The excavating sponge *Cliona orientalis* as a coral reef competitor's on Krakatau Islands colonisation, Indonesia

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The recovery of coral reefs on Krakatau Islands after the destructive eruption in 1883 has been reported in very limited study (Putra et al. 2014). Coral reefs began to grow on all islands in the Krakatau volcanic complex, including the highly active volcano island i.e. Anak Krakatau (north to west coast). Survival of coral reefs in the Krakatau Islands influenced by several factors such as predation, diseases, soft coral overgrowth, and also sediment covers (Putra et al. 2014). Somehow, sponges as one of killer-competitor of coral reefs have never been reported in the Krakatau Islands. In 2012 and 2013, the author conducted research in three islands of Krakatau Volcanic Complex (i.e. Rakata, Panjang, Anak Krakatau). The survey was done with line intercept transect and found about 0 to 5 % of sponges cover from six localities. Generally, *Cliona orientali*s Thiele, 1900 (encrusting form) were found as an aggressive and competitive species to reef-building corals (Fig. 1a). Some sponges were found attacked and killed massive *Porites* sp. (Fig. 1c-d). This excavating sponge is known as bioeroding demosponge with very competitive and successful colonizer in a certain environment (Schönberg 2000; Schönberg and Wilkinson 2001; Schönberg 2003). Despite their competitiveness, the sponge also found inhabited by other organisms like Lance blenny, *Aspidontus dussumieri* Valenciennes, 1836 (Fig. 1b). Before, *C. orientalis* was documented frequently found in eastern Indonesia (van-Soest 1990). This report presents a wider distribution of *C. orientalis* in the western part of Indonesian Archipelago.

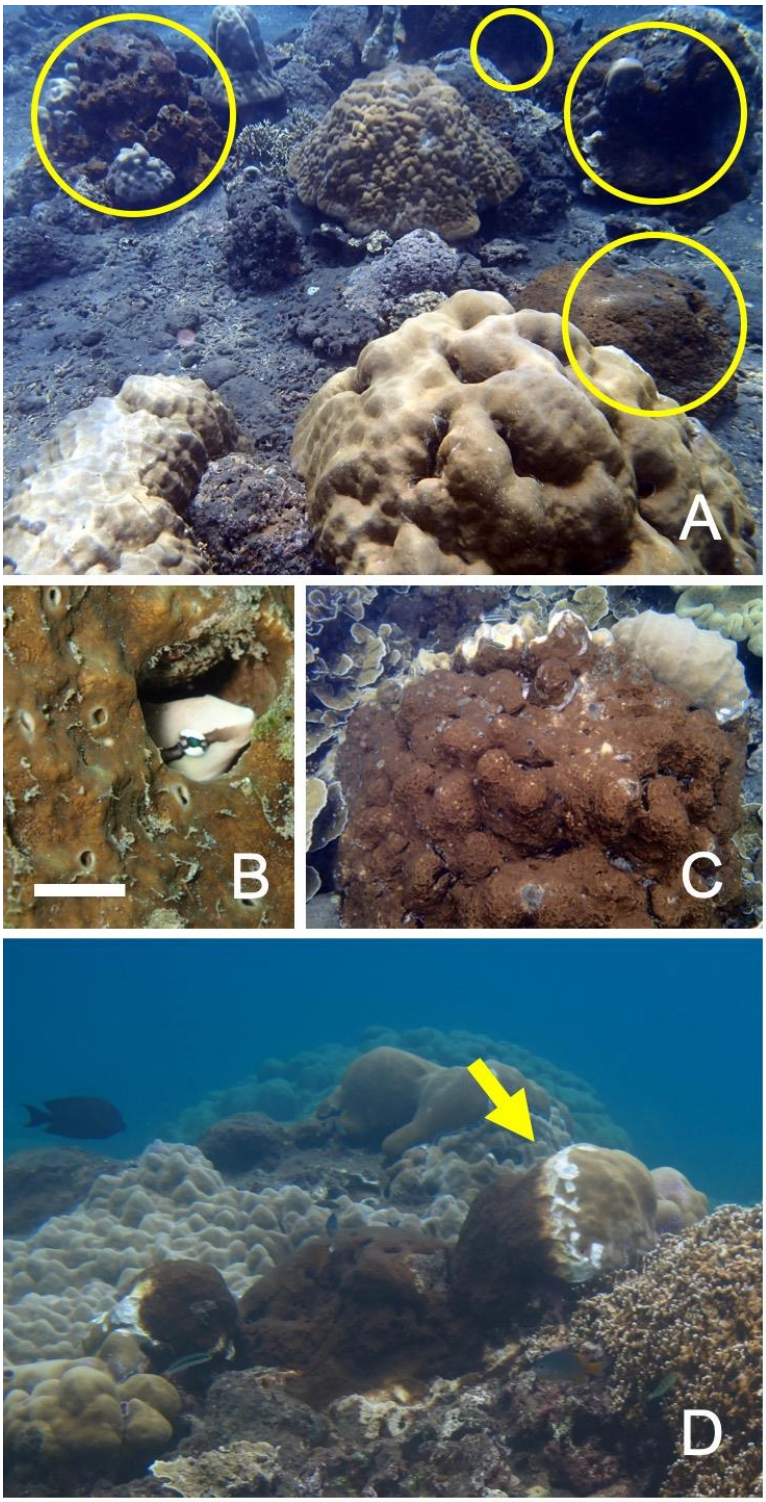

Figure 1: Excavating sponge as a competitor of coral reefs in Krakatau Islands. (A) Some colonies of excavating sponges (circles) commonly found in Rakata Island (06.13561°S, 105.45014°E). (B) Close up of excavating sponge *Cliona orientalis* inhabited by Lance blenny *Aspidontus dussumieri* dwelling old serpulid tube (scale bar 1 cm). (C) Excavating sponge covered almost 90 % of *Porites* sp. (D) Three colonies of *Porites* sp. were covered by *C. orientalis*, one colony full covered (middle), > 90 percent covered (left), > 75 percent covered (right), with some fish bites (arrow).

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