

New shark species discovery may help conservation efforts

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The Hawaiian dogfish shark was discovered by a team led by Florida Tech's Toby Daly-Engel. Credit: Florida Institute of Technology

A new deep-water dogfish shark has been discovered by a team led by Florida Tech marine biologist Toby Daly-Engel.

The team, which also includes scientist Amber Koch, University of

Hawaii marine biologist James M. Anderson, State University of New York Cobleskill assistant professor Chip Cotton and Florida State University Coastal and Marine Lab Associate Director of Research Dean Grubbs, described *Squalus hawaiiensis*, also known as the Hawaiian spurdog.

The research was published in this month's *ZooKeys*.

Similar to research done in the discovery earlier this year of the new species Genie's Dogfish, the team analyzed the [physical characteristics](#) and DNA makeup of the Hawaiian spurdog species. The [dogfish](#) was compared to its nearby counterpart, the Japanese *S. mitsukurii*, known as the shortspine spurdog. The researchers discovered a difference in dorsal fin size and interdorsal length. Whole specimens and [tissue samples](#) from *S. mitsukurii* were analyzed from both prior collections and the current day.

Dogfish sharks are biologically cryptic, difficult to physically tell apart due to their shared adaptation to the deep-sea environment over hundreds of millions of years. This can lead to misclassifications. But recent genetic research, combined with conventional tools, is allowing marine biologists to discover new species and re-describe old ones with more accurate data to help with [conservation efforts](#).

"The whole reason we study biodiversity is because we know the more diverse the environment, the more diverse genetically an animal is, the healthier the population or species is," Daly-Engel said.

The discovery of the Hawaiian spurdog can lead to better conservation of the [species](#) to protect the area's biodiversity, she said.

"There aren't that many sharks in Hawaii, and now that we know there's one that is there and potentially nowhere else in the world, we can take

steps to protect it if it becomes vulnerable to overfishing," Daly-Engel added.

More information: Toby S. Daly-Engel et al. Description of a new deep-water dogfish shark from Hawaii, with comments on the *Squalus mitsukurii* species complex in the West Pacific, *ZooKeys* (2018). [DOI: 10.3897/zookeys.798.28375](https://doi.org/10.3897/zookeys.798.28375)

Provided by Florida Institute of Technology

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