experienced extreme deterioration in the recent past due to establishment of heavy industries in the vicinity. A rapid survey was carried out during November 2011 to assess the present status of its scleractinian diversity. Altogether, a total of 10 species, viz. *Acanthastrea hillae*, *Coscinaraea monile*, *Porites lutea*, *P. compressa*, *Favia favus*, *F. speciosa*, *Platygyra sinensis*, *Cyphastrea serailia*, *Siderastrea savignyana* and *Goniopora* sp. of scleractinian corals were recorded from this reef. Due to excess mud deposition, only small colonies of scleractinian corals were found surviving sporadically on the reef flat.

A marine jetty (2150 m long) was constructed by the Gujarat State Fertilizers and Chemicals Ltd (GSFC) across the intertidal area off Sikka village during 1985–1987. During this survey, we observed that natural recruitment of massive corals has taken place over stone pitching comprising boulders protecting approach road of the jetty against erosion. *P. lutea*, *P. compressa*, *F. favus*, *F. speciosa*, *P. sinensis*, *C. serailia*, *S. savignyana* and *Goniopora* sp. were found on the rock boulders (Figure 1). Similar kind of preference for jetty-like man-made structures by planula larvae has been reported from the Gulf of Mannar[3]. Many moderate sized colonies (diameter > 6 in) were found established on boulders of stone pitching on the northern side of the jetty, whereas no coral recruits were observed on the southern side. This may be attributed to the comparatively dry conditions on the southern side of the jetty approach road during ebb tides. Apart from hard corals, the rock boulders have also been observed to be colonized mainly by barnacles, *Crassostrea* sp. of edible oysters, a few gastropods and *Stichodactyla haddoni* – giant sea anemones. This observation may be helpful in understanding the recovery process of degraded coral reefs with disturbed habitat conditions unsuitable for natural recruitment over barren substratum.

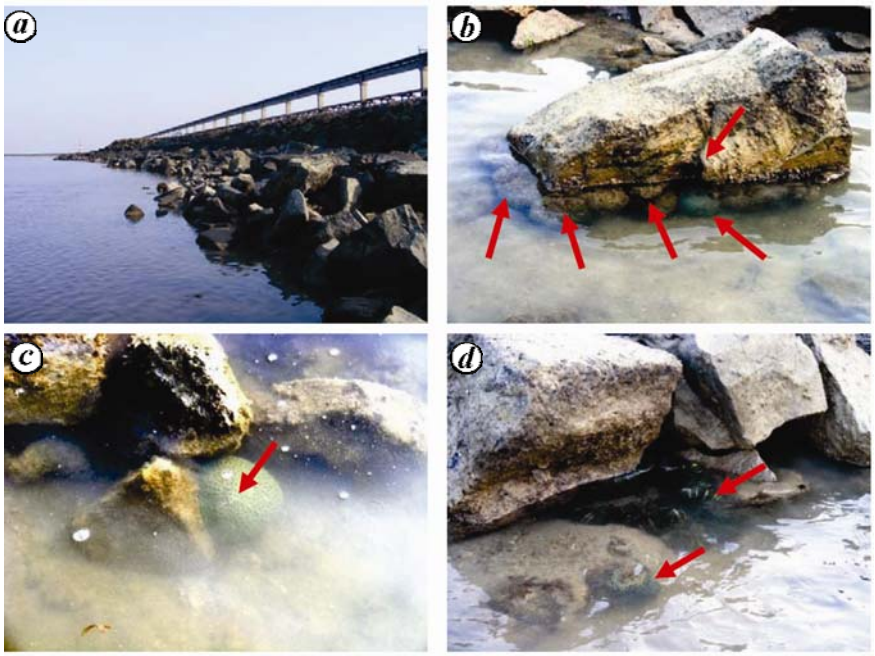

Figure 1. ***a***, Approach road to GSFC jetty. ***b***, ***c***, Coral heads (indicated with arrows) on the boulders. ***d***, *Stichodactyla haddoni* and *Favia favus* (indicated by arrows) developed on stone pitching.

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Marine sponge an evolving science – the need for a comprehensive systematic inventory for peninsular India

The world database on marine sponges is complex and exhaustive. A similar comprehensive and systematic inventory on marine sponges is required for India. Though two-thirds of the total Indian marine habitat have been covered, remote islands still remain untouched[1]. To build a systematic inventory system requires systematic inventorying of marine invertebrates, which continues to be a limiting factor.

Ecological restoration practices cannot proceed effectively until a total assessment of taxa and preservation of physical specimens is complete. Such an activity shall provide a permanent scientific record for documenting patterns of diversity and endemism across habitats and ecosystems. Only 486 species of marine sponges have been described in India[2]. The Gulf of Mannar and Palk Bay region have the highest diversity (319 species; Figure 1) followed by Andaman and Nicobar Islands (95 species), Lakshadweep (82 species) and Gulf of Kachchh (25 species)[1].

Figure 1. *Haliclona* species photographed during the underwater survey in the Gulf of Mannar, India.

The Sethu Samudram Canal originating at Tuticorin Port and running through the Gulf of Mannar, Palk Bay and Palk Strait will destroy the ecotone (transitional zone) of the narrow hybrid zone that could harbour many more unidentified, stable, hybrid populations[3]. The effect of tsunami and gaining bioinvasions of the eastern peninsular tip make the Gulf of Mannar and Palk Bay vital repositories of undocumented species diversity. Inventory data provide the basis for bio-monitoring programmes, identifying bioindicator species during environmental and anthropogenic ecoclimate shifts.

Call for additional or updated inventories supports the conservation and sustainable use of biodiversity, as newer species are discovered and described. Medicinal, agricultural and other economic uses command the need for marine sponge culture. But marine agronomy of sponges is an evolving infant science, just emerging in India. Although the survival rates of cultured species are generally high across the globe, the growth rates are slow and unpredictable, with the reared sponges producing less of the biologically active substances than their natural counterparts[4].

India has a long coastline (6100 km) which may house new deep-water species assemblages not previously known to science. Our knowledge of the sponge fauna has marginally increased in this decade as a result of enhanced collection efforts driven by pharmaceutical interests. Very few taxonomic papers have been published from Indian waters. Establishment of a sponge research foundation in India could contribute significantly towards the enumeration of the unpublished species and also highlighting the non-indigenous species. Biological accuracy of the Indian sponge database should be made a reality. It shall help the marine natural product industry of India in the near future.

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Aquilaria malaccensis Lam., a Red-listed and highly exploited tree species in the Assamese home garden

Natural populations of *Aquilaria malaccensis* Lam. are widely distributed in South and South East Asia. Actual accounts of the countries where it occurs vary. Oldfield *et al.*[1] have listed Bangladesh, Bhutan, India, Indonesia, Iran, Malaysia, Myanmar, Philippines, Singapore and Thailand as range states for this species. India is home to the following three *Aquilaria* spp., viz. *A. khasiana*, *A. macrophylla* and *A. malaccensis*. While *A. macrophylla* is restricted to the Nicobar Islands[2], *A. khasiana* is limited to the Khasi Hills of Meghalaya[3]. *A. malaccensis* occurs mostly in the foothills of the northeastern region (Assam, Arunachal Pradesh, Nagaland, Meghalaya, Mizoram, Manipur, Tripura and Sikkim) and West Bengal[4].

Large-scale harvesting of *A. malaccensis* has resulted in rapid depletion of the species in its natural habitats. It has been listed in Appendix II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora[5], to bring international trade within sustainable levels. *A. malaccensis* has also been included in The World List of Threatened Trees[1], and is highly threatened in India due to exploitation of the species for commercial purposes[6]. The species is 'vulnerable' globally, considered 'critically endangered' in India[7], and almost 'extinct in wild' in Assam[2].

During a floristic exploration in the home gardens of upper Assam, *A. malaccensis* Lam. (also called *A. agallocha* and *A. secundaria*) was observed to be a dominant tree species (Figure 1). It is a fast-growing, tropical tree belonging to the family Thymelaeaceae and is locally known as Agar, Agaru, Hanchi or Sanchi in Assamese. In the studied home gardens, it contributed highest (34%) to the total tree density with 1443 trees per ha and a frequency of 98%. Besides, it exhibited a good population and regeneration status (seedling > sapling > tree).

The Agar tree produces a resin as a defence mechanism against infection or injury – this is valued in many cultures for its distinctive fragrance, and is used as a principal component in incense and perfumes as well as in traditional medicine. The economic potential of Agar is unusual compared to other home-garden products, and acts as a compulsion factor to cultivate the species. The low input for management and growth, lack of site specificity and intercropping adaptation make Agar a preferred cash crop. It has

Figure 1. ***a***, Pure patch of Agaru in the home garden. ***b***, Agaru with other home-garden plants.