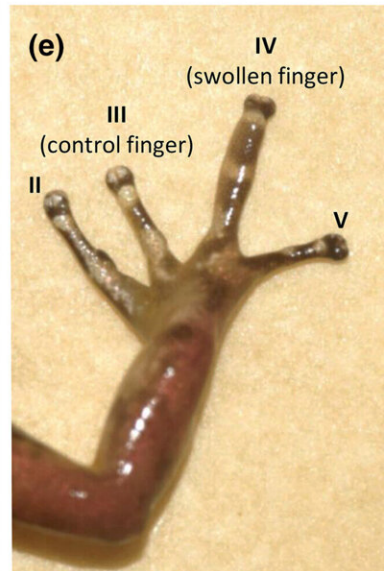
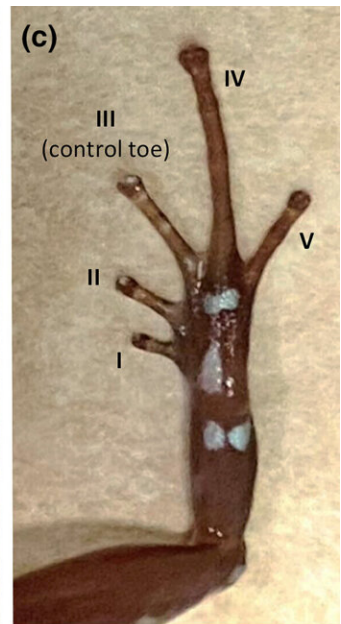
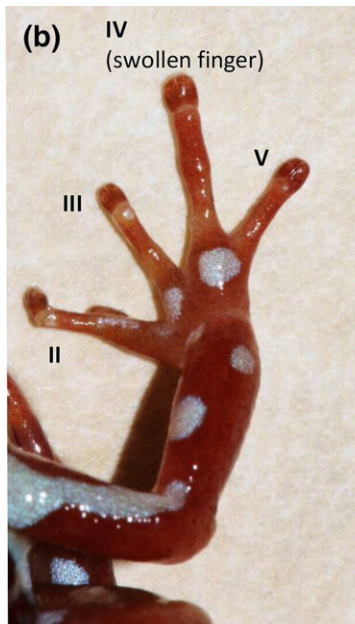


Male poison frogs may use finger placement to channel pheromones to females while mating

August 6 2024, by Bob Yirka



Cephalic amplexus and finger swelling in the focal species of this study. Photo of an adult individual of *L. brachistriatus*: Fernando Vargas-Salinas, Photo adults *E. anthonyi* in amplexus: Diana Abondano Almeida. Credit: *Molecular Ecology* (2024). DOI: 10.1111/mec.17476

A team of zoologists at Goethe University Frankfurt, in Germany, working with a colleague from Universidad del Quindío, Armenia, in Columbia, has found evidence that some species of poison frogs produce pheromones in one of their digits, which they channel to their female partner during mating.

In their study, [published](#) in the journal *Molecular Ecology*, the group dissected several poison frogs and then carried out a [genetic analysis](#) of what they describe as a "swollen fingertip."

Prior research has shown that most male frogs, including poisonous varieties, use unique vocalizing to attract a mate. More recently, researchers have found that some frogs also use tactile, chemical or visual techniques to attract a mate.

In this new effort, the research team noticed that some species of poison frogs have an overly bulbous or swollen fingertip on one of their hands—during [mating season](#), the fingertip becomes even more swollen. They also noted that during amplexus, mounting that can go on for hours or days, the male places the swollen finger over the nostril of the female. Suspecting that the male produces and transmits a chemical signature to the female via the fingertip during mating, the researchers decided to investigate.

The researchers dissected the swollen fingertips of two [species](#) of [poison frogs](#) and extracted samples. Suspecting that pheromones might be involved, they looked for RNA transcripts and found dozens of SPF genes that were producing copious amounts of RNA—a strong indicator of [pheromone](#) production. More work is required to prove that the frogs are generating pheromones in their fingertips and transferring them to the female during copulation.

The research team suggests the transference of pheromones during amplexus is likely not a means for convincing the female to copulate because copulation is already taking place. Instead, they suggest, such pheromones more likely play a role in when she chooses to lay her eggs and where she deposits them.

More information: Diana Abondano Almeida et al, Sexy fingers: Pheromones in the glands of male dendrobatid frogs, *Molecular Ecology* (2024). [DOI: 10.1111/mec.17476](https://doi.org/10.1111/mec.17476)

© 2024 Science X Network

Citation: Male poison frogs may use finger placement to channel pheromones to females while mating (2024, August 6) retrieved 7 August 2024 from <https://phys.org/news/2024-08-male-poison-frogs-finger-placement.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--