Manipulate, import and export "bibentryExtra" objects (draft)

Georgi N. Boshnakov

University of Manchester

Abstract

Objects from class `"bibentryExtra"` can represent any type of bibliographic entries. There are functions for import, manipulation and export in different formats. In comparison, class `"bibentry"` from base R package 'utils' has a different emphasis and supports only the default Bibtex types.

This vignette is part of package **rbibutils**, version 2.3.

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1. Introduction

Objects from class `"bibentryExtra"` can represent any type of bibliographic entries. There are functions for import, manipulation and export in different formats. In comparison, class `"bibentry"` from base R package 'utils' (R Core Team 2023) has a different emphasis and supports only the default Bibtex types.

Functions are available for import and export, as well as subsetting with index operators. Export can be to plain text, bibtex, Latex, R code and Rd. There is also a style, "JSSextra", which adds a few types for exporting bibliography references to Latex.

Class `"bibentryExtra"` inherits from `"bibentry"` and is fully compatible with it for bibliography items that are handled by bibentry.

In this document we use *bib file* of just *bib* to refer to files or character vectors containing bibliographic entries in Bibtex format, including Biblatex.

2. Import to bibentryExtra

The most common case is importing from a bib file, containing bibliographic entries (items).

```
> bibdir <- system.file("bib", package = "rbibutils")
> wuertzetal <- readBib(file.path(bibdir, "WuertzEtalGarch.bib"), direct = TRUE)
> wuertzetal
```

```
Wuertz D, Chalabi Y, Luksan L (2006). "Parameter estimation of ARMA
models with GARCH/APARCH errors: An R and SPlus software
implementation." This is an unpublished manuscript. Some online
sources, confusingly, attribute it to JSS, vol 55, issue 2, but this
seems to have taken the placeholders VV and II in the heading on the
first page as being the Roman numbers 55 and 2.,
<https://github.com/GeoBosh/fGarchDoc/blob/master/WurtzEtAlGarch.pdf>
(visited on 2023-10-22).
```

```
> print(wuertzetal, style = "bibtex")

@online{WuertzEtalGarch,
  author = {D Wuertz and Y Chalabi and L Luksan},
  title = {Parameter estimation of ARMA  models with GARCH/APARCH errors: An R and SPlus softw
  url = {https://github.com/GeoBosh/fGarchDoc/blob/master/WurtzEtAlGarch.pdf},
  year = {2006},
  urldate = {2023-10-22},
  note = {This is an unpublished manuscript. Some online sources, confusingly, attribute it to
}
```

There is a long field 'note' which we may not wish to print. We can use the assignment version of the dollar operator, `$<-`, to remove it or replace it with another value. Here we remove it:

```
> wuertzetal$note <- NULL
> wuertzetal

Wuertz D, Chalabi Y, Luksan L (2006). "Parameter estimation of ARMA
models with GARCH/APARCH errors: An R and SPlus software
implementation."
<https://github.com/GeoBosh/fGarchDoc/blob/master/WurtzEtAlGarch.pdf>
(visited on 2023-10-22).
```

This modfied value is used velow.

There are several function for import.

There is also the function `bibentryExtra`, which creates objects directly in R, similarly to `bibentry`.

The dollar operator extracts a field, for example

```
> wuertzetal$year

[1] "2006"
```

If the object contains more than one bib entry the value is a list. In this case the object contains only one bib entry, so the outer list is removed. This is just as a matrix becomes a vector when subsetting leaves only one row.

Some fields may be `NULL` (absent), may have length larger than one, or have a class other than `"character"`. Here we have three authors and they are contained in a single object:

```
> wuertzetal$author

[1] "D Wuertz"  "Y Chalabi" "L Luksan"

> class(wuertzetal$author)

[1] "person"
```

The key used for citations is also considered a field:

```
> wuertzetal$key

[1] "WuertzEtalGarch"
```

So is the bib type:

```
> wuertzetal$bibtype
```

```
[1] "online"
```

In this case the bib type is a non-standrd field for Bibtex, though it is for Biblatex.

It is important to note that the argument of the dollar operator is the name of a field, as illustrated above. We might expect that `"[["` is similar but this is not the case:

```
> wuertzetal[["author"]]
> ## Warning message:
> ## In `[[.bibentry`(wuertzetal, "author") : subscript out of bounds
```

```
> wuertzetal[[1, "note"]]
```

```
named list()
```

This is because the argument of `"[["` is a bib entry key (a value, not the word *key*). It returns a `"bibentryExtra"` object:

```
> wuertzetal[["WuertzEtalGarch"]]
```

3. Accessing bib items and their fields

Currently there are `"bibentryExtra"` methods for `[`, `[[`, `[[<-` (assignment with `[[`) and `$<-` (assignment with `$`). Also, the method for `$` is inherited from that of class bibentry and there is no method for `[<-` (assignment with `[`).

4. Replacing bib items and fields

References

R Core Team (2023). *R: A Language and Environment for Statistical Computing.* R Foundation for Statistical Computing, Vienna, Austria. URL https://www.R-project.org/.

Affiliation:

Georgi N. Boshnakov
School of Mathematics
The University of Manchester
Oxford Road, Manchester M13 9PL, UK
URL: http://www.maths.manchester.ac.uk/~gb/