

A collection of fishes from Pulau Satumu

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Subjects: Black cardinalfish, *Apogonichthyoides melas* (Teleostei: Apogonidae), Fig. 1;
 Variegated cardinalfish, *Fowleria variegata* (Teleostei: Apogonidae), Fig. 2;
 Samoan cardinalfish, *Nectamia savayensis* (Teleostei: Apogonidae), Fig. 3;
 Checkered cardinalfish, *Ostorhinchus margaritophorus* (Teleostei: Apogonidae);
 Harry hotlips, *Plectorhinchus gibbosus* (Teleostei: Haemulidae), Fig. 4;
 Dussumier's rockskipper blenny, *Istiblennius dussumieri* (Teleostei: Blenniidae), Fig. 5;
 Germain's oyster blenny, *Omobranchus germaini* (Teleostei: Blenniidae), Fig. 6;
 Dragonet, *Callionymus* sp. (Teleostei: Callionymidae);
 Slender silverbidy, *Gerres oyena* (Teleostei: Gerreidae);
 Head-striped goby, *Amblygobius stethophthalmus* (Teleostei: Gobiidae);
 Dusky frill-goby, *Bathygobius fuscus* (Teleostei: Gobiidae);
 Ornate goby, *Istigobius ornatus* (Teleostei: Gobiidae);
 Goldmann's goby, *Istigobius goldmanni* (Teleostei: Gobiidae);
 Reiche's sand-goby, *Favonigobius reichei* (Teleostei: Gobiidae);
 Shadow goby, *Yongeichthys nebulosus* (Teleostei: Gobiidae);
 Anchor tuskfish, *Choerodon anchorago* (Teleostei: Labridae), Fig. 7;
 Argus wrasse, *Halichoeres argus* (Teleostei: Labridae), Fig. 8;
 Pastel-green wrasse, *Halichoeres chloropterus* (Teleostei: Labridae), Fig. 9;
 Spanish flag snapper, *Lutjanus carponotatus* (Teleostei: Lutjanidae), Fig. 10;
 White-shouldered whiptail, *Pentapodus bifasciatus* (Teleostei: Nemipteridae);
 Bengal sergeant, *Abudefduf bengalensis* (Teleostei: Pomacentridae);
 Scissortail sergeant, *Abudefduf sexfasciatus* (Teleostei: Pomacentridae);
 Clown anemonefish, *Amphiprion ocellaris* (Teleostei: Pomacentridae), Fig. 11;
 Pale-spot damselfish, *Dischistodus chrysopoecilus* (Teleostei: Pomacentridae), Fig. 12;
 Yellow-banded damselfish, *Dischistodus fasciatus* (Teleostei: Pomacentridae), Fig. 13;
 Honey-head damselfish, *Dischistodus prosopotaenia* (Teleostei: Pomacentridae), Fig. 14;
 Threespot damselfish, *Pomacentrus tripunctatus* (Teleostei: Pomacentridae), Fig. 15;
 Carpet eel-blenny, *Congrogadus subducens* (Teleostei: Pseudochromidae), Fig. 16;
 Seagrass filefish, *Acreichthys tomentosus* (Teleostei: Monacanthidae), Fig. 17;
 Squaretail mullet, *Ellochelon vaigiensis* (Teleostei: Mugilidae);
 Longspine waspfish, *Paracentropogon longispinis* (Teleostei: Tetraogidae);
 False scorpionfish, *Centrogenys vaigiensis* (Teleostei: Centrogenyidae), Fig. 18;
 Blue-lined hind, *Cephalopholis formosus* (Teleostei: Serranidae), Fig. 19;
 Cloudy grouper, *Epinephelus erythrurus* (Teleostei: Serranidae), Fig. 20;
 Brown-marbled grouper, *Epinephelus fuscoguttatus* (Teleostei: Serranidae), Fig. 21;
 Hollow-cheeked stonefish, *Synanceia horrida* (Teleostei: Synanceidae), Fig. 22;
 Flagtail terapon, *Eutherapon theraps* (Teleostei: Terapontidae);
 Unidentified juvenile Clupeiformes.

Subjects identified by: Tan Heok Hui and Kelvin K. P. Lim.

Location, date and time: Singapore Strait at Pulau Satumu; 16-17 November 2020; 1630-1930 hrs.

Habitat: Marine. Semi-artificial lagoon adjacent to coral reef. Intertidal areas with sandy substrate, coral heads and coral rubble, exposed at low tide.

Observers: Tan Heok Hui, Lee Bee Yan, Iffah Iesa, Tan Siong Kiat, Muhammad Dzaki Safaruan, Jesslyn Teo, Jharyathri Thiagarajah, Cherry P. S. Goh, Lim Chun Wei, Lim Jia Xuan, Jeanice Aw and Susan Tan.



Fig. 1. *Apogonichthyoides melas*, 57.0 mm SL



Fig. 2. *Fowleira variegata*, 47.5 mm SL



Fig. 3. *Nectamia savayensis*, 53.8 mm SL



Fig. 4. *Plectorhinchus gibbosus*, 48.1 mm SL



Fig. 5. *Istiblennius dussumieri*, 133.3 mm SL



Fig. 6. *Omobranthus germaini*, 49.0 mm SL female



Fig. 7. *Choerodon anchorago*, 99.3 mm SL

Photographs by
Tan Heok Hui



Fig. 8. *Halichoeres argus*, 50.6 mm SL female



Fig. 9. *Halichoeres chloropterus*, 73.1 mm SL



Fig. 10. *Lutjanus carponotatus*, 89.6 mm SL



Fig. 11. *Amphiprion ocellaris*, 56.0 mm SL



Fig. 12. *Dischistodus chrysopoecilus*, 104.1 mm SL



Fig. 13. *Dischistodus fasciatus*, 77.8 mm SL



Fig. 14. *Dischistodus prosopotaenia*, 104.1 mm SL



Fig. 15. *Pomacentrus tripunctatus*, 63.2 mm SL



Fig. 16. *Congrogadus subducens*, 267 mm SL

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Fig. 17. *Acreichthys tomentosum*, 54.5 mm SL



Fig. 18. *Centrogenys vaigiensis*, 56.8 mm SL



Fig. 19. *Cephalopholis formosus*, 116.0 mm SL



Fig. 20. *Epinephelus erythrurus*, 86.6 mm SL

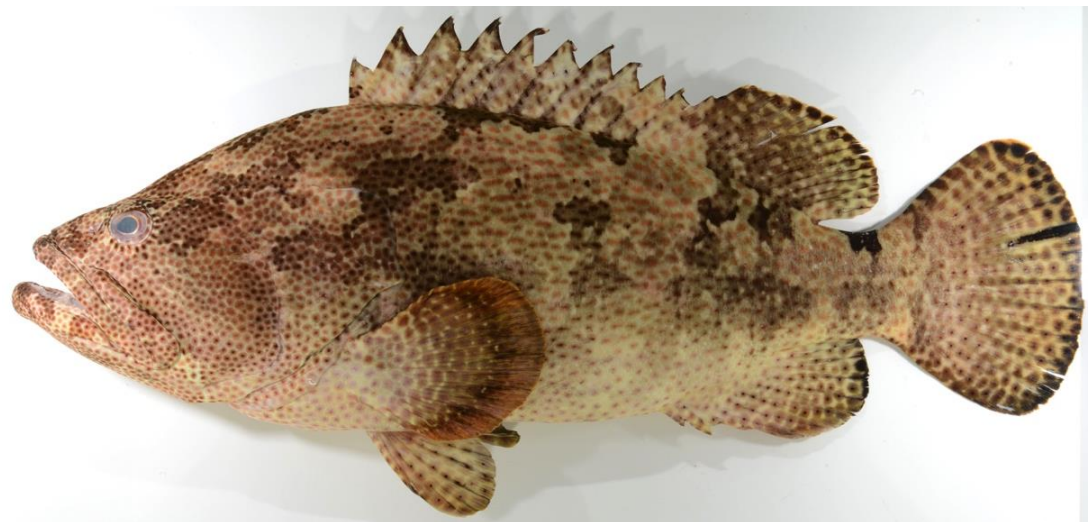


Fig. 21. *Epinephelus fuscoguttatus*, 460 mm SL



Fig. 22. *Synanceia horrida*, 200 mm SL

Photographs by Tan Heok Hui

Observation: At least 36 species of fishes from 18 families were obtained from within the lagoon during receding tide. Fish were mostly collected with hand nets. These were driven into the nets when large pieces of coral rock were turned over (and then placed back). Only the large grouper *Epinephelus fuscoguttatus* (Fig. 21) was obtained by hook-and-line from outside the lagoon. Voucher specimens were preserved and deposited in the Lee Kong Chian Natural History Museum at the National University of Singapore for reference purposes.

Remarks: Fishes were identified mainly with reference to Allen & Erdmann (2012). All species have been recorded from Singapore and they are characteristic of coral reef flats. A similar environment, but with a larger area, was recently surveyed at Semakau by Tan & Lim (2014), which revealed a similar but more diverse fauna. Fishes expected from the featured location but not represented in the survey included members of the families Syngnathidae (pipefishes), Antennariidae (frogfishes), Batrachoididae (toadfishes), Scorpaenidae (scorpionfishes), Platycephalidae (flatheads), Atherinidae (silversides), Ambassidae (glass perchlets), Sillaginidae (sand-whitings), Ehippidae (spadefishes), Chaetodontidae (butterflyfishes), Pomacanthidae (angelfishes), Leiognathidae (ponyfishes), Carangidae (trevallies), Plotosidae (eel-tail catfishes) and Tetraodontidae (pufferfishes).

Despite the low reported diversity compared with the lagoon at Semakau (Tan & Lim, 2014), three species featured here, but not recorded at Semakau, merit special mention:

Dussumier's rockskipper blenny, *Istiblennius dussumieri* (Fig. 5) was first recorded from Singapore by Herre (1940: 52 as *Salarias dussumieri*) based on five specimens collected from an unspecified location. This species had not been reported from the country again until the present observation. It can be distinguished from other similar blennies in Singapore with the following characters: a simple fleshy tentacle above each eye, no tentacle on the nape, adult male with a large fleshy blade on the head, side of the body with a series of about 9 H-shaped dark-coloured bands (see Allen & Erdmann, 2012: 826).

The Germain's oyster blenny, *Omobranchus germaini* (Fig. 6) was first recorded from Singapore based on a 27 mm specimen by Herre & Myers (1937: 48 as *Petroscirtes loxias*, since corrected by Springer & Gomon, 1975: 44) and subsequently unheard of in the country until the present record. It is similar in appearance to the elongate oyster blenny *Omobranchus elongatus* (see Lim & Ng, 2017: 58) but can be distinguished from that species by having the underside of its head marked with dusky chevrons and vermiculations instead of dark spots (see Springer & Gomon, 1975: 20).

The brown-marbled grouper, *Epinephelus fuscoguttatus* (Fig. 21), has been recorded in Singapore since 1852 (Bleeker, 1852: 55, as synonym *Serranus horridus*), but being highly esteemed as a food fish, it is commonly used in cage culture operations in recent times (Carpenter & Niem, 1999: 2501). Although presumed to be native, it is not known how much of the present population in Singapore waters is derived from imported stocks that have escaped or been liberated (see Ng et al., 2015: 332).

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