

Mysterious entrapment of a sand-plover on a sandbar at Chek Jawa

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Subject: Sand-plover, *Charadrius* sp. (Aves: Charadriiformes: Charadriidae).

Subject identified by: Tan Hui Zhen.

Location, date and time: Singapore, Pulau Ubin, northern shore of Chek Jawa; 14 December 2019; 1753 hrs.

Habitat: Estuarine shore. Sand bar at intertidal zone exposed during low tide.

Observer: Joleen Chan.

Observation: During an intertidal survey, at a sand bar where a flock of sand-plovers were feeding (Fig 1.), a lone sand-plover (not identified to species) was found stuck up to its wings in the wet and sandy substrate (Fig. 2). The observer thought that the bird had accidentally sunk into soft substrate or caught in marine debris, and tried to dig around the bird's legs to free it. However, after removing some sand around its legs, it was discovered that while one leg was free, the foot of the other leg was held fast in the sand. The length of the leg, but not the foot could be felt. When the observer dug further or pulled at the stuck limb, an unknown force pulled the bird down deeper into the substrate. Realising the bird might be caught by a predator hidden beneath the sand, the observer did not interfere further and left the scene. The fate of the bird is not known, although it can be assumed that if it had not broken free, it would have drowned in the rising tide. The identity of the force within the substrate that trapped the bird is also not known, but is speculated in the Remarks section.



Fig 1. Sand-plovers feeding on an exposed sand-bar at Chek Jawa's northern shore on the same day as the incident. Photograph by Loh Kok Sheng



Fig 2. The sand-plover stuck in the sand before an attempt was made to dig it free. Photograph by Joleen Chan

Remarks: Based on the strength required to hold onto a struggling bird and its ability to bury deep in the substrate, it is speculated that a stargazer fish or a large burrowing anemone might have caught hold of the plover's foot. Both the longnose stargazer (*Ichthyoscopus lebeck*) and the Haddon's carpet anemone (*Stichodactyla haddoni*) have been recorded from Chek Jawa (Tan, 2018; Tan, 2019) with the latter commonly found in Singapore's shore.

Stargazers are nocturnal fish that spend the day buried in the substrate with only the eyes and mouth cleft protruding to ambush prey. Small fish that approach the head are sucked into the cavernous mouth when it suddenly opens (Allen & Robertson, 1994; Kishimoto, 2001). The longnose stargazer (*Ichthyoscopus lebeck*) attains a length of 19 cm and seems fully capable of subduing a plover. It is also capable of burying itself deep in the substrate. Tan & Chan (2019) had to dig 2 to 10 cm into the sand to expose one such fish.

The Haddon's carpet anemone (*Stichodactyla haddoni*) is the other likely candidate. It grows as large as 60 cm in (oral) disc diameter, and is known to feed on crabs and fish, trapping these with its sticky and venomous tentacles on its oral disc (Tan & Ng, 1988; Tan, 2019) which can exert a considerably strong pull when retracting into the substrate (personal observations; personal communication with Nicholas Wei Liang Yap). It is conceivable that the plover had accidentally stepped on the oral disc of an anemone and become trapped when the anemone withdraws into the sand. The circular impression on the sand in Fig. 2, if not caused by the plover's right wing sweeping over the sand, could be the area covered by the anemone's oral disc when it was exposed.

References:

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