

Cenozoic bryozoans from southeast Asia: a contribution to the origin of high tropical biodiversity

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A pioneering study of Cenozoic bryozoans in SE Asia is being undertaken as part of the Throughflow Project. Throughflow's aim is to reconstruct the origin of the high biodiversity of shallow marine habitats in the Indonesian Archipelago through the integration of geological, geochemical and palaeontological data. Geological fieldwork has started in the Kutai Basin, formed during the Middle to Late Eocene. The basin is characterized by the development of Oligocene to Miocene patch reef complexes associated with turbid environments of high siliciclastic sedimentation. Bryozoans at first seem scarce, with only a few specimens belonging to a restricted number of genera. Previous publications on Cenozoic bryozoans from the entire Indonesian Archipelago have reported a total of only 21 genera and 11 identified species. This paucity contrasts with the high diversity of reef-associated bryozoans living in the same area at the present day. The rarity of bryozoans could be related to difficulties in locating outcrops and stratigraphical sections with well-preserved specimens. Identification of new outcrops is constrained by the structural and tectonic complexity of the entire area, as well as the intense weathering of the limestones in the humid and rainy climate. According to a preliminary palaeoenvironmental reconstruction, the sections with most bryozoans correspond to the crest and the slope of a Burdigalian-Langhian reef. Bryozoan colonies are commonly found encrusting the bases of corals. Anascans and cribrimorphs are the most abundant groups. Fragments of erect branching species, probably *Nellia* spp., and some Phidoloporidae are present within the sediments or adhering to the coral surfaces.

A revision of some material at the NHM includes a large number of specimens of the Late Oligocene coral [*Hydnophora*](#) collected in Eastern Sabah (Malaysian Borneo). Bryozoans abundantly encrust the bases of these scleractinian corals. Preliminary observations already allow an increase in the recorded diversity of Cenozoic bryozoans in SE Asia from 21 to 32 genera.