

Poseidon Sciences

Marine Natural Products Discovery Program

Academic and industrial organizations interested in this R&D partnership program are requested to send their inquiry to:

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Satellite view of the Mannar Barrier between India and Sri Lanka.



The location of the Gulf of Mannar that separates South India and the island of Sri Lanka.

The marine natural environment is declining and so are the opportunities to discover new species and new biochemicals that may have industrial and medicinal uses. As part of its ongoing program of discovery, Poseidon is undertaking to promote research partnerships with academic and biopharmaceutical companies with Poseidon's marine research center to enhance the opportunities to find new sources of bioactive materials.



SHMRC and the marine resources of the Mannar Barrier (India)



Juncela is a soft coral found in the Mannar Barrier of South India and the source of **juncelin**, one of the most potent natural antifouling compound discovered to date. Juncelin was named after *Juncela* and Sister Avelin.

Sacred Heart Marine Research Centre (SHMRC) is an independent marine research organization based in the port City of Tuticorin in Southern India in the State of Tamil Nadu (Please see the link below for more information on SHMRC). The Centre is under the direction of Sister Avelin Mary, PhD and currently maintains laboratories within St. Mary's College and a beach laboratory in the marine protected area of Karrapad. Dr. Mary's work involved identification of marine natural products that may have industrial and biomedical uses. One of the compounds she isolated and identified was from the soft coral, *Juncea juncea*, called juncelin that shows remarkable inhibition of barnacle settlement. Marine bottom paints use organic toxicants and heavy metals to kill barnacles as the larvae settles on the surface. In this attempt to keep the hull free of fouling and reduce drag, the marine paint industry uses toxic chemicals thereby becoming one of the major sources of chemical pollution in the high seas. (Please see <http://www.poseidonsciences.com/shmrc.html>)

Poseidon's involvement with SHMRC dates back over a decade as a research partnership to investigate potential natural products from the marine resources of Mannar Barrier, a pristine ecosystem located between Sri Lanka and South India (see map). As part of our ongoing support for SHMRC, Poseidon has funded the establishment of the SHMRC Beach Laboratories to serve as an operating facility to support ongoing and future collaborations. ***"The coral reef system of the Mannar Barrier remains one of the least explored ecosystems in Indian waters and abounds with marine flora and fauna. It is truly a unique opportunity for research and discovery,"*** says Sister Avelin Mary, Director of SHMRC. SHMRC's Beach Laboratory will serve as the main R&D facility to support collaborative discovery programs. **Because of SHMRC's close proximity to the Mannar Barrier and the presence of technical support of marine biologists at this station, SHMRC is strategically positioned to explore these marine resources for bioactive natural products.**