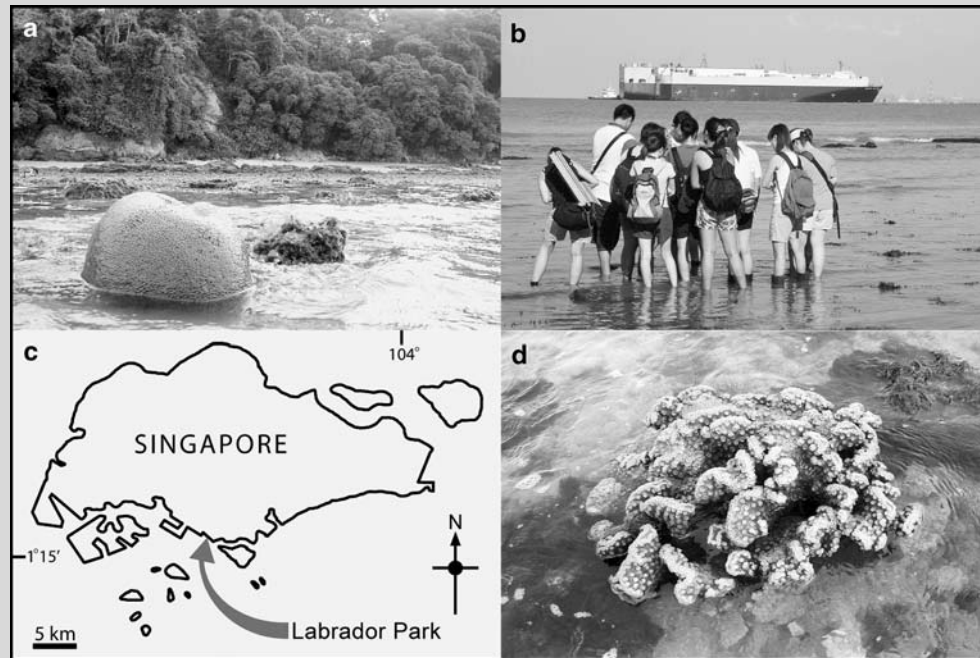


# A tale of survival: Labrador Park, Singapore

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**Fig. 1a** Low tide at Labrador Park with a *Platygyra* sp. head. **b** A school trip to the intertidal. **c** The park's location in Singapore. **d** An exposed *Turbinaria* sp. head

The intertidal rocky shore flat at Labrador Park, Singapore, is a popular recreational spot (Fig. 1a, b). Although only 300 m wide, it supports a diverse coral and sponge community that becomes exposed at low tide (Fig. 1a, d). What makes the park exceptional is that it is *the last remaining natural shoreline* along the entire southern coast of mainland Singapore, a stretch of over 60 km (Fig. 1c).

Singapore is a small island, ca. 42×23 km<sup>2</sup> that supports a total population of around 4 million. By 1990, 51.5 km<sup>2</sup> had been added to Singapore's land area through reclamation, an 8.9% increase to its original size; by 2030 another 100 km<sup>2</sup> is expected to be reclaimed (Hilton and Manning 1995). To date, the majority of these projects have been along the southern shore of Singapore, obliterating the original coastline.

The flat at Labrador Park extends 80 m seawards before sloping to depths of ~11 m. The seaward part of the flat and the slope had 23.7% live coral cover and 9% sponge cover in 2000 (unpublished data). Coral diversity was reduced from 30 species to eight by 1968 (Chuang 1973) due to impacts that included thermal effluent from a power plant at one end, reclamation of part of the flat at the other end, and an oil tanker jetty in the middle. Both the power plant and oil tanker jetty have been out of use for some years. A recent study of Labrador's anthozoans (Huang et al., in preparation) describes an inverse relationship between visitor numbers and diversity—with reduction in both abundance and species richness near the main entrance to the beach. Coral poaching has been reported and there is qualitative evidence of trampling.

The uniqueness of Labrador Park has not gone unnoticed. It was designated a Nature Reserve in 2002 and a volunteer beachwatch was initiated in 2004. Furthermore, with a reported presence of eleven hard coral species (Huang et al., in preparation) anthozoan diversity appears to be increasing, perhaps due to improved conditions since the removal of the oil tanker terminal and power plant. Although impacted by heavily sedimented waters (Chou 1996) and surrounded by megaprojects, marine life at Labrador Park continues.

## References

- Chou LM (1996) Response of Singapore reefs to land reclamation. *Galaxea* 13:85–92
- Chuang SH (1973) Life of the seashore. In: Chuang SH (ed) *Animal life and nature in Singapore*. Singapore University Press, Singapore, pp 150–174
- Hilton JH, Manning SS (1995) Conversion of coastal habitats in Singapore: indications of unsustainable development. *Environ Conserv* 22:307–322

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