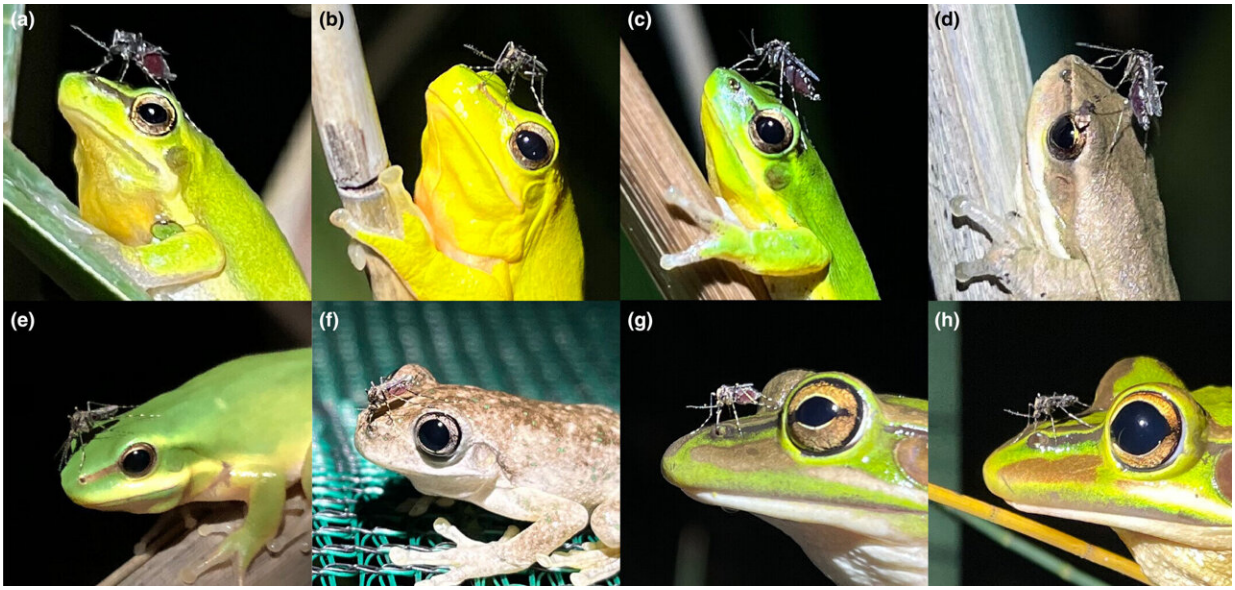
Australian mosquito species found to target frogs' noses

November 28 2023, by Bob Yirka



Female mosquitoes (Mimomyia elegans) feeding on the nostrils of three Australian tree frog species, including Litoria fallax (a–e), Litoria peronii (f) and Litoria aurea (g, h). Credit: *Ethology* (2023). DOI: 10.1111/eth.13424

A pair of environmental and life scientists, one with the University of Newcastle, in Australia, the other the German Center for Integrative Biodiversity Research, has found that one species of mosquito native to Australia targets only the noses of frogs for feeding. In their paper published in the journal *Ethology*, John Gould and Jose Valdez describe their three-year study of frogs and Mimomyia elegans, a species of

mosquito native to Australia.

As part of their study of frogs living in a pond on Kooragang Island, the pair took a lot of photographs of the amphibians in their native environment. It was upon returning to their lab and laying out the photographs that they noticed something unique—any mosquito feeding on a frog's blood was always atop its nose. This spot, they noted, seemed precarious, as mosquitos are part of the frog diet.

Intrigued by their finding, the researchers began to focus more on the behavior of Mimomyia elegans when preying on frogs. They found that such behavior was exclusive—the mosquitos always went for the top of the snout. But they did not always land there. Quite often, they would land on another part of the frog's body and walk along its skin until it reached the snout, at which point it would push its proboscis through the skin and down into the tiny blood vessels beneath.

The researchers note that prior research has shown that mosquitos may be carriers of types of fungus that are deadly to frogs; thus, learning more about how they feed on them could assist in research involved in protecting them. The researchers also note that some of the frogs with mosquitos on their snouts were Litoria aurea, which are considered to be close to extinction. They conclude that more work is required to learn more about the mosquitos' behavior to discover why they target the snout. This could possibly help in better understanding disease transmission.

More information: John Gould et al, A little on the nose: A mosquito targets the nostrils of tree frogs for a blood meal, *Ethology* (2023). DOI: 10.1111/eth.13424

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