

Research Notes

Size and abundance of Red Striped sea cucumber *Thelenota rubralineata* in Cagayancillo, Palawan, Philippines

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On 22 April 2015 at around 14:00 - 15:00 hours, six divers/researchers composed of representatives from Tubbataha Management Office, World Wildlife Fund for Nature and Western Philippines University explored the reef walls in Bandila, Cagayancillo, Palawan, Philippines. At a depth of about 15 m, two *Thelenota rubralineata* (Figure 1) measuring 35 and 40 cm were encountered on a small patch of sand. Subsequently, three individuals measuring 40, 38 and 30 cm, respectively were noted on an adjoining patch of sand and rock at 20 m deep.



Figure 1. *Thelenota rubralineata* in Bandila, Cagayancillo, Palawan (left); a photo (taken with a flash showing the crimson pattern on white background) of *T. rubralineata* at Tubbataha Reefs Natural (right; photo by Jennifer Selgrath).

Thelenota rubralineata (family Stichopodidae) with its striking patterns of crimson line on white background is considered one of the most beautiful macrobenthic reef invertebrates. They are widely distributed in the Indo-Pacific Region but considered a rare species (Lane 1999; Kinch 2005). They are seldom encountered in the reefs of Palawan (Jontila et al. 2014; Dolorosa 2015), possibly because of the nature and depths of their habitats, and effects of harvesting. Since its description in 1991 (Massin and Lane

1991), not much has been detailed about its biology (Conand et al. 2013). According to Kerr (2006) the species can reach a maximum length of 50 cm. An individual measuring 50 cm in length was also reported in Tubbataha Reefs Natural Park (TRNP), but the density was very low ($0.19 \text{ ind. ha}^{-1}$) compared with other sea cucumber species (Dolorosa 2015). The estimated area covered during the dive was about $6,000 \text{ m}^2$ ($600 \times 10 \text{ m}$) thus suggesting a density of about 8 individuals per hectare. However, the sighting was only in one out of seven dives covering a total area of at least $9,000 \text{ m}^2$. An average density of at least one individual per 220 m^2 (or $45.45 \text{ ind. ha}^{-1}$) was reported only in Bunaken Marine Reserves, Sulawesi (Lane 1999) but densities in other areas are less than 1 individual per hectare (Conand et al. 2013).

Together with many other sea cucumber species, *Thelenota rubralineata* is exploited in the Philippines (Schoppe 2000; Jontila et al. 2014) and in its known distribution range (Lane 1999; Kinch 2005; Purcell et al. 2012).

Sea cucumbers are prone to overharvesting (Schoppe 2000; Hasan 2005; Hasan and Abd El-Rady 2012; Purcell et al. 2012, 2013) and this could affect the people mainly dependent on their fishery. Monitoring the natural recovery of populations in marine protected areas and studies involving breeding and restocking of this species is suggested. Given its beauty, the tourism value of the species is important and could exceed its dried market value, thus there is a need to protect the species, at least at the local level.

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