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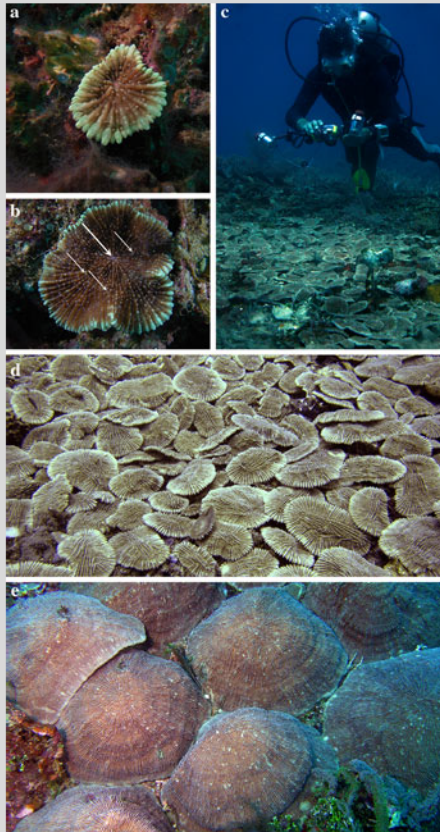


Fig. 1 *Halomitra clavator* at West Halmahera. **a** Small (2.5 cm) anthocaulus showing primary mouth at its centre. **b** Anthocaulus (9 cm) with three secondary mouths (small arrows) around the primary mouth (large arrow). **c, d** Patch of small (10–15 cm) regenerating fragments. **e** Cluster of large (25–40 cm) regenerated corals

The fragile mushroom coral *Halomitra clavator* Hoeksema, 1989 (Scleractinia: Fungiidae) is known from only a few localities in the central Indo-Pacific (Hoeksema 1989, 1993). It can be distinguished from its more common and widespread congener, *H. pileus* (Linnaeus, 1758), by its thinner corallum, club-shaped septal spines (opposed to sharp), and cream-coloured coral margin (opposed to violet, Fig. 1).

During a biodiversity survey off West Halmahera (northern Moluccas) in 2009, *H. clavator* was observed at four out of 39 reef sites (10%). This is nearly as common as in Madang Lagoon (Papua New Guinea), where it was found at three sites out of 24 (12.5%), with specimens up to 1 m in diameter (Hoeksema 1993).

At a submerged reef in Halmahera's Dodinga Bay (0°51.152' N, 127°35.325' E), several complete corals (2.5–25 cm diameter) were found at 18–20 m depth. These included the smallest *H. clavator* specimens in attached anthocaulus stage ever recorded (Fig. 1a–b). At another site (Guraici I, 0°1.283' S, 127°14.287' E; 17–22 m deep), monospecific patches (3–5 m wide) of regenerating mushroom coral fragments were found (Fig. 1c–e). Many were positioned on top of others, resulting in layers of up to three corals and densities of >100 m⁻². This situation is exceptional since previous reports on high concentrations of asexually reproducing mushroom corals concerned less rare species: i.e., *H. pileus* (Linnaeus, 1758), *Zoopilus echinatus* Dana, 1846, and *Fungia fralinae* Nemenzo, 1955 (Pichon 1978; Littler et al. 1997; Hoeksema 2004).

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References

- Hoeksema BW (1989) Taxonomy, phylogeny and biogeography of mushroom corals (Scleractinia: Fungiidae). *Zool Verh Leiden* 254:1–295
- Hoeksema BW (1993) Mushroom corals (Scleractinia: Fungiidae) of Madang Lagoon, northern Papua New Guinea: an annotated checklist with the description of *Cantharellus jebbi* spec. nov. *Zool Meded Leiden* 67:1–19
- Hoeksema BW (2004) Impact of budding on free-living corals at East Kalimantan, Indonesia. *Coral Reefs* 23:492
- Littler MM, Littler DD, Brooks BL, Koven JF (1997) A unique coral reef formation discovered on the Great Astrolabe Reef, Fiji. *Coral Reefs* 16:51–54
- Pichon M (1978) Recherches sur les peuplements à dominance d'anthozoaires dans les récifs coralliens de Tuléar (Madagascar). *Atoll Res Bull* 222:1–447

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Reef sites

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