

Shrimps with a coat: an amphipod hiding in the mantle of *Coriocella hibyae* (Gastropoda, Velutinidae)

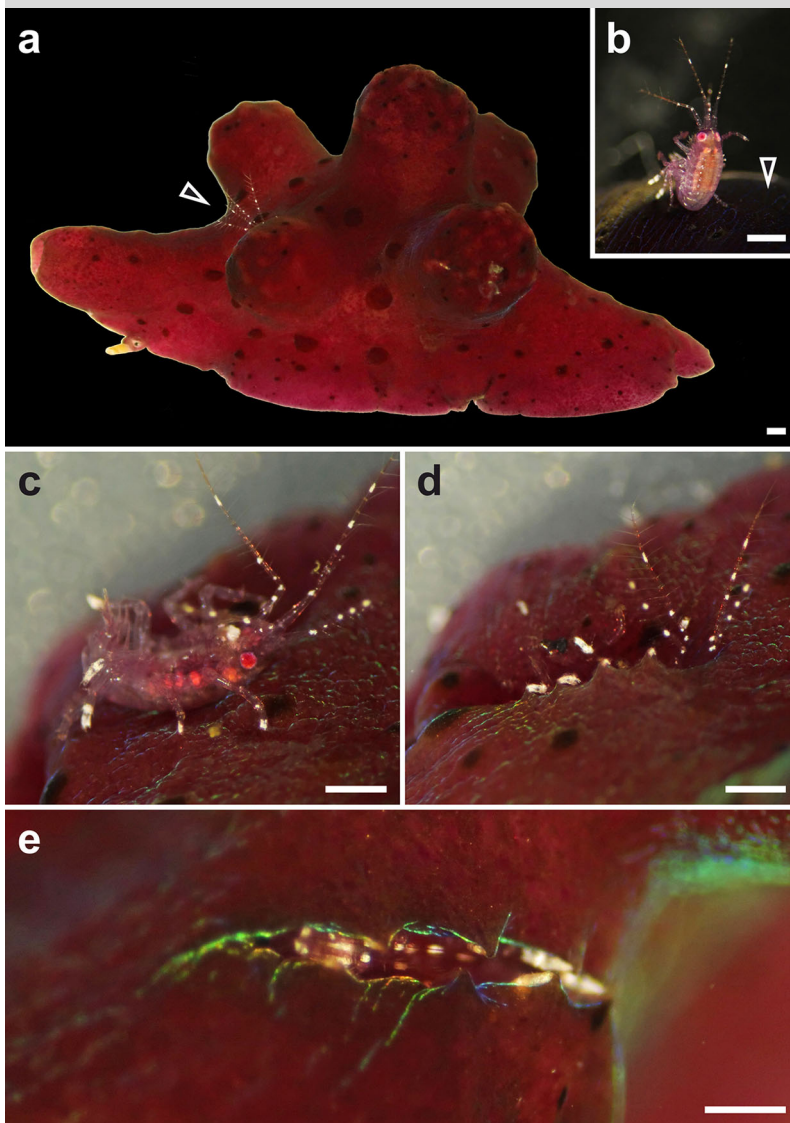


Fig. 1 **a** *Coriocella hibyae* with the associated amphipod (arrowhead). **b** Close-up of the amphipod laying on the host (arrowhead). **c** Amphipod clinging to the mantle of the gastropod and **d** burrowing itself. **e** Completely invaginated amphipod, resulting in a slit on the surface of the host. Scale bars: 0.5 mm

Amphipods can live in association with a variety of molluscs, mostly bivalves, and in a few cases are found in proximity of nudibranchs, mimicking the general appearance of the gastropods (Vader and Tandberg 2013). Here, we report a previously unknown behaviour of an amphipod associated with the lamellarian gastropod *Coriocella hibyae* (Fig. 1a), observed around Magoodhoo Island, Faafu Atoll, Maldives (3.067°N, 72.950°E) in March 2018. The amphipod was always found lying on its back (Fig. 1b). Specifically, it laid with the dorsal portion of the body in contact with the gastropod and used the thoracic legs to cling to the host (Fig. 1c). Subsequently, it pushed against the mantle of *C. hibyae*, burrowing itself in the soft body of the gastropod by bringing the thoracic legs close together (Fig. 1d), as shown in the video in the Electronic Supplementary Material. This behaviour allowed the amphipod to completely hide itself (Fig. 1e), probably finding a safe shelter from predators. This, together with the strong cytotoxic activity of secondary metabolites present in *Coriocella* species (Cantrell et al. 1999) and likely useful in deterring predation, make the gastropod an ideal refuge for the crustacean. To our knowledge, our findings represent the first report of an association between *Coriocella hibyae* and other organisms. Notably, the unique behaviour here described was never observed before and provides new insights into the hiding strategies of amphipods.

References

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