

New skin-eating amphibian discovered

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Presumed mother with two hatchlings during the period of extended post-hatching parental care and maternal dermatophagy.

Scientists have discovered a new species of caecilian - a worm-like amphibian - whose young peel off and eat their mother's skin.

This new [species](#), named *Microcaecilia dermatophaga*, is the first species of caecilian to be discovered in [French Guiana](#) for 150 years, and is one of only four species whose young are known to feed in this way. Its name, which means 'little skin-eating caecilian', refers to this unusual child-rearing strategy.

'What we've found is another species that's a skin-feeder, but most importantly, it's another species that's quite distantly related to other skin-feeders we've found, meaning that skin-feeding is probably an ancestral characteristic for caecilians,' says Dr Emma Sherratt from Harvard University, who discovered them during her PhD when she was working

at the [Natural History Museum](#), London.

Caecilians (pronounced siss-ee-lee-an) are amphibians, like frogs or [toads](#), but are often mistaken for worms or snakes because they have no legs. Little is known about these strange creatures that have existed since before the dinosaurs. They live only in the moist tropics and most species live underground, so they are difficult to study.

Their colour ranges from pink to dark grey and they have ring-like ridges along their body, adding to their worm-like appearance. But unlike worms, caecilians have large mouths and sharp teeth that they use to eat [invertebrates](#) like worms and [termites](#). Their eyes are covered by bone, so they are nearly blind and only see in black and white, but tentacles on the front of their head detect chemicals in the soil, giving them a '[sixth sense](#)'.



Presumed mother with a connected string of five eggs.

This new species is unique because it has many fewer ridges along its

body, and is more pink in colour than its closest relations, as it lacks the pigment that gives them a dark grey colour. It is also one of only four species whose young eat their mothers' skin.

To feed their young, females grow an extra layer of skin that's rich in fats. The young scrape this skin off with their teeth and eat it. To help them, they have a specialised set of teeth adapted to the job, which are replaced by more pointed adult teeth as they get older.

What's particularly surprising is that these amphibians feed their young in the same way as other, distantly-related caecilians. This may help scientists understand how caecilians as a group evolved.

'From an evolutionary perspective, finding another species that's a skin feeder gives us a better understanding of when this trait actually evolved,' says Sherratt, 'and perhaps whether it has evolved many times or whether it's a key characteristic for a lot of species, in which case caecilians may have developed this specialised maternal care very early on in their evolution.'

The discovery of this new species may help us understand these enigmatic amphibians.

'They are still very poorly understood compared to most other creatures,' says Sherratt, 'so any information we do find out gives us that just that little bit more knowledge about the secret lives of these creatures that spend their entire lives underground, and seemingly have been around for a very long time.'

'Molecular estimates tell us they are probably around 250 million years old, which means caecilians survived whatever killed off dinosaurs, and many other creatures around the world, and for that reason I think they're quite extraordinary.'

This research is published in *PLoS One*.

More information: Wilkinson, M. et al. (2013) A New Species of Skin-Feeding Caecilian and the First Report of Reproductive Mode in Microcaecilia (Amphibia: Gymnophiona: Siphonopidae). *PLoS ONE* 8(3): e57756. [doi:10.1371/journal.pone.0057756](https://doi.org/10.1371/journal.pone.0057756)

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