

New group of trapdoor spiders discovered in eastern Australia

July 3 2020



Cryptoforis hughesae from Brisbane, subadult male. Credit: Jeremy Wilson

A new group of trapdoor spiders that builds burrows hidden by

camouflaged doors has been discovered in eastern Australia. One of the almost 20 new species found in this group occurs in the suburbs of Brisbane.

The research team from Griffith University and the Queensland Museum named the group of spiders *Cryptoforis*, which means "cryptic door," in reference to the burrows with hinge-doors made of leaves, twigs and silk, the spiders construct.

Published in *Cladistics*, the research was led by former Griffith University Ph.D. student Jeremy Wilson, now working as an arachnologist at the Museo Argentino de Ciencias Naturales in Argentina.

When a new group or "genus" of animals is named, researchers must characterize a single species of that group which serves as the definitive reference point for the genus.

Dr. Wilson selected a species from Brisbane as the reference species of this new group of spiders, naming it *Cryptoforis hughesae*, after his recently retired mentor and supervisor Emeritus Professor Jane Hughes, a world-renowned expert in population ecology, phylogeography, biogeography, and evolutionary biology.

"Jane has had a huge impact on my development as a scientist, and no doubt on many others having mentored more than 70 postgraduate students and over 60 honors students," Dr. Wilson said.

"Naming this species of spider, which occurs in the forests that surround the Brisbane Griffith University campuses, seemed a fitting tribute for everything she has done for me and so many others at Griffith University. If you look carefully you can find this newly described [species](#) in most forests and natural reserves within Brisbane and the

Brisbane valley."

Co-author and Queensland Museum Principal Curator of Arachnology Dr. Michael Rix said, "I was extremely pleased when Jeremy told me that he wanted to recognize Emeritus Professor Hughes' extensive contributions in this way."

Dr. Wilson discovered that this widespread group of [trapdoor](#) spiders, found up and down the east coast of Australia, was actually a separate genus by comparing them to other trapdoor spiders from across Australia.

"We compared their physical appearance and the burrows they construct, and then looked for molecular differences in their DNA," Dr. Wilson said. "We found differences in their [physical appearance](#) which allow them to be distinguished from other trapdoor spiders in eastern Australia."

Molecular differences confirmed that the researchers were dealing with an entirely new genus of trapdoor [spider](#).

"The incredibly well hidden burrows they create were also different to other trapdoor spiders in eastern Australia, which is probably why this new group of spiders remained undiscovered in the past," Dr. Wilson said.

"This newly-described group of trapdoor spiders is far more widespread and diverse than we previously realized, and Jeremy's meticulous research was instrumental in revealing this hidden fauna," Dr. Rix said.

"The discovery and description of this group of spiders adds to our knowledge of the diversity of the Australian invertebrate fauna, and is also the crucial first step towards protecting these elusive spiders," Dr.

Wilson said.

More information: Jeremy D. Wilson et al. Total-evidence analysis of an undescribed fauna: resolving the evolution and classification of Australia's golden trapdoor spiders (Idiopidae: Arbanitinae: Euoplina), *Cladistics* (2020). [DOI: 10.1111/cla.12415](https://doi.org/10.1111/cla.12415)

Provided by Griffith University

Citation: New group of trapdoor spiders discovered in eastern Australia (2020, July 3) retrieved 3 May 2024 from <https://phys.org/news/2020-07-group-trapdoor-spiders-eastern-australia.html>

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