

# Sixth-grader proves invasive species of ocean fish can thrive in low saline water

July 22 2014, by Bob Yirka

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Antennata Lionfish, picture taken in Zoo Schönbrunn, Vienna, Austria. Credit: Christian Mehlführer/Wikipedia

(Phys.org) —Twelve year old Lauren Arrington of Jupiter Florida has demonstrated that sometimes the best science is the most simple—to find out if the invasive species, lionfish could live in low saline water, she caught some and put them in low saline water to see how they did. Turns out, they did just fine, proving what she'd suspected, that the fish

can thrive in the low saline estuaries that are common around the area where she lives. Up till now, scientists had believed the fish was not a threat to estuary waters, as it could only survive in the ocean.

Lionfish are native to the Indo-Pacific but have made their way to other parts of the world where they are considered to be an [invasive species](#). They sport distinctive red and white stripes and tall thin fins and have no known predators—they are venomous and feed on the kinds of fish that tend to maintain reefs—in the absence of such fish, the reefs fail. For that reason, scientists have been studying them to learn more about ways to control them. But, Arrington told a local newspaper, none of the scientists were looking to see if the fish could survive in estuaries where salt levels are much lower. Determined to find out for herself, she caught several of the fish and deposited them in tanks she'd set up. Over time, she slowly decreased salinity levels, eventually getting as low as six parts per million. She stopped at that point, fearful that lower levels would kill the [fish](#)—a non-no for creatures used as part of [science experiments](#) for her school [science](#) fair.

After demonstrating her findings at the fair, the local media got wind of what she'd uncovered, which brought her findings to the attention of professional researchers—subsequent experiments by several groups led to published papers and the revelation that [lionfish](#) can actually survive in environments that are nearly freshwater—a revelation that could spell trouble for waterways near the ocean.

The work by Arrington clearly demonstrates that not all science need be complicated or conducted by those with advanced degrees—it also shows that sometimes it's a good idea to just stop and take a look around when studying organisms—they may surprise you.

**More information:** Broad salinity tolerance in the invasive lionfish *Pterois spp.* may facilitate estuarine colonization, *Environ Biol Fish*, [DOI:](#)

[10.1007/s10641-014-0242-y](#) . ([PDF](#))

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