

Sponges hosting the zoantharia-associated crab *Platypodiella spectabilis* at St. Eustatius, Dutch Caribbean



Fig. 1 *Platypodiella spectabilis* at St. Eustatius. **a** Inside its regular zoantharian host, *Palythoa caribaeorum*. **b** Digging into a *P. caribaeorum*. **c** Inside a *Niphates digitalis* sponge with the parazoanthid *Umimayanthus parasiticus*

Crabs of the genus *Platypodiella* (Brachyura: Xanthidae) are known for their association with zoantharians (Hexacorallia: Zoantharia), predominantly of the genus *Palythoa* (Den Hartog and Holthuis 1984; Den Hartog and Türkay 1991). They make cavities inside their zoantharian hosts, which they use as shelter.

During the Statia Marine Biodiversity Expedition to St. Eustatius (Lesser Antilles, Dutch Caribbean) in June 2015, small crabs (~5–10 mm wide) of *Platypodiella spectabilis* (Herbst, 1794) were most commonly observed either inside or in close proximity to encrusting *Palythoa caribaeorum* (Duchassaing and Michelotti, 1860) (Fig. 1a, b). A larger crab of the same species (~30 mm wide) was found hiding in between sponges and coral (M.A. Faasse and G.W.N.M. van Moorsel, pers. comm.), whereas crevices in dead coral may also be a common habitat (Martin and Zimmerman 2007). All crabs were characteristically colored in variable patterns of orange, yellow, black and white (Fig. 1; Martin and Zimmerman 2007).

Unexpectedly, two small *P. spectabilis* individuals were found in cavities inside *Niphates digitalis* (Lamarck, 1814) sponges associated with the parazoanthid *Umimayanthus parasiticus* (Duchassaing and Michelotti, 1860). These crab dwellings were similar to burrows observed in *Palythoa* (Fig. 1c). Although *N. digitalis* was one of the most commonly observed sponges of St. Eustatius, no *P. spectabilis* was found in sponges without a zoantharian associate.

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