Plotting

2023-10-03

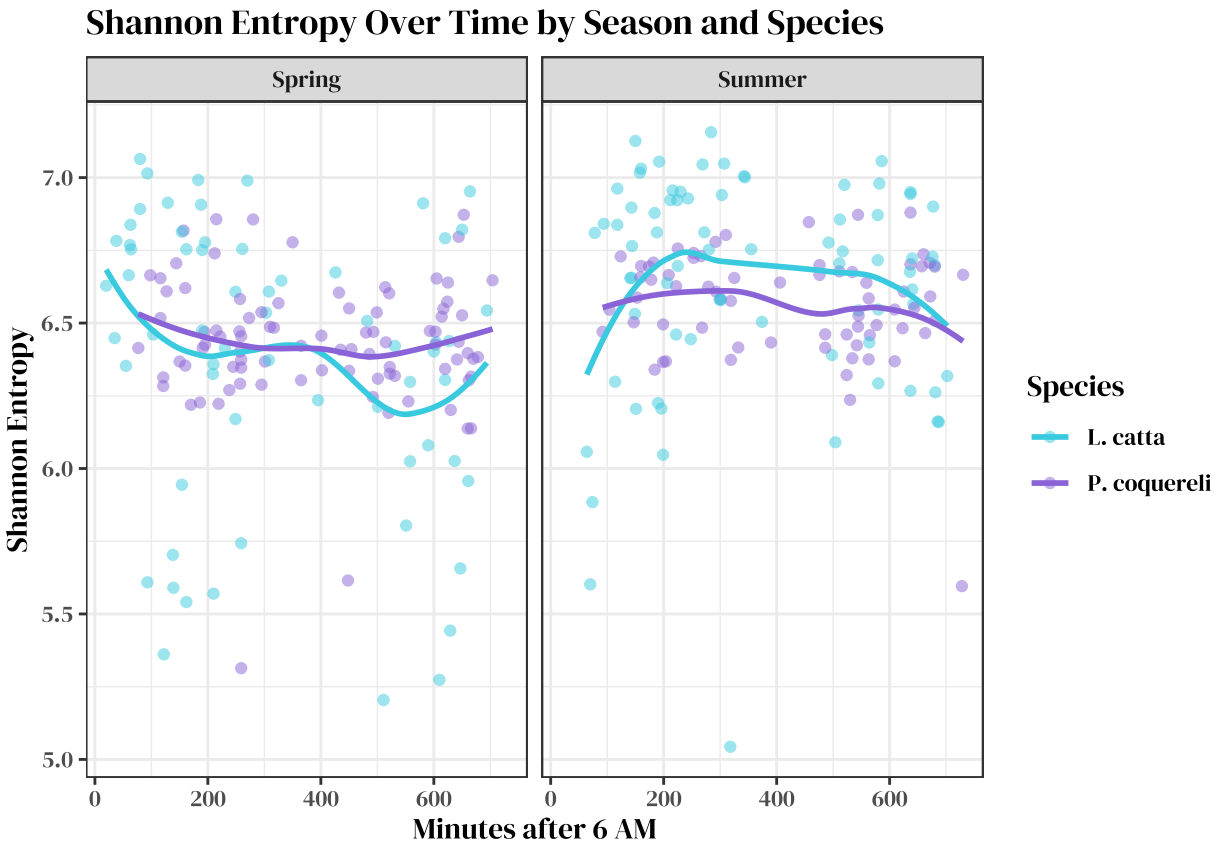
```
library(tidyverse)
library(showtext)
library(ggtext)

df <- read_csv("data/lemurs.csv")
font_add_google("DM Serif Display", "dm")
showtext_auto()
```

Exploratory Data Analysis

Shannon Entropy

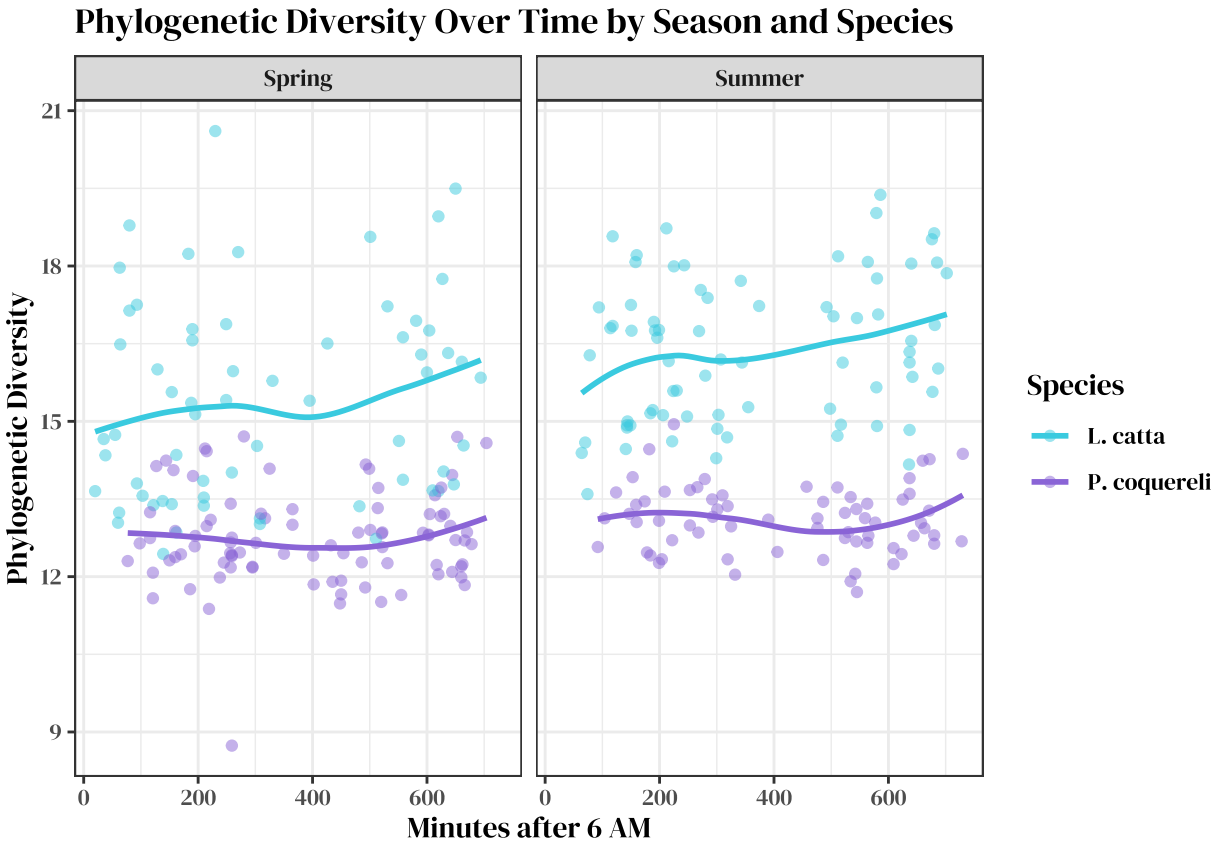
```
## `geom_smooth()` using method = 'loess' and formula = 'y ~ x'
```



- Shows that L. catta tends to see higher Shannon Entropy than P. coquereli in the summer, but this is reversed in the spring.

Faith PD

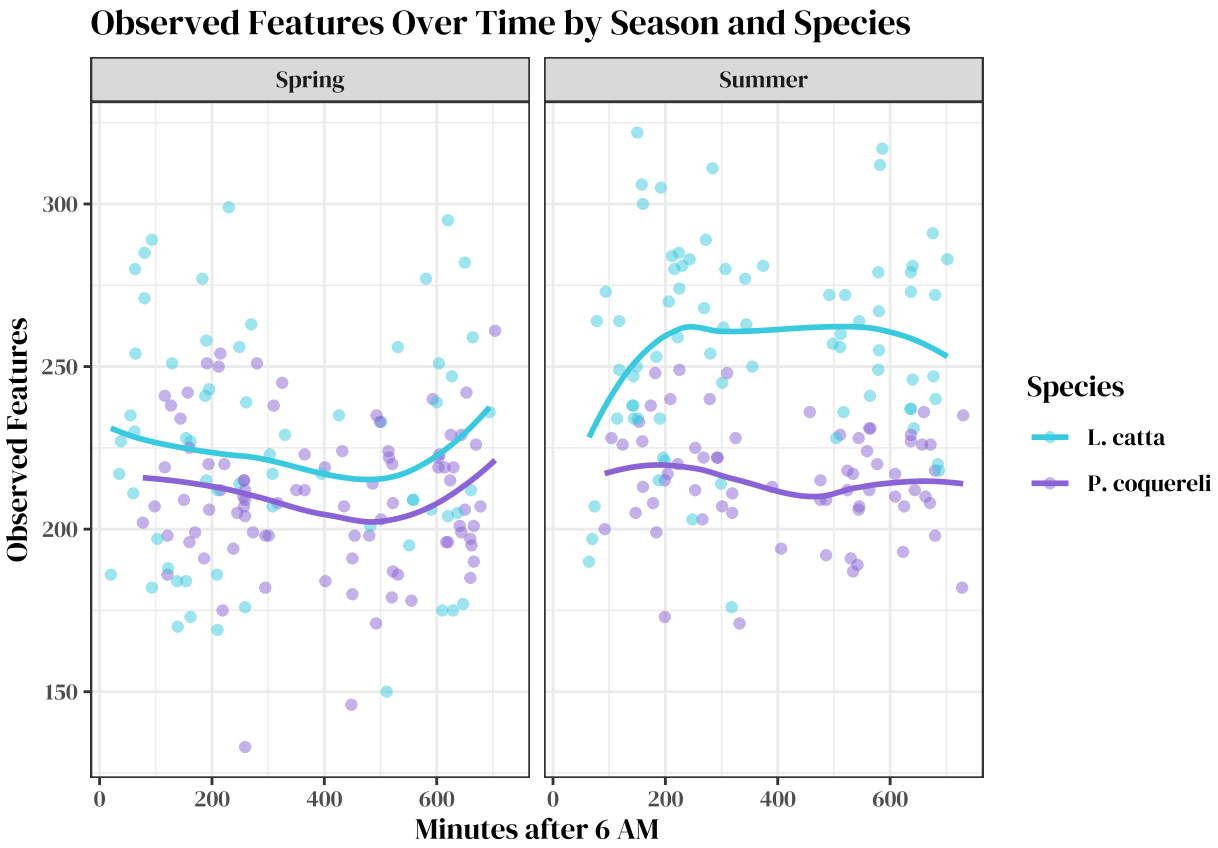
```
## `geom_smooth()` using method = 'loess' and formula = 'y ~ x'
```



- Shows that L. catta consistently has higher phylogenetic diversity than P. coquereli, with season seemingly having an insignificant impact.

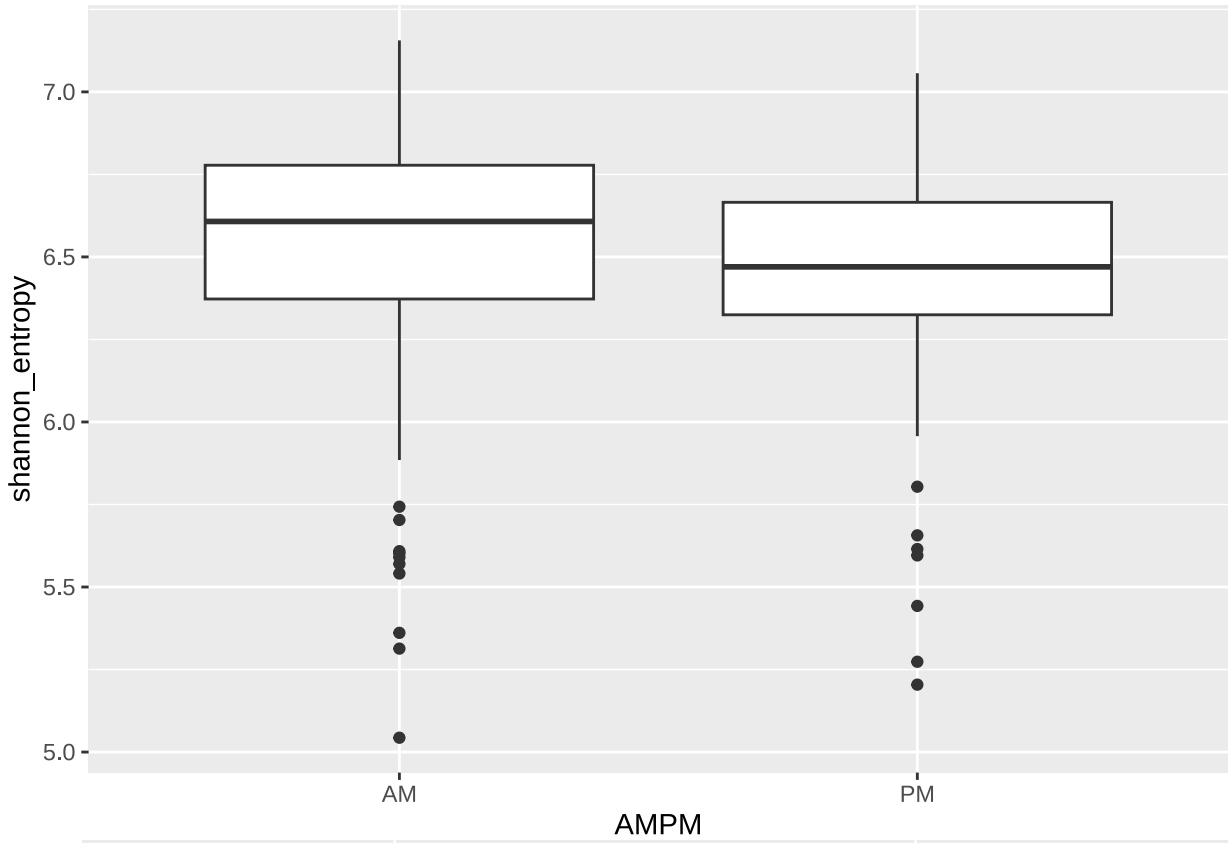
Observed Features

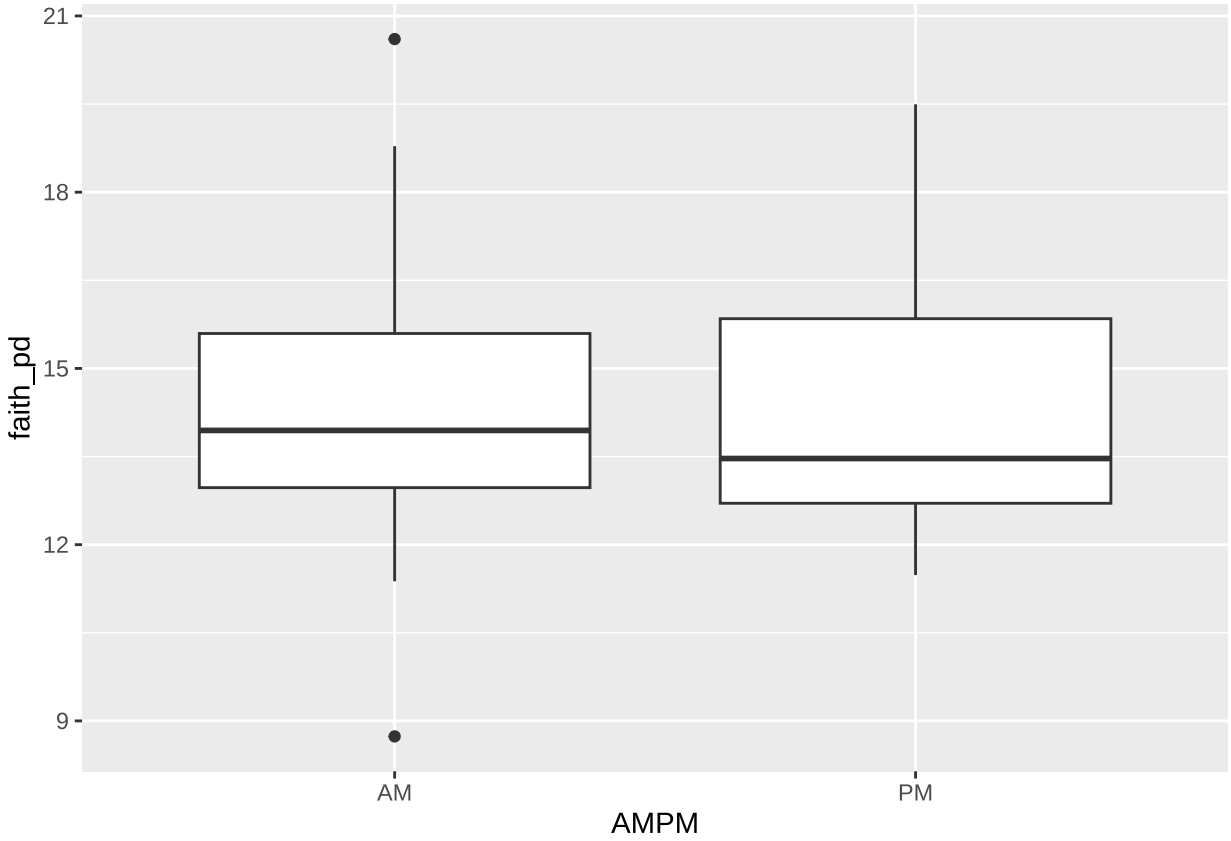
```
## `geom_smooth()` using method = 'loess' and formula = 'y ~ x'
```

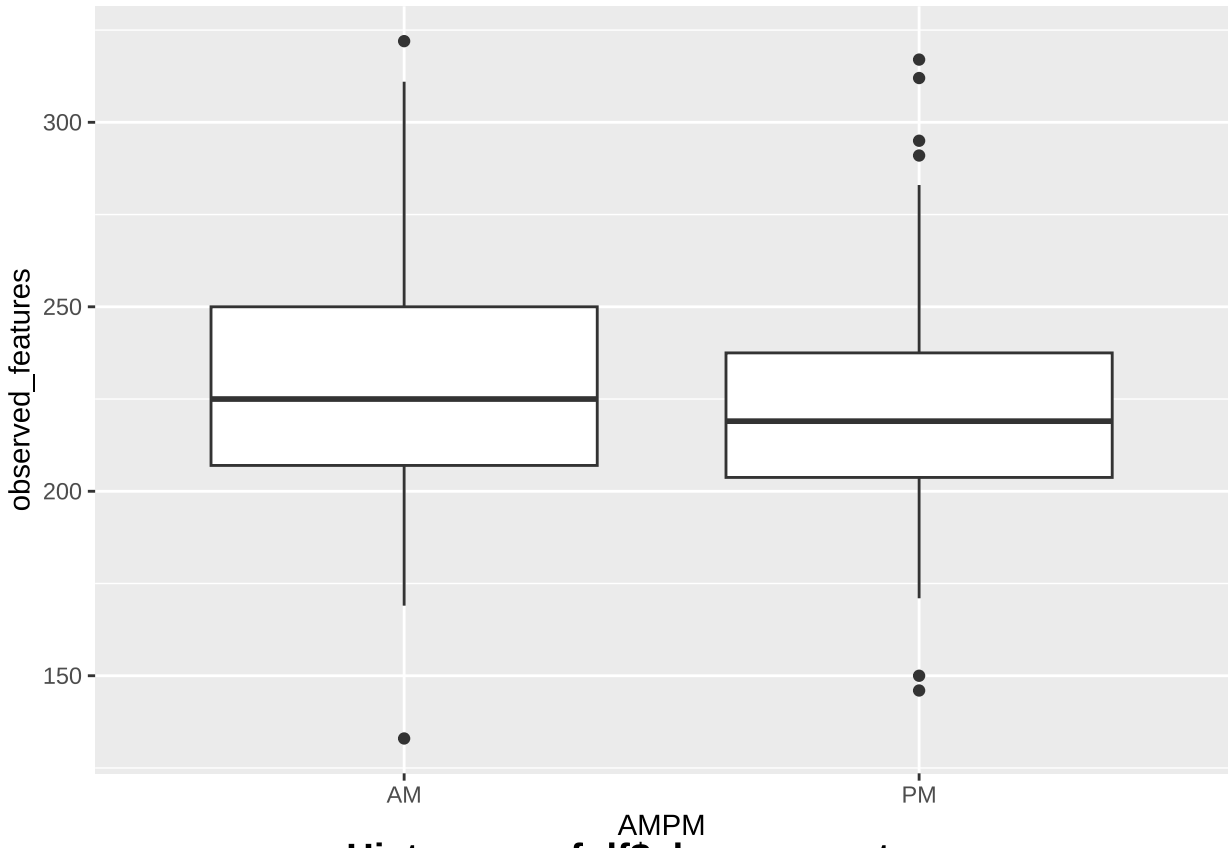


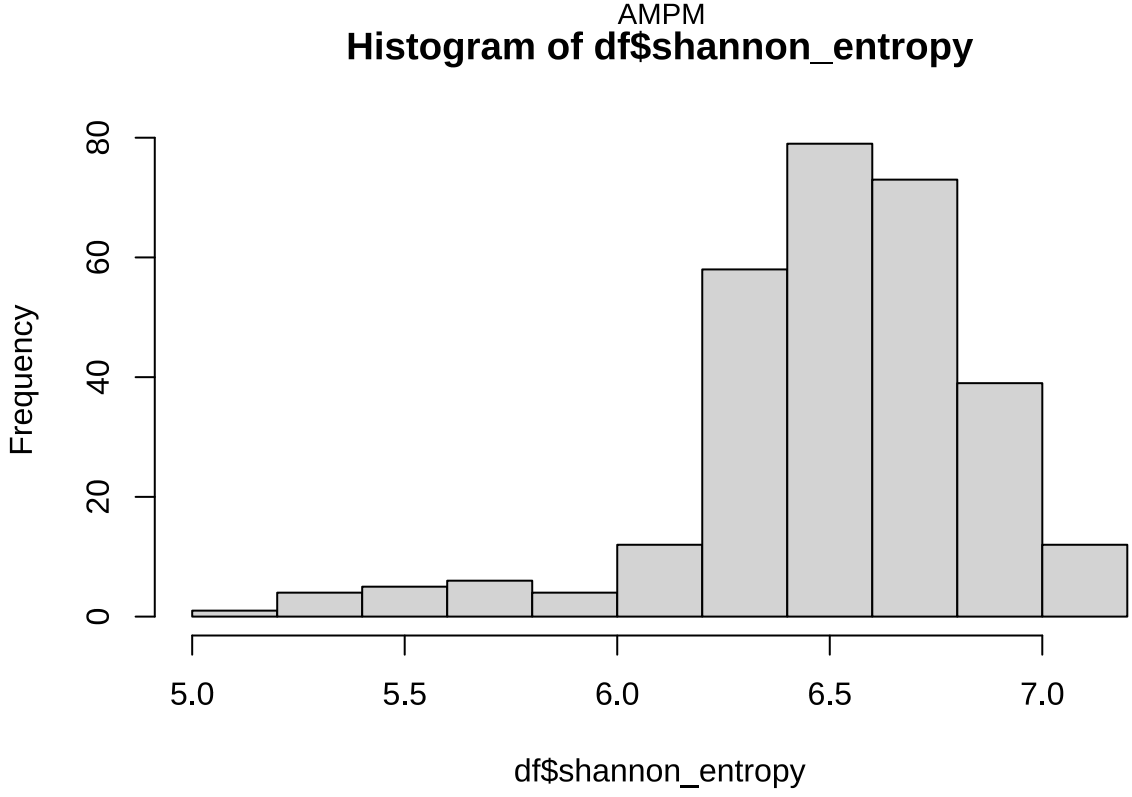
- Shows that L. catta consistently has more observed features than P. coquereli, but this difference seems to be significantly exacerbated in the summer, suggesting a seasonal impact.

Initial Exploration



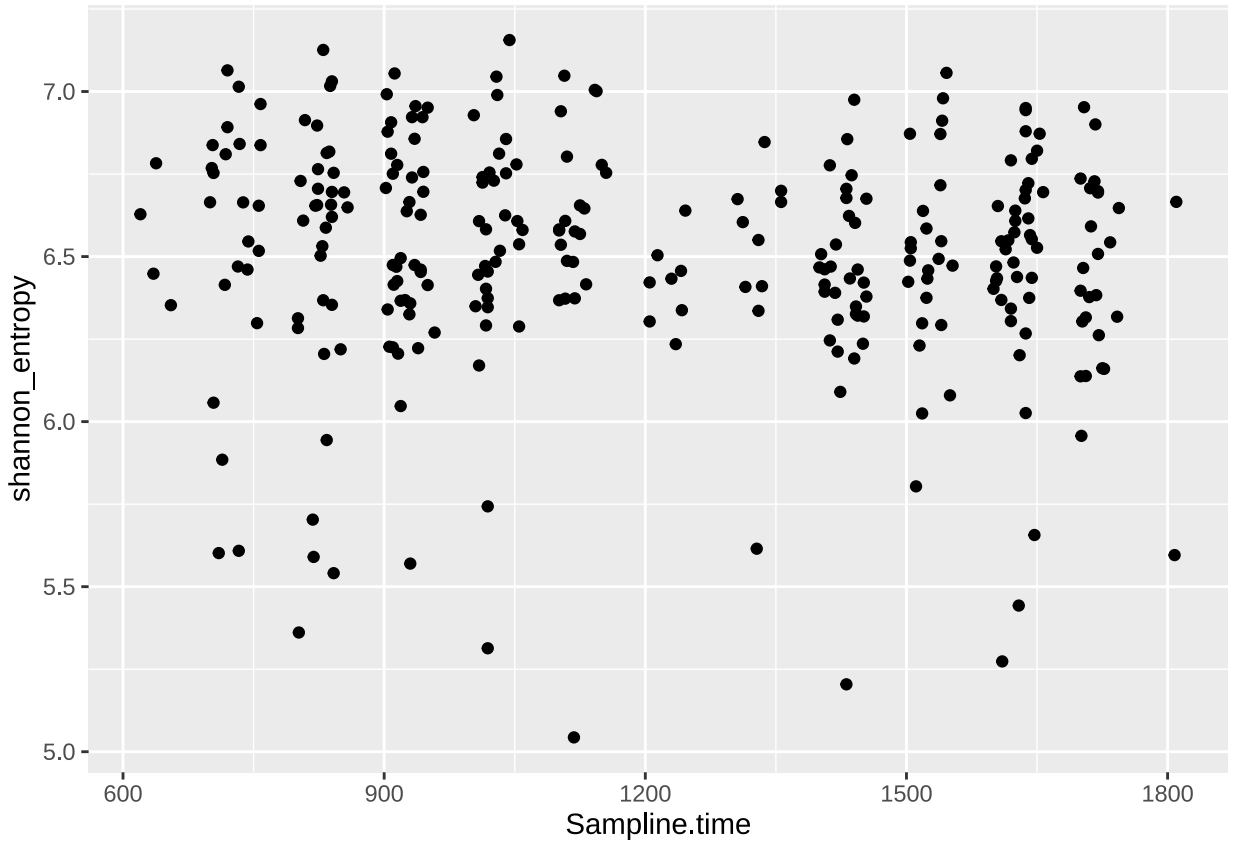







```
##
##  Welch Two Sample t-test
##
```

```
## data:  df.AM$shannon_entropy and df.PM$shannon_entropy
## t = 1.9961, df = 288.84, p-value = 0.04686
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  0.001120301 0.159286809
## sample estimates:
## mean of x mean of y
##  6.541293  6.461089
```

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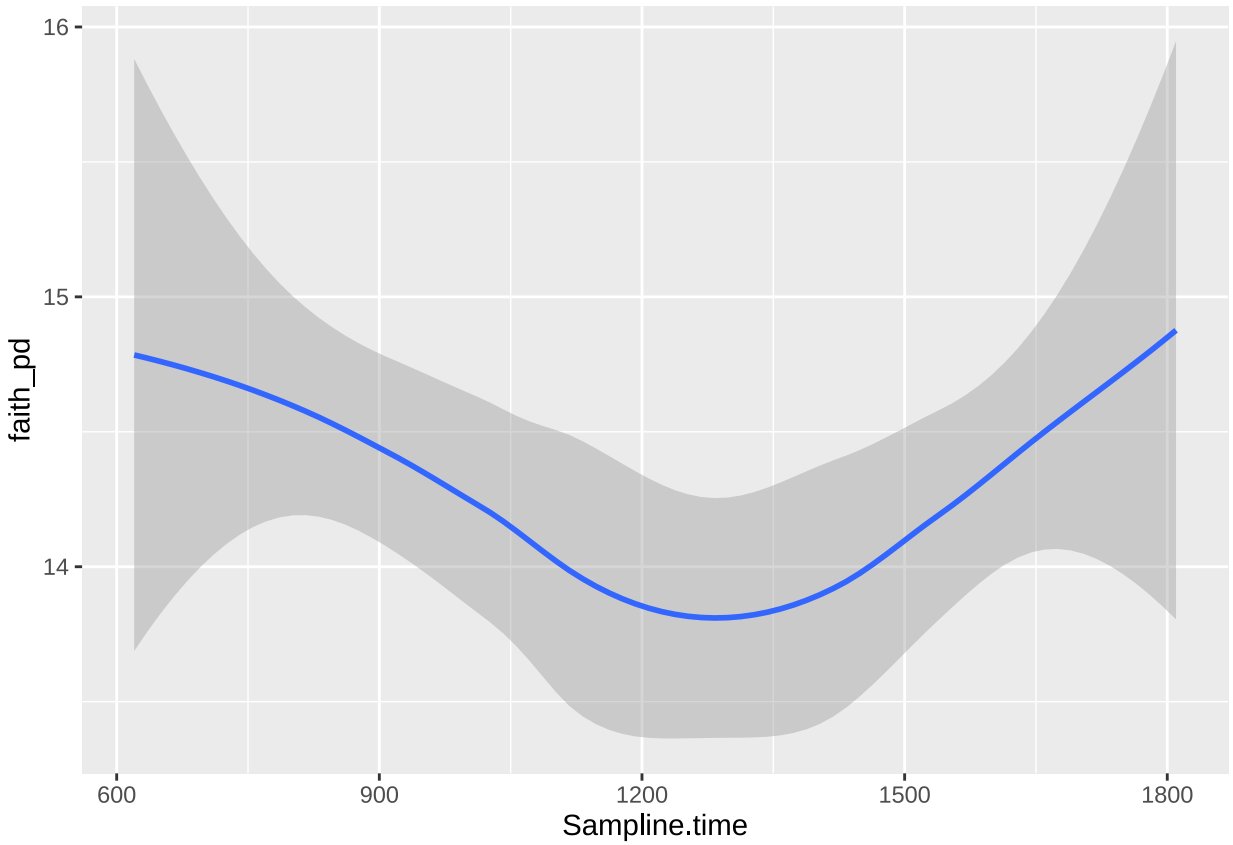


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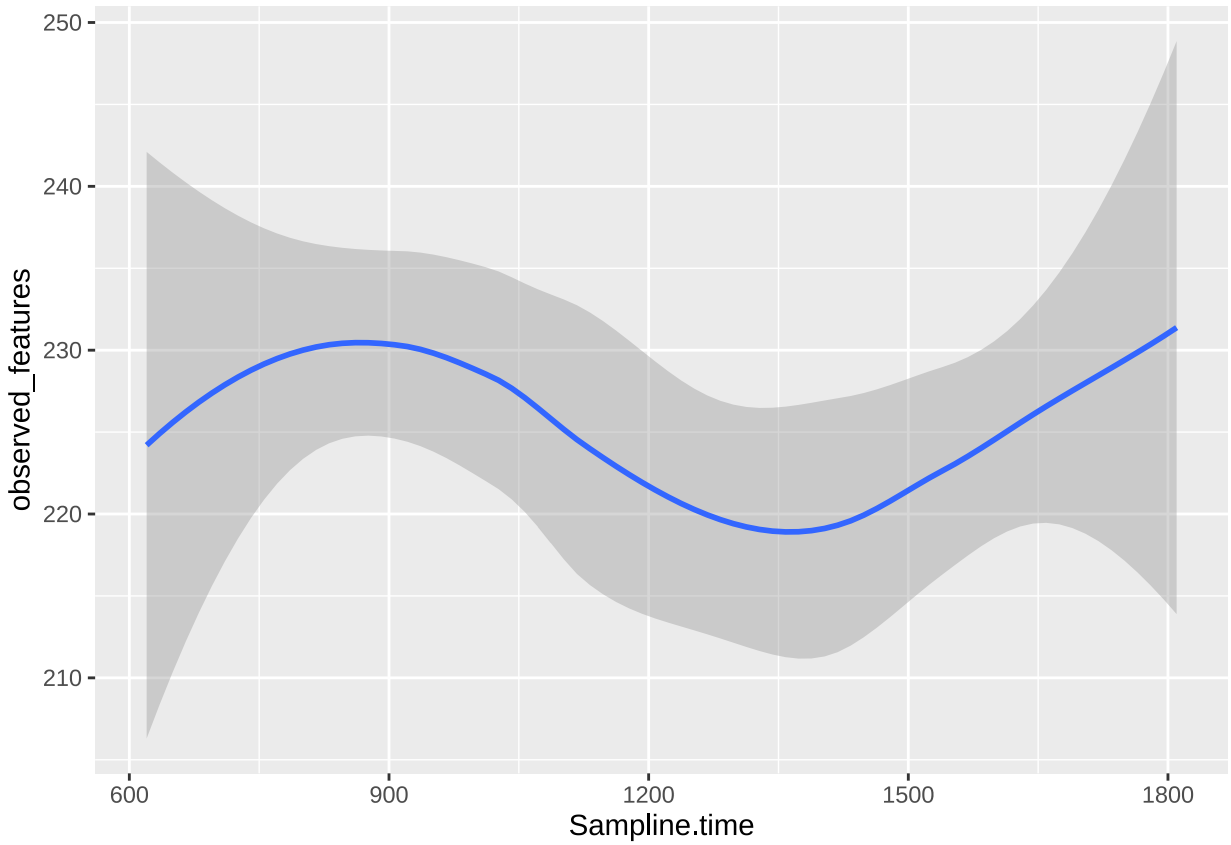
250
240
230
220
210
observed_features
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900
1200
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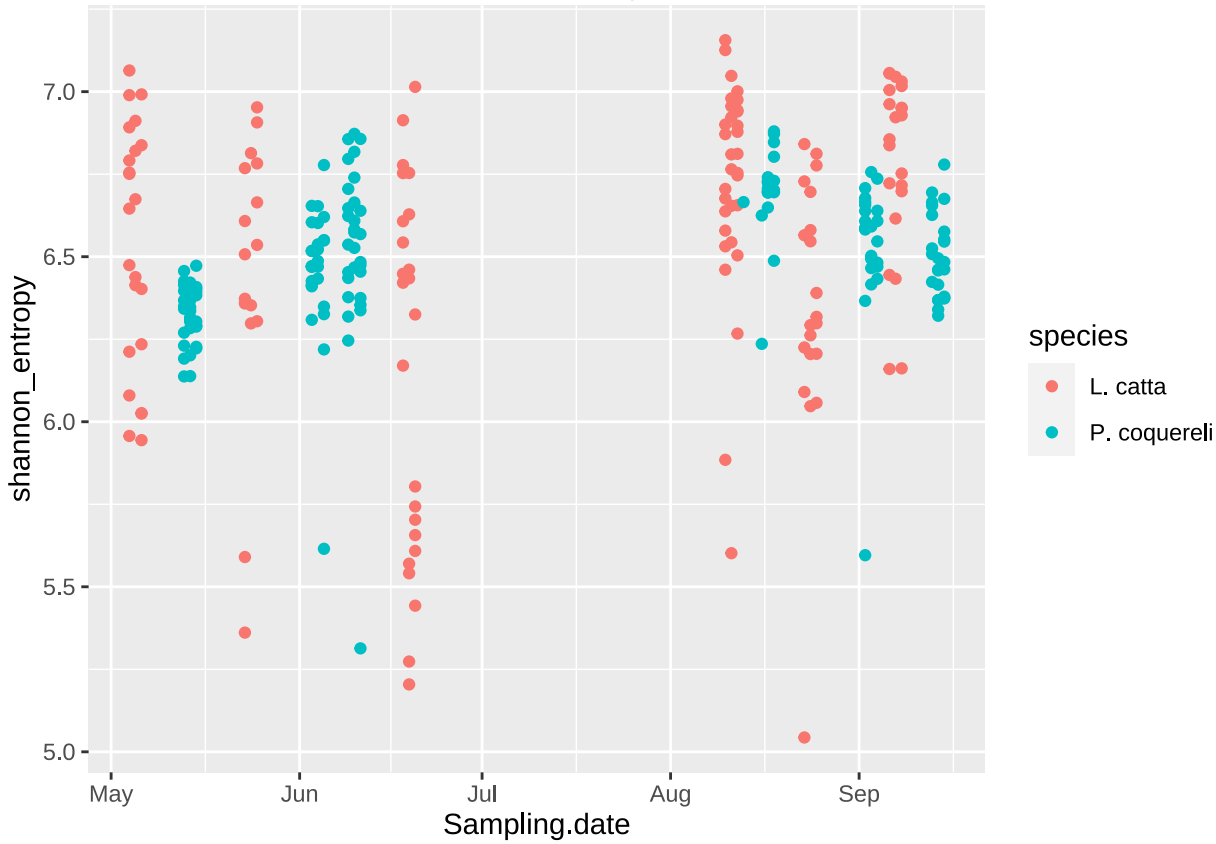
Sampline.time


7.0
6.5
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shannon_entropy
May
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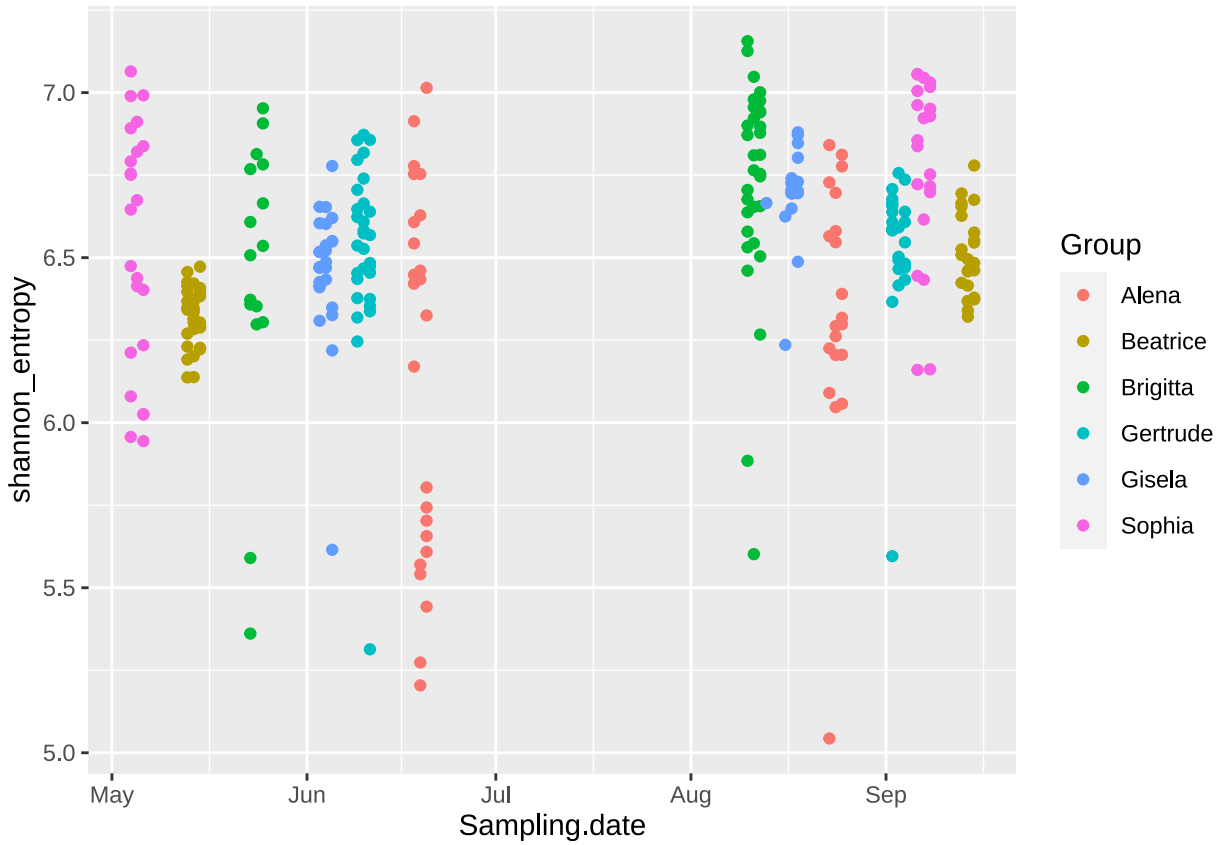
Jul
Aug
Sep
Sampling.date
species
L. catta
P. coquereli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Group
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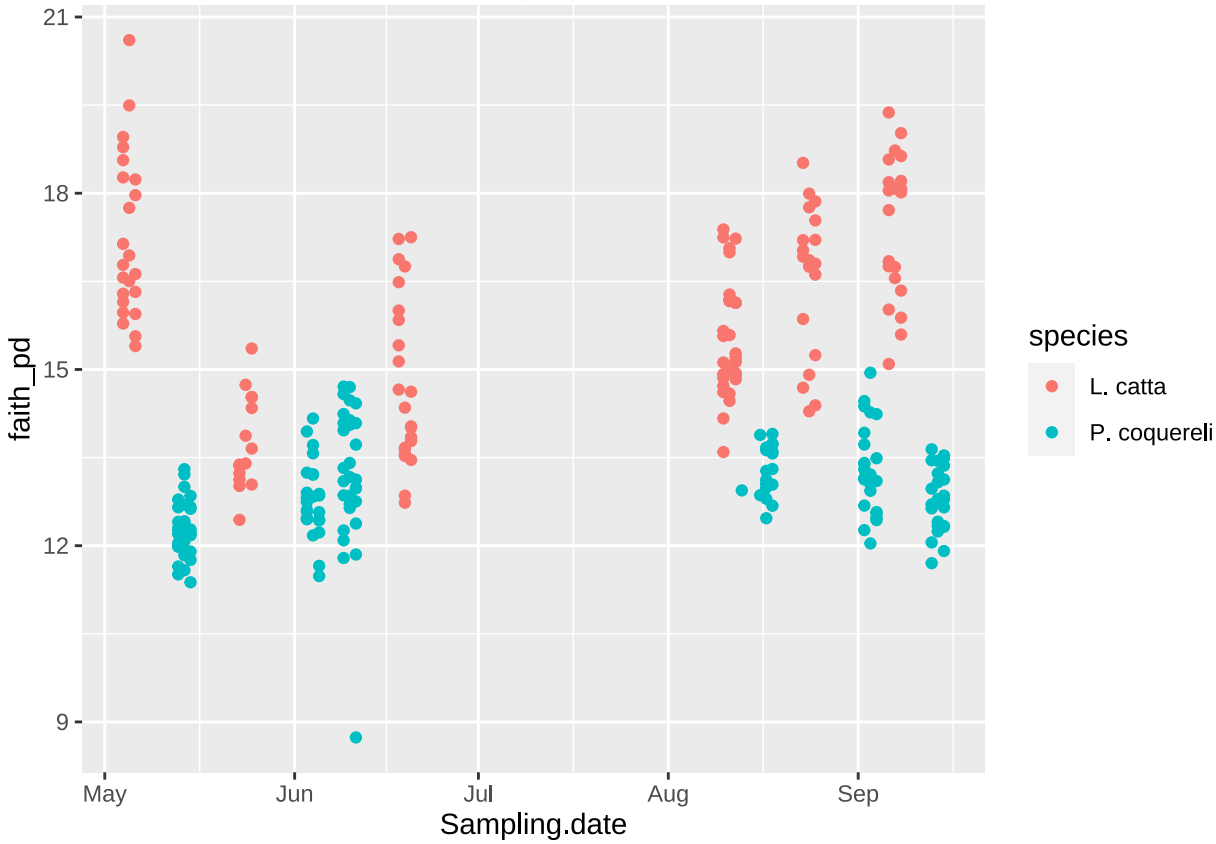
Brigitta
Gertrude
Gisela
Sophia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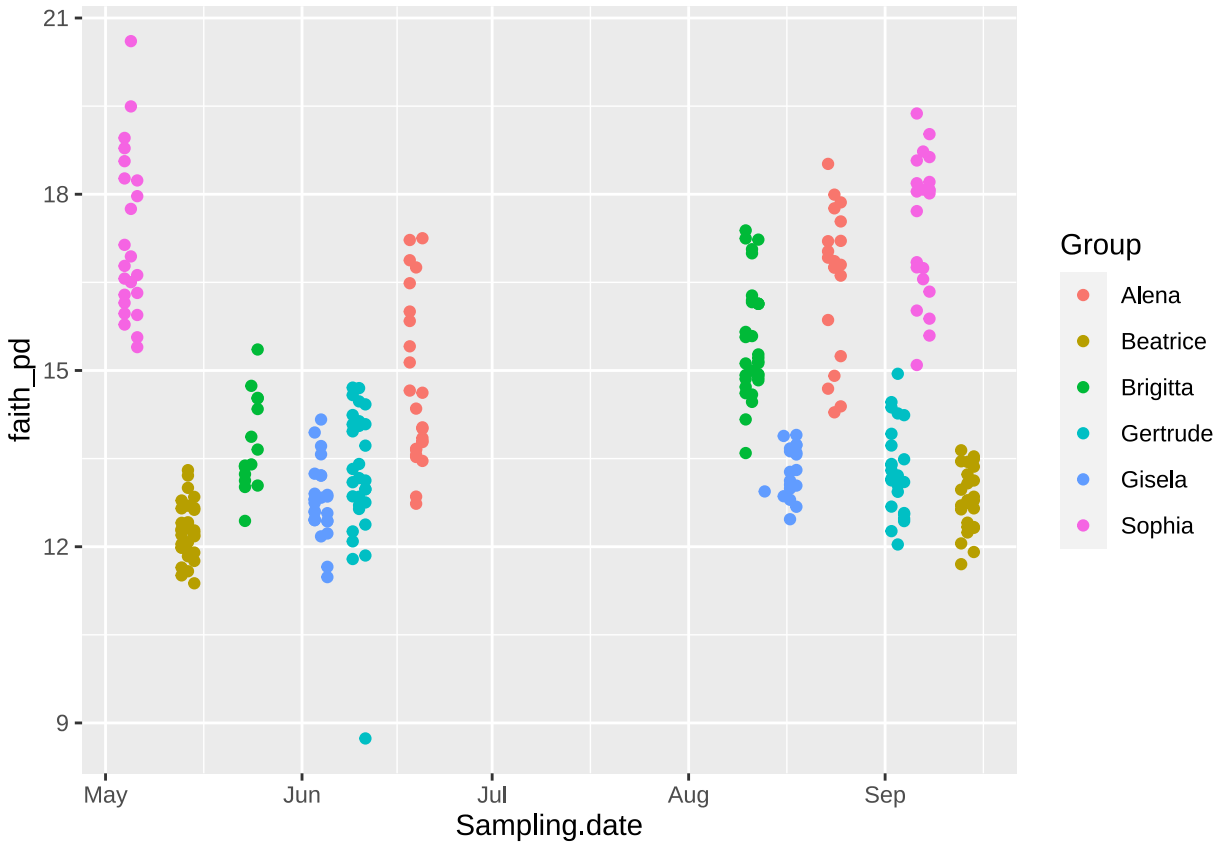
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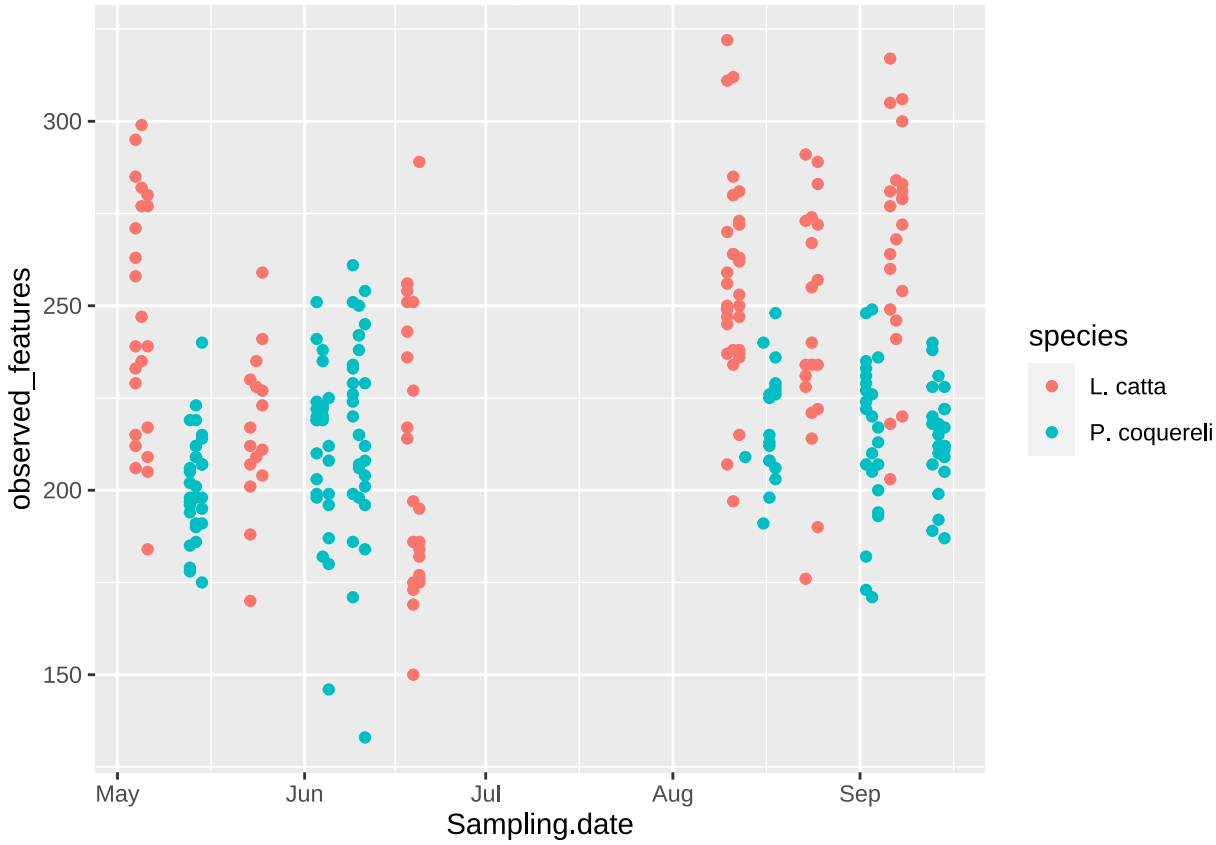
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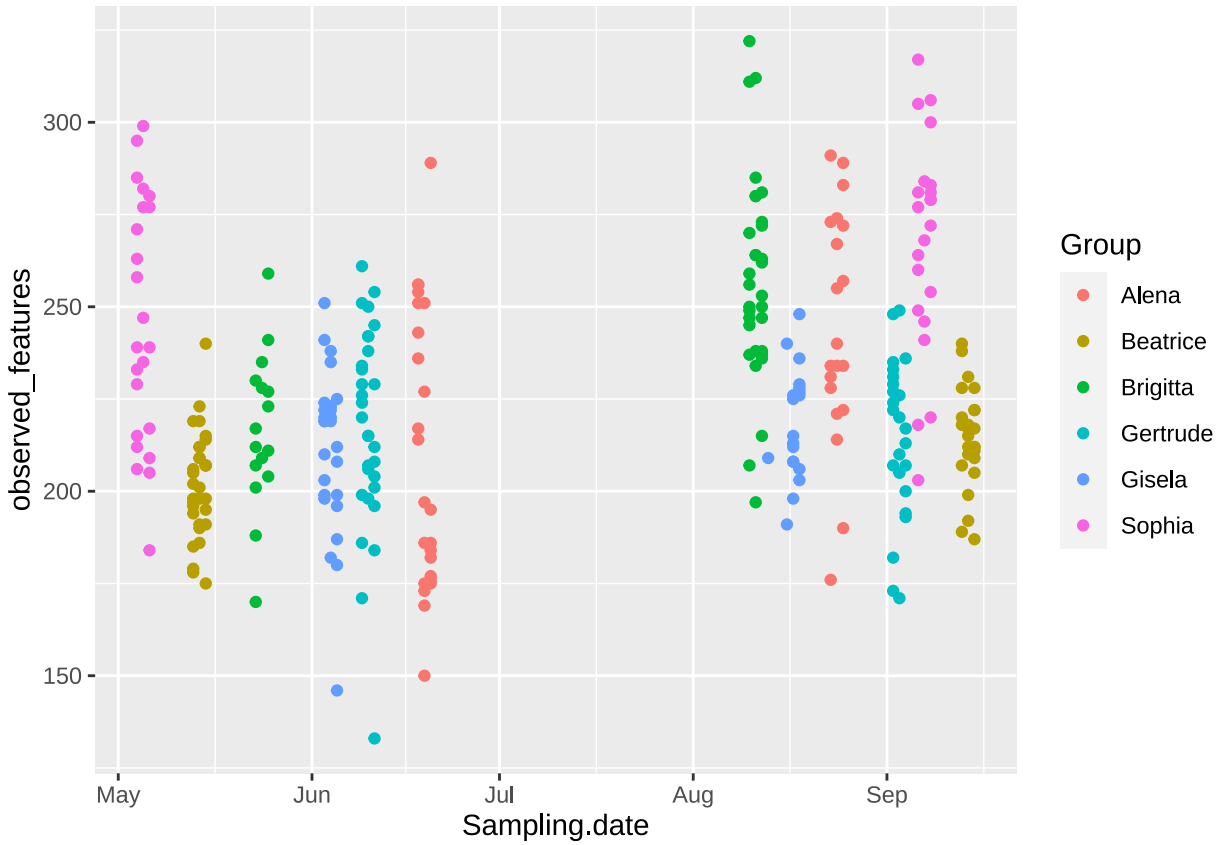
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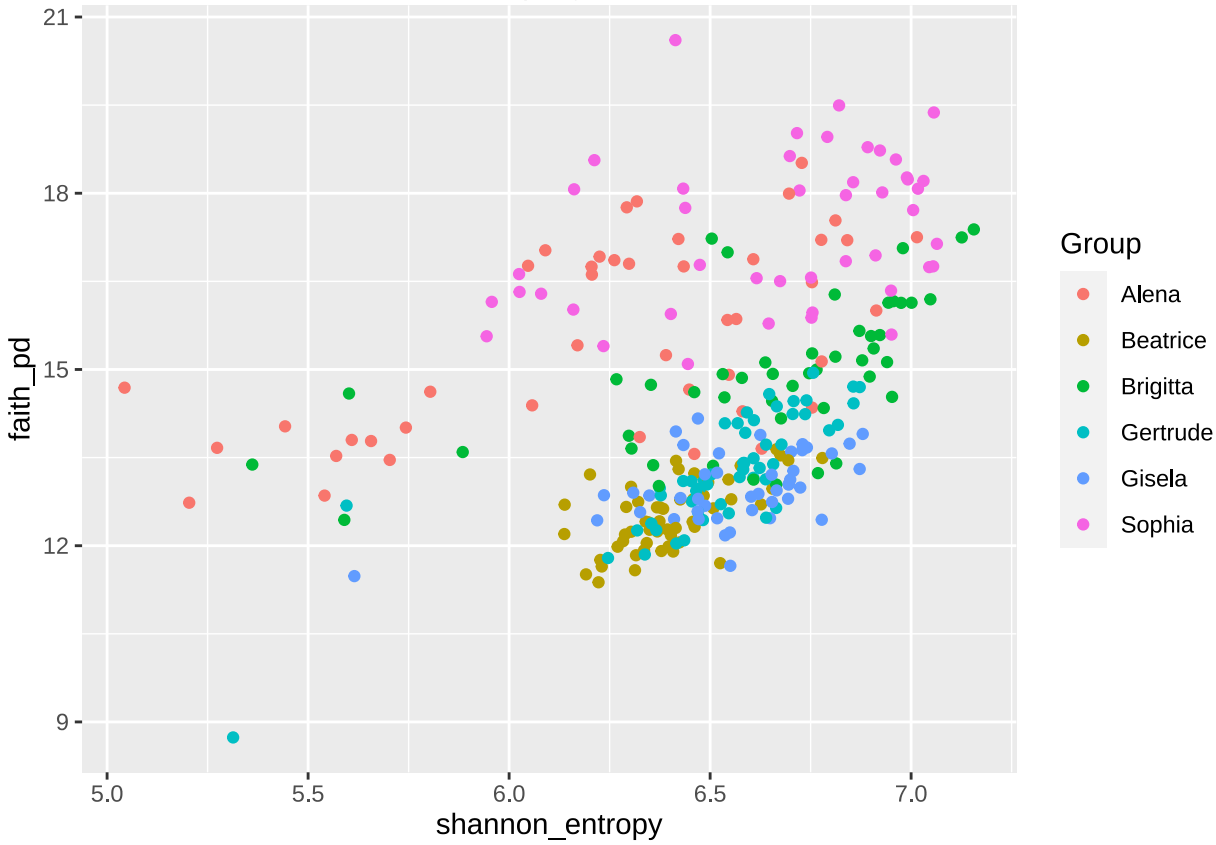
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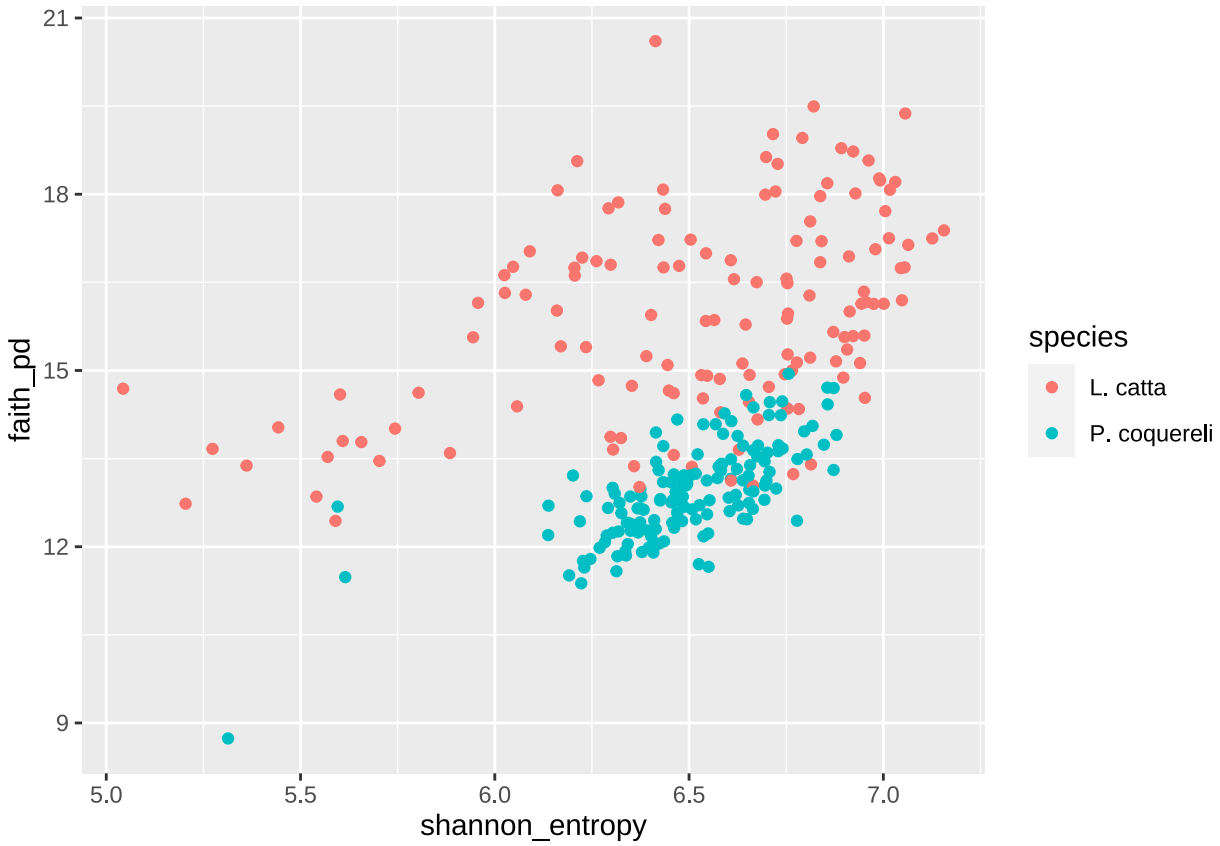
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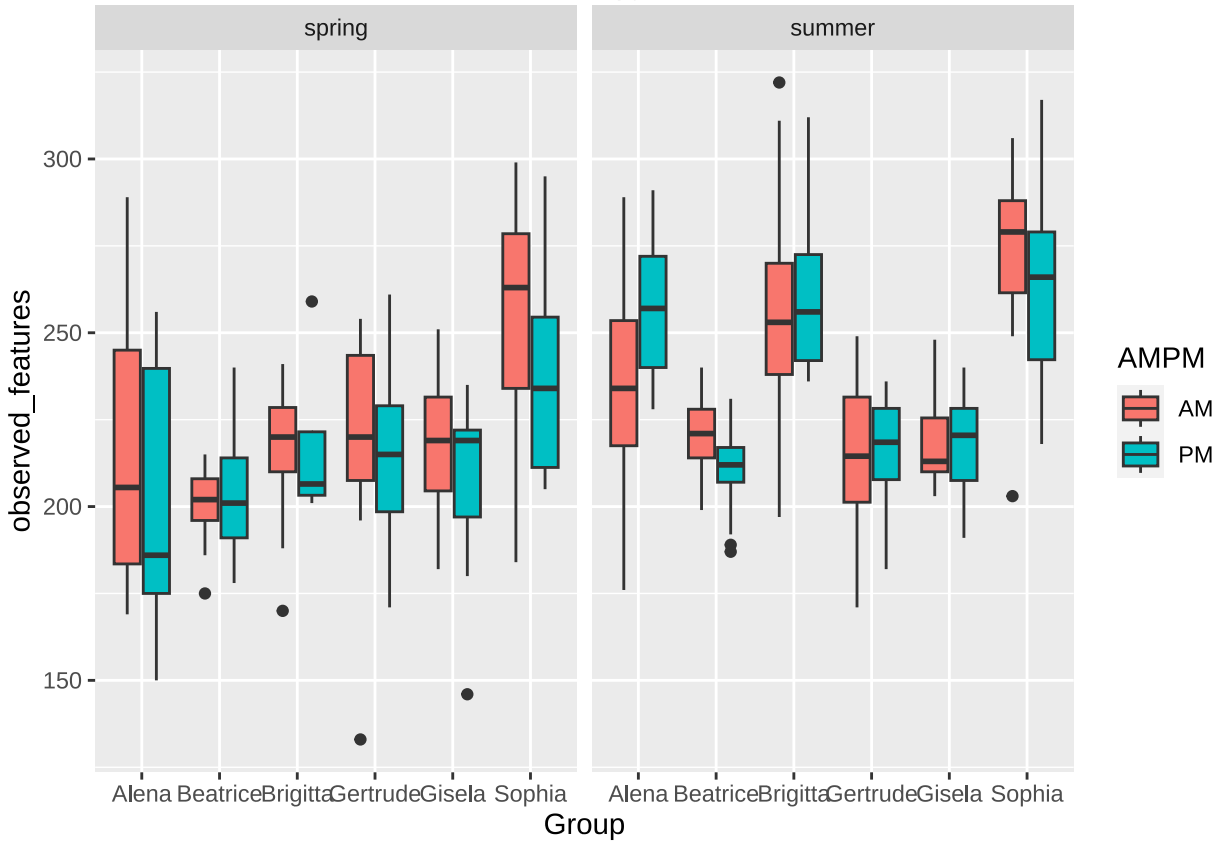
spring
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AMPM
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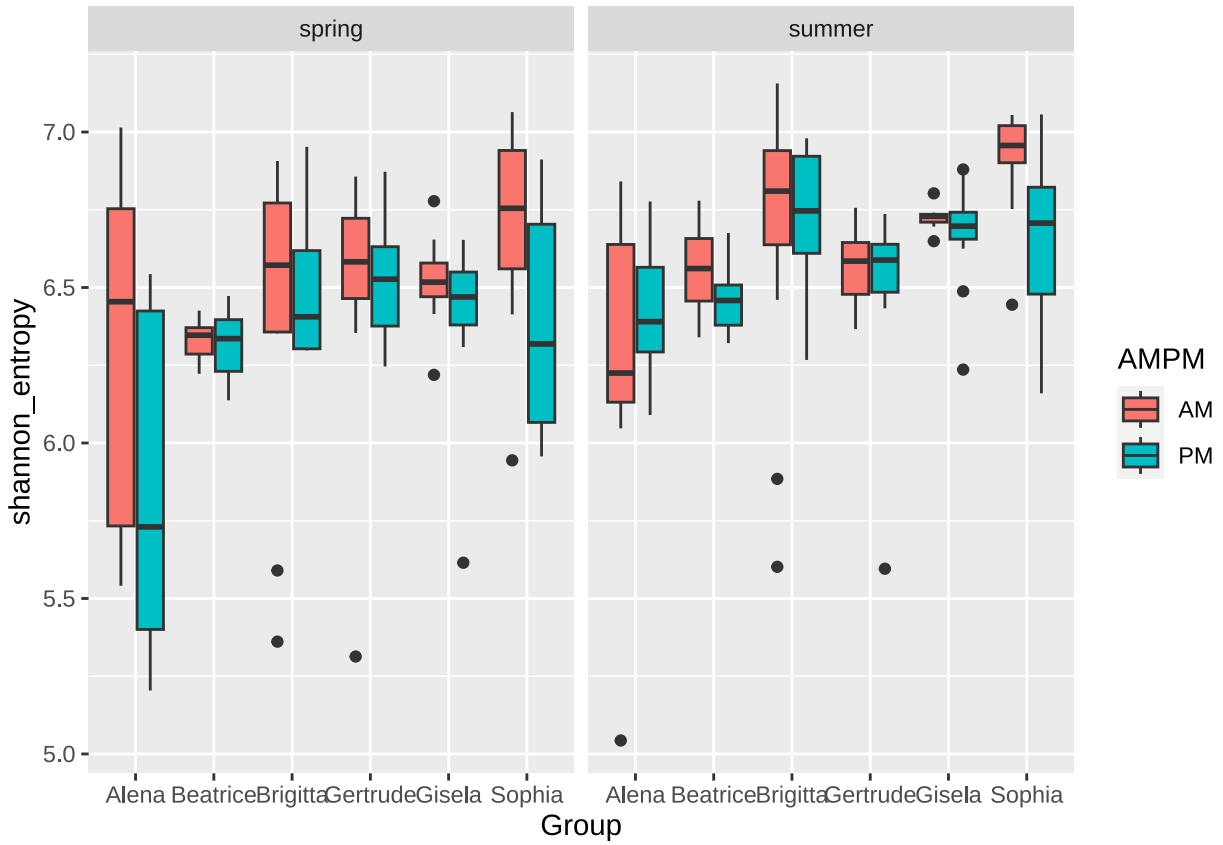
PM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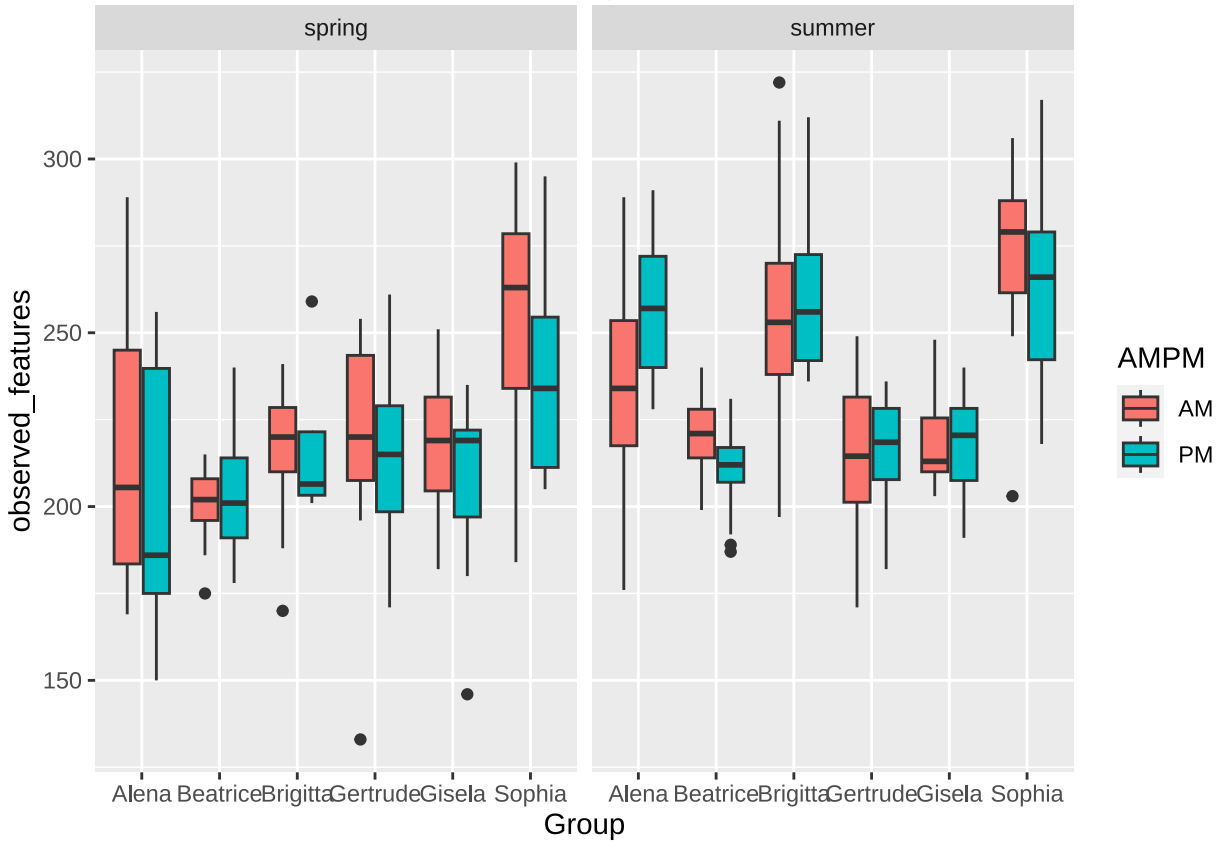
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