ARIZONA STATE UNIVERSITY

IACUC FINAL REVIEW

I. Terminating protocol

Protocol Number: 19-1718R
Protocol Title: Understanding the role of thermoregulation in shaping life history variation
Principal Investigator: [redacted]
Termination Date: February 28, 2022

II. Check one

☐ The research or teaching was never undertaken.

☒ The research, teaching, or display was conducted.

Describe any significant animal welfare issues, e.g., health problems or accidental deaths, encountered since the last annual review.

There were no significant animal welfare issues. We did have one lizard die unexpectedly while collecting respirometry data in 2021. This was due to an issue with our setup and an oxygen channel being blocked. After the incident we halted data collection until we identified the issue and altered our experimental set-up to ensure no other animals were affected. In addition, we had a small number of lizards (five) die unexpectedly during the temperature logger implantation surgeries in 2021. Nothing went wrong during any of these surgeries and all lizards appeared normal prior to the start of the surgeries. In all five deaths, the lizards simply never woke up after being anesthetized. This number represents a very small number of the total surgeries conducted to implant lizards with thermal loggers. During the 2021 field season, 135 lizards were surgically implanted and of those five lizards died unexpectedly.

If you DID NOT purchase your animals through the Department of Animal Care Technology (DACT), did your animal use exceed the predicted numbers approved in this protocol? Yes ☐ No ☒

III. Did the pain status stated on the protocol remain appropriate for the procedures performed? Yes ☒ No ☐

If "No," please provide a brief explanation: _____

IV. Provide a statement on progress of your research under this protocol:

Under this IACUC protocol, I conducted two full field seasons (2020 and 2021). During these field seasons I collected data in the field and in the lab. Specifically, in the field we collected environmental data, lizard body temperature data, lizard body condition data, habitat use data, and aerial imagery data. In the lab we collected thermal tolerance data, and thermal sensitivity of resting metabolism data. With this information we are modeling available microclimate distributions, activity times, and estimating energy budgets for populations at each of our five field sites. This will be one manuscript resulting from this work.

In addition, we conducted an experiment here at ASU that involved data collection in the lab as well as at the university's [redacted] This experiment involved manipulating body condition and quantifying thermoregulatory behavior in habitats of varying levels of

heterogeneity. We found that lizards with low body condition had decreased accuracy when thermoregulating. This manuscript is currently in preparation.

The last study resulting from data collected under this IACUC protocol is comparing differences in activity model estimates when both ignoring, and incorporating, the spatial distribution of temperatures in a habitat. In this study, I investigate how relaxing assumptions about the effects of local environments shape data outcomes when using biophysical modeling techniques. In each of the three manuscripts described above, all empirical data collection was completed in November of 2021. Data processing and analyses are currently ongoing.

V. Certification

By signing this report, I certify that, to the best of my knowledge, the information included herein is accurate and complete.

[redacted]

Principal Investigator's Signature

7 February 2022

Date

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Protocol #: 19-1718R **Date Received:** 2/7/2022

COMMENTS:

The signatures of the three Designated Reviewers confirm acceptance of the final review.

IACUC Chair or Designee Date

Attending Veterinarian or Designee Date

IACUC Member Date