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Introduction

Methods

Lizard collection and husbandry

Fourty-five male *L. delicata* were collected across five populations between 28 August and 8 September 2015, across the Sydney region. Lizards were caught by hand or by mealworm fishing and were transported individually in calico bags in an ice-cooler to Macquarie University. Lizards were housed in a temperature control room that warmed up to 24ºC during the day and was switched off in the evening. Each male lizard were individually in opaque plastic enclosures measuring 35cm 25cm 15cm (L W H). Each enclosure was lined with newspaper and lizards were given access to a water bowl and tree bark as refuge. Enclosures were placed under UV light. Lizards were fed three - four small crickets (*species*) dusted with calcium powder and multi-vitamin every two days when metabolism measurements were not taking place.

Metabolic reaction norms

Due to logistical constraints, lizards were randomly assigned to one of two batches for metabolism measurements (batch 1: n = 23, batch 2: n = 22). Metabolism measurements were conducted between 26 December 2016 - 19 March 2017 Measurements were taken at six temperatures (22ºC, 24ºC, 26ºC, 28, 30ºC, 32ºC) across three days (i.e. two temperatures per day) and were repeated every 10 days (10 sampling runs in total). We used two incubators (LabWit, ZXSD-R1090) to precisely control the ambient temperature at which measurements were taken (+/- 1ºC). The temperature order was randomly allocated to the incubators across the three days, within in sampling run.

Lizards were fasted for at least 24 hours prior to metabolism measurements. Lizards were randomly assigned to cylindrical metabolism chambers (volume = 146ml). On the day of measurement, body temperature of each individual was taken using an infrared laser gun. Lizards were then gently encouraged into their assigned metabolism chambers and then weighed. Chambers were maintained in a dark environment inside in the incubators for 30 minutes. After 30 minutes, the chambers were flushed with fresh air by gently waving ambient air over the chamber and then sealed closed. A control sample air of every chamber (3ml) was taken via two-way valve. The chamber is then left in the incubator for another 90 minutes while lizards respire at a set incubator temperature. After 90 minutes, two air samples are taken from every chamber and the lids of the chamber unscrewed and placed back into the incubator again for the next temperature setting. The chambers containing the subjects are left in the incubator for at least 30 minutes before the chambers are then flushed again with fresh air and a control sample taken in the same manner described above. After 90 minutes, two air samples are taken from every chamber and the lizards are then returned to their own enclosure and where they have access to water between measurements.

Statistical analysis

Results

Discussion

Acknowledgements

References