



Invasive Species: Lionfish



Waves rock the small boat back and forth in the big blue bay while gulls circle above. Cormorants dive and appear minutes later on the opposite side of the boat. Peering into the water, you see a fish emerge from the shadows. It appears to have red and white stripes although its depth makes it hard to tell. As it gets closer you can really see the stripes and frills. It looks like a fish from the tropical exhibit at the aquarium. What is this misplaced looking fish and where did it come from?

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Lionfish

The exotic species *Pterois* spp. (includes *P. volitans* and *P. miles*), collectively known as ‘lionfishes’, are native to Indo-Pacific waters and were first found in the United States during the 1990’s. It is believed that lionfish were first introduced in 1992 when hurricane Andrew smashed an aquarium near Biscayne Bay, Florida, allowing several fish to escape. Additional introductions from home aquarists have caused the species population to grow and to expand its range. *Pterois* spp. is now found far and wide, from the Caribbean to North Carolina. Juveniles have even been captured in Bermuda and as far north as New York and Rhode Island!

Life History

Females reach breeding age at around 1 to 2 years and lay 4,000 to 30,000 eggs whose larvae form at a fast rate. Twelve hours after fertilization the fish begins developing, after 18 hours the embryo’s head and eyes become apparent. The larvae hatch 36 hours after fertilization and grow very quickly, allowing them to avoid predators. Lionfish have an average lifespan ranging from 5-10 years, although many die earlier.



The lionfish has distinctive brown or maroon and white stripes covering its head, body, and fan-like pectoral fins. The average adult is approximately 12 inches in length. Their venomous spines deliver a painful sting.

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Identification

Physical Description

- 11.8-15 inches (30-38 cm) long
- 2 ½ lbs. (1.2 kg) in weight
- Colored with complex patterns of red, black, brown and white spots, lines and swirls
- Fanlike dorsal, pectoral and anal fins which are stout and sharp
- Grooved spines which are equipped with venom used for defense
- Bodies are heavy and compressed laterally

Habitat Preference

- Found in warm or tropical waters of coral reefs, artificial reefs, caves, rocky areas, seagrass, and mangroves
- Depths from 1 – 1,000 feet on bottom
- Eats fish, crabs, shrimp, and plankton

Ecological Concern

The lionfish's venomous spines and fast growth rate allow it to easily out-compete native species and establish a thriving population. Their diet includes over 40 species of fish and crustaceans. Their ravenous eating habits may impact the abundance of important native fish species that help to keep seaweeds from overgrowing corals. Their venomous spines pose a threat to fisherman, divers, and wildlife inspectors. A sting may cause extreme pain, swelling, headache, nausea, numbness, paralysis, and convulsions.



More Information

Northeast Coastal and Barrier Network
<http://science.nature.nps.gov/im/units/ncbn/>

USGS Nonindigenous Aquatic Species
<http://nas.er.usgs.gov/queries/FactSheet.aspx?speciesID=963>

Aquatic Nuisance Species Task Force
<http://anstaskforce.gov/soc.php>

NOAA National Ocean Service
<http://oceanservice.noaa.gov/education/stories/lionfish/factsheet.html>

NOAA National Centers for Coastal Ocean Science
<http://www.ccfhr.noaa.gov/stressors/lionfish.aspx>

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Researchers have reported that when lionfish are introduced into a new area, the survival of native reef fishes may decline by as much as 80 percent.

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