

Need for a centralized digital inventory on floral additions

The Convention on Biological Diversity encourages member countries to document their diversity and make it available for general use¹. Consequently, apart from new species, additions to the country² and state floras³ are being reported.

Compilation of floral information for Himachal Pradesh (HP) revealed that duplicity of additions is not uncommon, wherein the same taxon has been reported as a new addition to the HP flora more than once. A minimum of eight such duplicate additions were found (Table 1).

This is a serious limitation that emanates from the limited resources (journals, books, flora, etc.) that an author, referee or reviewer may have access too. At the same time, increase in the number of publishers and journals makes it even harder to keep track of them.

It would thus be desirable to have a centralized digital inventory of recent additions to the Indian flora as is available for the global new plant species (www.ipni.org). The Botanical Survey of India, a Central Government organization with a mandate of documenting floral diversity of India, has already initiated an important activity in this

direction and has come up with the book⁴, *Plant Discoveries 2010*. This is a valuable contribution and making it available on the web would further enhance its visibility, use and importance. Similar initiatives should also be taken up at the state level. A nodal agency in the state may opt for such a task of documenting, compiling and hosting on the net, additions to the flora of the respective states. Once done, the author, referee or reviewer just needs to check this list before preparing or recommending a publication reporting new addition(s). This would not only check duplicity of additions, but would be of great help to the scientific community where spatio-temporal additions to the flora can be analysed. Updating such a list would be much easier on the web and thus real-time information would be available to the users.

The success of e-floras and virtual herbarium is noteworthy and therefore, resources (financial and human) should be channelized for this activity also. Importantly, a mechanism needs to be evolved by which an author/journal who/that publishes a new addition furnishes this information to the nodal agency.

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Table 1. Taxa with duplicate addition reports for Himachal Pradesh

Taxon	First added	Repeat addition
<i>Dinebra retroflexa</i>	1997 (ref. 5)	1999 (ref. 6)
<i>Epipactis helleborine</i>	1985 (ref. 7)	1996 (ref. 8)
<i>Helixanthera ligustrina</i>	1986 (ref. 9)	2003 (ref. 10)
<i>Ipomoea sindica</i>	1985 (ref. 7)	2009 (ref. 11)
<i>Oxytropis hypoglottoides</i>	2005 (ref. 12)	2009 (ref. 13)
<i>Ranunculus ficarifolius</i>	1987 (ref. 14)	2008 (ref. 15)
<i>Salvia coccinea</i>	1985 (ref. 16)	1999 (ref. 6)
<i>Verbena tenuisecta</i>	1985 (ref. 7)	1996 (ref. 8)

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Foreshore facilities – home to corals

The Gulf of Kachchh (GoK) is the northernmost coral reef region and is proud to have the first Marine Protected Area of our country. The coral reefs of GoK are unique, as they mostly occur in the intertidal region requiring no diving to explore them. Due to its geographical isolation and extreme environmental

conditions, only 49 species of hard corals have been recorded at GoK, which is the least among Indian coral reefs. Corals are found on 33 out of 42 islands along the southern coast of GoK.

It is well known that artificial structures like jetty pillars, sea walls, pipelines, sunken ships, etc. are known to

provide alternative habitat to marine life, including corals over a long period of time^{1,2}. Sikka reef (lat. 22°27'27.72"N and long. 69°49'18.68"E) of the Marine National Park and Sanctuary in GoK is predominantly mud-covered dead reef lying in the middle of the Gulf along the coast of Jamnagar District. The reef has

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 favius*, *F. speciosa*, *Platygyra sinensis*, *Cyphastrea serailia*, *Siderastrea savignyana* and *Goniopora* sp. of scleractinian corals were recorded from this reef. Due to excess mud depo-

sition, 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. favius*,

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 Mannar³. 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.

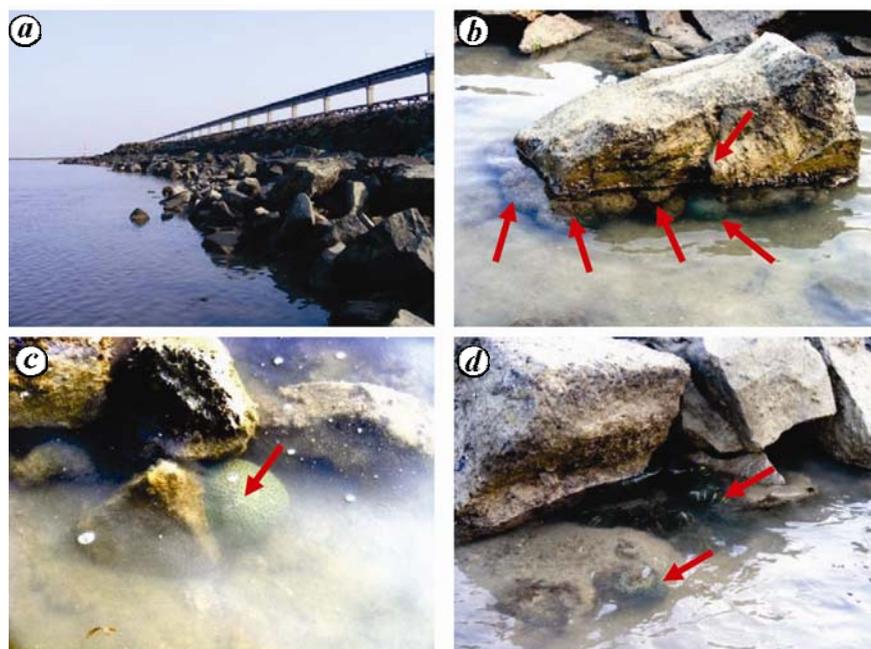


Figure 1. a, Approach road to GSFC jetty. b, c, Coral heads (indicated with arrows) on the boulders. d, *Stichodactyla haddoni* and *Favia favius* (indicated by arrows) developed on stone pitching.

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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 untouched¹. 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 assess-

ment 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 India². 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.