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Invasive Behavior of *Schizoporella errata* on the Ecology of Native Fouling Community: Results from a Study using Experimental Test Panels

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Abstract

Schizoporella errata is an encrusting colonial bryozoan of the family Schizoporellidae. Although its invasive potential is well recognised globally, their presence in Sri Lankan marine environment was noted for the first time in 2014 and has since been observed abundantly throughout the port environment. The present study provides the potential impact of S. errata on native communities settling on test panels in Colombo Port, which is the main commercial port in Sri Lanka. Community succession was observed in six sampling locations for 24 months. The panels were placed in four depths at 1, 2, 3 and 4 m. In order to study the community development and percentage cover, plates were taken monthly by retrieving the collector out of the water, ensuring minimal exposure to direct sunlight and photographs of the plates were taken. In the laboratory, these photographs were analyzed using PhotoQuad software. During the study, a maximum of 99.25% of covering percentage was observed among the S. errata colonies of different successional stages outcompeting and inhibiting the growth of other fouling organisms, including native bryozoans (i.e. Arbopercula bengalensis and Hippoporina indica). Their ability to invade all the successional stages of a fouling community, including the climax community, indicates the potential threats caused by S. errata to the structure and dynamic of the native fouling community. Furthermore, S. errata seem to act as a secondary substrate for the settlement of other fouling organisms such as tunicates (i.e, Didemnum sp.). Since experimental panels are well known method to study the fouling community, the invasive behavior of S. errata in experimental panels ratifies its potential ecological impacts to the natural environment as a competitor for native fouling species and its ability to provide favorable living space for nonnative species.

Keywords: Schizoporella errata, Colombo port, Succession, Experimental panels