

ggplotFL: Plotting in FLR using ggplot2

Laurence Kell
ICCAT

Abstract

The default graphics in [FLR](#) are based on [lattice](#), the [ggplotFL](#) package replaces [lattice](#) with [ggplot2](#), a plotting package based on the grammar of graphics.

Keywords: R, R, ggplot2, plot.

Contents

1. Introduction

The default graphics in FLR are based on [lattice](#), the [ggplotFL](#) package replaces [lattice](#) with [ggplot2](#), a plotting package based on the grammar of graphics. For those already familiar with [lattice](#) a comparison can be found at [ggplot v lattice](#) and [learning R](#). Searching for [ggplot2](#) in google images will throw up lots of examples with code and there is a very active .

Install [ggplotFL](#) from the FLR repository

```
> install.packages(repos="http://flr-project.org/Rdevel")
```

then load the library e.g.

```
> library(ggplotFL)
```

We first introduce [ggplot](#) then provide examples of using [ggplot](#) with FLR.

2. ggplot2

There are two interfaces, [qplot](#), a quick form that is similar to [plot](#) in R and [ggplot](#) a more powerful generic interface based on the grammar of graphics that once learnt allows considerable flexibility.

[qplot](#) has the same syntax as [plot](#)

```
> qplot(x, ..., data, geom)
```

Creating a scatter plot is therefore very similar to how it is done using base R, i.e.

2.1. Grammar of Graphics

When producing a graphic you have to map data to the visual properties of geometric shapes (e.g. points, lines areas). This may require statistical transformations of the data, a coordinate

Table 1: plot

Syntax	
x	vector values of one variable of interest
data	data.frame other variables
geom	ggplot object that sets the type of plot to construct, i.e. point, line, histogram.

```
> dat =data.frame(x=1:10,y=rnorm(10))
> plot(dat$x,dat$y)
```

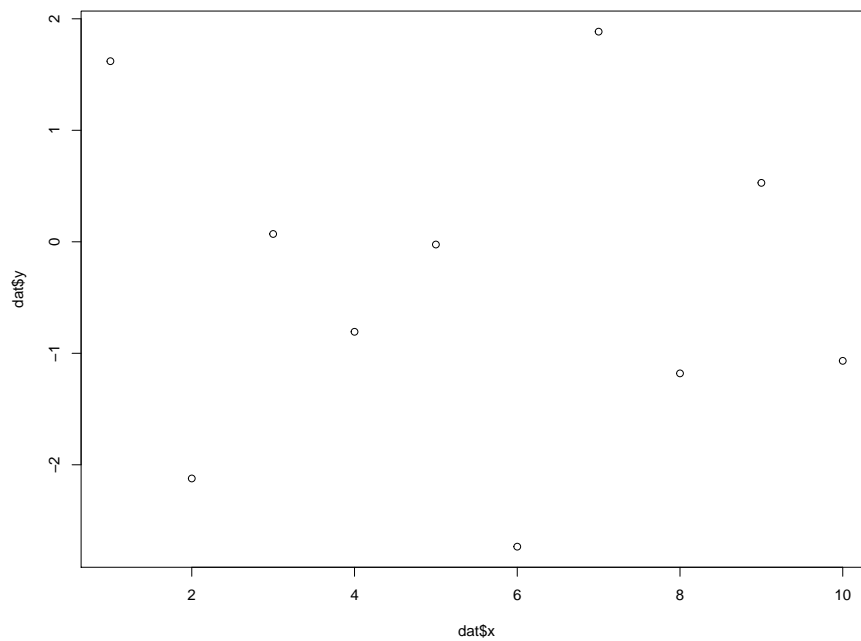


Figure 1: Plot using R base graphics

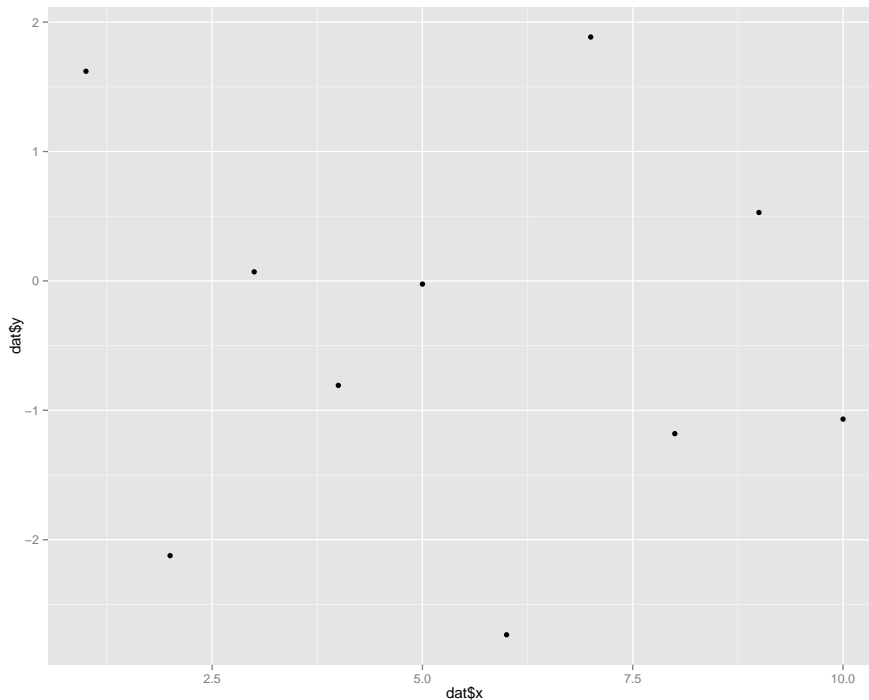


Figure 2: Plot using ggplot2 qplot graphics

system that positions the geometric objects on the page and facetting where multiple plots can be generated. Each of these tasks are independent and the grammar breaks these into four. First we load up FLR and an example data set based on North Sea plaice. ggplot uses data in the form of a data.frame so we next have to convert the FLR object to a data.frame.

```
> ## load FLR and example data set
> library(FLCore)
> data(ple4)
> ## what is it?
> is(ple4)
```

```
[1] "FLStock" "FLS"      "FLComp"
```

Affiliation:

Laurence Kell
 ICCAT Secretariat
 C/Corazón de María, 8.
 28002 Madrid
 Spain

E-mail: Laurie.Kell@iccat.int