

## Aquatic organisms observed at Gardens by the Bay

Tan Heok Hui

[heokhui@nus.edu.sg](mailto:heokhui@nus.edu.sg)

---

**Subjects:** Red-tail rasbora, *Rasbora borapetensis* (Teleostei: Cypriniformes: Danionidae), Fig. 1;  
Mosquito fish, *Gambusia affinis* (Teleostei: Cyprinodontiformes: Poeciliidae), Fig. 2;  
Red devil, *Amphilophus citrinellus* (Teleostei: Cichliformes: Cichlidae), Fig. 3;  
Midas cichlid, *Mayaheros urophthalmus* (Teleostei: Cichliformes: Cichlidae), Fig. 4;  
Tilapia, *Oreochromis mossambicus* (Teleostei: Cichliformes: Cichlidae), Fig. 5;  
Aruan, *Channa striata* (Teleostei: Anabantiformes: Channidae), Fig. 6;  
Red-ear slider, *Trachemys scripta elegans* (Reptilia: Testudines: Emydidae), Fig. 7;  
*Corbicula* sp. (Mollusca: Bivalvia: Cyrenidae), Fig. 8;  
*Sinanodonta woodiana* (Mollusca: Bivalvia: Unionidae), Fig. 8;  
*Filopaludina sumatrensis* (Mollusca: Gastropoda: Viviparidae), Fig. 9;  
*Physella acuta* (Mollusca: Gastropoda: Physidae), Fig. 10;  
Apple snail, *Pomacea maculata* (Mollusca: Gastropoda: Ampullariidae), Fig. 11 & 12;  
*Tarebia granifera* (Mollusca: Gastropoda: Thiaridae), Fig. 13.

**Subjects identified by:** Tan Heok Hui and Tan Siong Kiat.

**Location, date and time:** Singapore Island, Marina Bay, Gardens by the Bay; 6 February 2019, 1000-1130 hrs.

**Habitat:** Artificial bodies of freshwater in urban parkland. Pond and stream with clay and earth banks, concrete base and rocks.

**Observers:** Tan Heok Hui and Koh Li Ling.

**Observations:** Observations were made along bridges, walkways and bank sides of ponds. Members of the public were feeding fishes with bread along the bridge overlooking a pond with water lotus aquatic plants, and this provided opportunistic observation of the aquatic organisms. The water level of many of the water bodies was unusually low and the water less turbid, thus some submerged aquatic organisms were also observed.

**Remarks:** Of the 13 species (six fishes, one turtle and six molluscs) featured, only the fish, *Channa striata*, and the snail, *Tarebia granifera*, are considered native to Singapore. All the other species are non-native and had been recorded elsewhere in Singapore (Ng & Tan, 2010; Ng & Lim, 2010; Tan & Woo, 2010). The Marina Bay area is built on reclaimed land, and all the organisms were most likely introduced deliberately or spread from the adjacent Marina Reservoir.

### References:

- Ng H. H. & H. H. Tan, 2010. An annotated checklist of the non-native freshwater fish species in the reservoirs of Singapore. *COSMOS*. 6 (1): 95-116.
- Ng T. H. & K. K. P. Lim, 2010. Introduced aquatic herpetofauna of Singapore's reservoirs. *COSMOS*. 6 (1): 117-127.
- Tan S. K. & H. P. M. Woo, 2010. *A Preliminary Checklist of the Molluscs of Singapore*. Raffles Museum of Biodiversity Research, National University of Singapore. 78 pp.



Fig. 1. A group of *Rasbora borapetensis*.



Fig. 2. A male *Gambusia affinis*.



Fig. 3. *Amphilophus citrinellus*.



Fig. 4. *Mayaheros urophthalmus*.



Fig. 5. A male *Oreochromis mossambicus* in breeding colours.



Fig. 6. An adult *Channa striata*.

In-situ photographs by Tan Heok Hui showing dorso-lateral views of subjects.



Fig. 7. Dorsal view of a male *Trachemys scripta elegans*.



Fig. 8. *Corbicula* sp. (left) and *Sinanodonta woodiana* – empty shells on the bank of a pond.



Fig. 9. Empty shell of *Filopaludina sumatrensis* on the bank of a pond.



Fig. 10. Numerous *Physella acuta* in the shallows of a pond.



Fig. 11. Empty shell of a *Pomacea maculata* (shell length around 84 mm)



Fig. 12. Egg mass of *Pomacea maculata* on an emergent root.

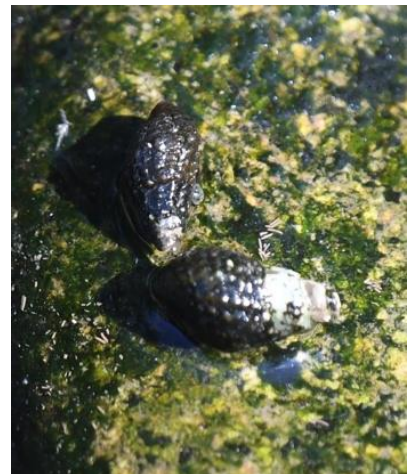


Fig. 13. *Tarebia granifera* in the shallows of a pond.

In-situ photographs by Tan Heok Hui