

CHEMICAL DEFENCE OF THE SPECIALIST ASCOGLOSSAN, *COSTASIELLA* SP. FROM THE INDIAN COAST

By **K. Padmakumar**

*Department of Aquatic Biology & Fisheries, University of Kerala, Beach P.O. 1616,
Trivandrum 695-007, India*

Opisthobranchs are considered to be the ideal models to investigate chemical ecology in the marine environment. They are rich in unique secondary metabolites sequestered from chemically rich prey. The present study records the distribution of the herbivorous ascoglossan mollusc, *Costasiella* sp. feeding exclusively on the chemically defended green alga *Avrainvillea erecta*. This alga contains avrainvilleol, a brominated diphenyl methane derivative which deters herbivores. A survey of algae at islands in the Gulf of Mannar, showed that *Avrainvillea-Costasiella* relationships only existed in one of the islands. Feeding deterrence assay revealed that known palatable algae coated with the diethyl ether extracts of both *Avrainvillea* and *Costasiella* deterred the herbivorous fishes significantly. Similarly, a chemotactic tube-foot response of sea star was found. Either the whole organism or the egg mass of *Costasiella* was avoided by carnivorous fish.

NOTE. The paper will be printed in Proceedings of the 7th Triennial IP Workshop.