

## **Biodiversity Record: Acotylea flatworm pursuing and preying on a polychaete**

Rene S. L. Ong\* & Kelvin Yong Sze Yuen

Email: [rene.ong@gmail.com](mailto:rene.ong@gmail.com) (\*corresponding author)

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**Subjects:** Flatworm, unknown genus and species (Platyhelminthes: Polycladida: Acotylea); Polychaete, unknown genus and species (Annelida: Polychaeta: Phyllodocida).

**Subjects identified by:** Rene Ong and Lee Yen-ling.

**Location, date and time:** Singapore Island, Labrador Park; 8 August 2022; around 0730 hrs.

**Habitat:** Marine. Intertidal shore, among seaweed. At low tide

**Observer:** Kelvin Yong Sze Yuen.

**Observation:** On an exposed damp patch of seaweed, an acotylean flatworm of about 6–8 cm (when fully stretched) was noted crawling rapidly towards a yellow polychaete about one-quarter the flatworm's length (Fig. 1). The flatworm occasionally waved its anterior end where its tentacular and marginal eyes are located. The polychaete appeared to be crawling frantically away from the flatworm, and widening the distance between them (Fig. 2). However, after about 40 seconds, the flatworm managed to catch up (Fig. 3), seized the polychaete by its rear end (Fig. 4), and proceeded to engulf its prey whole (Fig. 5).

The entire chase and capture sequence of the acotylean flatworm chasing down and engulfing the polychaete recorded on video by Kelvin Yong Sze Yuen can be viewed at: <https://drive.google.com/file/d/1flNFQ5PqlrPII6Fm-MRrZcH6PJ97X0dX/view?usp=sharing>

**Remarks:** Acotyleans are known predators of other smaller invertebrates, including bivalves, snails and crabs (see Faubel, 1983). While there have been reported sightings of such predation events, the featured footage appears to be the first recorded in Singapore.

More precise identification of the acotylean flatworm is not possible without preserved material and histology. Based on external morphology, it looks similar to *Acotylea* 13 in Ong & Tong (2018). Similarly, the polychaete could not be identified more precisely without an actual specimen. It appears to be a Phyllodocida, likely of the family Nereididae or Phyllodocidae.

**Note:** This record was made possible thanks to the volunteers from an intertidal survey led by Ria Tan, with special permission from the National Parks Board.

### **Literature cited:**

Faubel A (1983) The Polycladida, Turbellaria. Proposal and establishment of a new system. Part I. The Acotylea. *Mitteilungen aus dem Hamburgischen Zoologischen Museum und Institut*, 80: 17–121.

Ong RSL & Tong SJW (2018) A preliminary checklist and photographic catalogue of polyclad flatworms recorded from Singapore. *Nature in Singapore*, 11: 77–125.



Fig. 1. Acolytean in pursuit of polychaete (at right upper corner) on seaweed patch.

Fig. 2. Polychaete appears to be escaping.

Fig. 3. Acolytean closing in on the polychaete.

Fig. 4. Acolytean seizing the polychaete.

Fig. 5. Acolytean engulfing the polychaete.

(Screen grabs from video by: Kelvin Yong Sze Yuen).