

The effect of anthropogenic noise on freshwater soundscapes and animal communication

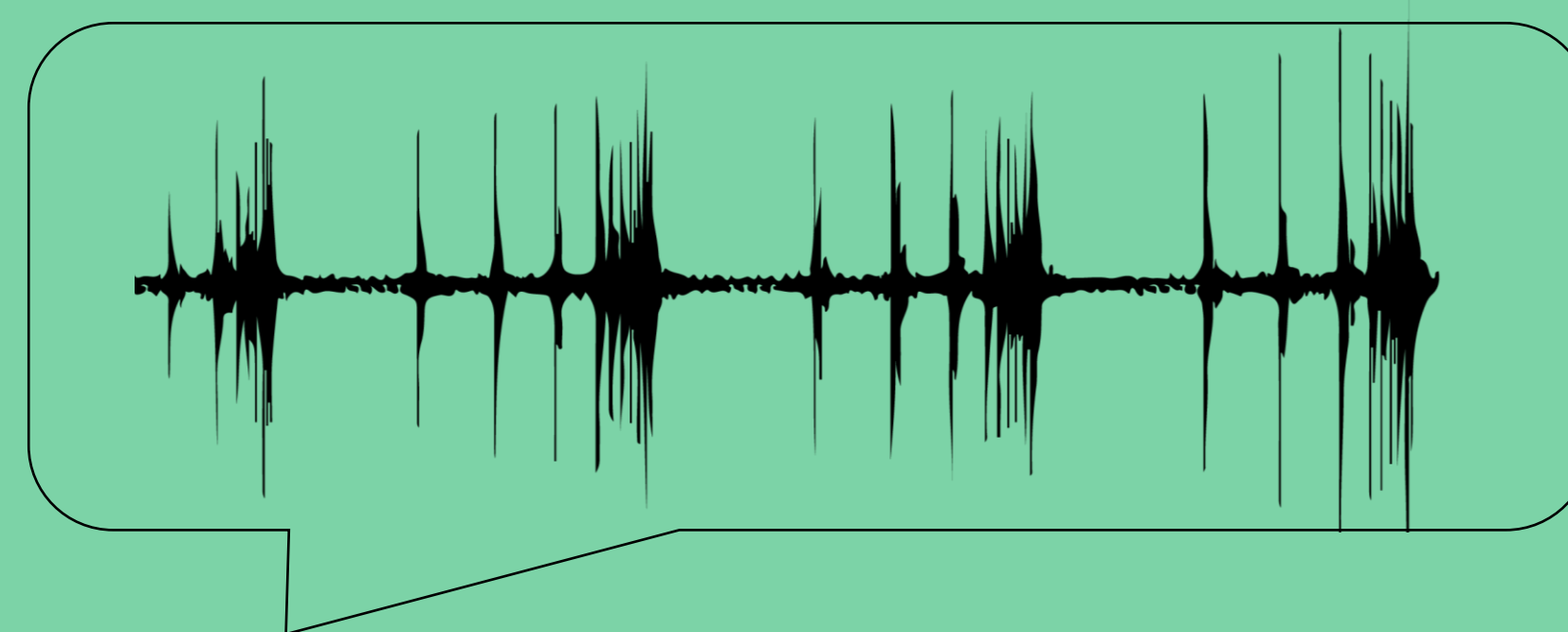
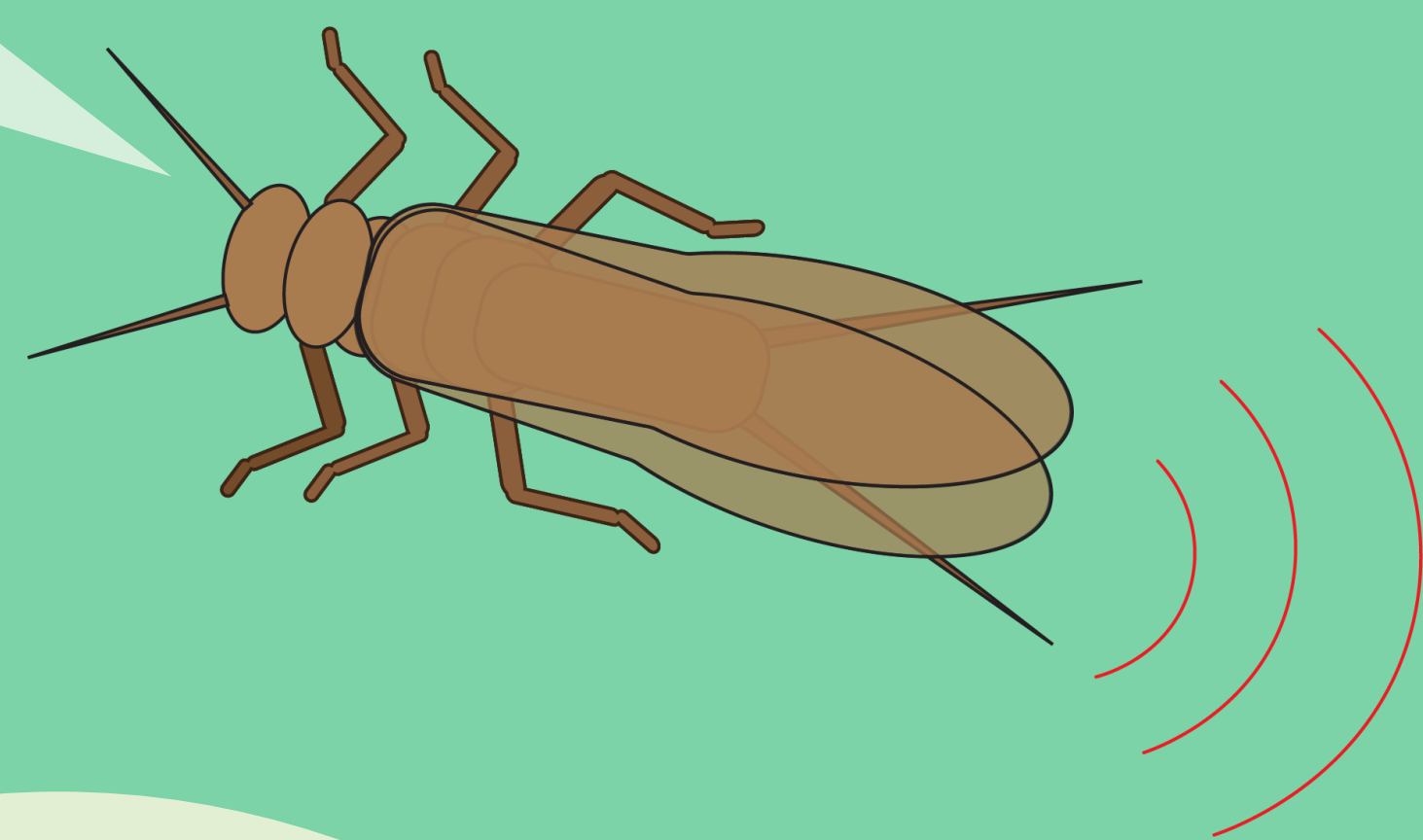
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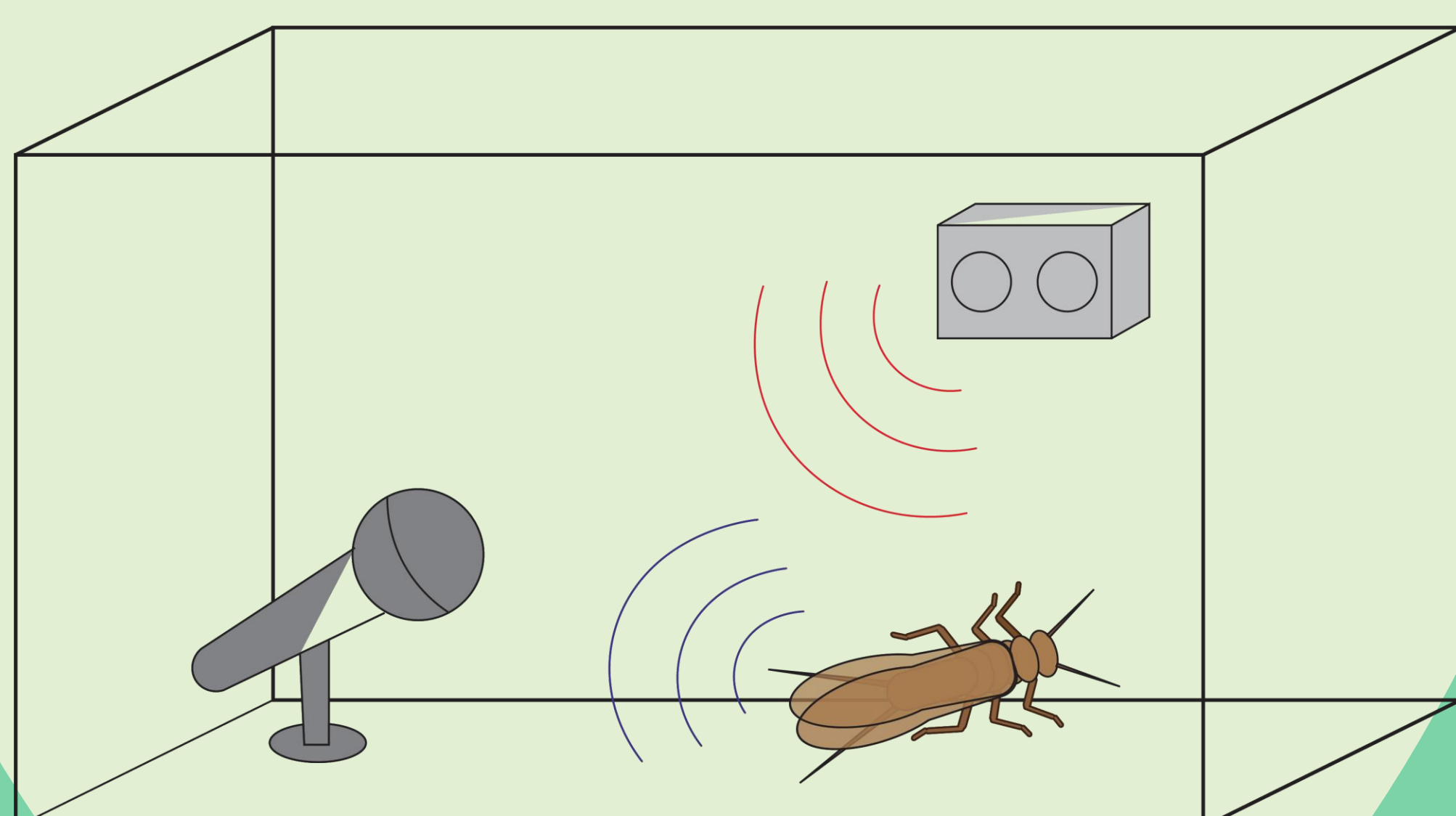
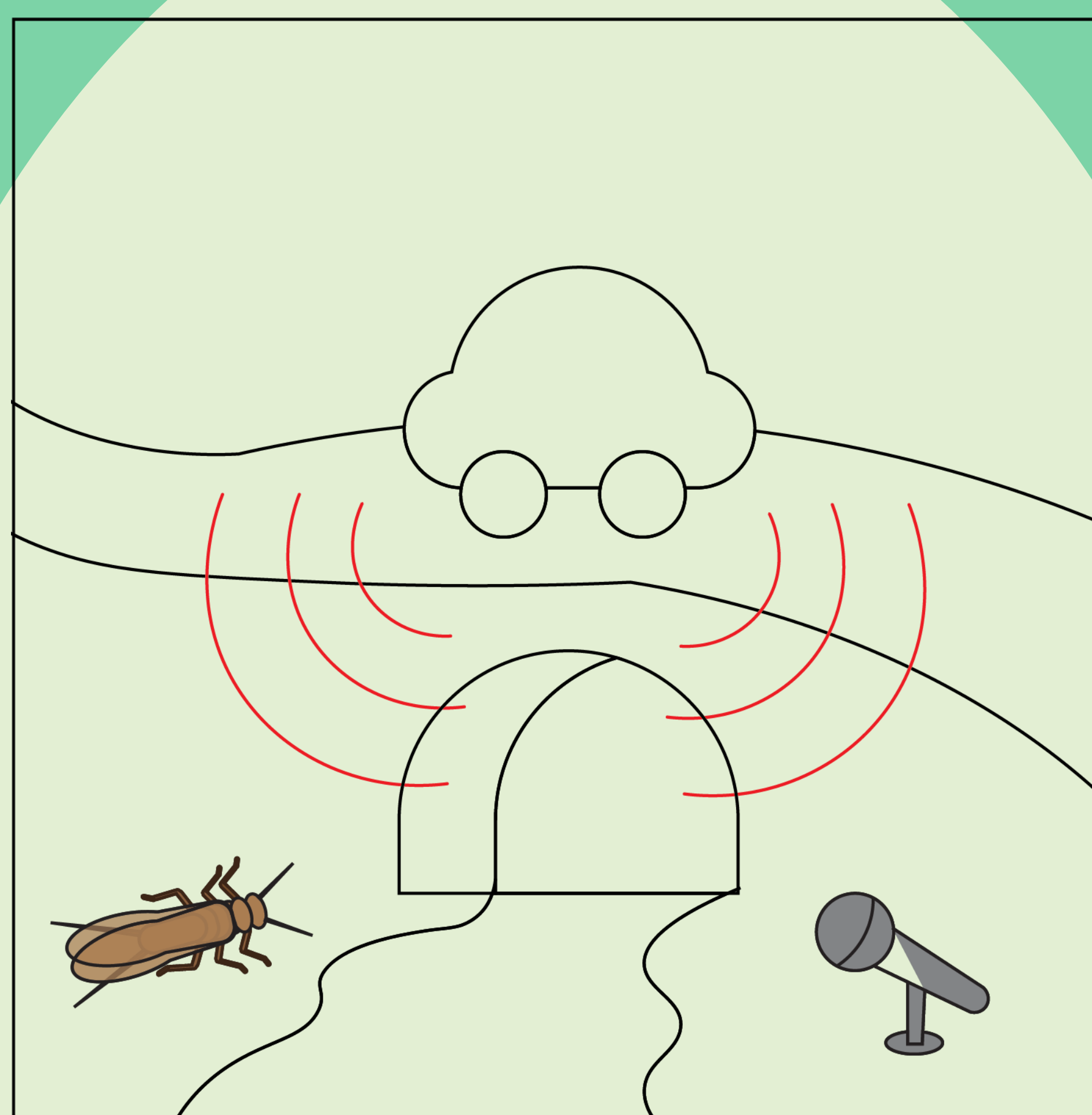
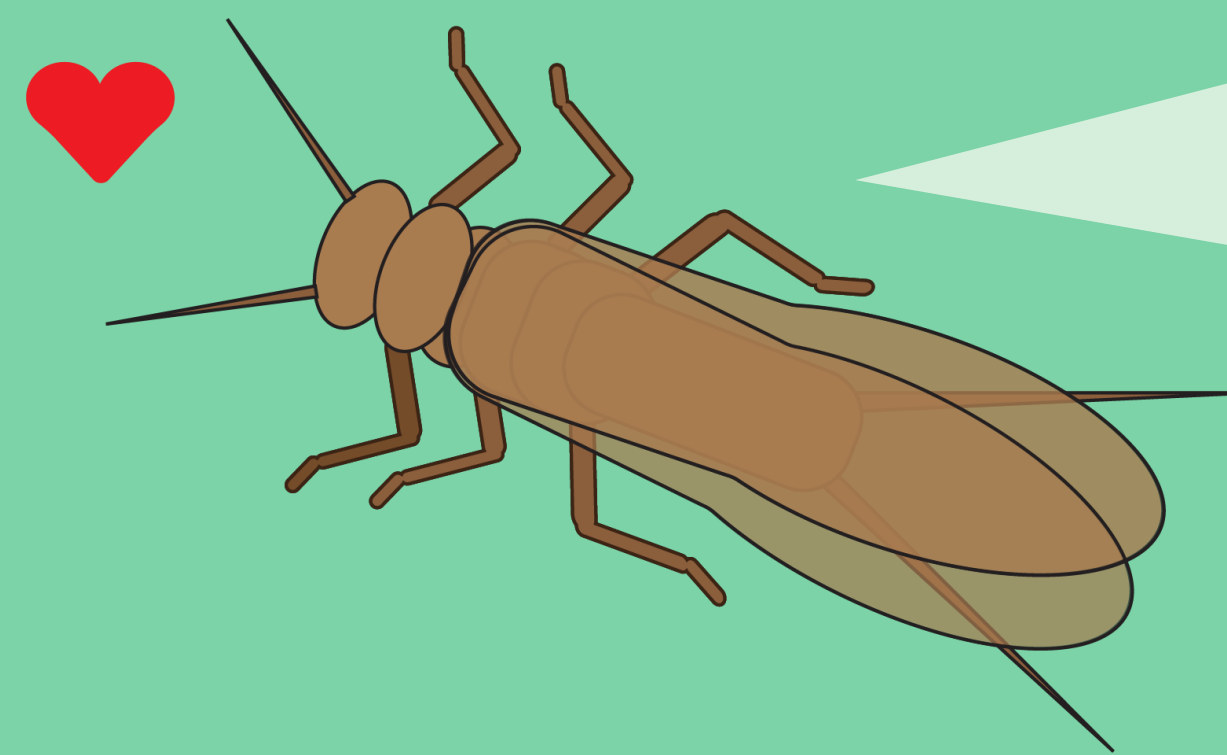
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- Despite covering only 0.8% of the Earth's surface, freshwater ecosystems (such as rivers and lakes) contain 9.5% of described species (Dudgeon *et al.*, 2006).
- In a review of 267 papers on the effect of anthropogenic noise on wildlife, only 0.4% studied freshwater species (Jerem and Mathews, 2021).
- Insects account for 97% of animal species, yet only 4% of studies investigating of the effects of anthropogenic noise focused on this group (Jerem and Mathews, 2021).

I drum my abdomen to attract females



Since drumming and traffic noise occupy the same frequencies, the signal is masked, mate attraction is disrupted, and I can't find a decent mate



AIMS

- To find out how traffic noise affects river soundscapes
- To find out how stonefly mating behaviour is affected by traffic noise

METHODS

- Use hydrophones to record river soundscapes at sites with and without road bridges
- Use playbacks of traffic noise to explore how male stonefly drumming changes in response to noise
- Find out how traffic noise affects female attraction to males

IMPACT

- A better understanding of the role noise plays in freshwater systems
- Increased insight into the mating ecology of an important indicator species group
- Explore how anthropogenic noise affects an understudied group and an understudied ecosystem