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Lionfish Biology Fact Sheet

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Biological Classification

- **Kingdom** – Animalia (all the animals)
- **Phylum** – Chordata (animals with a spinal cord)
- **Subphylum** – Vertebrata (animals with backbones)
- **Class** – Actinopterygii (**ray**-finned fishes)
- **Order** – Scorpaeniformes (scorpion fishes and sculpins)
- **Family** – Scorpaenidae (firefishes, goblinfishes, rockfishes, and scorpionfishes)
- **Genus** – *Pterois* (lionfishes, turkeyfishes, and zebrafishes)
- **Species** – *volitans* (meaning volatile or poisonous)

Common Names:

lionfish, zebrafish, firefish, turkeyfish, red lionfish, butterfly cod, ornate butterfly-cod, peacock lionfish, red firefish, scorpion volitans

Scientific Name:

Pterois volitans

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Identification:

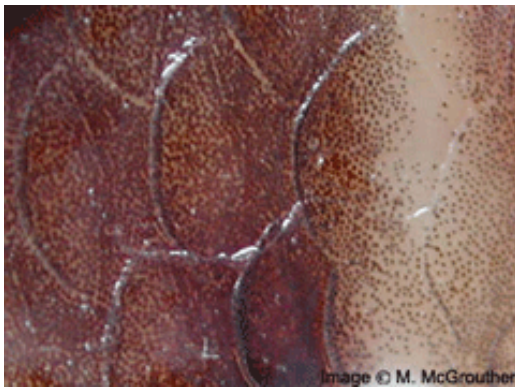
Lionfish have distinctive brown or maroon, and white stripes or bands covering the head and body. Their body is 1.5 times the length of the head, with a total size range of 6 -12 inches. They have fleshy tentacles above their eyes and below the mouth; fan-like [pectoral fins](#); long, separated [dorsal](#) spines; 13 dorsal spines; 10-11 dorsal soft [rays](#); 3 anal spines; and 6-7 [anal](#) soft rays. An adult lionfish can grow as large as 18 inches, while [juveniles](#) may be as small as 1 inch or less. Lionfish have [cycloid scales](#).

Native Range:

The South Pacific and Indian Oceans (i.e., the Indo-Pacific region). The range of the lionfish covers a very large area from western Australia and Malaysia east to French Polynesia and the United Kingdom's Pitcairn Islands, north to southern Japan and southern Korea and south to Lord Howe Island off the east coast of Australia and the Kermadec Islands of New Zealand. In between, the species is found throughout Micronesia.



Profile of a lionfish showing the distinctive fleshy tentacles above the eyes and below the mouth. *Click on image* for larger view and further details.



The cycloid scales of lionfish (*Pterois volitans*).
Click on image for larger view and further details.

Non-native Range: Lionfish have been reported along the southeastern United States coast from Florida to North Carolina. Juvenile lionfish have been collected in waters off Long Island, New York, and Bermuda. Lionfish were first spotted off the coast of North Carolina during summer 2000. During summer 2004, at least 155 lionfish were collected at 19 different locations off the coast of North Carolina, including hard bottom habitats and shipwrecks. Previous reports of lionfish include six that were accidentally released in Biscayne Bay, Florida, when a beachside home aquarium broke during Hurricane Andrew in 1992. Further intentional releases of aquarium pets into the Atlantic Ocean have very likely contributed to the Florida population. There are additional diver reports of lionfish off Palm Beach and Boca Raton, Florida, from the early 1990s.

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Habitat: Lionfish are primarily associated with [coral reefs](#), but can be found in warm marine waters of the tropics. Lionfish have been found in water depths from 85 to 260 feet on hard bottom, coral reefs and artificial substrate (like sunken ships). They tend to glide along the rocks or coral during the night and hide under ledges or in crevices during the day.

Ecological Role: Lionfish are slow-moving and conspicuous, so they must rely on their

unusual coloration and fins to discourage would-be [predators](#) from eating them.

Lionfish are one of the top predators in many coral reef environments. Lionfish are active hunters who ambush their [prey](#) by using their outstretched, fan-like [pectoral fins](#) to slowly pursue and "corner" them. Lionfish probably don't sting their prey; their spines are thought to be more defensive in nature. They may also be used in confrontations between male lionfish during spawning.

Behavior: Lionfish are thought to be nocturnal hunters, but they have been found with full stomachs during the day in the Atlantic. They move about by slowly undulating the soft rays of the dorsal and anal fins. During the day, they often retreat to ledges and crevices among the rocks and corals. Although in the Atlantic, lionfish are often seen moving about during the day, both alone and in groups of 2-6. They may live alone for the majority of their lives, and will fiercely defend their home ranges from other lionfish and other [species](#) of fish. However, they may live in small groups when they are [juveniles](#) and during the spawning season. Male lionfish are more aggressive than females, especially during the mating season. Males will aggressively attack other males who attempt to invade their territory.

Economic Importance: Although lionfish have been used as a food source in their [native](#) range, economically, they are far more important in the aquarium trade. Lionfish are very popular and common aquarium fish, especially in the U.S. They are captured in their native range, or possibly raised in "lionfish farms" and sold as pets to dealers and private citizens.

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Conservation Status: Lionfish are not currently listed as threatened or [endangered](#) in their native range. However, the increase in pollution in coral reefs may negatively affect the lionfish's primary food sources (crustaceans and fish). If lionfish are unable to adapt to declines in their prey species, their numbers may decrease.

Special Precautions: The spines of this species deliver a [venomous](#) sting that can last for days and cause extreme pain, sweating, and respiratory distress. A [venom](#) gland is



Lionfish are **native** to the warm, tropical waters of the South Pacific and Indian Oceans (i.e., the Indo-Pacific region), including the Red Sea. Their **native** range is shown in orange on the map. [Click on image](#) for larger view and further details.



Locations in the Atlantic Ocean where lionfish have been reported as of May 2003. [Click on image](#) for larger view and further details.

located at the base of each spine. The venom is a combination of protein, a [neuromuscular](#) toxin and a [neurotransmitter](#) called [acetylcholine](#) (pronunciation: ah-see-toe-coe'-lean). After the spine punctures the skin, the venom enters the wound by traveling up a groove in the spine. There is evidence that commercially available stonefish anti-venom has detoxifying effects on lionfish venom.

Warning! Lionfish are beautiful but dangerous. Look, but don't touch!

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