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Biodiversity Record: Apparent sexual dichromatism of the dragonet, *Synchiropus lineolatus*

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Subject: Lined dragonet, *Synchiropus lineolatus* (Teleostei: Syngnathiformes: Callionymidae).

Subjects identified by: Toh Chay Hoon and Kelvin K. P. Lim.

Locations, dates and time: Singapore Strait, Pulau Hantu, vicinity of north jetty; 22 April 2023; around 0815 hrs.

Habitats: Marine. Coral reef at around 15 m depth.

Observer: Toh Chay Hoon.

Observation: Two examples were observed interacting. The smaller individual, about 6 cm total length, was first noted. The second, paler and larger individual, about 8 cm total length, then moved into the frame of the camera's view finder. The larger fish swam up to the smaller fish and made body contact with their cheeks (Fig. 1). It then moved its head over the back of the other fish (Fig. 2) before gliding away (Fig. 3).

Figs. 1 & 2. Dorsal views of the presumed female (left) and male (right) dragonets side by side with their cheeks in contact (Fig. 1), and then with the female's head over the back of the male fish. (Photographs by: Toh Chay Hoon).

Remarks: This observation appears to show heterosexual interaction between two adult *Synchiropus lineolatus*. The smaller individual is presumed to be male due to the elongated first dorsal fin and brighter colouration. The larger one seems to be female because of its comparatively drab colouration and much shorter first dorsal fin. Although fleeting, the encounter between the two fish, which involved some body contact, did not appear to be aggressive. Nor was it exaggerated (such as swimming with fins fully erect) to suggest courtship or mating.

The colouration of the two fish are more intense compared with the example featured in Toh & Lim (2018) which has a pale pink nape. On the presumed male fish, the patches on the nape and the dorsal part of the caudal base are maroon, and the pelvic fins are yellowish brown (Fig. 4). The presumed female fish lacks the maroon patches, and has white pelvic fins (Fig. 5). Both individuals are covered with small blue spots which are evident upon scrutiny (Figs. 4, 5). It is obvious from the photographs that the colour pattern of this species provides highly effective camouflage on the substrate. The live colouration of this species has apparently not been described (see Fricke, 1981, 1983).

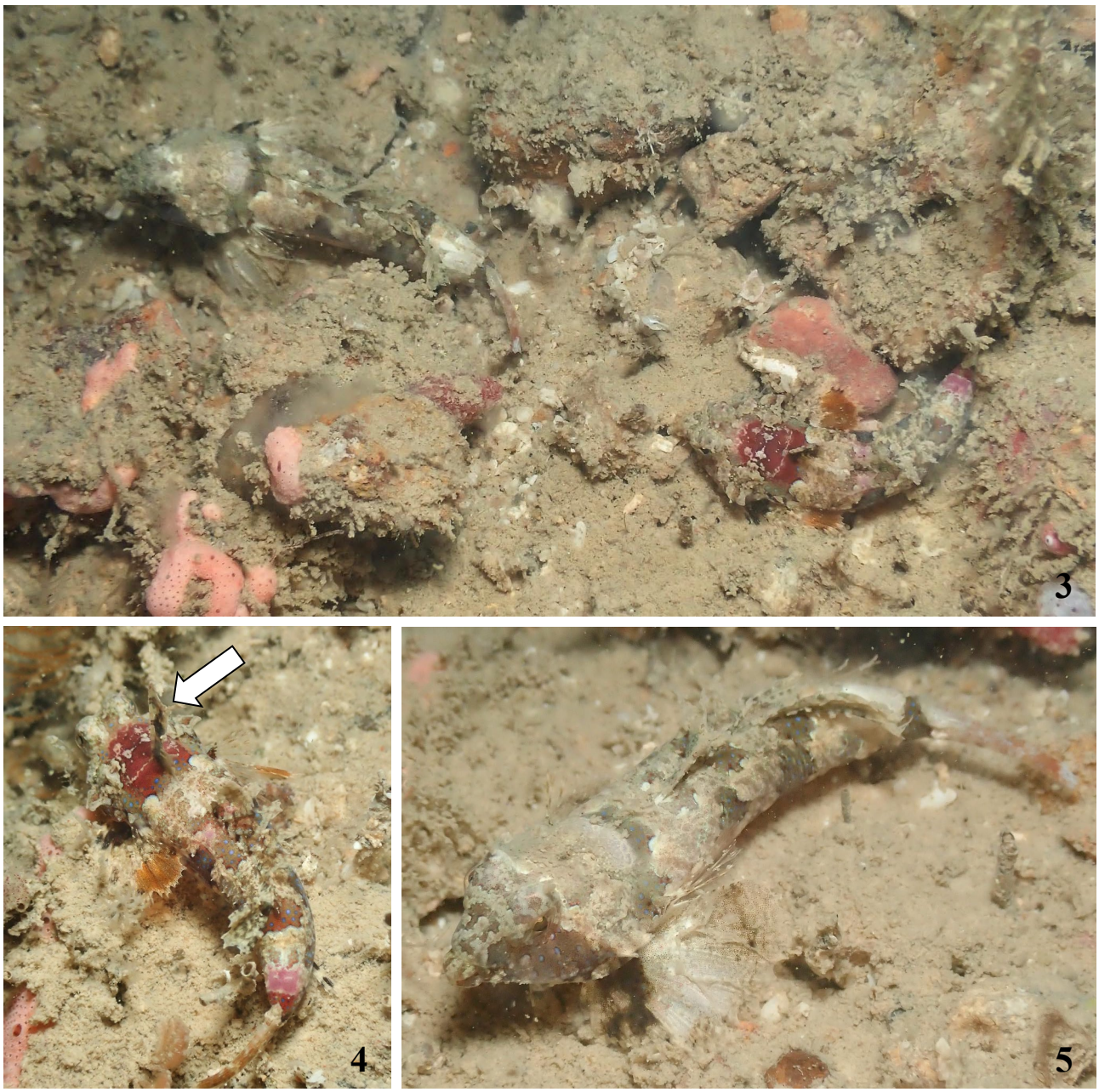

Fig. 3. Dorsal view of the larger dragonet (at upper left) moving away after making body contact with the smaller individual (at lower right). Fig. 4. Dorsal view of the presumed male fish with head pointing top left. Note its erect elongated first dorsal fin (indicated by arrow), yellowish-brown pelvic fins and maroon patches on its nape and caudal base, as well as the small blue spots on its body. Fig. 5. Dorso-lateral view of the presumed female fish, also with small blue spots on its body. (Photographs by: Toh Chay Hoon).

Literature cited:

Fricke R (1981) Revision of the genus *Synchiropus* (Teleostei: Callionymidae). Theses Zoologicae, 1: 1-194, 46 figs., 9 tabs.

Fricke R (1983) Revision of the Indo-Pacific genera and species of the dragonet family Callionymidae (Teleostei). Theses Zoologicae, 3: x + 774 pp., 212 figs., 29 tabs.

Toh CH & Lim KKP (2018) Rediscovery of the lined dragonet in Singapore. Singapore Biodiversity Records, 2018: 54.