

A *Drupella cornus* outbreak in the northern Gulf of Eilat and changes in coral prey

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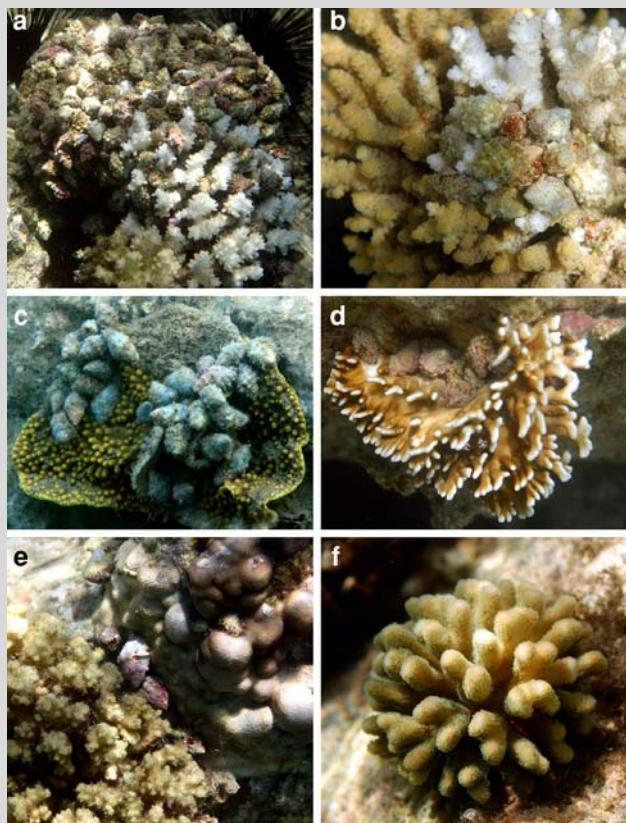


Fig. 1 Prey shift for *Drupella*. (a) Hundreds of *Drupella* feed on a 25-cm diameter *Pocillopora damicornis* colony. (b–e) *Drupella* snails feed on: (b) *Acropora* sp., (c) *Turbinaria mesenterina*, (d) *Millepora dichotoma*, (e) *Porites lutea*. (f) A young *Stylophora pistillata* colony recruited to the *Drupella* denuded area

Since 1998 the coral community on a 150-m artificial limestone quay at Eilat, Israel, constructed in the mid-1980s was monitored annually. Between 1999 and 2000, large numbers of the corallivorous snail *Drupella cornus* appeared following coral mortality at the time of siltation stress. Numbers increased dramatically in the subsequent years, and by July 2004, there were more than 200 *Drupella* on each, 30-cm diameter colony of several branching coral species (Fig. 1a, b). Earlier research by Gur (1988) had found *Drupella* mainly on *Acropora* sp. and at lower density on other branching species (1–50 snails per colony). All coral colonies at the southern end of the quay died within 2 years. The *Drupella* then ‘moved’ to the northern end. At first, the *Drupella* fed only on branching coral species (Fig. 1a, b), but as these were killed, the snails were found on massive and encrusting species, including *Turbinaria mesenterina* (Fig. 1c), *Pavona cactus*, *Millepora dichotoma* (Fig. 1d), and *Porites lutea* (Fig. 1e).

Drupella predators, including the fish *Coris aygula*, are rarely seen in this area. This lack of ‘top-down’ control may explain the behavior of medium sized (2–3 cm) snails that foraged during the daytime on the top surfaces of branching species and on exposed massive/encrusting corals (Fig. 1c–e). On the southern coast of Eilat, similar sized snails have not been seen exposed to predation during daytime (Gur 1988).

During the June 2005 survey, there were less than 10 intact branching colonies on the quay, and the dense population of *Drupella* had declined. By July 2006 and again in July 2007 new coral recruits were found (Fig. 1f) in the previously denuded areas.

Reference

Gur O (1988) Predation and life history strategies of the coral predatory snail *Drupella cornus*. M.Sc. thesis. (In Hebrew). Tel Aviv University, p 123

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Reef sites

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