

Moscas Manova

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Moscas

Pacotes

```
source("funcoes.R")
pacotes <- c("tidyverse",
             "magrittr",
             "gridExtra",
             "xtable")

ipak(pacotes)

## Loading required package: tidyverse
## Loading tidyverse: ggplot2
## Loading tidyverse: tibble
## Loading tidyverse: tidyr
## Loading tidyverse: readr
## Loading tidyverse: purrr
## Loading tidyverse: dplyr
## Conflicts with tidy packages -----
## filter(): dplyr, stats
## lag():    dplyr, stats
## Loading required package: magrittr
##
## Attaching package: 'magrittr'
## The following object is masked from 'package:purrr':
##
##     set_names
## The following object is masked from 'package:tidyr':
##
##     extract
## Loading required package: gridExtra
##
## Attaching package: 'gridExtra'
## The following object is masked from 'package:dplyr':
##
##     combine
## Loading required package: xtable
## tidyverse  magrittr gridExtra  xtable
##      TRUE      TRUE      TRUE      TRUE
```

```
options(xtable.comment = FALSE)
```

Lendo Os Dados

```
dados <- read.table("Dados/Moscas.txt")

nomes_CO1 <- c("Especie" = "Especie",
              "CompAsa" = "Comprimento da asa",
              "LargAsa" = "Largura da asa",
              "Comp3Palpo" = "Comprimento do terceiro palpo",
              "Larg3Palpo" = "Largura do terceiro palpo",
              "Comp4Palpo" = "Comprimento do quarto palpo",
              "Comp12Antena" =
"Comprimento do 12ºsegmento\n da antena",
              "Comp13Antena" = "Comprimento do 13ºsegmento\n da antena")

colnames(dados) <- c("Especie", "CompAsa", "LargAsa", "Comp3Palpo", "Larg3Palpo", "Comp4Palpo", "Comp12Antena", "Comp13Antena")

Especie_chr <- function(x){
  if (x == 0)
    y <- "torrens"
  else
    y <- "carteri"
}

dados %<>% mutate( Especie_fct =
                  factor(map_chr(Especie, Especie_chr)))
```

Analise Descritiva

Medidas Descritivas

```
descritivas <-
dados %>% select_if(.predicate = is.integer) %>%
  gather(Coluna, valores, -Especie) %>%
  group_by(Coluna, Especie) %>%
  summarise_if(.predicate = function(x) is.numeric(x),
               .funs = c(Media = "mean",
                         DP = "sd",
                         Var. = "var",
                         Minimo = "min",
                         CV = "cv",
                         Mediana = "median",
                         Maximo = "max")) %>%
  mutate_if(.predicate = is.numeric, funs(round(., 3))) %>%
  mutate(Especie = factor(map_chr(Especie, Especie_chr)))
```

```

descritivas_2 <- nest(descritivas)

for(i in 1:7){
  print(xtable(descritivas_2$data[[i]],
    caption = nomes_COL[descritivas_2$Coluna[i]] ))
}

```

| | Especie | Media | DP | Var. | Minimo | CV | Mediana | Maximo |
|---|---------|-------|------|------|--------|-------|---------|--------|
| 1 | torrens | 9.57 | 0.92 | 0.84 | 8.00 | 9.58 | 9.00 | 13.00 |
| 2 | carteri | 9.66 | 1.26 | 1.58 | 6.00 | 13.04 | 10.00 | 12.00 |

Table 1: Comprimento do 12ºsegmento da antena

| | Especie | Media | DP | Var. | Minimo | CV | Mediana | Maximo |
|---|---------|-------|------|------|--------|-------|---------|--------|
| 1 | torrens | 9.71 | 0.89 | 0.80 | 8.00 | 9.20 | 10.00 | 13.00 |
| 2 | carteri | 9.37 | 1.09 | 1.18 | 7.00 | 11.60 | 9.00 | 11.00 |

Table 2: Comprimento do 13ºsegmento da antena

| | Especie | Media | DP | Var. | Minimo | CV | Mediana | Maximo |
|---|---------|-------|------|------|--------|------|---------|--------|
| 1 | torrens | 35.37 | 2.20 | 4.83 | 31.00 | 6.21 | 36.00 | 39.00 |
| 2 | carteri | 39.31 | 2.84 | 8.04 | 33.00 | 7.21 | 39.00 | 44.00 |

Table 3: Comprimento do terceiro palpo

| | Especie | Media | DP | Var. | Minimo | CV | Mediana | Maximo |
|---|---------|-------|------|-------|--------|-------|---------|--------|
| 1 | torrens | 25.63 | 2.50 | 6.24 | 21.00 | 9.75 | 26.00 | 31.00 |
| 2 | carteri | 30.00 | 4.62 | 21.29 | 20.00 | 15.38 | 31.00 | 38.00 |

Table 4: Comprimento do quarto palpo

| | Especie | Media | DP | Var. | Minimo | CV | Mediana | Maximo |
|---|---------|-------|------|-------|--------|------|---------|--------|
| 1 | torrens | 96.46 | 6.38 | 40.73 | 85.00 | 6.62 | 95.00 | 109.00 |
| 2 | carteri | 99.34 | 5.59 | 31.29 | 82.00 | 5.63 | 99.00 | 112.00 |

Table 5: Comprimento da asa

Boxplots

```
##criando funcao para facilitar a criação dos boxplots
boxplots_moscas <- function(coluna){
  qplot(dados$Especie_fct,coluna,geom = "boxplot") + labs(x = "Espécie") + theme_bw()
}

graficos <- apply(dados[,2:8],2,boxplots_moscas)

for(i in 1:7)
  graficos[[i]] <- graficos[[i]] + labs(y = nomes_C01[i + 1])

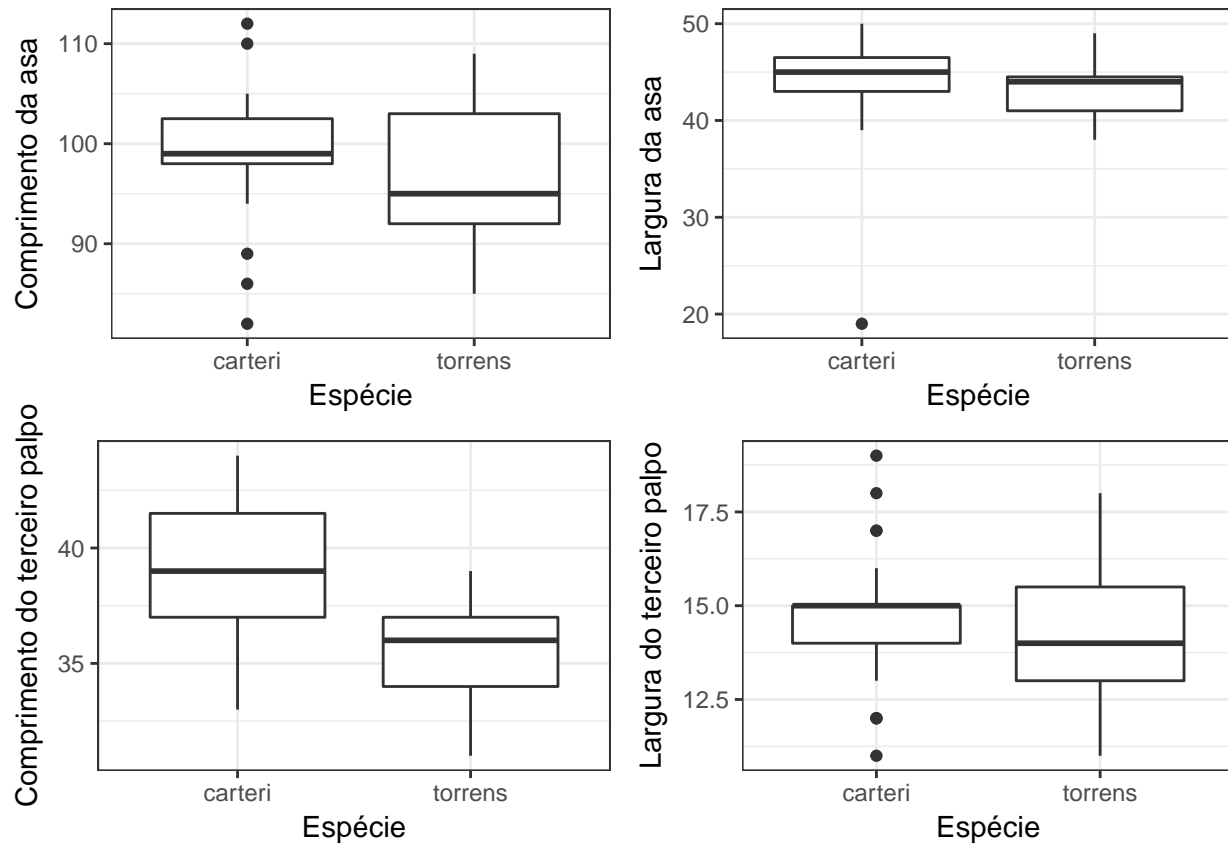
##print os boxplots
grid.arrange(graficos[[1]], graficos[[2]],
             graficos[[3]], graficos[[4]])
```

| | Especie | Media | DP | Var. | Minimo | CV | Mediana | Maximo |
|---|---------|-------|------|------|--------|-------|---------|--------|
| 1 | torrens | 14.51 | 1.84 | 3.38 | 11.00 | 12.66 | 14.00 | 18.00 |
| 2 | carteri | 14.66 | 1.64 | 2.70 | 11.00 | 11.22 | 15.00 | 19.00 |

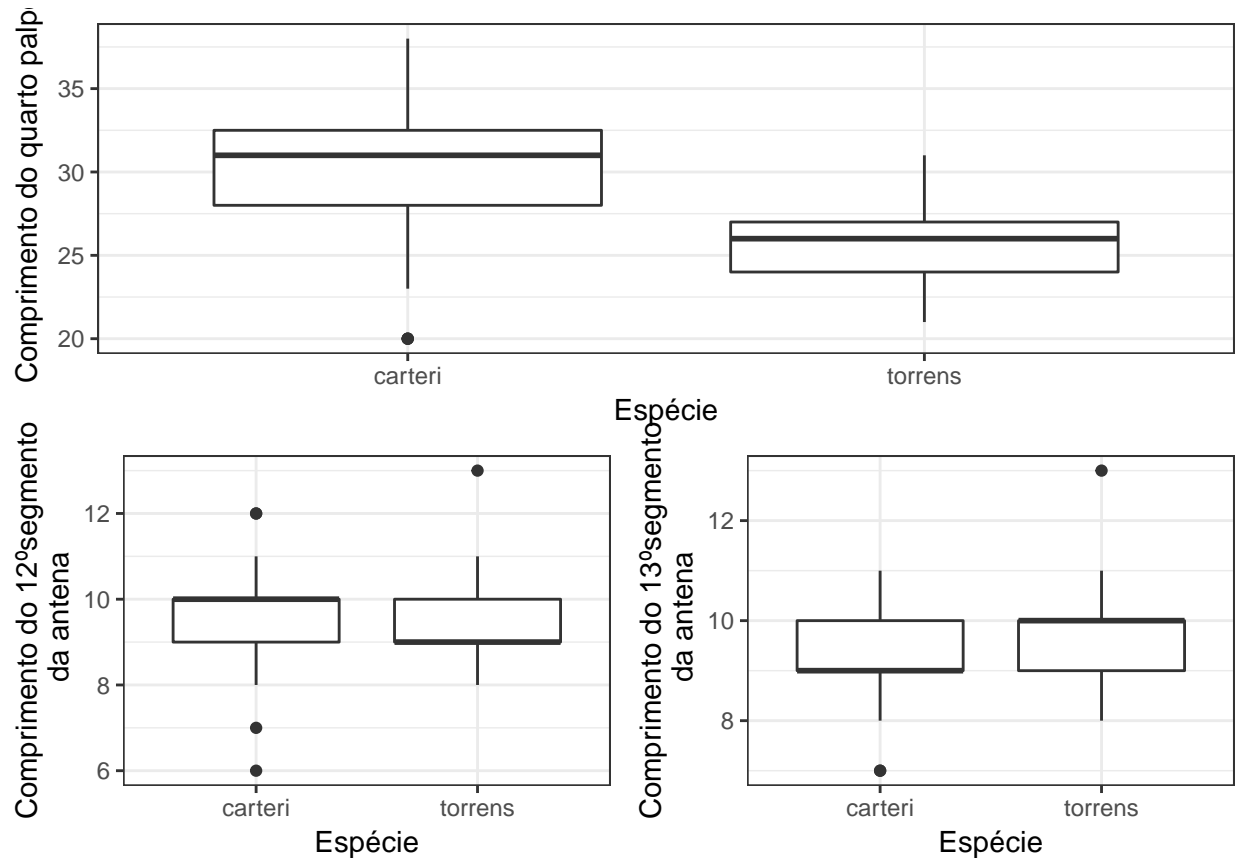
Table 6: Largura do terceiro palpo

| | Especie | Media | DP | Var. | Minimo | CV | Mediana | Maximo |
|---|---------|-------|------|-------|--------|-------|---------|--------|
| 1 | torrens | 42.91 | 2.74 | 7.49 | 38.00 | 6.38 | 44.00 | 49.00 |
| 2 | carteri | 43.74 | 5.08 | 25.79 | 19.00 | 11.61 | 45.00 | 50.00 |

Table 7: Largura da asa



```
grid.arrange(graficos[[5]], graficos[[6]],
              graficos[[7]],
              layout_matrix = rbind(c(1,1),c(2,3)))
```



##Histograma

##criando funcao para facilitar a criação dos boxplots

```
hist_moscas <- function(coluna){
  qplot(coluna,geom = "histogram") + theme_bw()
}
```

```
graficos <- apply(dados[,2:8],2,hist_moscas)
```

```
for(i in 1:7)
```

```
  graficos[[i]] <- graficos[[i]] + labs(x = nomes_COL[i+1],y = NULL)
```

##print os boxplots

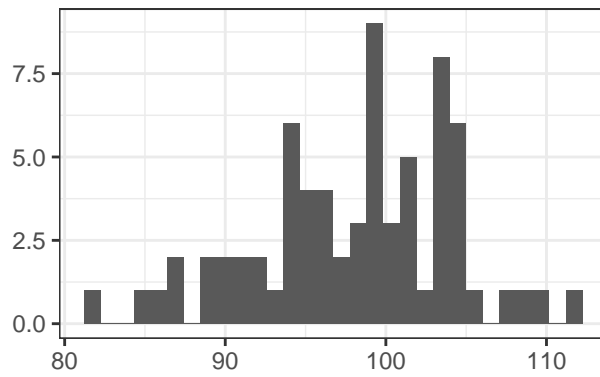
```
grid.arrange(graficos[[1]], graficos[[2]],
             graficos[[3]], graficos[[4]])
```

`stat_bin()` using `bins = 30`. Pick better value with `binwidth`.

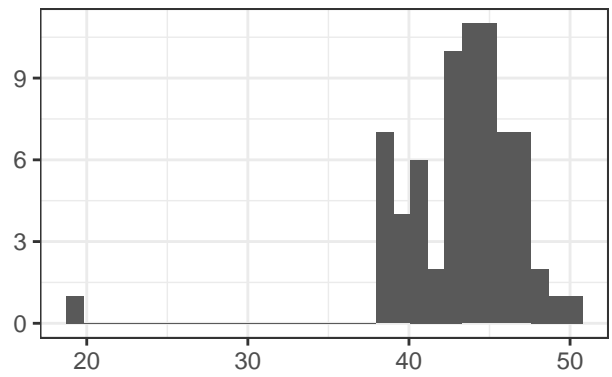
`stat_bin()` using `bins = 30`. Pick better value with `binwidth`.

`stat_bin()` using `bins = 30`. Pick better value with `binwidth`.

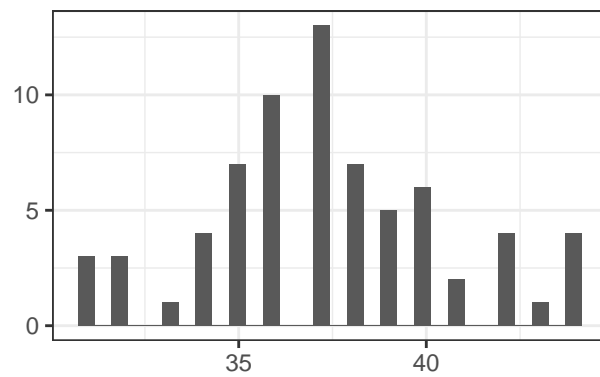
`stat_bin()` using `bins = 30`. Pick better value with `binwidth`.



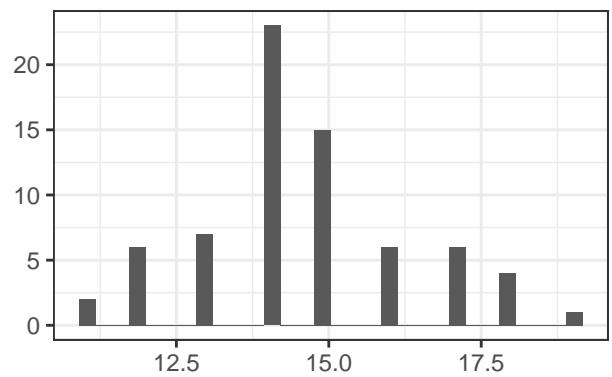
Comprimento da asa



Largura da asa



Comprimento do terceiro palpo



Largura do terceiro palpo

```
grid.arrange(graficos[[5]], graficos[[6]],
              graficos[[7]],
              layout_matrix = rbind(c(1,1),c(2,3)))
```

```
## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.
## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.
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```

