

Data butterflies

Sophie Donnet

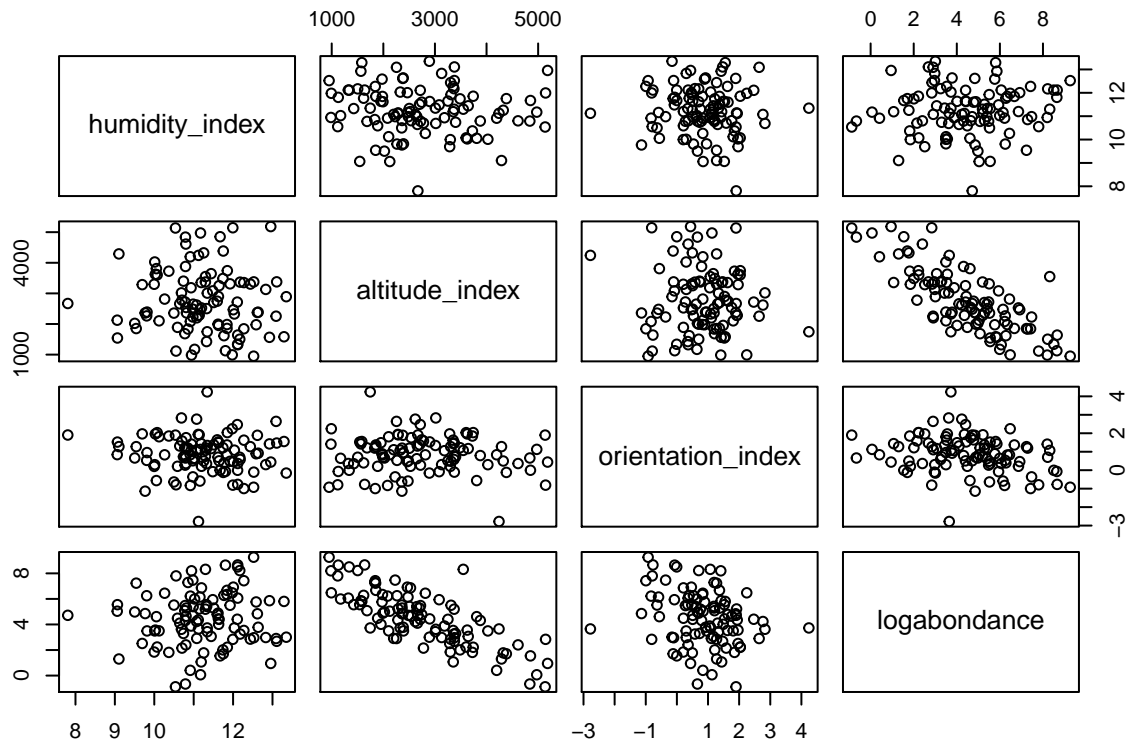
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Data

```
summary(data_butterflies)
```

```
## humidity_index altitude_index orientation_index logabondance.V1
## Min. : 7.805 Min. : 949 Min. : -2.7783 Min. : -0.878076
## 1st Qu.:10.731 1st Qu.:1990 1st Qu.: 0.3390 1st Qu.: 2.997486
## Median :11.195 Median :2634 Median : 0.8655 Median : 4.548822
## Mean :11.236 Mean :2755 Mean : 0.8632 Mean : 4.488914
## 3rd Qu.:11.937 3rd Qu.:3373 3rd Qu.: 1.4746 3rd Qu.: 5.879825
## Max. :13.350 Max. :5183 Max. : 4.2412 Max. : 9.264007
```

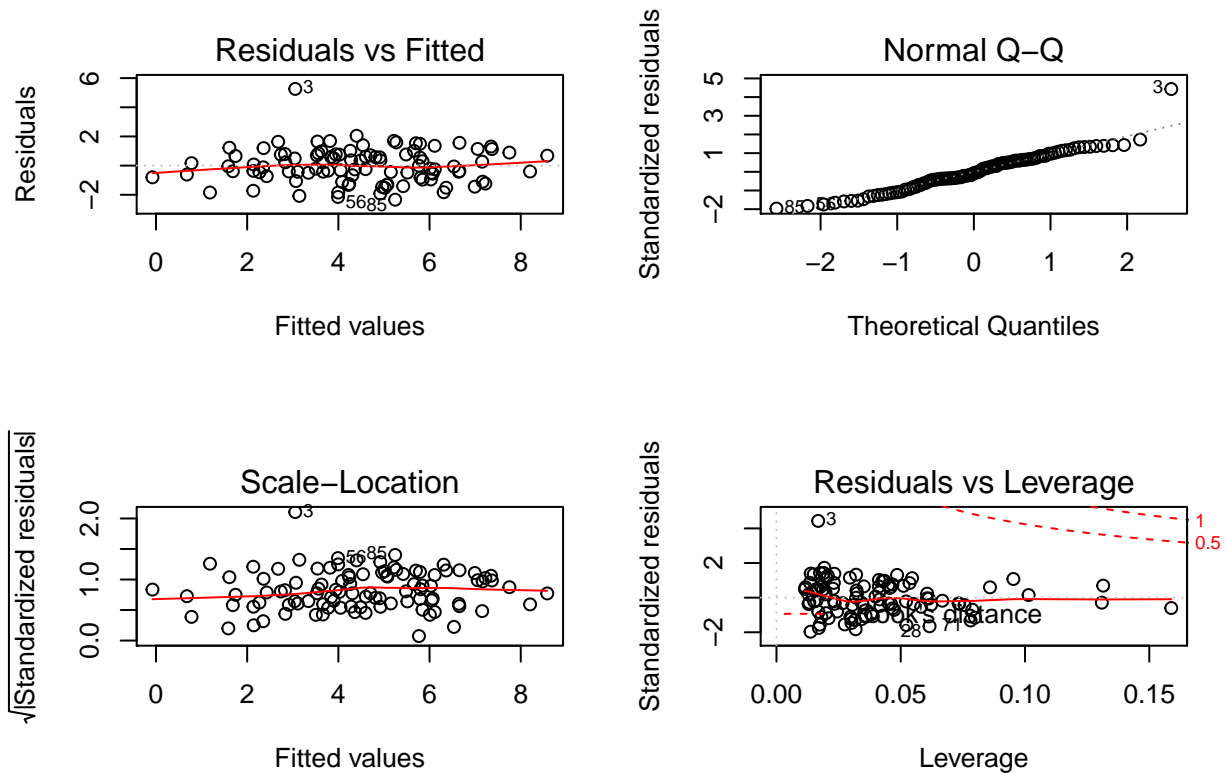
```
plot(data_butterflies)
```



Linear model

```
lm_estim <- lm(logabondance ~ humidity_index + altitude_index + orientation_index, data=data_butterflies)
```

```
par(mfrow = c(2,2))
plot(lm_estim)
```



```
summary(lm_estim)
```

```
##
## Call:
## lm(formula = logabundance ~ humidity_index + altitude_index +
##     orientation_index, data = data_butterflies)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -2.3368 -0.7446 -0.0876  0.7586  5.2587
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)   9.4345886   1.4081957   6.700 1.42e-09 ***
## humidity_index  0.0106327   0.1182602   0.090  0.929
## altitude_index -0.0016437   0.0001171 -14.034 < 2e-16 ***
## orientation_index -0.6217292   0.1196374  -5.197 1.14e-06 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 1.197 on 96 degrees of freedom
## Multiple R-squared:  0.6956, Adjusted R-squared:  0.6861
## F-statistic: 73.11 on 3 and 96 DF, p-value: < 2.2e-16
```