Masses of the marine insect *Pontomyia oceana* at Ningaloo Reef, Western Australia

Fig. 1 **a** *Pontomyia oceana* masses at Turquoise Bay, Ningaloo Reef. **b** Male, and **c** female specimen of *P. oceana*

coral spawning season and may represent a previously unrecognized food source for reef inhabitants. Our observation is an important documentation of an expansion of the previously known distribution of *P. oceana*.

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References

- Cheng L, Hashimoto H (1978) The marine midge *Pontomyia* (Chironomidae) with a description of females of *P. oceana* Tokunaga. Syst Entomol 3:189–196
- Huang D, Cranston PS, Cheng L (2014) A complete species phylogeny of the marine midge *Pontomyia* (Diptera: Chironomidae) reveals a cosmopolitan species and a new synonym. Invertebr Syst 28:277–286
- Soong K, Chen G-F, Cao J-R (1999) Life history studies of the flightless marine midges *Pontomyia* spp. (Diptera: Chironomidae). Zool Stud 38:466–473

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Pontomyia, an exclusively marine genus of flightless chironomid insect, are rarely observed on the ocean surface. Only three genetically distinct species from the genus are described: *P. natans*, *P. pacifica*, and *P. oceana*, of which one, *Pontomyia oceana*, has been previously recorded at only three locations [Palau (males only), Heron Island (Queensland, Australia), and Taiwan (Huang et al. 2014)]. Upon maturation, *P. oceana* synchronously emerge at the water surface to reproduce in one of the shortest adult life spans (1–3 h) among all insects (Soong et al. 1999).

Here, we report an observation of *P. oceana* in the Indian Ocean. *Pontomyia oceana* were observed in masses as extensive (~100 m wide) orange patches on the water surface (Fig. 1) in the lagoon surrounding Turquoise Bay (22°02'S, 113°54'E) between 0800 and 0900 hrs on March 10, 2016; 1 day after the new moon. The masses were observed across >2 km along the coast, ~500 m from the shore, in water 2–3 m deep, and in an area where seagrass and algal species previously found to be associated with the insects—both *Halophila ovalis* and *Sargassum* spp.—are common (Huang et al. 2014). High tide occurred at 1043 hrs on 10 March, wind was negligible, and the water temperature was 26 °C. Specimens were collected that showed markedly dimorphic males and females, which were identified through species keys (Cheng and Hashimoto 1978) and verified through DNA sequencing to be genetically closest to *P. oceana* specimens from Taiwan.

These marine insect masses were similar in scale to the masses of coral spawn seen along the Ningaloo Reef in