

of any similarity between the Late Cretaceous ostracod fauna of southern India and Argentina. The marine ostracod fauna of Argentina (South America) are found in the Late Cretaceous, principally composed of species belonging to the genera *Wichmannella*, *Trachyleberis*, *Platycythereis* and *Wolburgia* and have affinities with the ostracod fauna of Africa rather than with the northern hemisphere faunas<sup>24, 25</sup>. A problem is, therefore, posed concerning the palaeogeographical position of India during the Late Cretaceous<sup>26</sup>. Possibly, India was much closer to the northern shore of Tethys than the current plate tectonics accepts or else Tethys was shallower<sup>27</sup>. Similar observations have been made on planktonic foraminifera of the Late Cretaceous of Madagascar and of the Indian subcontinent<sup>28</sup>. Present data concerning the ostracod fauna from the Late Cretaceous of India are still too scattered and imprecise to provide a valid answer to this problem. A detailed analysis of these fauna may certainly help in solving this problem<sup>26</sup>.

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REPOSITORY The illustrated specimens are deposited in the museum, Department of Geology, Bangalore University, Bangalore, under the heading BUGDMFNO 49-50

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## Comments on 'Value addition: A threat to *Calophyllum* species' (*Curr. Sci.*, 1995, 68, 243)

Ranjit Daniels and V. Patil have rightly expressed a concern for the forest species of the genus *Calophyllum* in the wake of possible commercialization of their organic compounds.

Exploitation without consideration for future is a folly. On the other hand, can we afford to overlook altogether the other side of the coin, viz. a drug to treat a dreaded disease and at the same time income generation for the rural poor without sacrificing the scarce forest resources!

*Calophyllum inophyllum* is a common tree in the coastal tracts, as pointed out by the authors. As it regenerates fairly easily in this habitat, plantations can be undertaken in the available wastelands along the coastline.

Marshy, saline (*Khar*) lands can be afforested with *Salvadora persica*, a back mangrove species, which not only would provide a green cover for such wastelands but can also be a source of extra income for the underprivileged communities as the oil obtained from

its seeds is used by the cosmetic industry.

The cloves are mostly imported from Zanzibar or Penang. The clove tree (*Syzygium aromaticum*), requiring a very humid climate, can only be grown in the Western Ghats in Kerala with its short dry season but at the expense of natural forests. It would be worth experimenting grafting branches of the clove tree on its close Indian generic counterpart *Syzygium cumini*, a hardy, indigenous tree

common in the landscapes of the Peninsula

In view of the past misuse of forest resources, it should be our prime endeavour to conserve the biodiversity. Use of a resource should match its reproductive potential.

*Myristica* spp. (nutmeg), after which some evergreen forest types of the Western Ghats had been named earlier, have become a rarity today because of the over-exploitation of the fruits. In Coromandel region old trees of Tamarind and *Borassus* (palmyra palm) dot the countryside but their saplings are seldom seen as the seeds are consumed in large numbers.

The handsome periwinkle herb (*Catharanthus roseus*), which once ran wild over the sands of Mahabalipuram-Pondicherry, practically disappeared once the medicinal value of its root alkaloid was discovered, the plants were uprooted ruthlessly without any attempt at their regeneration, which was a simple operation: scattering seeds from mature fruits.

Rural development has to be on sustainable lines.

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*Ranjit Daniels and Vishwanath Patil reply:*

We entirely agree with Dr Meher-Homji's remarks. This brief communication was aimed at stimulating all readers to consider such issues while proposing conservation plans for biodiversity without having to sacrifice on rural economy and development.

*Calophyllum inophyllum* – the Indian laurel, locally called *Pinnai*, *Honnai*, etc., in south India – is, as rightly pointed out, a common tree all over our coasts. It is traditionally grown in home gardens in southern India. However, the population of this species is gradually dwindling due to development in most of its original habitat, viz beaches and lowland canal banks. Trees of this species have been removed for a number of reasons. In the Kanyakumari district, where the senior author hails from, it used to be so common. In fact, there is a small part of the town of Nagercoil which in Tamil is called 'Pinna-kaatuvilai', meaning 'a grove of Indian laurel'. This area has lost much of its trees during the last 10 years or so. Although people locally still use the fruits of the trees for making domestic crude oil and relish the fragrance of its white flowers,

in many parts of the town they do not wish to have the tree anymore in their backyards since the older trees develop a lot of crevices and cavities in their trunks which are often colonized by the dreaded giant catleg spider (*Ischnocolus* species). This is a general observation meant only to highlight the subtle factors that can lead to the destruction of species and not a factor to be directly correlated as a significant threat.

Fruits of the Indian laurel are bat-dispersed and they grow easily and widely. Large nurseries can be raised by local villagers along the south Indian coasts. Replanting the species wherever appropriate will enhance the population and protect it and the rarer forest relatives in the long run

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## Comments on 'Melanophore indexing: A quick bioassay technique for detection of heavy metal toxicity' (*Curr. Sci.*, 1994, 67, 48–50)

Banerjee and Mukherjee<sup>1</sup> rightly observed the toxic effect of a heavy metal on the fish melanophores. Earlier too, many workers studied the toxic effects of heavy metals, pesticides and other chemicals on different fish and amphibian melanophores<sup>2–14</sup>. In all the reports<sup>1–14</sup> the toxic effect of the substance under investigation was evaluated by comparing the morphological characters of melanophores between control and treated groups, either by simple descriptive methods or with the help of statistical analysis. However, 'melanophore indexing' is a method which describes the morphological state of the melanophores numerically. Many methods are in practice nowadays. One

of the most well-known methods has been described by Hogben and Slome<sup>15</sup>. Others include the one described by Bhattacharya *et al*<sup>16</sup>, which is based on actual measurement of the melanophores. Therefore, the title of the paper<sup>1</sup> seems inappropriate with respect to the contents of the paper. Secondly, the authors claimed alteration in the population of melanophores, which may not be correct. The authors<sup>1</sup> may have counted the intact melanophores that remained unaffected by the toxic substance, while the others disintegrated but did not disappear. Therefore, population has not changed but the number of affected cells has varied.

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