

Life Sciences Reporting Summary

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Please do not complete any field with "not applicable" or n/a. Refer to the help text for what text to use if an item is not relevant to your study. For final submission: please carefully check your responses for accuracy; you will not be able to make changes later.

► Experimental design

1. Sample size

Describe how sample size was determined.

A total of 164 adult lizards (M SVL < 45 mm, F SVL < 40mm) were captured from the field as part of this study. Before the hurricanes 33 lizards were sampled from Pine Cay and 38 from Water Cay. After the hurricanes, 46 were sampled from Pine Cay and 47 were measured from Water Cay. Only the post-hurricane lizards were measured for performance capacity.

2. Data exclusions

Describe any data exclusions.

Two individuals from Pine Cay after the hurricanes (IDs 568 and 588) were excluded from analyses of toepad area because during processing it was found that a toe was missing (568) and due to a clerical mistake toe pad pictures were not captured in the field (588).

3. Replication

Describe the measures taken to verify the reproducibility of the experimental findings.

Due to the unpredictability of hurricanes, complete replication in time of this experiment was impossible. However, we have attempted to inform the generality of our findings by conducting the before-after comparison on two islands (Pine Cay and Water Cay). Furthermore, to ensure the reproducibility of our data capture the same researcher (AH) took all body and limb dimension measurements and (CD) captured all toepad area and cling force measurements. Before capturing data these trials were repeated and found to be highly consistent (as described in the methods).

4. Randomization

Describe how samples/organisms/participants were allocated into experimental groups.

All lizards used in this study were captured as they were seen along a random transect on each island. Their group and treatment was determined based upon the island they were captured on and whether they were caught before or after the hurricanes had hit Turks and Caicos.

5. Blinding

Describe whether the investigators were blinded to group allocation during data collection and/or analysis.

Due to the nature of the treatment - before and after the hurricanes - the researchers were not blinded to the group allocation during data collection and analysis.

Note: all in vivo studies must report how sample size was determined and whether blinding and randomization were used.

6. Statistical parameters

For all figures and tables that use statistical methods, confirm that the following items are present in relevant figure legends (or in the Methods section if additional space is needed).

n/a Confirmed

- ☐ ☒ The exact sample size (*n*) for each experimental group/condition, given as a discrete number and unit of measurement (animals, litters, cultures, etc.)
- ☐ ☒ A description of how samples were collected, noting whether measurements were taken from distinct samples or whether the same sample was measured repeatedly
- ☒ ☐ A statement indicating how many times each experiment was replicated
- ☐ ☒ The statistical test(s) used and whether they are one- or two-sided
Only common tests should be described solely by name; describe more complex techniques in the Methods section.
- ☐ ☒ A description of any assumptions or corrections, such as an adjustment for multiple comparisons
- ☐ ☒ Test values indicating whether an effect is present
*Provide confidence intervals or give results of significance tests (e.g. *P* values) as exact values whenever appropriate and with effect sizes noted.*
- ☐ ☒ A clear description of statistics including central tendency (e.g. median, mean) and variation (e.g. standard deviation, interquartile range)
- ☐ ☒ Clearly defined error bars in all relevant figure captions (with explicit mention of central tendency and variation)

See the web collection on [statistics for biologists](#) for further resources and guidance.

► Software

Policy information about [availability of computer code](#)

7. Software

Describe the software used to analyze the data in this study.

All analyses were conducted using R (2017) and the packages LME4 and Effects as described in the methods.

For manuscripts utilizing custom algorithms or software that are central to the paper but not yet described in the published literature, software must be made available to editors and reviewers upon request. We strongly encourage code deposition in a community repository (e.g. GitHub). *Nature Methods* [guidance for providing algorithms and software for publication](#) provides further information on this topic.

► Materials and reagents

Policy information about [availability of materials](#)

8. Materials availability

Indicate whether there are restrictions on availability of unique materials or if these materials are only available for distribution by a third party.

No restrictions

9. Antibodies

Describe the antibodies used and how they were validated for use in the system under study (i.e. assay and species).

Not applicable

10. Eukaryotic cell lines

a. State the source of each eukaryotic cell line used.

Not applicable

b. Describe the method of cell line authentication used.

Not applicable

c. Report whether the cell lines were tested for mycoplasma contamination.

Not applicable

d. If any of the cell lines used are listed in the database of commonly misidentified cell lines maintained by [ICLAC](#), provide a scientific rationale for their use.

Not applicable

► Animals and human research participants

Policy information about [studies involving animals](#); when reporting animal research, follow the [ARRIVE guidelines](#)

11. Description of research animals

Provide all relevant details on animals and/or animal-derived materials used in the study.

This experiment used wild-caught *Anolis scriptus* lizards. These lizards are ubiquitous throughout the Turks and Caicos Islands. They are relatively small (SVL 40 - 70 mm), insectivorous, and sexually dimorphic. The animals were captured with a handheld noose, measured in a controlled setting (a hotel room) and released to their point of capture. All animals used in this experiment were released unharmed.

Policy information about [studies involving human research participants](#)

12. Description of human research participants

Describe the covariate-relevant population characteristics of the human research participants.

Not applicable