



Fish Envenomation

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Venomous Fish

- Lionfish
- Scorpionfish
- Stonefish



Several Species



Pterosis antennata



Several Species



Pterosis lunulata



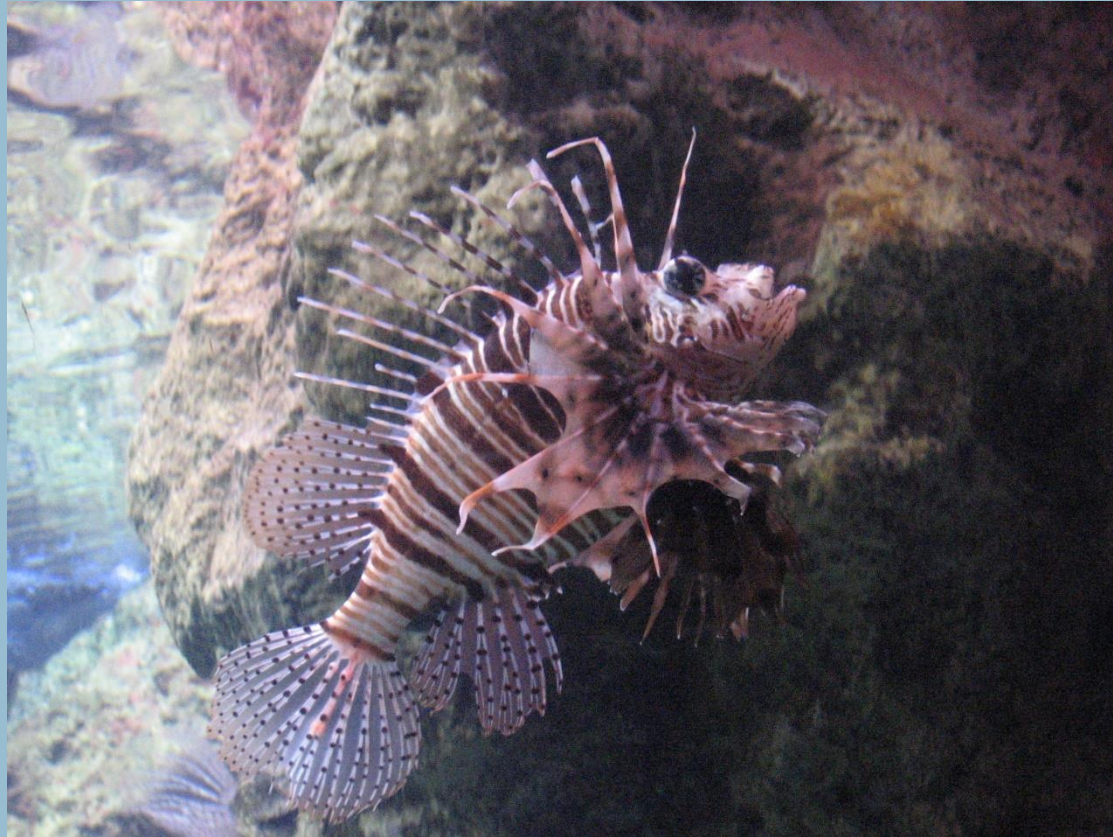
Several Species



Pterosis miles



Several Species



Pterosis mombasae



Several Species



Pterosis radiata



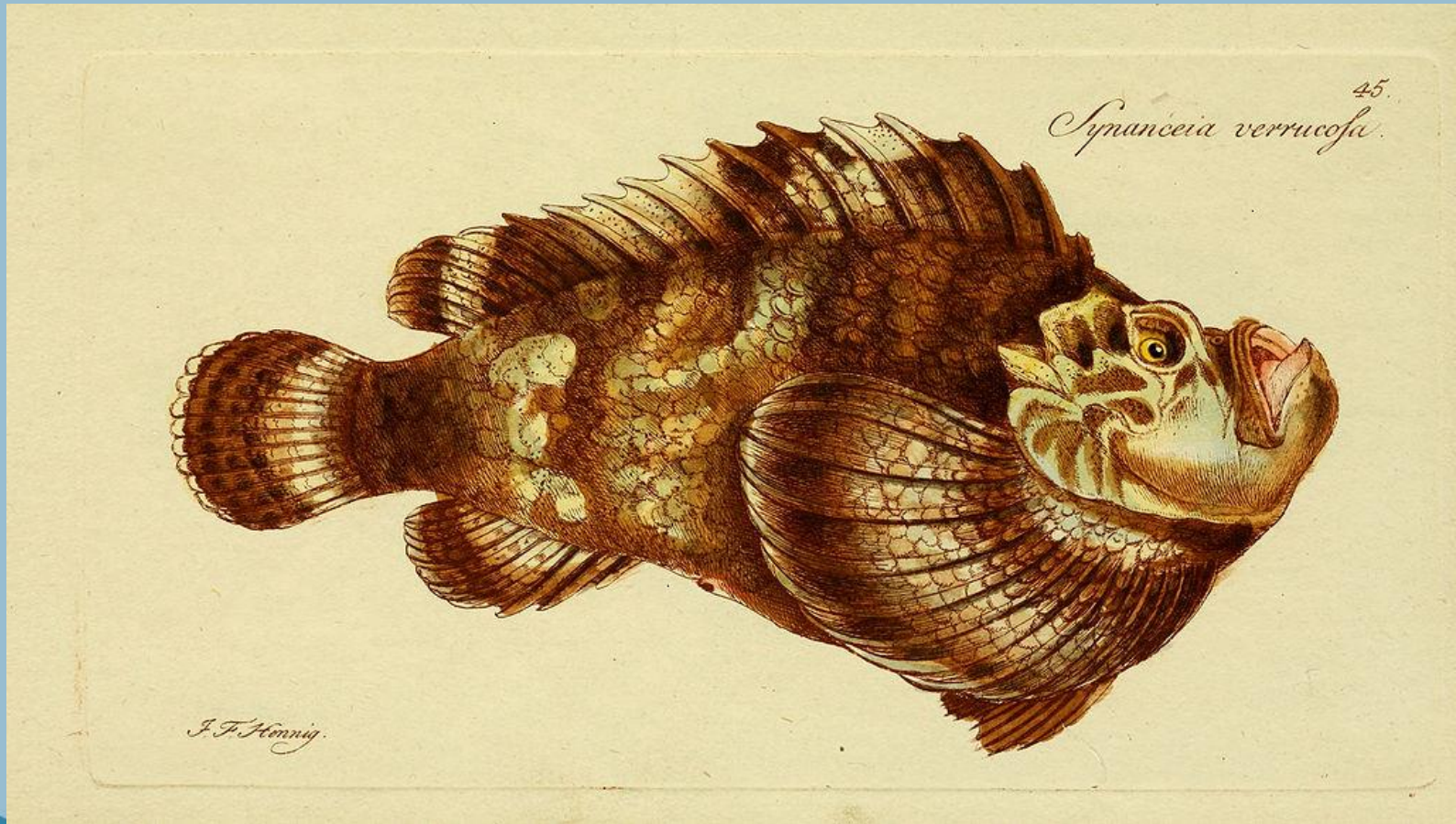
Several Species



Pterosis volitans



Stonefish



Stonefish



Scorpionfish



Scorpionfish



Lionfish Names

- Zebrafish
- Turkeyfish
- Butterfly cod
- Firefish

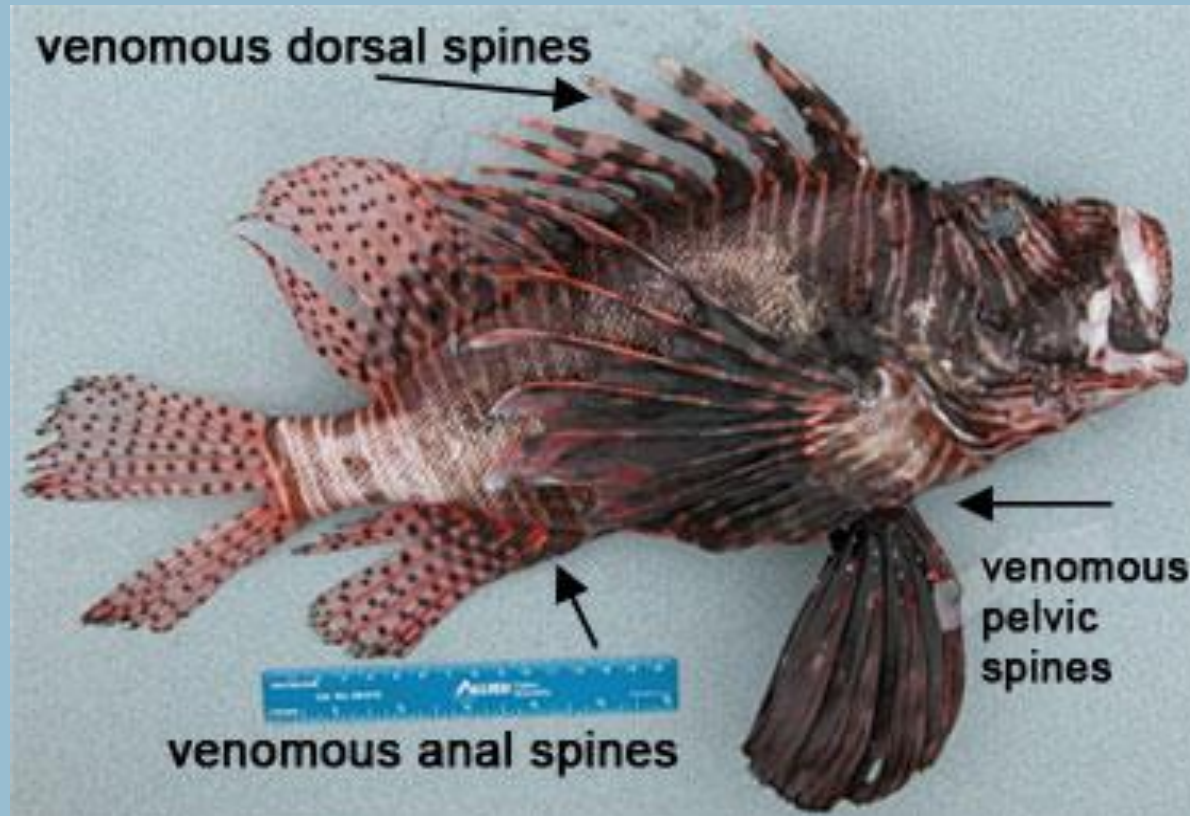


Lionfish

- Native to Indo-Pacific
- Conspicuous coloration
 - Red
 - White
 - Cream
 - Black bands
- Pectoral fins are large
- Venomous fin rays



Areas of Venom



Fish are second to stingrays in marine envenomation annually



Envenomation



Envenomation

- Severe pain at the site
 - Intense
 - Sharp
 - Throbbing
 - May radiate
- Maximum pain within 60 – 90 minutes
- May persist for 6 – 12 hours and up to several weeks



Envenomation

- Grade I
 - Redness
 - Pallor
 - Ecchymosis
 - Cyanosis
 - Induration
 - Edema

- Grade II
 - Vesicles



- Grade III
 - Necrosis
 - Days to weeks



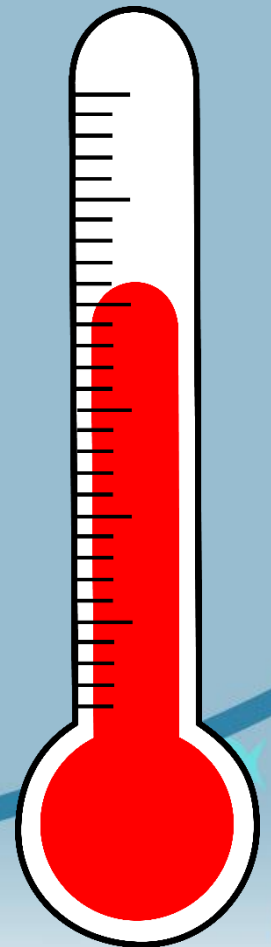
Envenomation

- Systemic effects – rare (13%)
 - Headache
 - Nausea
 - Vomiting
 - Abdominal pain or cramping
 - Delerium
 - Seizures
 - Limb paralysis
 - Hyper or hypotension
 - Respiratory distress
 - Dysrhythmia
 - Myocardial ischemia
 - Congestive heart failure
 - Pulmonary edema
 - Tremors
 - Muscle weakness
 - Syncope

Kizer KW, et. al., "Scorpaenidae Envenomation – a Five-Year Poison Center Experience", JAMA 1985 Vol 253(6).

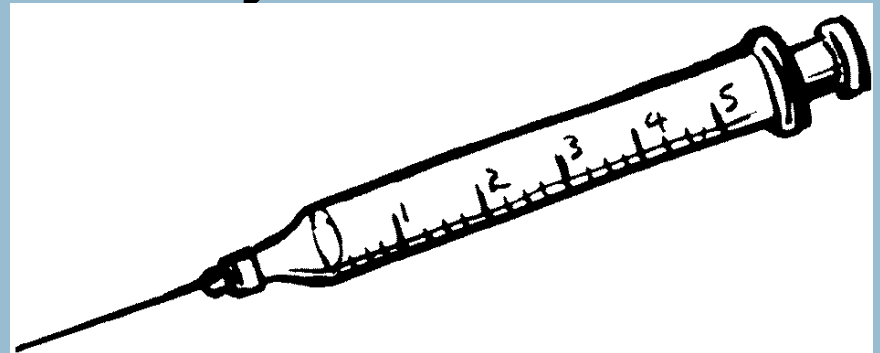
Treatment

- Hot water immersion – up to 45° C (113° F)
 - 30 to 90 minutes or until pain subsides
 - May be repeated
- 80% complete pain relief
- 14% moderate pain relief
- May be ineffective in Grade II
- Inactivates the venom (heat labile)
- Tetanus prophylaxis
- Irrigation



Treatment

- Antivenom for stonefish (available in Indo-Pacific)
- Stonefish antivenom able to inactivate venom effects from scorpionfish
- Antivenom indicated for systemic symptoms
 - Weakness
 - Paralysis
 - Large venom injection



Treatment

- Wound should be left open
- Consider x-ray
- Any fragments removed
- Debridement of necrotic tissue
- Antibiotics for
 - Secondary infection if present (13%)
 - Possibly large wounds
 - Immunosuppressed



Anaphylaxis

- Search of medical literature
 - No cases of anaphylaxis have been reported
- Venom is a protein
 - Repeated exposures have the potential to cause anaphylaxis



Antibiotics

- Protect against *Vibrio* species
 - Doxycycline
 - Ciprofloxacin
 - Trimethoprim/sulfa



Pain Management

- Initially withhold narcotics until hot water immersion has been done
- Narcotic vs. non-narcotic
- Digital block or local anesthetic



Treatment NOT Indicated

- Meat tenderizer
- Magnesium sulfate
- Potassium permanganate
- Congo red
- Emetine
- Procaine
- Alcohol
- Adrenaline



- Gomes HL et. al., “Stonefish antivenom neutralizes the inflammatory and cardiovascular effects induced by scorpionfish *Scorpaena plumieri* venom”, *Toxicon* 57(2011)992-99.
- Kizer KW, et. al., “Scorpaedidae Envenomation – a Five-Year Poison Center Experience”, *JAMA* 1985 Vol 253(6).
- Aldred B, et al., “Lionfish envenomations in an urban wilderness”, *Wilderness and Environmental Medicine* 4, 291-296(1966).
- Vetrano SJ, et. al., “Lionfish envenomation”, *J of Emer Med* 23(2002) 379-99.
- Kasdan ML, et. al, “Lionfish envenomation”, *Plastic and Reconstructive Surgery*, Oct(1987) 613-614.



Questions

