

# Carnivorous water rat discovered in Indonesia

June 18 2014, by Billy Gomila

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(Phys.org) —Jacob Esselstyn, curator of mammals at LSU's Museum of Natural Science, was part of a research team that discovered a carnivorous water rat in central Indonesia. The species was previously known only to local people in the western highlands of Sulawesi Island, and has been used as a talisman by area residents to protect homes from fire.

Published in the zoological taxonomy journal *Zootaxa*, the discovery of the new genus and species of mammal, "Waiomys mamasae," documents the first known water rat from Sulawesi and the wider Southeast Asian region. Other semi-aquatic rats are known from New Guinea, Australia, Africa and South America. The authors indicated that, like other semi-aquatic rats, the [new species](#) feeds on aquatic insects that attach themselves to stream bottoms.

The scientists used DNA sequences to demonstrate that the new species is not a close relative of any other water rat species, including those of New Guinea and Australia. This indicates that the morphological features the Sulawesi water rat shares with other water rat species are the result of convergent evolution – meaning that these distantly related animals have been living in similar environments and independently evolved similar adaptations.

"The Sulawesi water rat and the water rats of New Guinea are no more closely related to each other than either is to the house mouse or the lab rat, but they live in similar environments, which may explain their

convergent morphologies," said Esselstyn.

The local people know the animal as "balau wai," or water rat in their language, Mamasa Toraja. The scientific name, "Waiomys mamasae" meaning "water rat of Mamasa," recognizes their prior knowledge as well as their contribution to the scientific discovery of this [species](#).

"The forests near Mamasa are some of the most intact on Sulawesi," said Anang Achmadi, a scientist at Museum Zoologicum Bogoriense in Indonesia and co-author of the study. "Their excellent condition is a testament to the Mamasan people, who limit clearing of forests to the base of the mountain."

In the 19th century, Alfred Wallace, co-discoverer of natural selection, described Sulawesi as an "anomalous island" because the animals he found there were so unusual.

"Sulawesi's ancient history of geographic isolation, along with its many high mountains help explain why it is home to so many strange animals," said Esselstyn.

He added, "It's a real thrill to follow in the footsteps of early naturalists and to still be discovering so many new animals. But the fact that the people of Mamasa knew of Waiomys and keep them as talismans suggests the research community has a lot of work to do before tropical biodiversity will be well documented."

Provided by Louisiana State University

Citation: Carnivorous water rat discovered in Indonesia (2014, June 18) retrieved 20 April 2024 from <https://phys.org/news/2014-06-carnivorous-rat-indonesia.html>

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