Thermal tolerance of insectivorous bats of a pre-montane forest in southern Costa Rica

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Respirometry trials

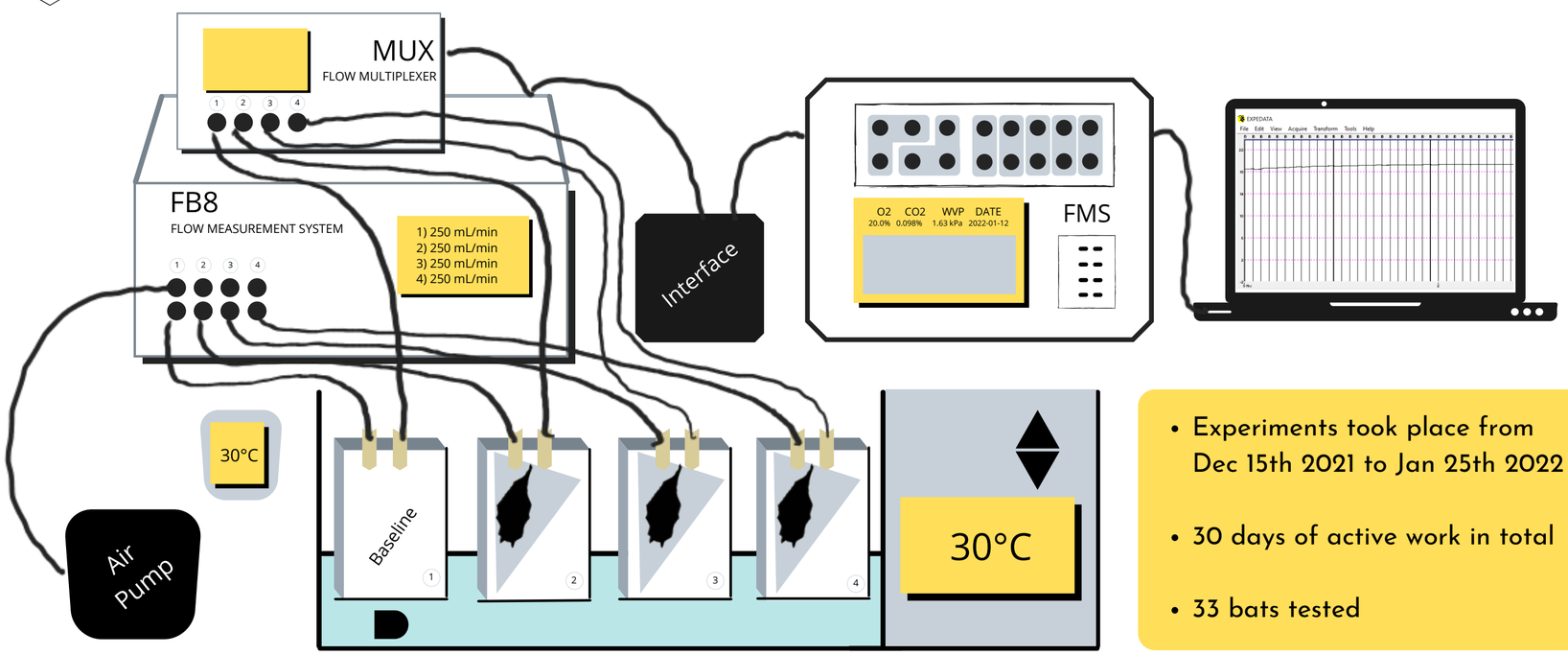
- **Target species** were *Myotis pilosatibialis* and *Myotis riparius* from the family Vespertilionidae. We captured individuals using mist-nets every day, from 17:30 to 20:00, when these bats are more active.
- **After capturing**, we aged, sexed, and taxonomically identified all individuals. We inserted tags in the bat's back, underneath the skin useful to measure accurately core temperature, We fed every individual with mealworm larvae (*Tenebrio molitor*) and provided water *ad libitum*.
- In the morning, we put the bats in independent chambers and started the **experiments** every day at 5:00. Chamber 1 is empty for control measurements. In chambers 2, 3, and 4 are the bats in resting position (see the experimental set-up figure)
- Initial temperature of **respirometry trials** was 27°C. We increased by 2°C every hour until we reached 39°C. When bats showed stressful behavior due to the high temperatures we stopped the experiment and took them out from the chambers.

What Next?

- Assess physiological responses of bat species to **increased ambient temperature.**
- Evaluate the effect of a reduction in the percentage of **air relative humidity** on species resilience.
- Analyze the data to assess bats species' sensibility to changes in **environmental conditions**.
- Publish in a peer-reviewed journal and share results with oral talks and posters beyond the scientific community (SciComm)

Capture bats - Las Cruces Biological Station

Experimental set-up - Las Cruces Biological Station



- Experiments took place from Dec 15th 2021 to Jan 25th 2022
- 30 days of active work in total
- 33 bats tested

Note: Before releasing bats, we fed them and provided water ad libitumbat were not harmed, and all the individuals were returned healthy to their place of capture