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Hong Kong's First Systematic Survey of Pipefish and Seahorses

Pipefish and seahorses are unique fish in terms of appearance and biology. They are frequently spotted in Hong Kong, but no studies had been conducted to monitor their species and numbers. Green Power and the Ecological Education and Resource Centre cooperated in the first systemic survey of local pipefish and seahorses from July to December, 2011. The fish were discovered in various areas of coastal waters in Hong Kong. Tap Mun, Sai Kung, and Tung Chung Bay, Lantau, are very likely the breeding and nursery grounds of local pipefish and seahorses.

Pipefish and seahorses belong to the Syngnathidae family, members of which have an elongated and narrow body. The two are also unique in reproduction – the male is responsible for fertilisation and incubation after egg laying by the female. They share habits and ecological features, having sparse distributions, low mobility, low reproductive capacity, long incubation periods, and taking a long time to take care of the juvenile. Therefore, their populations are easily affected by environmental changes. Also, pipefish and seahorses are of medicinal value, while the latter are also aquarium fish. They are threatened by overfishing. At present, all seahorse trade is regulated by CITES, but according to our market survey in 2011, it is estimated that each year 3.4 million seahorses are imported into Hong Kong as Chinese medicine. Local trade is certainly putting huge pressure on the survival of wild seahorses.

Initial findings from the first systemic survey of pipefish and seahorse in Hong Kong include:

- Pipefish are mostly observed in coastal waters in western Hong Kong. *Syngnathoides biaculeatus* were spotted in the four study areas in Lantau: Sunny Bay, Tung Chung Bay, Hau Hok Wan and Sha Lo Wan. Two juveniles of *Syngnathus schlegeli* were found in Tung Chung Bay and Sha Lo Wan, indicating that coastal waters near Tung Chung River estuary may be pipefish breeding and nursery grounds.
- Seahorses are mostly observed in coastal waters near eastern Hong Kong. *Hippocampus kuda* were spotted in the four study areas in Sai Kung: Hoi Ha Wan, Tap Mun, Chek Chau and Kat O. Its juveniles were also observed at Tap Mun, indicating that the area may be a breeding and nursery habitat for the species. It should be noted that *Hippocampus kuda* has been classified as “Vulnerable” in the IUCN Red List of Threatened Species, as its population in the wild is in decline.

The survey results show that pipefish and seahorses inhabit various coastal waters in Hong Kong. Tap Mun and Tung Chung River estuary are very likely their breeding and nursery grounds. We urge the government to protect these waters without delay, and suggest that Tap Mun coastal waters be designated as Marine Park. Reclamation should be avoided in Tung Chung River estuary, where there are abundant ecological resources. We also propose that the government includes local wild pipefish and seahorse species as protected animals in Hong Kong, to preserve the existing wild populations. Meanwhile, we will continue to monitor local waters to further study pipefish and seahorse ecologies and the threats they face, to build up a database in the long term on their survival and reproduction.