MyDas

Life History Relationships

Laurie Kell & Alex Tidd

17 enero, 2018

```r
dirMy="/home/laurence/Desktop/sea++/mydas"
#dirMy =getwd()
dirInp=file.path(dirMy,"tasks/inputs")
dirDat=file.path(dirMy,"tasks/data")

library(ggplot2)
library(GGally)

library(FLife)
library(plyr)
library(reshape)
```

Life history parameters

```r
lhpmydas=read.csv(file.path(dirInp,"lifehistories.csv"))
```
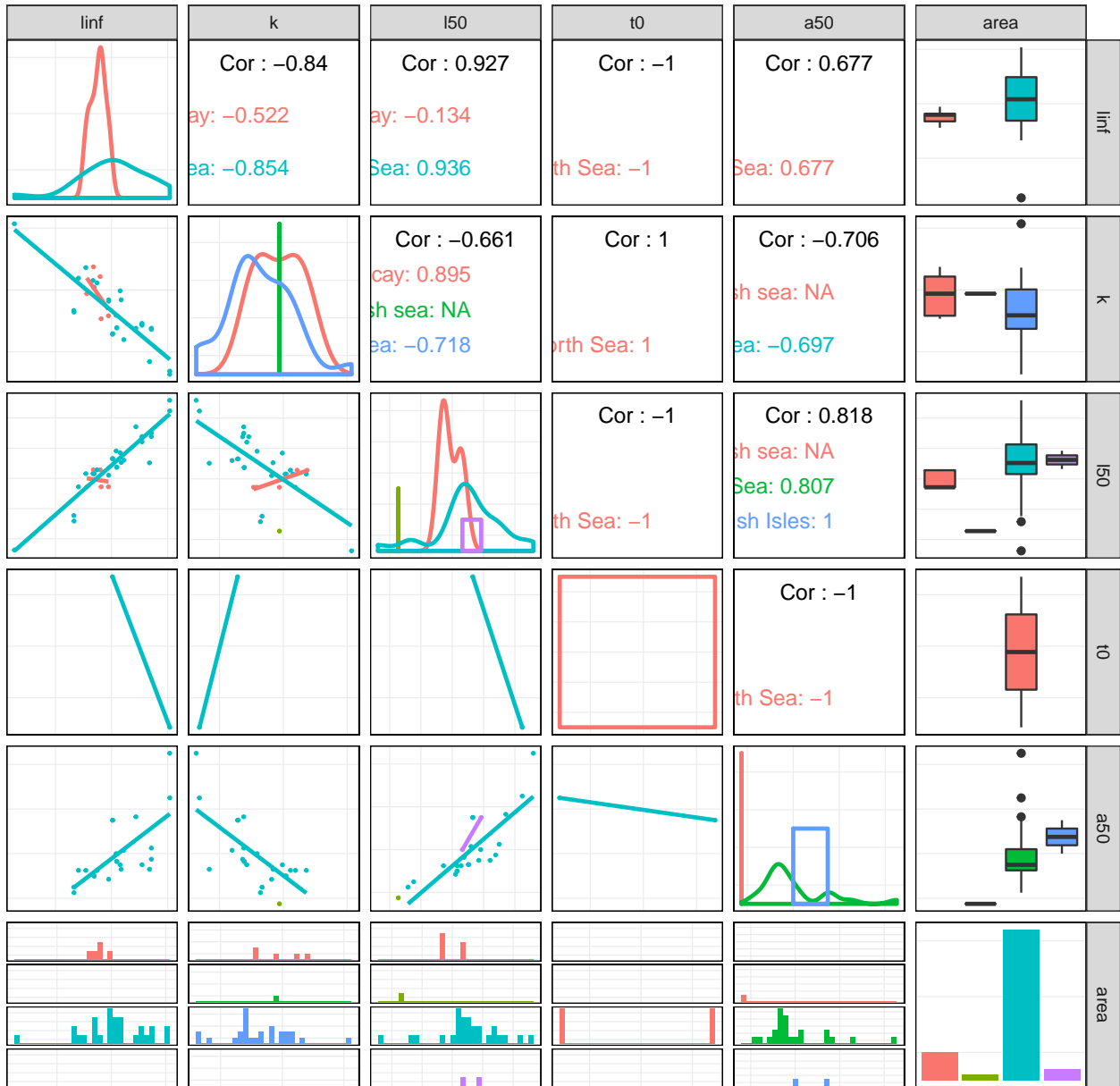
Figure 1 Pairwise scatter plots of life history parameters.

Equilibrium Dynamics

Create an `FLPar`

```
wkpar=as(wklife[,6:13],"FLPar")
attributes(wkpar)[names(wklife)[1:5]]=wklife[,1:5]
```

Then use life history relationships to estimate missing values

```
par=lhPar(wkpar)
```

and then to derive vectors for processses such as natural mortality

```
library(FLBRP)

eql=lhEql(par)
```

```
ggplot(FLQuants(eql,"m","catch.sel","mat","catch.wt"))+
  geom_line(aes(age,data,col=attributes(wkpar)$name[iter]))+
  facet_wrap(~qname,scale="free")+
  scale_x_continuous(limits=c(0,15))+
  guides(colour=guide_legend(title="Species",title.position="top"))
```

Figure 2 Vectors of m, selection pattern, maturity and weight-at-age.

and estimate equilibrium dynamics and reference points, e.g. for lemon sole

```
plot(iter(eql,7))
```

Figure 3 Equilibrium curves for lemon sole.

Simulation

Create a forward projection, i.e. an `FLStock` from an equilibrium object

```
lmsl=as(iter(eql,7),"FLStock")

plot(lmsl)
```

Figure 4 Simulate a stock with increasing F