

bark_beetle_experiment_ttest.R

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2023-11-14

```
# bark_beetle_experiment_ttest.R
# Two-sample t test for bark beetle trapping experiment
# Load necessary libraries
library(ggplot2)

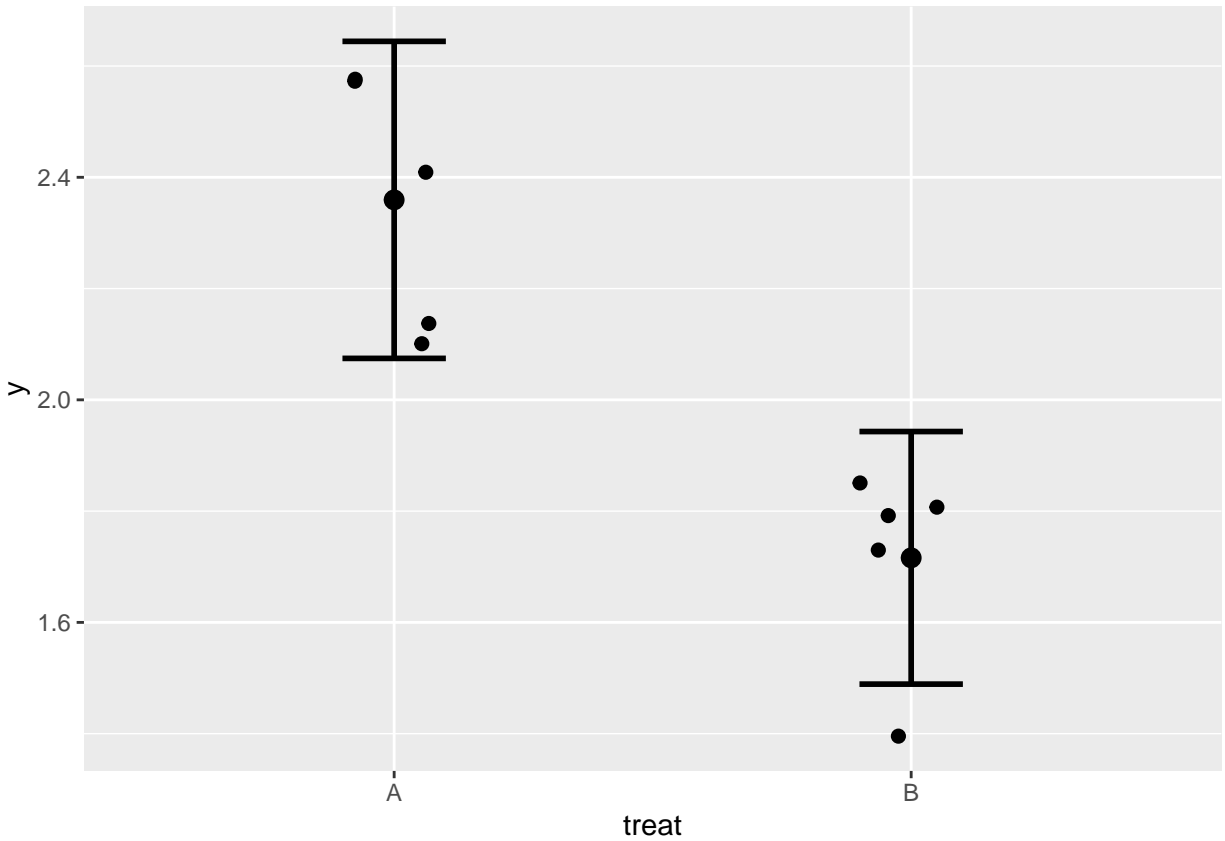
# Read in data set
bbdata <- read.table(header=T,colClasses=c("factor","numeric"),text="
treat count
A 373
A 126
A 255
A 138
A 379
B 25
B 64
B 62
B 71
B 54
")

# Apply transformations here
bbdata <- transform(bbdata,y=log10(count))

# Print data
bbdata

##      treat count      y
## 1      A   373 2.571709
## 2      A   126 2.100371
## 3      A   255 2.406540
## 4      A   138 2.139879
## 5      A   379 2.578639
## 6      B    25 1.397940
## 7      B    64 1.806180
## 8      B    62 1.792392
## 9      B    71 1.851258
## 10     B    54 1.732394

# Graphics using ggplot2
ggplot(bbdata,aes(treat,y))+
  geom_jitter(size=2,position=position_jitter(width=0.1))+
  stat_summary(fun="mean",geom="point",size=3)+
  stat_summary(fun.data="mean_cl_normal",geom="errorbar",width=0.2,linewidth=1)
```



```
# Two-sample t test
t.test(y~treat,bbdata,var.equal=TRUE)
```

```
##
## Two Sample t-test
##
## data: y by treat
## t = 4.9034, df = 8, p-value = 0.001189
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  0.3408146 0.9459750
## sample estimates:
## mean in group A mean in group B
##      2.359428      1.716033
```