

Biodiversity Record: *Pteraeolidia semperi* ovipositing and possible predation by another nudibranch

Tan Yong How Jonathan* & Toh Chay Hoon

Sungei Buloh Wetland Reserve, National Parks Board, Singapore 718925, Republic of Singapore;

Email: jonathan_tan@nparks.gov.sg (*corresponding author)

Recommended citation. Tan YHJ & Toh CH (2023) Biodiversity Record: *Pteraeolidia semperi* ovipositing and possible predation by another nudibranch. Nature in Singapore, 16: e2023010. DOI: 10.26107/NIS-2023-0010

Subjects: Blue dragon nudibranch, *Pteraeolidia semperi* (Mollusca: Gastropoda: Nudibranchia: Facelinidae);
Gymnodoris unidentified species (Mollusca: Gastropoda: Nudibranchia: Gymnodorididae).

Subjects identified by: Toh Chay Hoon.

Location, date and time: Singapore Strait, Pulau Seringat-Kias, artificial lagoon 'Eagle Bay'; 26 November 2022; around 1932 hrs.

Habitat: Marine. Intertidal shore, among seagrass during low spring tide.

Observers: Tan Yong How Jonathan, Toh Chay Hoon and James Koh.



Fig. 1. Lateral view of a blue dragon nudibranch apparently laying eggs on a blade of seagrass. (Photograph by: Yong How Jonathan Tan).



Jonathan Tan

Fig. 2. Close-up of the egg ribbon supposedly laid by the blue dragon nudibranch. (Photograph by: Yong How Jonathan Tan).



Jonathan Tan

Fig. 3. Blue dragon nudibranch with missing cerata (indicated by white arrow) and a *Gymnodoris* sp. on its back (black arrow). (Photograph by: Yong How Jonathan Tan).



Fig. 4. Dorsal close-up view of the *Gymnodoris* sp. on the back of the blue dragon nudibranch. Remnant stumps of the missing cerata are visible, suggesting they had recently been bitten off. (Photograph by: Yong How Jonathan Tan).

Observation: About ten blue dragon nudibranchs were observed in very shallow water on a patch of seagrass that has naturally regenerated in the lagoon. One individual of about 5 cm was perched on a blade of seagrass together with an egg ribbon (Figs. 1 & 2). Another individual 10 cm away, with an estimated length of 5 cm, was missing several cerata and had a *Gymnodoris* nudibranch of about 1 cm on its back (Figs. 3 & 4).

Remarks: Given the close proximity of the egg ribbon to the first blue dragon nudibranch, as well as the presence of multiple individuals within a small area, it is inferred that the blue dragons were engaged in mating behaviour, with the individual having freshly laid the egg ribbon.

Many species of *Gymnodoris* are known to prey on other nudibranchs (Gosliner et al., 2018). From the missing cerata on the second blue dragon nudibranch and the presence of a gymnodorid on its back, it is inferred that the cerata were eaten by the gymnodorid. However, the act was not observed and thus cannot be confirmed. As the blue dragon was about five times larger than the gymnodorid, it is probably not possible for the gymnodorid to ingest the whole animal. In this incident, it only consumed parts of the larger nudibranch which may be able to be regenerated, and hence is unlikely to kill the victim.

Blue dragon nudibranchs in Singapore have been observed mainly on coral reef and coral rubble habitats (Tan, 2020), and it seems unusual in this instance to find them congregating among seagrass.

According to Gosliner et al. (2018), *Pteraeolidia semperi* is widespread in the Indo-Pacific, and variable in colour with different shades of blue, green and brown, although the blue/purple bands on the oral tentacles are consistent. The great variation in colour may also point to it being a complex of multiple species but this remains to be studied.

Literature cited:

Gosliner TM, Valdés Á & Behrens DW (2018) Nudibranch & Sea Slug Identification Indo-Pacific. Second edition. New World Publications Inc., Jacksonville, Florida, USA, 451 pp.
 Tan R (2020) Blue dragon nudibranch. Wild Fact Sheets, Wild Singapore. <http://www.wildsingapore.com/wildfacts/mollusca/slugs/nudibranchia/ianthina.htm> (Accessed 7 December 2022).