Tidy Tuesday - Week 35

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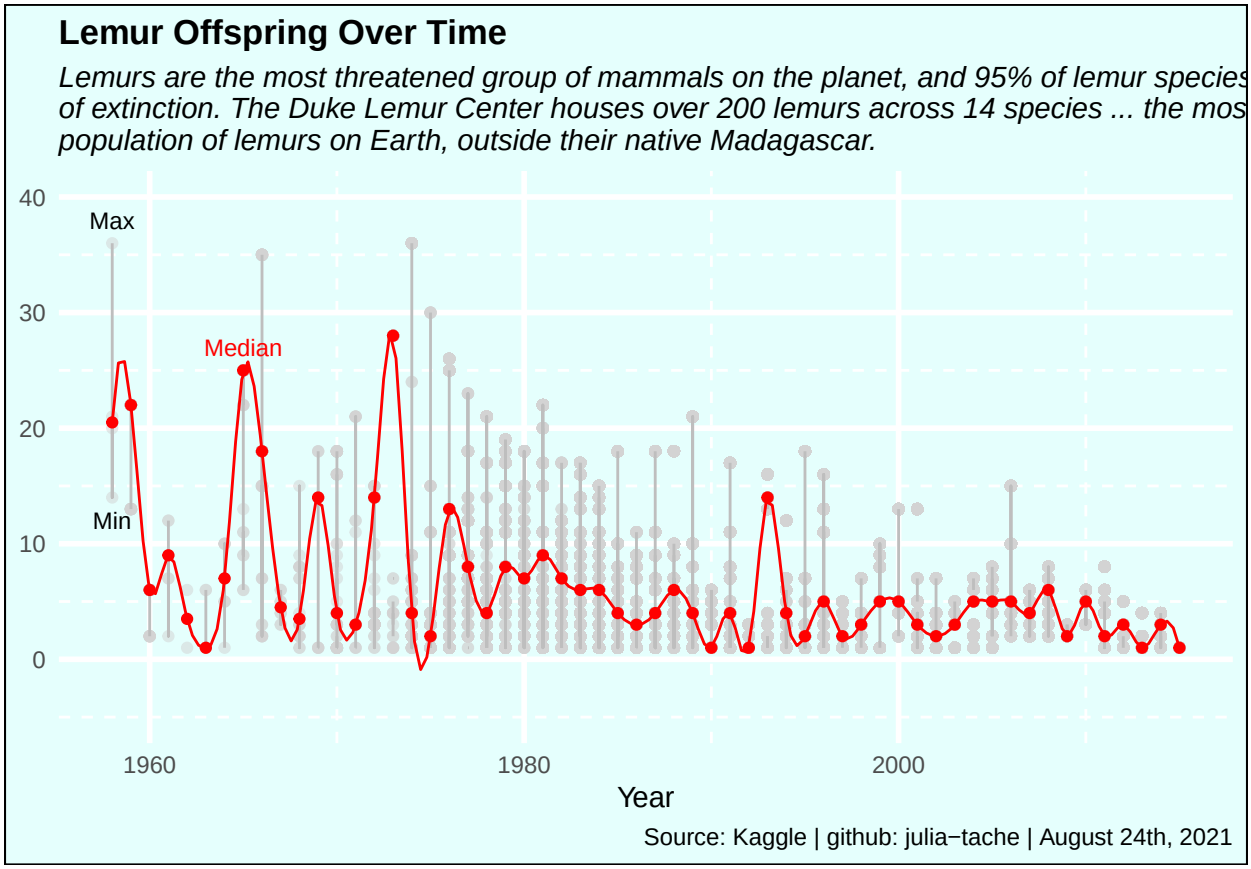
8/24/2021

```
library(tidyverse)
library(tidytuesdayR)

lemurs <- readr::read_csv('https://raw.githubusercontent.com/rfordatascience/tidytuesday/master/data/20
```

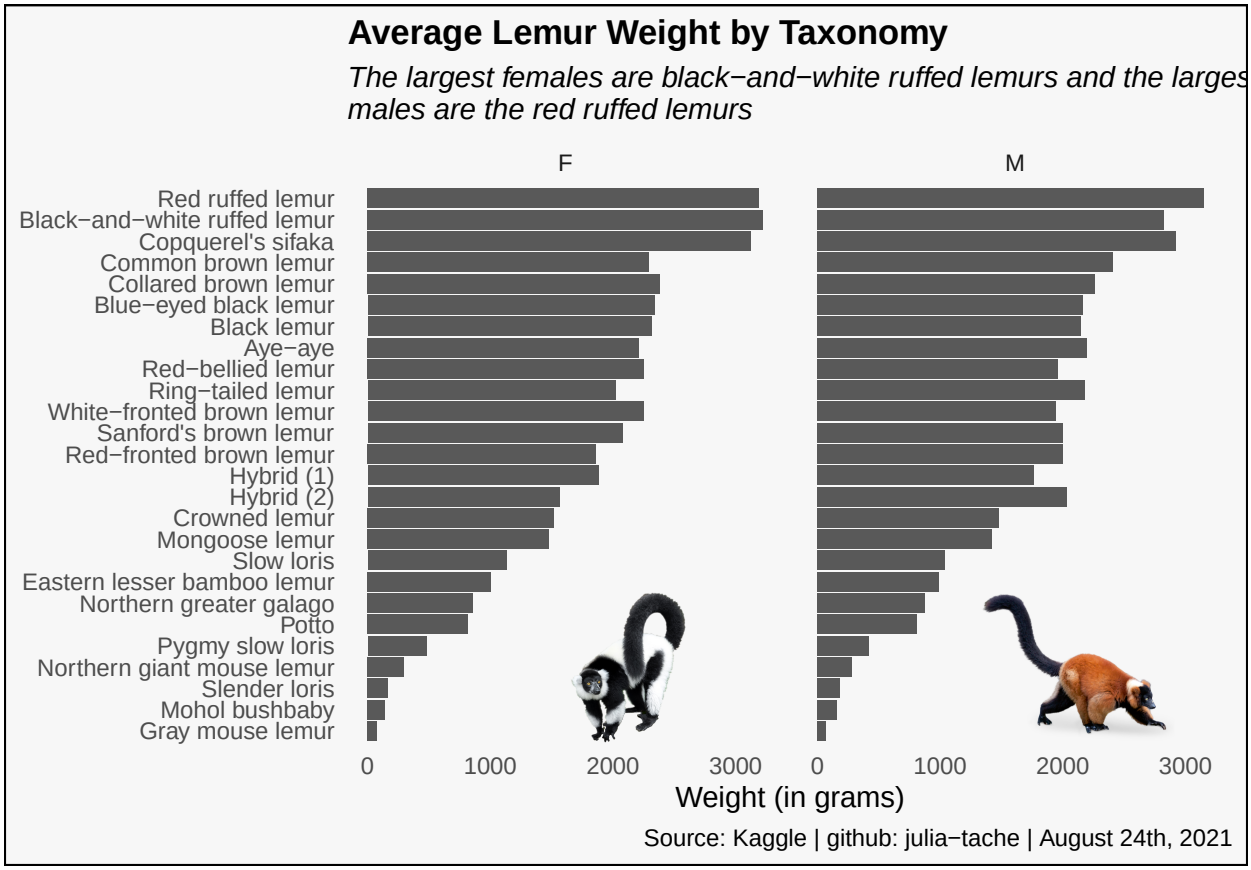
```
lemurs$year <- substr(lemurs$dob, 1, 4)
lemurs_b2016 <- lemurs %>% filter(year < 2016) %>%
  filter(year > 1946) # lemurs born before 2016 and after 1946 (big gap in data)

lemurs_b2016$year <- as.numeric(lemurs_b2016$year)

library(reshape)

lemurs_long <- melt(data = as.data.frame(lemurs_b2016),
     id.vars = "year",
     measure.vars = "n_known_offspring")

lemurs_long <- as.data.frame(lemurs_long)
lemurs_long$number <- lemurs_long$value

summary <- lemurs_b2016 %>%
  group_by(year) %>%
  summarize(median = median(n_known_offspring, na.rm = TRUE),
            max = max(n_known_offspring, na.rm = TRUE),
            min = min(n_known_offspring, na.rm = TRUE))

summary_long <- melt(data = as.data.frame(summary),
     id.vars = "year",
     measure.vars = c("min", "max"),
     variable.name = "variable",
     value.name = "values")

spline_int <- as.data.frame(spline(summary$year, summary$median))

ggplot(lemurs_long, aes(x = year, y = number)) +
  geom_point(alpha = 0.5, color = "light gray") +
  geom_line(aes(group = year), color = "gray") +
  geom_line(data = spline_int, aes(x = x, y = y), color = "red") +
  geom_point(data = summary, aes(year, median), color = "red") +
  annotate(geom = "text", x = summary_long$year[1], y = (summary_long$value[59] + 2),
           label = "Max",
```

```
          color = "black",
          size = 3) +
annotate(geom = "text", x = summary_long$year[1], y = (summary_long$value[1] - 2),
          label = "Min",
          color = "black",
          size = 3) +
annotate(geom = "text", x = summary_long$year[8], y = (summary$median[8] + 2),
          label = "Median",
          color = "red",
          size = 3) +
ggtitle("Lemur Offspring Over Time") +
theme_minimal() +
ylim(-5, 40) +
xlab("Year") +
theme(plot.title = element_text(face = "bold"),
      plot.subtitle = element_text(face = "italic"),
      axis.title.y = element_blank(),
      plot.background = element_rect(fill = "#E5FFFD"),
      panel.grid.major = element_line(size = 1, linetype = "solid",
                                colour = "white"),
      panel.grid.minor = element_line(size = 0.5, linetype = "dashed",
                                colour = "white")) +
labs(caption = "Source: Kaggle | github: julia-tache | August 24th, 2021",
     subtitle = "Lemurs are the most threatened group of mammals on the planet, and 95% of lemur speci
```



```r
ggsave("line_graph.png")
```

```r
summary_weight <- lemurs_b2016 %>%
  group_by(taxon, sex) %>%
  summarize(average_weight = mean(weight_g, na.rm = TRUE))

summary_weight <- summary_weight[!(summary_weight$sex=="ND"), ]

taxon <- read_csv("lemur_taxon.csv") # common names

summary_weight <- left_join(taxon, summary_weight)

summary_weight <- na.omit(summary_weight)

my_plot <- ggplot(summary_weight, aes(x = reorder(common_name, average_weight), y = average_weight)) +
  geom_bar(stat = "identity") +
  coord_flip() +
  facet_wrap(~sex) +
  ggtitle("Average Lemur Weight by Taxonomy") +
  theme_minimal() +
  ylab("Weight (in grams)") +
  theme(plot.title = element_text(face = "bold"),
        plot.subtitle = element_text(face = "italic"),
        axis.title.y = element_blank(),
        plot.background = element_rect(fill = "#f7f7f7"),
        panel.grid.major = element_blank(),
        panel.grid.minor = element_blank()) +
  labs(caption = "Source: Kaggle | github: julia-tache | August 24th, 2021",
       subtitle = "The largest females are black-and-white ruffed lemurs and the largest \nmales are the

require(grid); require(png); require(RCurl)

img1 <- readPNG("black_white_lemur.png")
img2 <- readPNG("red_lemur.png")

annotation_custom2 <-
  function (grob, xmin = -Inf, xmax = Inf, ymin = -Inf, ymax = Inf, data){ layer(data = data, stat = Sta
                                                                                PositionIdentity,
                                                                              geom = ggplot2:::GeomCu
                                                                              inherit.aes = TRUE,
                                                                              params = list(grob = gr
                                                                                            xmin = xm
                                                                                            xmax = xm
                                                                                            ymin = ym
                                                                                            ymax = ym


a1 = annotation_custom2(rasterGrob(img1, interpolate=TRUE), xmin=0, xmax=8, ymin=750, ymax=3500, data =
a2 = annotation_custom2(rasterGrob(img2, interpolate=TRUE), xmin=0, xmax=8, ymin=750, ymax=3500, data =

my_plot + a1 + a2
```




```
ggsave("bar_graph.png")
```