

## Aquatic organisms observed at Bishan Park

**Subjects:** Gold-spotted sailfin catfish, *Pterygoplichthys joselimaianus* (Teleostei: Siluriformes: Loricariidae), Fig. 1;  
 Vermiculated sailfin catfish, *Pterygoplichthys disjunctivus* (Teleostei: Siluriformes: Loricariidae), Fig. 2;  
 Midas cichlid, *Amphilophus citrinellus* (Teleostei: Cichlidae), Fig. 3;  
 Green chromide, *Etroplus suratensis* (Teleostei: Perciformes: Cichlidae), Fig. 3;  
 Mayan cichlid, *Mayaheros urophthalmus* (Teleostei: Cichlidae), Fig. 4;  
 Bumblebee tilapia, *Heterotilapia buttkoferi* (Teleostei: Cichlidae), Fig. 5;  
 Tilapia, *Oreochromis* sp. (Teleostei: Cichlidae), Figs. 6-7;  
 Redhead cichlid, *Vieja melanura* (Teleostei: Cichlidae), Fig. 8;  
 Common snakehead, *Channa striata* (Teleostei: Channidae), Figs. 9-10;  
 Cuban slider, *Trachemys decussata* (Reptilia: Testudines: Emydidae), Fig. 11;  
 Apple snail, *Pomacea maculata* (Mollusca: Gastropoda: Ampullariidae), Fig. 12.

**Subjects identified by:** Contributor & Tan Siong Kiat.

**Location, date and time:** Singapore Island, Bishan Park; 15 August 2016, 1400-1500 hrs.

**Habitat:** Freshwater. Stream with earth banks and riparian vegetation in urban parkland. The level of the relatively clear water was low.

**Observers:** Contributor & Zhou Hang.

**Observation:** Eight non-native and one native freshwater fish species, along with a non-native terrapin and a non-native mollusc were observed in the stream. The tilapias (*Oreochromis* sp.) were in nuptial colouration and exhibited courtship behaviour (see Figs. 6-7). A pair of redhead cichlid (*Vieja melanura*) was guarding a large group of juveniles (Fig. 8). Morphological differences were observed on the common snakehead (*Channa striata*), the only native fish in the stream (Figs. 9 & 10).

**Remarks:** The present observation contributes four additional fish species to Bishan Park. The fish fauna in the Park's waterway was previously reported by Kwik (2013), Yeo (2013), Tan (2015b) and Tan & Koh (2015). Herein, the new records are the vermiculated sailfin catfish (*Pterygoplichthys disjunctivus*), gold-spotted sailfin catfish (*Pterygoplichthys joselimaianus*), green chromide (*Etroplus suratensis*) and bumblebee tilapia (*Heterotilapia buttkoferi*). All the aforementioned taxa are not native to Singapore.

Differences in the head shape, possibly linked to sexual dimorphism, were observed on the common snakehead (*Channa striata*), the only native fish in the stream. The example with the broader head appears to be male (Fig. 9), while the female is believed to have a slender head and stockier body (Fig. 10).

The Cuban slider (*Trachemys decussata*) is a new reptile record for Bishan Park. This non-native turtle has previously been reported from the Botanical Gardens (Lim, 2013; Tan, 2015a) and certain reservoirs in Singapore (Ng & Lim, 2010).

The identity of the ubiquitous apple snail in many water bodies in Singapore has been resolved by Ng et al (2016), and *Pomacea maculata* is noted from Bishan Park (Fig. 12).

### References:

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Fig. 1. Dorsal view of *Pterygoplichthys disjunctivus*.



Fig. 2. Dorsal view of *Pterygoplichthys joselimaianus*.



Fig. 3. *Amphilophus citrinellus* (orange fish on left) and two *Etroplus suratensis* (to the right).



Fig. 4. Top view of four juvenile *Mayahoeros urophthalmus*.

Photographs by Tan Heok Hui





Fig. 5. Dorso-lateral view of *Heterotilapia buttikoferi*.



Fig. 6. Two male *Oreochromis* sp. sparring.



Fig. 7. Two colour phases of *Oreochromis* sp.



Fig. 8. Dorsal view of a pair of *Vieja melanura* among a large group of juvenile fish.

Photographs by Tan Heok Hui





Fig. 9. Dorsal view of apparent male *Channa striata* with broader head.



Fig. 10. Dorsal view of apparent female *Channa striata* with slender head and stockier body.



Fig. 11. A male *Trachemys decussata* with elongated claws on the forelimbs and long tail.



Fig. 12. Pink egg masses of the apple snail, *Pomacea maculata*.

Photographs by Tan Heok Hui

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