Fig5_Behavior

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Purpose:

To plot behavior data from Figure 5f. These data are chemotaxis indices from wild-type animals chemotaxing on DEET-agar after 1, 2, 3, or 4 hours.

Background:

This is an R Markdown document. http://rmarkdown.rstudio.com.

The scripts required to get these graphs is in the gray boxes, along with information on how to run the statistical tests reported in the manuscript.

This was run in RStudio, using R version 3.3.1 (2016-10-31), Sincere Pumpkin Patch on a x86_64-apple-darwin13.4.0

First, load libraries:

```r
library(ggthemes)
library(ggplot2)
library(reshape2)
library(plyr)
library(dplyr)
```

```r
#load data
timing <- read.csv('timingdata.csv')

#generate summary data
summarytiming <- ddply(timing,.(minutes),summarise,mean=mean(CI),N=length(CI),sd=sd(CI),sem=sd/sqrt(N))

#plot
ggplot(timing,aes(x=minutes/60,y=CI)) +
  geom_jitter(height=0,width=.2,aes(alpha=0.5)) +
  theme_tufte() +
  ylim(-1,1) +
  geom_hline(yintercept=0) +
  geom_point(data=summarytiming,aes(x=minutes/60,y=mean),shape="+") +
  geom_point(data=summarytiming,aes(x=minutes/60,y=mean+sem),shape="-") +
  geom_point(data=summarytiming,aes(x=minutes/60,y=mean-sem),shape="-") +
  theme(legend.position="none")
```