Plant Comp Plots

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DATA INPUT: Clean plant comp csv from the shared Google drive
DATA OUTPUT: Plots of each graph are in the plant_comp_plots.pdf in Github
PROJECT: warmXtrophic
DATE: July 2020

Makes a function for the given species. Ex: Popr, Eugr

```
## 'data.frame':    18601 obs. of  6 variables:
##  $ X      : int  1 2 3 4 5 6 7 8 9 10 ...
##  $ Date   : chr  "2015-05-21" "2015-05-21" "2015-05-21" "2015-05-21" ...
##  $ Site   : chr  "kbs" "kbs" "kbs" "kbs" ...
##  $ Plot   : chr  "D1" "D1" "D1" "D1" ...
##  $ Species: chr  "Soca" "Piau" "Popr" "Dagl" ...
##  $ Cover  : int  25 80 50 5 1 10 15 50 1 10 ...
```

```
## 'data.frame':    18601 obs. of  6 variables:
##  $ X      : int  1 2 3 4 5 6 7 8 9 10 ...
##  $ Date   : Date, format: "2015-05-21" "2015-05-21" ...
##  $ Site   : chr  "kbs" "kbs" "kbs" "kbs" ...
##  $ Plot   : chr  "D1" "D1" "D1" "D1" ...
##  $ Species: chr  "Soca" "Piau" "Popr" "Dagl" ...
##  $ Cover  : int  25 80 50 5 1 10 15 50 1 10 ...
```

```
## 'data.frame':    18601 obs. of  8 variables:
##  $ X      : int  1 2 3 4 5 6 7 8 9 10 ...
##  $ Date   : Date, format: "2015-05-21" "2015-05-21" ...
##  $ Site   : chr  "kbs" "kbs" "kbs" "kbs" ...
##  $ Plot   : chr  "D1" "D1" "D1" "D1" ...
##  $ Species: chr  "Soca" "Piau" "Popr" "Dagl" ...
##  $ Cover  : int  25 80 50 5 1 10 15 50 1 10 ...
##  $ Year   : chr  "2015" "2015" "2015" "2015" ...
##  $ Julian : num  141 141 141 141 141 141 141 141 141 141 ...
```

```
## 'data.frame':    18600 obs. of  11 variables:
##  $ plot         : chr  "A1" "A1" "A1" "A1" ...
##  $ state        : chr  "ambient" "ambient" "ambient" "ambient" ...
##  $ treatment_key: chr  "A0" "A0" "A0" "A0" ...
##  $ insecticide  : chr  "no insects" "no insects" "no insects" "no insects" ...
##  $ x            : int  74 75 76 77 78 79 80 81 82 83 ...
##  $ date         : Date, format: "2015-05-21" "2015-05-21" ...
##  $ site         : chr  "kbs" "kbs" "kbs" "kbs" ...
##  $ species      : chr  "Soca" "Popr" "Cest" "Trpr" ...
##  $ cover        : int  50 23 4 5 1 1 20 4 60 30 ...
```

```
##  $ year          : chr  "2015" "2015" "2015" "2015" ...
##  $ julian        : num  141 141 141 141 141 141 141 141 141 141 ...
```

```r
greenup_plot <- function(spp, loc) {
  greenup_spp <- subset(sum_comp, species == spp & site == loc)
  return(ggplot(greenup_spp, aes(x = state, y = avg_julian, fill = state)) +
           facet_grid(.~year) +
           geom_bar(position = "identity", stat = "identity") +
           geom_errorbar(aes(ymin = avg_julian - se, ymax = avg_julian + se), width = 0.2,
                         position = "identity") +
           labs(x = "State", y = "Julian Day of Greenup", title = spp) +
           scale_fill_manual(values = c("#a6bddb", "#fb6a4a")) +
           scale_x_discrete(labels=c("ambient" = "A", "warmed" = "W")) +
           theme_classic())
}
greenup_plot("Popr", "umbs")
```