the data collected at the Vichy fishway between 1997 and 2012, video recording of the Salmo salar upstream migration. This dataset has been kindly provided by Loire Grands Migrateurs.

Usage

```
r_mig_interannual_vichy
```

Format

An object of class report_mig_interannual-class with 7 slots:

dc the ref_dc object with 4 slots filled with data corresponding to the iav postgres schema

taxa the ref_taxa the taxa selected

stage the ref_stage the stage selected

start_year the ref_timestep_daily calculated for all 2015

end_year the ref_timestep_daily calculated for all 2015

data A dataframe with 7138 rows and 10 variables

    bjo_identifiant sample id

    bjo_dis_identifiant dc id

    bjo_tax_code species id

    bjo_std_code stage id

    bjo_annee year

    bjo_jour date

    bjo_labelquantite method of data collection, measured, calculated...

    bjo_horodateexport date with special format for export

    bjo_org_code organisme provided the data

---

r_mig_mult	*Anguilla migration at the Arzal station (report_mig_mult-class)*

Description

This data corresponds to data collected from three fishways and correspond to the migration station at Arzal (Vilaine estuary, France) in 2011 for three continental stages of eel (Anguilla anguilla) : glass eel, yellow eel and silver eel.

Usage

```
r_mig_mult
```

Format

An object of class report_mig_mult with slots:

dc the `ref_dc` object filled with data

taxa the `ref_taxa` object filled in with data corresponding to dc

stage the `ref_stage` object filled in with data corresponding to dc, and taxa

timestep the `ref_timestep_daily` calculated for all 2011

data A dataframe with 400 rows and 11 variables

    ope_identifiant operation id

    lot_identifiant sample id

    lot_identifiant sample id

    ope_dic_identifiant dc id

    lot_tax_code species id

    lot_std_code stage id

    value the value

    type_de_quantite either effectif (number) or poids (weights)

    lot_dev_code destination of the fishes

    lot_methode_obtention method of data collection, measured, calculated...

calcdata slot to be filled with the calcule method

coef_conversion A data frame with 364 observations with daily coefficients to convert from weight to numbers

time.sequence A time sequence generated for the report, used internally by the object

---

r_mig_mult_dc   *Counting device operation for three different counting device in Arzal (Vilaine, France)*

Description

This dataset corresponds to data collected at three different control devices. This object is of class report_dc-class with data loaded it is loaded along with r_mig_mult and used in demonstration for the report_mig_mult-class

Usage

```
r_mig_mult_dc
```

Format

An object of class report_dc with 4 slots

data A dataframe with 25 rows and 7 variables

    per_dis_identifiant the df or dc unique id

    per_date_debut the starting date of the counting device operation POSIXct

    per_date_fin the ending date of the counting device operation POSIXct

    per_commentaires comments on the counting device operation

    per_etat_fonctionnement Boolean, is the counting device working ?

    lot_std_code stage id

    per_tar_code The type of operation for the DC, 1 normal operation, 2 device stopped in normal operation (the stop is considered as normal, e.g. you don't monitor video if a cage has been placed to trap fishes), 3 stopped for maintenance or other problem, 4 the DC is working but not well (escapement in a tank, high turbidity preventing video counting...), 5 unknown operation.

    libelle The label for the type or operation

dc the ref_dc the DC with 4 slots

    dc_selected the selected device

    ouvrage the dam

    station the monitoring station, a section of river

    data A dataset of all dc present in the database with 10 observations

horodatedebut the beginning date, a ref_horodate-class

horodatefin the ending date, a ref_horodate-class

`r_mig_mult_df`	*Fishway operation at the Arzal Dam (Vilaine France) (3 Fishways in 2011)*

Description

This dataset corresponds to the data collected at three different fishways it is loaded along with r_mig_mult and used in demonstration for the report_mig_mult-class

Usage

```
r_mig_mult_df
```

Format

An object of class report_df report_df-class

`r_mig_mult_ope`	*Counting operations for three different counting device in Arzal (Vilaine, France)*

Description

This dataset corresponds to the data collected at three different control devices It is an object of class report_ope-class with data loaded. it is loaded along with r_mig_mult

Usage

```
r_mig_mult_ope
```

Format

An object of class report_ope

`r_mig_ope`	*An object of class report_ope-class with data loaded*

Description

This dataset corresponds to the data collected at the vertical slot fishway in Arzal (Vilaine river estuary, France). The operation of the fishway is dependent on tide and is recorded every 10 minutes. This dataset has to be loaded along with r_mig to demonstrate the use of the report_mig-class

Usage

```
r_mig_ope
```

Format

An object of class report_ope

`r_sample_char`	*Size of yellow and glass eel at the Arzal dam (Vilaine, France) in the fishway and main eel trapping ladder.*

Description

This dataset corresponds to the data collected at two different control devices at the Arzal control station (see example in report_sample_char-class), all body size parameters (total size, size converted from pixel in video control) are used in example

Usage

```
r_sample_char
```

Format

An object of class report_sample_char-class

---

r_seaa *An object of class report_sea_age with data loaded*

Description

This dataset corresponds to the data collected at Vichy (left and right bank fishways) and Decize-Saint Leger des Vignes fishways (respectively on the Allier and Loire river, France) in 2012 on the size structure of Salmo salar. It has been kindly provided by the Loire Grands Migrateurs (LOGRAMI) association.

Usage

```
r_seaa
```

Format

An object of class report_sea_age-class with 8 slots:

dc the ref_dc : the control devices selected

taxa the ref_taxa : Salmo salar selected

stage the ref_stage : the stages selected

par Object of class ref_par-class: the parameters used

horodatedebut object of class ref_horodate-class : the start date selected

horodatefin object of class ref_horodate-class : the end date selected

limit1hm The size limit, in mm between 1 sea winter fishes and 2 sea winter fishes

limit2hm The size limit, in mm between 2 sea winter fishes and 3 sea winter fishes

data A dataframe with 898 rows and 20 variables

ope_identifiant operation id

lot_identifiant sample id

ope_dic_identifiant dc id

ope_date_debut start date

ope_date_fin end date

lot_effectif number of fishes

lot_tax_code species id

lot_std_code stages id

tax_nom_latin species latin names

std_libelle stages names

dev_code destination of the fishes id

dev_libelle destination of the fishes names

par_nom parameter name

car_par_code parameter id

car_methode_obtention method of data collection, measured, calculated...

car_valeur_quantitatif the value of the parameter

---

r_silver *Silver eel migration in the Somme*

Description

The dataset corresponds to the silver eel traps ('anguilleres) for 2015-2016. This dataset has been kindly provided by the Federation de Peche de la Somme, given the upstream location of the trap, most individuals are female

Usage

```
r_silver
```

Format

An object of class report_silver_eel-class with data slot loaded.

---

setasqualitative *Generic method to transform quantitative par into a qualitative one*

Description

Generic method to transform quantitative par into a qualitative one

Usage

```
setasqualitative(object, ...)
```

Arguments

object	Object
...	Additional parms

Author(s)

cedric.briand

---

setasqualitative,report_mig_char-method
Turns a continuous parameter into discrete values

Description

The parm name becomes "parm_discrete". New values are created in the 'data[["parqual"]]' slot of the report and the parqual slot is updated

Usage

```
## S4 method for signature 'report_mig_char'
setasqualitative(object, par, silent = FALSE, ...)
```

Arguments

object	An object of class [ref_parquan-class](#)
par	The code of a quantitative parameter
silent	Default FALSE, if TRUE the program should not display messages
...	Additional parms to the cut method [cut](#)

Value

An object of class [ref_parquan-class](#) with lines removed from r@data[["parquan"]] and added (after transformation to qualitative values) in r@data[["parqal"]]

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

---

split_per_day   *Create a dataframe suitable for charts per 24h and day*

Description

This functions takes a data frame with a column with starting time and another with ending time If the period extends over midnight, it will be split into new lines, starting and ending at midnight

Usage

```
split_per_day(data, horodatedebut, horodatefin)
```

Arguments

`data`	The dataframe
`horodatedebut`	The beginning time
`horodatefin`	The ending time

Value

A data frame with four new columns, Hmin (hour min), Hmax (hmax), xmin (day) and xmax (next day), and new rows

Author(s)

cedric.briand

Examples

```
datatemp<-structure(list(per_dis_identifiant = c(1L, 1L, 1L),
per_date_debut = structure(c(1420056600,
1420071000, 1420081200), class = c("POSIXct", "POSIXt"), tzone = ""),
per_date_fin = structure(c(1420071000, 1420081200, 1421000000
), class = c("POSIXct", "POSIXt"), tzone = ""), per_commentaires = c("fonct calcul",
"fonct calcul", "fonct calcul"), per_etat_fonctionnement = c(1L,
0L, 0L), per_tar_code = 1:3, libelle = c("Fonc normal", "Arr ponctuel",
"Arr maint")), .Names = c("per_dis_identifiant", "per_date_debut",
"per_date_fin", "per_commentaires", "per_etat_fonctionnement",
"per_tar_code", "libelle"), row.names = c(NA, 3L), class = "data.frame")
 newdf<-split_per_day(data=datatemp,horodatedebut="per_date_debut",
horodatefin="per_date_fin")
```

---

stacomi	*stacomi Main launcher for program stacomi*

Description

When `database_expected=FALSE` a connection to the database is not expected. Therefore test are run by calling examples object stored in Rdata. To change the language use Sys.setenv(LANG = 'fr') or Sys.setenv(LANG = 'en')

Usage

```
stacomi(database_expected=TRUE, datawd = "~", sch = "test")
```

Arguments

`database_expected`

Boolean, if `TRUE` pre launch tests will be run to test the connection validity

`datawd`	The data working directory
`sch`	The schema in the stacomi database default 'test'.

Value

Nothing, called for its side effect of loading

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

Examples

```
 require(stacomiR)
#launch stacomi
 ## Not run:
stacomi(database_expected=TRUE, datawd='~',sch= "iav")

## End(Not run)
# launch stacomi without connection to the database
stacomi(database_expected=FALSE)
# launch stacomi with options
options(
stacomiR.dbname = "bd_contmig_nat",
stacomiR.host = readline(prompt = "Enter host: "),
stacomiR.port = "5432",
stacomiR.user = readline(prompt = "Enter user: "),
stacomiR.password = readline(prompt = "Enter password: ")
)
# another usefull option to print all queries run by stacomiR to the console
 options('stacomiR.printqueries'= TRUE)
```

---

summary,report_dc-method

> *summary for report_dc, write csv and html output, and prints summary statistics*

Description

summary for report_dc, write csv and html output, and prints summary statistics

Usage

```
## S4 method for signature 'report_dc'
summary(object, silent = FALSE, ...)
```

Arguments

object	An object of class [report_dc-class](#)
silent	Should the program stay silent or display messages, default FALSE
...	Additional parameters (not used there)

Value

Nothing, called for its side effect of writing html, csv files and printing summary

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

---

summary,report_df-method

summary for report_df, write csv and html output, and prints summary statistics

---

Description

summary for report_df, write csv and html output, and prints summary statistics

Usage

```
## S4 method for signature 'report_df'
summary(object, silent = FALSE, ...)
```

Arguments

object	An object of class report_df-class
silent	Should the program stay silent or display messages, default FALSE
...	Additional parameters (not used there)

Value

Nothing, called for its side effect of writing html, csv files and printing summary

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

---

summary,report_mig-method

summary for report_mig calls functions funstat and funtable to create migration overviews and generate csv and html output in the user data directory

---

Description

summary for report_mig calls functions funstat and funtable to create migration overviews and generate csv and html output in the user data directory

Usage

```
## S4 method for signature 'report_mig'
summary(object, silent = FALSE, ...)
```

Arguments

object	An object of class report_mig-class
silent	Should the program stay silent or display messages, default FALSE
...	Additional parameters (not used there)

Value

Nothing, calls the summary.report_mig_mult method

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

---

summary,report_mig_char-method

summary for report_mig_char

Description

summary for report_mig_char

Usage

```
## S4 method for signature 'report_mig_char'
summary(object, silent = FALSE, ...)
```

Arguments

object	An object of class [report_mig_char-class]()
silent	Should the program stay silent or display messages, default FALSE
...	Additional parameters

Value

A table with the summary

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

---

summary,report_mig_interannual-method

summary for report_mig_interannual provides summary statistics for the latest year (if silent=TRUE), or the year selected in the interface, if silent=FALSE. Mean, min and max are historical statistics and they always include the current year from the historical dataset.

Description

summary for report_mig_interannual provides summary statistics for the latest year (if silent=TRUE), or the year selected in the interface, if silent=FALSE. Mean, min and max are historical statistics and they always include the current year from the historical dataset.

Usage

```
## S4 method for signature 'report_mig_interannual'
summary(object, year_choice = NULL, silent = FALSE, ...)
```

Arguments

object	An object of class [report_mig_interannual-class]()
year_choice	The year chosen to calculate statistics which will be displayed beside the historical series,
silent	Should the program stay silent or display messages, default FALSE
...	Additional parameters (not used there)

Value

A list, one element per DC

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

summary,report_mig_mult-method

summary for report_mig_mult calls functions funstat and funtable to create migration overviews and generate csv and html output in the user data directory

Description

summary for report_mig_mult calls functions funstat and funtable to create migration overviews and generate csv and html output in the user data directory

Usage

```
## S4 method for signature 'report_mig_mult'
summary(object, silent = FALSE, ...)
```

Arguments

object	An object of class report_mig_mult-class
silent	Should the program stay silent or display messages, default FALSE
...	Additional parameters (not used there)

Value

Nothing, runs funstat and funtable method for each DC

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

summary,report_sample_char-method

summary for report_sample_char

Description

summary for report_sample_char

Usage

```
## S4 method for signature 'report_sample_char'
summary(object, silent = FALSE, ...)
```

Arguments

object	An object of class [report_sample_char-class](#)
silent	Should the program stay silent or display messages, default FALSE
...	Additional parameters

Value

Nothing, called for its side effect of printing a summary

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

---

summary,report_sea_age-method

summary for report_sea_age

Description

summary for report_sea_age

Usage

```
## S4 method for signature 'report_sea_age'
summary(object, silent = FALSE, ...)
```

Arguments

object	An object of class [report_sea_age-class](#)
silent	Default FALSE, if TRUE the program should no display messages.
...	Additional parameters

Value

The summary

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

---

summary,report_silver_eel-method
                         summary for report_silver_eel

Description

summary for report_silver_eel

Usage

```
## S4 method for signature 'report_silver_eel'
summary(object, silent = FALSE, ...)
```

Arguments

object	An object of class report_silver_eel-class
silent	Should the program stay silent or display messages, default FALSE
...	Additional parameters

Value

A list per DC with statistic for Durif stages, Pankhurst, MD Eye diameter, BL body length and weight W

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

---

summary,report_species-method
                         summary for report_species

Description

generate csv and html output in the user data directory

Usage

```
## S4 method for signature 'report_species'
summary(object, silent = FALSE)
```

Arguments

object	An object of class report_species-class
silent	Should the program stay silent or display messages, default FALSE

Value

nothing, but writes summary in `get("datawd", envir = envir_stacomi)`, and prints output

Author(s)

Cedric Briand `<cedric.briand@eptb-vilaine.fr>`

---

supprime *Generic method to delete entires from the database*

Description

Generic method to delete entires from the database

Usage

```
supprime(object, ...)
```

Arguments

object   Object

...   Additional parms

Author(s)

cedric.briand

See Also

[calcule.report_ge_weight](), [calcule.report_mig_char](), [calcule.report_mig_env](), [calcule.report_mig_interannual](),calcule.report_i
[calcule.report_sample_char](), [calcule.report_sea_age](), [calcule.report_silver_eel](), [calcule.report_species]()

---

supprime,ref_coe-method

supprime method for 'ref_coe' class

Description

supprime method for 'ref_coe' class

Usage

```
## S4 method for signature 'ref_coe'
supprime(object, tax, std, silent = FALSE)
```

Arguments

object	An object of class [ref_coe-class]
tax	'2038=Anguilla anguilla'
std	'CIV=civelle'
silent	Default FALSE, if TRUE the program should no display messages

Value

Nothing, called for side effect

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

---

supprime,report_mig_interannual-method

supprime method for report_mig_interannual class, deletes values in table t_bilanmigrationjournalier_bjo

---

Description

supprime method for report_mig_interannual class, deletes values in table t_bilanmigrationjournalier_bjo

Usage

```
## S4 method for signature 'report_mig_interannual'
supprime(object, silent = TRUE)
```

Arguments

object	An object of class [report_mig_interannual-class]
silent	Should the operation be returning the number of rows deleted

Value

nothing, called for its side effect, removing lines from the database

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

supprime,report_sea_age-method

supprime method for report_mig_interannual class

Description

supprime method for report_mig_interannual class

Usage

```
## S4 method for signature 'report_sea_age'
supprime(object, silent = FALSE)
```

Arguments

object	An object of class [report_sea_age-class](#)
silent	Default FALSE, if TRUE the program should no display messages

Value

Nothing, called for its side effect of deleting data in the database

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

---

vector_to_listsql	*Transforms a vector into a string called within an sql command e.g.* *c('A','B','C') => in ('A','B','C')*

Description

Transforms a vector into a string called within an sql command e.g. c(A,B,C) => in ('A','B','C')

Usage

```
vector_to_listsql(vect)
```

Arguments

vect	a character vector

Value

A list of value

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

---

write_database   *Generic method write_database*

Description

Generic method write_database

Usage

```
write_database(object, ...)
```

Arguments

object	Object
...	Additional parms

Author(s)

cedric.briand

---

write_database,report_ge_weight-method

Method to write data to the stacomi database for report_ge_weight-class

---

Description

Data will be written in tj_coefficientconversion_coe table, if the class retrieves some data from the database, those will be deleted first.

Usage

```
## S4 method for signature 'report_ge_weight'
write_database(object, silent = FALSE)
```

Arguments

object	An object of class report_ge_weight-class
silent	Boolean, if TRUE, information messages are not displayed

Value

Nothing, called for its side effect of writing to the database

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

---

write_database,report_mig-method

Command line method to write the daily and monthly counts to the
t_bilanmigrationjournalier_bjo table

Description

Daily values are needed to compare migrations from year to year, by the class report_mig_interannual-class. They are added by by this function.

Usage

```
## S4 method for signature 'report_mig'
write_database(object, silent = TRUE)
```

Arguments

object   an object of class report_mig

silent   : TRUE to avoid messages, FALSE will need interactive mode as it calls for
                menu()

Value

Nothing, just writes data into the database

Note

the user is asked whether or not he wants to overwrite data only when silent is FALSE, if no data
are present in the database, the import is done anyway.

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

Examples

```
## Not run:
stacomi(database_expected=FALSE)
data("r_mig")
r_mig<-calcule(r_mig)
write_database(report_mig=r_mig,silent=FALSE)

## End(Not run)
```

---

write_database,report_sea_age-method

> *Command line method to write the characteristic "sea age" (car_par_code='A124') into the tj_caracteristiquelot_car table in the user's scheme*

Description

The sea age characteristic is calculated from the measured or calculated size of salmon and with a size/age rule defined by the user.

Usage

```
## S4 method for signature 'report_sea_age'
write_database(object, silent = TRUE)
```

Arguments

object	an object of class [report_sea_age-class](#)
silent	: Default FALSE, if TRUE the program should no display messages.

Value

Nothing, called for its side effect of writing data to the database

Author(s)

Cedric Briand <cedric.briand@eptb-vilaine.fr>

---

xtable,report_annual-method

> *xtable function for [report_annual-class](#) create an xtable objet but also assigns an add.to.column argument in envir_stacomi, for later use by the print.xtable method.*

Description

xtable function for [report_annual-class](#) create an xtable objet but also assigns an add.to.column argument in envir_stacomi, for later use by the print.xtable method.

Usage

```
## S4 method for signature 'report_annual'
xtable(
  x,
  caption = NULL,
  label = NULL,
  align = NULL,
  digits = 0,
  display = NULL,
  auto = FALSE,
  dc_name = NULL,
  tax_name = NULL,
  std_name = NULL
)
```

Arguments

x,	an object of class "report_annual"
caption,	see xtable
label,	see xtable
align,	see xtable, overidden if NULL
digits	default 0
display	see xtable
auto	see xtable
dc_name	A string indicating the names of the DC, in the order of x@dc@dc_selected if not provided DC codes are used.
tax_name	A string indicating the names of the taxa, if not provided latin names are used
std_name	A string indicating the stages names, if not provided then std_libelle are used

Value

A xtable for annual report

---

xtable,report_mig_char-method

xtable function for [report_mig_char-class](#) create an xtable objet to be later used by the print.xtable method.

Description

xtable function for [report_mig_char-class](#) create an xtable objet to be later used by the print.xtable method.

Usage

```
## S4 method for signature 'report_mig_char'
xtable(
  x,
  caption = NULL,
  label = NULL,
  align = NULL,
  digits = NULL,
  display = NULL,
  auto = FALSE,
  ...
)
```

Arguments

x,	an object of class 'report_mig_char'
caption,	see xtable
label,	see xtable
align,	see xtable, overidden if NULL
digits,	see xtable
display	see xtable
auto	see xtable
...	Additional parameters

Value

A xtable

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