

CRB-sex-ratio

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1 Standard CRB Pheromone Traps Catch More Females Than Males

The male:female ratio of CRB caught in cross-vane bucket traps baited with oryctalure (Chemtica) on Guam is significantly different from 1:1. More females are caught than males.

```
In [1]: import pandas
import pymysql
%load_ext rmagic
```

Get Total Males and Females Trapped From Project Database

```
In [2]: db = pymysql.connect(host='mysql.guaminsects.net',
                             user='readonlyguest',
                             passwd='readonlypassword',
                             database='oryctes')
sql = "SELECT SUM(male_count) AS males, SUM(female_count) AS females FROM trap_visit"
df = pandas.read_sql(sql, db)
df
```

```
Out[2]:  males  females
0    7044    8616
```

Use R to Apply a Binomial Test

```
In [3]: x = df['males'][0]
n = df['males'][0] + df['females'][0]
p = 0.5
%R -i x
%R -i n
%R -i p
%R result = binom.test(x, n, p)
%R print(result)
```

Exact binomial test

```
data: x and n
number of successes = 7044, number of trials = 15660, p-value < 2.2e-16
alternative hypothesis: true probability of success is not equal to 0.5
95 percent confidence interval:
 0.4419949 0.4576406
sample estimates:
```

```
probability of success
0.4498084
```

Note A PDF copy of this notebook can be generated using the following command:
ipython nbconvert CRB-sex-ratio.ipynb --to latex --post PDF

In [3]: