

Marine animals caught in trammel nets at Lazarus Island

Subjects: More than 20 fishes of 16 species, 44 crabs of 8 species and one gastropod are listed as follows:

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| 9 ex. | Flower crab, <i>Portunus pelagicus</i> (Crustacea: Decapoda: Portunidae); | Fig. 3A |
| 7 ex. | Swimming crab, <i>Charybdis</i> sp. (Crustacea: Decapoda: Portunidae); | Fig. 3D |
| 2 ex. | Moon crab, <i>Matuta victor</i> (Crustacea: Decapoda: Matutidae); | Fig. 3E |
| 13 ex. | Red egg crab, <i>Atergatis integerrimus</i> (Crustacea: Decapoda: Xanthidae); | Fig. 3B |
| 5 ex. | Floral egg crab, <i>Atergatis floridus</i> (Crustacea: Decapoda: Xanthidae); | Fig. 3C |
| 5 ex. | Hairy reef crab, <i>Pilumnus vespertilio</i> (Crustacea: Decapoda: Pilumnidae); | Fig. 3F |
| 2 ex. | Stone crab, <i>Actaeodes hirsutissimus</i> (Crustacea: Decapoda: Xanthidae); | Fig. 3G |
| 1 ex. | Smooth spooner crab, <i>Etisus laevimanus</i> (Crustacea: Decapoda: Xanthidae). | Fig. 3H |
| 1 ex. | Spider conch, <i>Lambis lambis</i> (Mollusca: Gastropoda: Strombidae). | Fig. 3I |
| 2 ex. | Blue-spotted fantail ray, <i>Taeniura lymma</i> (Chondrichthyes: Dasyatidae); | Fig. 2E |
| 2 ex. | Painted scorpionfish, <i>Parascorpaena picta</i> (Teleostei: Scorpaenidae); | Fig. 2A, 2D |
| 1 ex. | Orange-spotted grouper, <i>Epinephelus coioides</i> (Teleostei: Serranidae); | Fig. 2B |
| 1 ex. | Freckled goatfish, <i>Upeneus tragula</i> (Teleostei: Mullidae); | Fig. 1H |
| 1 ex. | Striped eeltail catfish, <i>Plotosus lineatus</i> (Teleostei: Siluriformes: Plotosidae); | Fig. 2C |
| 2 ex. | Bluespot mullet, <i>Valamugil seheli</i> (Teleostei: Mugilidae); | Fig. 2H |
| 1 ex. | Saw-jawed monocle bream, <i>Scolopsis ciliatus</i> (Teleostei: Nemipteridae); | Fig. 1B, 2G |
| 1 ex. | Anchor tuskfish, <i>Choerodon anchorago</i> (Teleostei: Labridae); | Fig. 1D |
| 2 ex. | Seagrass rabbitfish, <i>Siganus canaliculatus</i> (Teleostei: Siganidae); | Fig. 1I |
| 1 ex. | Black cardinalfish, <i>Apogonichthyoides melas</i> (Teleostei: Apogonidae); | Fig. 1F |
| 1 ex. | Spanish flag snapper, <i>Lutjanus carponotatus</i> (Teleostei: Lutjanidae); | Fig. 1E |
| 2 ex. | Seagrass filefish, <i>Acreichthys tormentosum</i> (Teleostei: Monacanthidae); | Fig. 1G |
| 1 ex. | Lagoon damselfish, <i>Hemiglyphidodon plagiometopon</i> (Teleostei: Pomacentridae); | Fig. 2F |
| 1 ex. | Copper sweeper, <i>Pempheris oualensis</i> (Teleostei: Pempheridae); | Fig. 1A |
| 1 ex. | Banded damselfish, <i>Dischistodus fasciatus</i> (Teleostei: Pomacentridae); | Fig. 2I |
| 1 ex. | Bengal sergeant, <i>Abudefduf bengalensis</i> (Teleostei: Pomacentridae). | Fig. 1C |

Subjects identified by: Contributors, with Jose Christopher Mendoza (crabs), Kelvin K. P. Lim (fishes) & Tan Siang Kiat (molluscs).

Location, date and time: Singapore Strait, lagoon at Lazarus Island; 16 August 2015; around 0800 hrs.

Habitat: Marine. Coral reef in a lagoon, in intertidal zone at low (0.4 to 0.7 m) tide.

Observers: Contributors.

Observation: Three trammel nets were found in the lagoon. According to the owner of the nets, a member of the public, they had been left there overnight. Thirteen juvenile blacktip reef sharks were found dead in the nets (Chim et al., 2015), as well as a host of other marine animals. These include about 20 fishes of at least 16 species (Figs. 1 & 2), more than 40 crabs of eight species and a spider conch (Fig. 3). Most of the fish have died, some even highly decomposed. Some of the crustaceans and the only mollusc had survived, but were badly entangled. The contributors had the trapped animals removed from the nets, and the survivors were freed.

Remarks: This is a graphic example on how trammel nets, as well as drift-nets and gill-nets, kill marine animals indiscriminately. Although the unlicensed use of fishing gears in Singapore is explicitly prohibited under the Fisheries Act, it is unclear which government agency holds the responsibility for governing the marine environment and enforcing the relevant laws (Lye, 2011: 205).



Fig 1. Examples of fish caught in the trammel nets. Photographs by Rene Ong



Fig 2. Examples of fish caught in the trammel nets. Photographs by Rene Ong



Fig 3. Examples of crabs and a spider conch caught in the trammel nets. Photographs by Rene Ong

Despite the net owner's claim that the trammel nets were placed there overnight, it seems likely they had been there a lot longer as some of the dead victims of the nets were badly decomposed. It is also likely that the dying and dead animals were attracting scavengers and predators like the crabs and sharks, leading to more animals being entangled. The majority of the fishes are edible, but less than ten of them (not including the 13 juvenile sharks) were fresh enough for human consumption. Of the crustaceans, only the nine flower crabs (*Portunus pelagicus*) are edible. The other species are not usually eaten, or in the case of the egg crabs (*Atergatis* spp.), are deadly poisonous.

References:

- Chim C. K., Y.-L. Lee, S. Tong, T. Tay & R. Ong, 2015. Blacktip reef sharks caught in trammel nets at Lazarus Island. *Singapore Biodiversity Records*. 2015: 158-159.
- Lye L. H., 2011. Legal protection for nature in Singapore. In: Ng, P. K. L., R. T. Corlett & H. T. W. Tan (eds.), *Singapore Biodiversity: An Encyclopedia of the Natural Environment and Sustainable Development*. National University of Singapore & Editions Didier Millet, Singapore. pp. 202-205.

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