

Meta – analytical output for pairwise comparisons of the entire data set using dewlap extension rates (sections 1-2) with specific comparisons of species and urban vs. non-urban populations.

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Dewlap Meta Analyses Outputs for *Anolis carolinensis*

## 1. Dewlap Extension Output for Urban vs. Non-Urban Moderators

## Meta-Analysis: Means

Table of Studies

| Study label               | Moderator level | M           | 95% CI       |             | RE weight | SE          | SE <sup>2</sup> | s           | N  | p, two tailed |
|---------------------------|-----------------|-------------|--------------|-------------|-----------|-------------|-----------------|-------------|----|---------------|
|                           |                 |             | LL           | UL          |           |             |                 |             |    |               |
| DeCourcy and Jenssen 1994 | Non Urban       | 0.0400<br>0 | 0.03272      | 0.04728     | 15.1      | 0.0035<br>0 | 1.22e-5         | 0.01642     | 22 | < .001        |
| DeCourcy and Jenssen 1994 | Non Urban       | 0.0050<br>0 | 0.00291      | 0.0070<br>9 | 15.5      | 0.0010<br>0 | 1.00e-6         | 0.0045<br>8 | 21 | < .001        |
| Magna 2017*               | Urban           | 0.0300<br>0 | 0.01078      | 0.04922     | 13.2      | 0.0083<br>3 | 6.94e-5         | 0.0250<br>0 | 9  | 0.007         |
| Magna 2017*               | Urban           | 0.01167     | 0.00590      | 0.01743     | 15.3      | 0.0025<br>0 | 6.25e-6         | 0.0075<br>0 | 9  | 0.002         |
| Magna 2017*               | Urban           | 0.04167     | 0.02310      | 0.0602<br>4 | 13.2      | 0.0083<br>3 | 6.94e-5         | 0.02764     | 11 | < .001        |
| Magna 2017*               | Urban           | 0.0250<br>0 | 0.00643      | 0.04357     | 13.2      | 0.0083<br>3 | 6.94e-5         | 0.02764     | 11 | 0.013         |
| Magna 2017*               | Urban           | 0.0083<br>3 | –<br>0.00397 | 0.0206<br>4 | 14.3      | 0.0058<br>3 | 3.40e-<br>5     | 0.02475     | 18 | 0.171         |

## Meta-Analytic Effect Sizes

| Effect       | Moderator   | Level        | M      | 95% CI   |        | SE      | k | 95% PI   |        | p, two<br>tailed | FE CI length | RE CI<br>length |
|--------------|-------------|--------------|--------|----------|--------|---------|---|----------|--------|------------------|--------------|-----------------|
|              |             |              |        | LL       | UL     |         |   | LL       | UL     |                  |              |                 |
| My<br>effect | Environment | Overall      | 0.0222 | 0.01049  | 0.0340 | 0.00600 | 7 | -0.00898 | 0.0535 | < .001           | 0.00342      | 0.0235          |
|              |             | Non<br>Urban | 0.0223 | -0.00551 | 0.0500 | 0.01417 | 2 | -0.02558 | 0.0701 | 0.116            | 0.00377      | 0.0555          |
|              |             | Urban        | 0.0227 | 0.00430  | 0.0412 | 0.00941 | 5 | -0.02035 | 0.0658 | 0.016            | 0.00813      | 0.0369          |

Note. Estimate is based on a random effects (RE) model.

## Effect Size Heterogeneity

| Measure        | Level     | Estimate | 95% CI   |             |
|----------------|-----------|----------|----------|-------------|
|                |           |          | LL       | UL          |
| Diamond Ratio  | Overall   | 6.8779   | 4.63106  | 14.31024    |
|                | Non Urban | 14.7326  | .        | .           |
|                | Urban     | 4.5396   | .        | .           |
| H <sup>2</sup> | Overall   | 20.1670  | 8.38489  | 93.70993    |
|                | Non Urban | 92.4563  | 14.61339 | 94144.58513 |

## Effect Size Heterogeneity

| Measure            | Level     | Estimate | 95% CI   |          |
|--------------------|-----------|----------|----------|----------|
|                    |           |          | LL       | UL       |
| I <sup>2</sup> (%) | Urban     | 4.5006   | 3.22587  | 44.10876 |
|                    | Overall   | 95.0414  | 88.07378 | 98.93288 |
|                    | Non Urban | 98.9184  | 93.15696 | 99.99894 |
| T                  | Urban     | 77.7810  | 69.00056 | 97.73288 |
|                    | Overall   | 0.0148   | 0.00916  | 0.03247  |
|                    | Non Urban | 0.0246   | 0.00950  | 0.78973  |
| T <sup>2</sup>     | Urban     | 0.0110   | 0.00876  | 0.03853  |
|                    | Overall   | 2.18e-4  | 8.40e-5  | 0.00105  |
|                    | Non Urban | 6.06e-4  | 9.02e-5  | 0.62368  |
|                    | Urban     | 1.21e-4  | 7.67e-5  | 0.00148  |

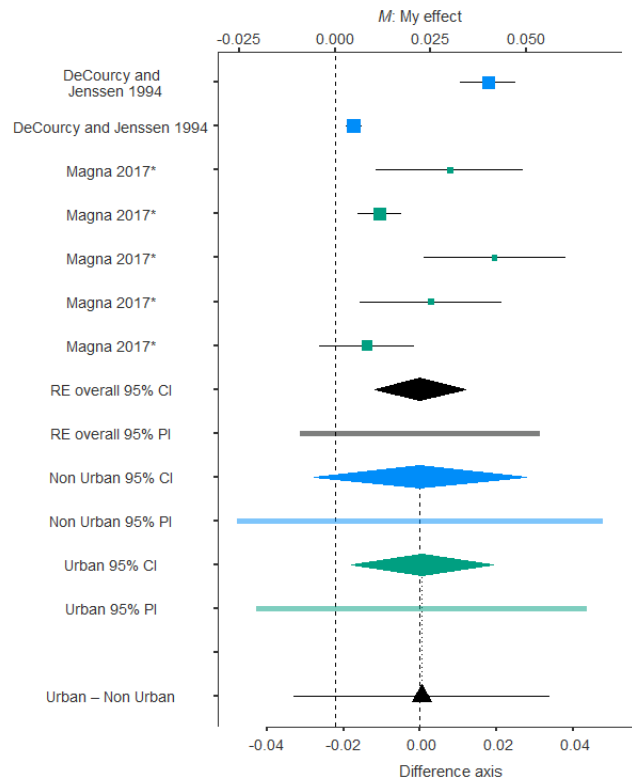
Note. As of version 1.0.2 esci has implemented an improved method for calculating the CI for the diamond ratio; these will no longer match those presented in the 2nd edition of Introduction to the New Statistics.

## Moderator Analysis

| Effect    | Moderator   | Level             | M       | 95% CI   |        | SE      | p, two tailed |
|-----------|-------------|-------------------|---------|----------|--------|---------|---------------|
|           |             |                   |         | LL       | UL     |         |               |
| My effect | Environment | Urban             | 0.0227  | 0.00430  | 0.0412 | 0.00941 | 0.016         |
|           |             | Non Urban         | 0.0223  | -0.00551 | 0.0500 | 0.01417 | 0.116         |
|           |             | Urban – Non Urban | 4.91e-4 | -0.03285 | 0.0338 | 0.01701 | 0.977         |

Note. Estimate is based on a random effects (RE) model.

## Forest Plot



## 2. Dewlap Extension for Male vs. Female as moderators

## Meta-Analysis: Means

Table of Studies

| Study label               | Moderator level | M           | 95% CI       |             | RE weight | SE          | SE <sup>2</sup> | s           | N  | p, two tailed |
|---------------------------|-----------------|-------------|--------------|-------------|-----------|-------------|-----------------|-------------|----|---------------|
|                           |                 |             | LL           | UL          |           |             |                 |             |    |               |
| DeCourcy and Jenssen 1994 | Male            | 0.0400<br>0 | 0.03272      | 0.04728     | 15.1      | 0.0035<br>0 | 1.22e-5         | 0.01642     | 22 | < .001        |
| DeCourcy and Jenssen 1994 | Male            | 0.0050<br>0 | 0.00291      | 0.0070<br>9 | 15.5      | 0.0010<br>0 | 1.00e-6         | 0.0045<br>8 | 21 | < .001        |
| Magna 2017*               | Female          | 0.0300<br>0 | 0.01078      | 0.04922     | 13.2      | 0.0083<br>3 | 6.94e-5         | 0.0250<br>0 | 9  | 0.007         |
| Magna 2017*               | Female          | 0.01167     | 0.00590      | 0.01743     | 15.3      | 0.0025<br>0 | 6.25e-6         | 0.0075<br>0 | 9  | 0.002         |
| Magna 2017*               | Male            | 0.04167     | 0.02310      | 0.0602<br>4 | 13.2      | 0.0083<br>3 | 6.94e-5         | 0.02764     | 11 | < .001        |
| Magna 2017*               | Male            | 0.0250<br>0 | 0.00643      | 0.04357     | 13.2      | 0.0083<br>3 | 6.94e-5         | 0.02764     | 11 | 0.013         |
| Magna 2017*               | Male            | 0.0083<br>3 | -<br>0.00397 | 0.0206<br>4 | 14.3      | 0.0058<br>3 | 3.40e-<br>5     | 0.02475     | 18 | 0.171         |

## Meta-Analytic Effect Sizes

| Effect    | Moderator | Level   | M      | 95% CI   |        | SE      | k | 95% PI   |        | p, two tailed | FE CI length | RE CI length |
|-----------|-----------|---------|--------|----------|--------|---------|---|----------|--------|---------------|--------------|--------------|
|           |           |         |        | LL       | UL     |         |   | LL       | UL     |               |              |              |
| My effect | Sex       | Overall | 0.0222 | 0.01049  | 0.0340 | 0.00600 | 7 | -0.00898 | 0.0535 | < .001        | 0.00342      | 0.0235       |
|           |           | Male    | 0.0236 | 0.00531  | 0.0418 | 0.00932 | 5 | -0.01962 | 0.0668 | 0.011         | 0.00367      | 0.0365       |
|           |           | Female  | 0.0202 | -0.00871 | 0.0491 | 0.01474 | 2 | -0.02847 | 0.0688 | 0.171         | 0.00939      | 0.0578       |

Note. Estimate is based on a random effects (RE) model.

## Effect Size Heterogeneity

| Measure        | Level   | Estimate | 95% CI  |            |
|----------------|---------|----------|---------|------------|
|                |         |          | LL      | UL         |
| Diamond Ratio  | Overall | 6.8779   | 4.63106 | 14.31024   |
|                | Male    | 9.9470   | .       | .          |
|                | Female  | 6.1537   | .       | .          |
| H <sup>2</sup> | Overall | 20.1670  | 8.38489 | 93.70993   |
|                | Male    | 28.2430  | 6.49121 | 152.29124  |
|                | Female  | 4.4402   | 1.00000 | 4521.35203 |



## Effect Size Heterogeneity

| Measure            | Level   | Estimate | 95% CI   |          |
|--------------------|---------|----------|----------|----------|
|                    |         |          | LL       | UL       |
| I <sup>2</sup> (%) | Overall | 95.0414  | 88.07378 | 98.93288 |
|                    | Male    | 96.4593  | 84.59454 | 99.34336 |
|                    | Female  | 77.4785  | 0.00000  | 99.97788 |
| T                  | Overall | 0.0148   | 0.00916  | 0.03247  |
|                    | Male    | 0.0207   | 0.00927  | 0.04867  |
|                    | Female  | 0.0114   | 0.00000  | 0.41362  |
| T <sup>2</sup>     | Overall | 2.18e-4  | 8.40e-5  | 0.00105  |
|                    | Male    | 4.26e-4  | 8.60e-5  | 0.00237  |
|                    | Female  | 1.30e-4  | 0.00000  | 0.17108  |

Note. As of version 1.0.2 esci has implemented an improved method for calculating the CI for the diamond ratio; these will no longer match those presented in the 2nd edition of Introduction to the New Statistics.

## Moderator Analysis

| Effect    | Moderator | Level  | M       | 95% CI   |        | SE      | p, two tailed |
|-----------|-----------|--------|---------|----------|--------|---------|---------------|
|           |           |        |         | LL       | UL     |         |               |
| My effect | Sex       | Female | 0.02017 | -0.00871 | 0.0491 | 0.01474 | 0.171         |

## Moderator Analysis

| Effect | Moderator | Level         | M                    | 95% CI   |                    | SE                  | p, two tailed |
|--------|-----------|---------------|----------------------|----------|--------------------|---------------------|---------------|
|        |           |               |                      | LL       | UL                 |                     |               |
|        |           | Male          | 0.02357              | 0.00531  | 0.0418             | 0.0093 <sub>2</sub> | 0.011         |
|        |           | Female – Male | 0.00340 <sup>-</sup> | -0.03757 | 0.030 <sub>8</sub> | 0.01743             | 0.845         |

Note. Estimate is based on a random effects (RE) model.

## Forest Plot

