

World's smallest frogs discovered in New Guinea

December 12 2011



These are images of specimens of *Paedophryne dekot* (A) and (B), and *P. verrucosa* (C), and (D). Credit: Photos by Fred Kraus

Field work by researcher Fred Kraus from Bishop Museum, Honolulu has found the world's smallest frogs in southeastern New Guinea. This also makes them the world's smallest tetrapods (non-fish vertebrates). The frogs belong to the genus *Paedophryne*, all of whose species are extremely small, with adults of the two new species - named *Paedophryne dekot* and *Paedophryne verrucosa* - only 8-9 mm in length. The study was published in the open access journal *ZooKeys*.

Previous research had led to the discovery of *Paedophryne* by Kraus in 2002 from nearby areas in [New Guinea](#), but the genus was not formally described until last year (Kraus 2010, also in *Zookeys*). The two species described earlier were larger, attaining sizes of 10-11 mm, but the genus

still represents the most miniaturized group of tetrapods in the world.

"Miniaturization occurs in many frog genera around the world," said the author, "but New Guinea seems particularly well represented, with species in seven genera exhibiting the phenomenon. Although most frog genera have only a few diminutive representatives mixed among larger relatives, *Paedophryne* is unique in that all species are minute." The four known species all inhabit small ranges in the mountains of southeastern New Guinea or adjacent, offshore islands. Their closest relatives remain unclear.

The members of this [genus](#) have reduced digit sizes that would not allow them to climb well; all inhabit [leaf litter](#), and their reduced digits may be a corollary of a reduced body size required for inhabiting leaf litter and moss. Habitation in leaf litter and moss is common in miniaturized frogs and may reflect their exploitation of novel [food sources](#) in that habitat. The frogs' small body sizes have also reduced the egg complements that females carry to only two, although it is not yet known whether both eggs are laid simultaneously or at staged intervals.

More information: Kraus F (2011) At the lower size limit for tetrapods, two new species of the miniaturized frog genus *Paedophryne* (Anura, Microhylidae). *ZooKeys* 154: 71-88. [doi: 10.3897/zookeys.154.1963](https://doi.org/10.3897/zookeys.154.1963)

Kraus, F. (2010) New genus of diminutive microhylid frogs from Papua New Guinea. *ZooKeys* 48 (2010) : 39-59. [doi: 10.3897/zookeys.48.446](https://doi.org/10.3897/zookeys.48.446)

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