

Pterois volitans

SYSTEM

Marine

COMMON NAMES

English: scorpion volitans, peacock lionfish, Indo-Pacific red lionfish, lionfish

Indonesia: Lepu-penganten

Malaysia: Depu, Depu-belang zebra, Gedempu, Lepu

Philippines: Tandang, Danuy ranuy, Ranuy ranuy

Viet Nam: Cá Mao Tiên

DESCRIPTION

Pterois volitans has elongated venomous dorsal fin spines and anal fin spines. It has 13 dorsal spines, 10 to 11 dorsal soft rays, 3 anal spines, 6 to 7 anal soft rays. Coastal populations are generally darker, sometimes almost black in estuaries (FishBase 2006). The membranes of fins are often spotted. The body is white or cream coloured with red to reddish-brown vertical stripes. The vertical stripes alternate from wide to very thin and sometimes merge along the flank to form a V (Schofield and Fuller 2006). The maximum length of an adult is 38cm (FishBase 2006) and the maximum body weight is 1.1kg to 1.2kg (Fishelson 1997). Reports of a 43cm individual have been obtained in its introduced range.

NATIVE RANGE:

ASEAN: Indonesia, Malaysia, Philippines, Viet Nam

World: Australia, China, Christmas Island, Cook Islands, Fiji, French Polynesia, Guam, Hong Kong, India

KNOWN INTRODUCED RANGE

WORLD: Atlantic - Western Central, Bahamas, Barbados, Belize, Bermuda, Cayman Islands, Coasts Of The Caribbean, Colombia, Costa Rica, Cuba, Dominican Republic, Greater Antilles, Haiti, Honduras, Jamaica, Lesser Antilles, Mexico, Netherlands Antilles, Nicaragua, Panama, Puerto Rico, Turks And Caicos Islands, United States, Venezuela, Virgin Islands, U.S., West Indies

PATHWAY

Transport – Ship/boat ballast water

REASON FOR INTRODUCTION

Eggs and larvae of the red lionfish may be transported via ballast water (Whitfield 2002).

IMPACTS

Ecosystem change: While few ecological studies have been conducted (but see Albins & Hixon 2008) it is clear that the lionfish's presence in the Caribbean is a worrying one. Lionfish are highly piscivorous and reduce the recruitment of juvenile fishes, which in turn disrupts marine ecosystem processes and reduces reef biodiversity (Albins and Hixon 2008; Morris et al. 2008).

Reduction in native biodiversity: If their populations are allowed to continue growing unchecked, lionfish have the potential to severely reduce reef biodiversity, with the possible extinction of several species; although it is still too early to be definitive, anecdotal evidence from the Bahamas corroborates this premise (Dell 2009).

Predation: Albins and Hixon (2008) showed that lionfish can drastically reduce recruitment of native fishes on small patch reefs in the Bahamas. They are potentially capable of decimating indigenous reef fish populations in the Caribbean due to their lack of natural predators and voracious appetite (Valdez Mascari & Aguiar 2009).

Competition: Not only do lionfish consume large quantities of juvenile fish (such as grouper and yellow-tail snapper) but they also out-compete native species (such as scamp, gag, and yellowmouth grouper) for food (Morris et al. 2008; Dell 2009).

Economic/Livelihoods: In addition, by reducing populations of commercially important species such as grouper (Albins and Hixon 2008) they may as a consequence damage the economy of island communities which are dependent on such fishing industries.

Human health: Lionfish are venomous with their spines containing apocrine-type venom glands (Morris et al. 2008). Lionfish venom has been found to cause cardiovascular, neuromuscular, and cytolytic effects ranging from mild reactions such as swelling to extreme pain and paralysis in upper and lower extremities (Kizer et al. 1985, in Morris et al. 2008). The toxin in lionfish venom contains acetylcholine and a neurotoxin that affects neuromuscular transmission (Cohen and Olek 1989, in Morris et al. 2008). Lionfish spines can prove dangerous to divers, snorkelers and aquarium enthusiasts (Morris et al. 2008; Schofield 2009). Stings are not fatal, but intensely painful and often requiring hospitalisation (Morris et al. 2008). Lionfish stings can be treated by heating the afflicted part in hot water (to 45° C) for 30 to 90 minutes and applying corticoids to the area (FishBase 2006); medical attention should be sought immediately (Cayman Islands Government Undated).

Source: Global Invasive Species Database (GISD) 2015. Species profile *Pterois volitans*. Available from: <http://www.iucngisd.org/gisd/species.php?sc=1050> [Accessed 09 September 2019]



Photo by Robert A. Patzner accessed at <https://www.fishbase.se/photos/PicturesSummary.php?ID=5195&what=species> on 13-September 2019