2018-02-27_eclosion_summaries

Eclosion data

```
library(data.table)
library(ggplot2)
library(plyr)
```

```
##grabbing data if git cloned
#eclosions<-fread("../Data/2018-01-26_rhagoletis_masterdata_data_slice.csv")
#grabbing from online
eclosions<-fread("https://raw.githubusercontent.com/adnguyen/Circadian_rhythm_runs_seasonal_timing/maste
```

```
## Warning in fread("https://raw.githubusercontent.com/
## adnguyen/Circadian_rhythm_runs_seasonal_timing/master/Data/
## 2018-01-26_rhagoletis_masterdata_data_slice.csv"): Bumped column 41 to
## type character on data row 530, field contains 'change food 2017-10-31
## 21:50'. Coercing previously read values in this column from logical,
## integer or numeric back to character which may not be lossless; e.g., if
## '00' and '000' occurred before they will now be just '0', and there may
## be inconsistencies with treatment of ',,' and ',NA,' too (if they occurred
## in this column before the bump). If this matters please rerun and set
## 'colClasses' to 'character' for this column. Please note that column type
## detection uses a sample of 1,000 rows (100 rows at 10 points) so hopefully
## this message should be very rare. If reporting to datatable-help, please
## rerun and include the output from verbose=TRUE.
```

```
head(eclosions,10)
```

```
##     Ind_ID tape Site_name mass_day10 purge_time_1 purge1 collection_date
##  1:      1 blue        OG      6.938        13:38     NA      2017-08-21
##  2:      2 blue    Ferris     11.175        13:39     NA      2017-08-21
##  3:      3 blue    Ferris      6.719        13:39     NA      2017-08-21
##  4:      4 blue    Ferris     10.719        13:40     NA      2017-08-21
##  5:      5 blue        OG      3.848        13:41     NA      2017-08-21
##  6:      6 blue        OG      7.576        13:37     NA      2017-08-21
##  7:      7 blue        OG      6.413        13:35     NA      2017-08-21
##  8:      8 blue        OG      9.365        13:57     NA      2017-08-21
##  9:      9 blue    Ferris      7.978        13:41     NA      2017-08-21
## 10:     10 blue        OG      4.895        13:36     NA      2017-08-21
##          day10 cohort_date cohort_day  Host Li-cor_1 resp_time_1
##  1: 2017-09-04  2017-08-25          2 Apple     6262
##  2: 2017-09-04  2017-08-25          2 Apple     6262    10:13:15
##  3: 2017-09-04  2017-08-25          2 Apple     6262    10:14:47
##  4: 2017-09-04  2017-08-25          2 Apple     6262    10:16:43
##  5: 2017-09-04  2017-08-25          2 Apple     6262    10:18:41
##  6: 2017-09-04  2017-08-25          2 Apple     6262    10:20:19
##  7: 2017-09-04  2017-08-25          2 Apple     6262    10:22:07
##  8: 2017-09-04  2017-08-25          2 Apple     6262    10:23:42
##  9: 2017-09-04  2017-08-25          2 Apple     6262    10:25:39
## 10: 2017-09-04  2017-08-25          2 Apple     6262    10:27:14
##     resp_day11 mass_day14 purge_time_2 resp_time_2 resp_day15 Li_cor2
```

```
##  1:         NA      6.187        10:51    10:13:48  0.1432514    6262
##  2:  0.2941100      9.967                 10:16:22  0.1702350    6262
##  3:  0.1052925      6.118                 10:18:10  0.1076286    6262
##  4:  1.3445380      9.539                 10:19:38  1.3873900    6262
##  5:  0.1492267      3.479                 10:21:23  0.1182286    6262
##  6:  1.4202160      6.824                 10:22:55  1.4689120    6262
##  7:  0.1365561      5.738                 10:24:36  0.1601623    6262
##  8:  1.3082910      8.401                 10:25:57  1.4328830    6262
##  9:  0.1591373      7.323                 10:27:35  0.0809000    6262
## 10:  0.1027624      4.349                 10:28:53  0.0642000    6262
##     notes Resp_code treatment uniqueID eclosion_date eclosion_days well_id
##  1:               0        SO      2b1                         NA      A1
##  2:               1        GC      2b2                         NA
##  3:               1        RT      2b3    2017-10-29           64      A1
##  4:               1        GC      2b4                         NA
##  5:               1        RT      2b5    2017-10-20           56      A2
##  6:               1        SO      2b6                         NA      A2
##  7:               1        SO      2b7                         NA      A3
##  8:               1        RT      2b8    2017-09-26           32      A3
##  9:               1        SO      2b9                         NA      A4
## 10:               1        GC     2b10                         NA
##     organism Trikinetics_position Trikinetics_monitor
##  1:                            NA                  NA
##  2:                            NA                  NA
##  3:      fly                    8                   1
##  4:                            NA                  NA
##  5:      fly                   15                   2
##  6:                            NA                  NA
##  7:                            NA                  NA
##  8:      fly                   30                   2
##  9:                            NA                  NA
## 10:                            NA                  NA
##     Trikinetics_entry_LD_time Trikinetic_exit_date
##  1:
##  2:
##  3:                      3:34           2107-11-05
##  4:
##  5:                     13:03           2017-10-25
##  6:
##  7:
##  8:                     16:08           2017-10-05
##  9:
## 10:
##     Trikinetics_exit_LD_time                       notes_2
##  1:
##  2:
##  3:                    20:33 changed water 2017-11-03 11:56
##  4:
##  5:                     9:58
##  6:
##  7:
##  8:                    12:45
##  9:
## 10:
```

```
##     Free_run_monitor Free_run_position Free_run_entry_date
##  1:               NA                NA
##  2:               NA                NA
##  3:                4                11          2017-11-05
##  4:               NA                NA
##  5:               NA                NA
##  6:               NA                NA
##  7:               NA                NA
##  8:               NA                NA
##  9:               NA                NA
## 10:               NA                NA
##     Free_run_entry_time Free_run_exit_date Free_run_exit_time
##  1:
##  2:
##  3:               20:34         2017-12-09              20:00
##  4:
##  5:
##  6:
##  7:
##  8:
##  9:
## 10:
##                       notes_3 V41
##  1:
##  2:
##  3: changed water 2017-11-28
##  4:
##  5:
##  6:
##  7:
##  8:
##  9:
## 10:
```

```
tail(eclosions,10)
```

```
##     Ind_ID  tape Site_name mass_day10 purge_time_1 purge1 collection_date
##  1:      8 white    Ferris     11.578                 NA      2017-09-19
##  2:      9 white    Ferris      6.663                 NA      2017-09-19
##  3:     10 white    Ferris      9.641                 NA      2017-09-19
##  4:     11 white     Blank         NA                 NA      2017-09-19
##  5:     12 white     Blank         NA        12:28    NA      2017-09-19
##  6:      1 white    Ferris     12.129        12:20    NA      2017-09-19
##  7:      2 white    Ferris     11.226                 NA      2017-09-19
##  8:      3 white    Ferris      7.681                 NA      2017-09-19
##  9:      4 white     Blank         NA                 NA      2017-09-19
## 10:      5 white     Blank         NA        12:21    NA      2017-09-19
##          day10 cohort_date cohort_day Host Li-cor_1 resp_time_1 resp_day11
##  1: 2017-10-12  2017-10-02         11  Haw     6262    10:40:24  0.3168173
##  2: 2017-10-12  2017-10-02         11  Haw     6262    10:42:06  0.1840791
##  3: 2017-10-12  2017-10-02         11  Haw     6262    10:43:56  1.1545140
##  4: 2017-10-12  2017-10-02         11  Haw     6262    10:46:05  0.0120000
##  5: 2017-10-12  2017-10-02         11  Haw     6262                     NA
##  6: 2017-10-13  2017-10-03         12  Haw     7000    10:44:39  0.1462170
##  7: 2017-10-13  2017-10-03         12  Haw     7000    10:45:41  1.0436650
```

```
##  8: 2017-10-13  2017-10-03         12  Haw     7000    10:46:57  0.0739000
##  9: 2017-10-13  2017-10-03         12  Haw     7000    10:48:01  0.0090700
## 10: 2017-10-13  2017-10-03         12  Haw     7000    10:48:55  0.0367000
##     mass_day14 purge_time_2 resp_time_2 resp_day15 Li_cor2 notes Resp_code
##  1:     10.750                14:30:24  0.1589825    7000               1
##  2:      6.126                14:31:35  0.0881000    7000               1
##  3:      8.644                14:32:41  0.1198599    7000               1
##  4:         NA                14:33:40  0.0112000    7000               1
##  5:         NA        10:43   14:34:27  0.0104000    7000               0
##  6:     11.012        14:44                    NA      NA              NA
##  7:      8.514                                  NA      NA              NA
##  8:      7.011                                  NA      NA              NA
##  9:         NA                                  NA      NA              NA
## 10:         NA        14:45                    NA      NA              NA
##     treatment uniqueID eclosion_date eclosion_days well_id organism
##  1:        RT    h11w8    2017-12-04            64      D2      fly
##  2:              h11w9                          NA
##  3:             h11w10                          NA
##  4:             h11w11                          NA
##  5:             h11w12                          NA
##  6:              h12w1                          NA
##  7:              h12w2                          NA
##  8:              h12w3                          NA
##  9:              h12w4                          NA
## 10:              h12w5                          NA
##     Trikinetics_position Trikinetics_monitor Trikinetics_entry_LD_time
##  1:                    3                   2                     10:38
##  2:                   NA                  NA
##  3:                   NA                  NA
##  4:                   NA                  NA
##  5:                   NA                  NA
##  6:                   NA                  NA
##  7:                   NA                  NA
##  8:                   NA                  NA
##  9:                   NA                  NA
## 10:                   NA                  NA
##     Trikinetic_exit_date Trikinetics_exit_LD_time notes_2 Free_run_monitor
##  1:           2017-12-12                    21:24                       4
##  2:                                                                    NA
##  3:                                                                    NA
##  4:                                                                    NA
##  5:                                                                    NA
##  6:                                                                    NA
##  7:                                                                    NA
##  8:                                                                    NA
##  9:                                                                    NA
## 10:                                                                    NA
##     Free_run_position Free_run_entry_date Free_run_entry_time
##  1:                16          2017-12-12               21:24
##  2:                NA
##  3:                NA
##  4:                NA
##  5:                NA
##  6:                NA
```

```
##  7:                NA
##  8:                NA
##  9:                NA
## 10:                NA
##     Free_run_exit_date Free_run_exit_time                       notes_3
##  1:                                       changed water 2017-12-21 22:20
##  2:
##  3:
##  4:
##  5:
##  6:
##  7:
##  8:
##  9:
## 10:
##     V41
##  1:
##  2:
##  3:
##  4:
##  5:
##  6:
##  7:
##  8:
##  9:
## 10:
```

```
### getting numbers for eclosions without simulated overwintering, so these pupae were left at rearing t
sub<-subset(eclosions,eclosion_days>1)
t1<-ddply(sub,.(Host,organism),summarize,counts=length(eclosion_days))
knitr::kable(t1)
```

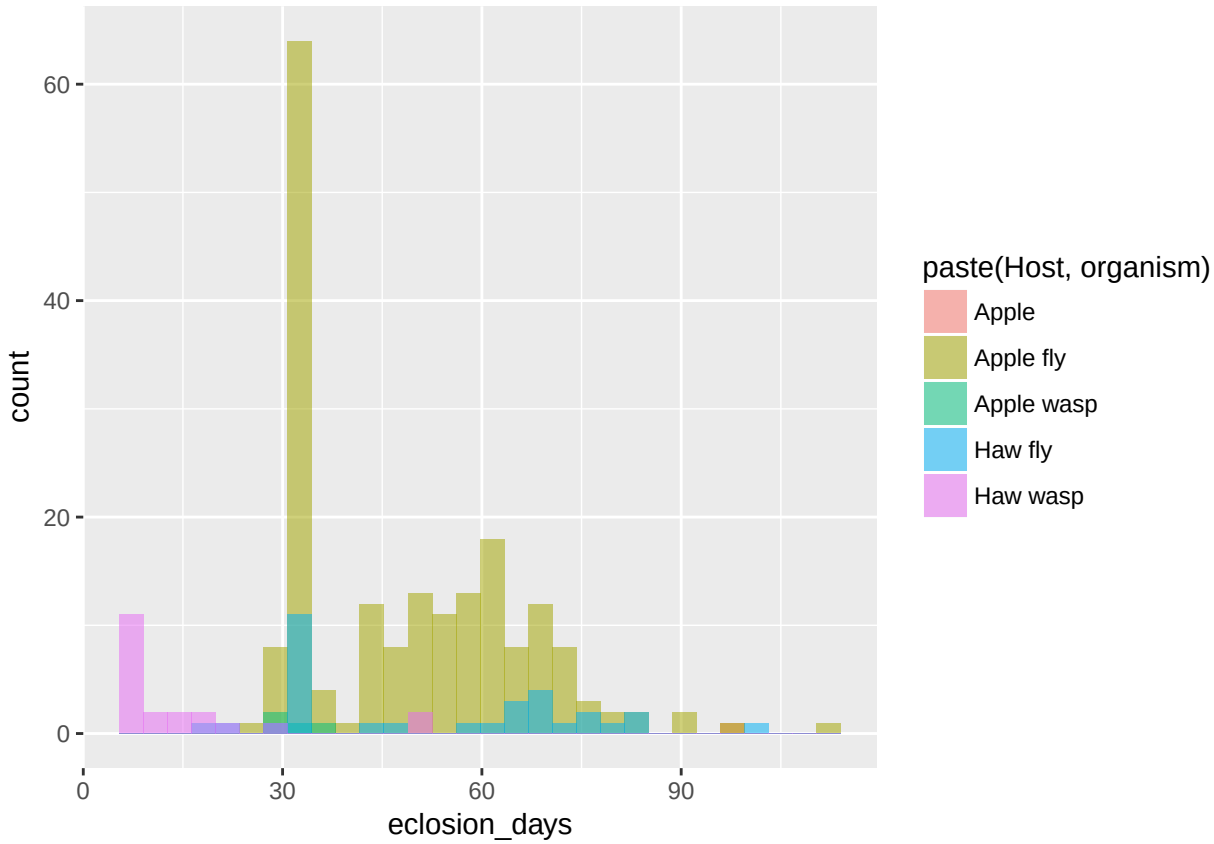
Host	organism	counts
Apple		1
Apple	fly	192
Apple	wasp	4
Haw	fly	32
Haw	wasp	21

```
# plotting distributions

ggplot(eclosions,aes(x=eclosion_days,fill=paste(Host,organism)))+geom_histogram(position="identity",alp
```

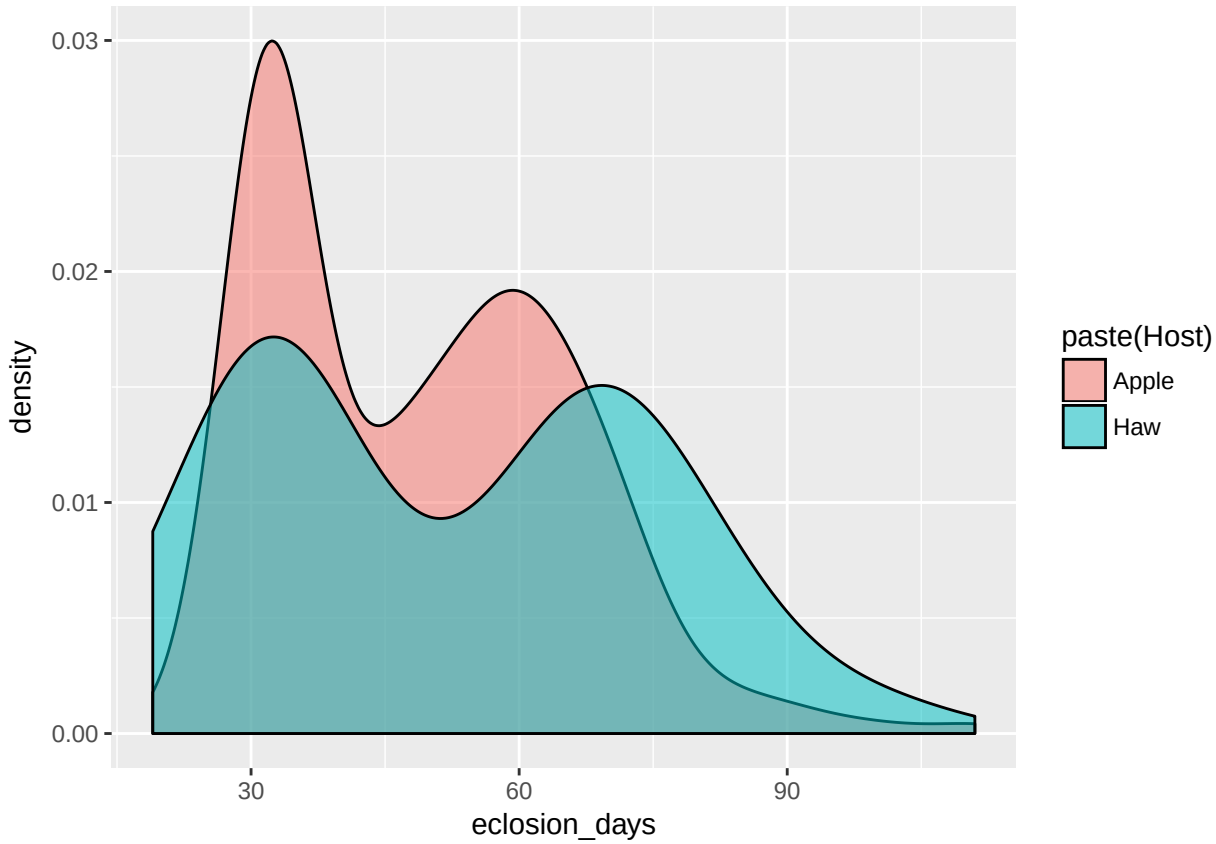
```
## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.
```

```
## Warning: Removed 1659 rows containing non-finite values (stat_bin).
```




```
flies<-subset(eclosions,organism=="fly")
ggplot(flies,aes(x=eclosion_days,fill=paste(Host)))+geom_density(position="identity",alpha=.52)
```

```
## Warning: Removed 1 rows containing non-finite values (stat_density).
```


0.03
0.02
0.01
0.00
density
30
60
90
eclosion_days
paste(Host)
Apple
Haw