

## The dwindling glory of chinar

A recent letter in *Current Science*<sup>1</sup> discussed the critical condition of *Crocus sativus* (saffron). Chinar (*Platanus orientalis*) is also facing the same problem. This is a gigantic and one of the most beautiful trees, changing colours with seasons – from lush green in the summer, to yellow and maroon in autumn and grey in winter (without leaves). It is considered as a heavenly gift to Earth<sup>2</sup>.

Locally known as ‘bouni’ in Jammu and Kashmir (J&K) the tree derives its name from the Sanskrit word ‘Bhawani’, meaning Goddess. The hollow trunk of



**Figure 1.** Chinar tree on the National Highway near Magam.

the tree has been used for doing meditation over several years and is considered sacred. Hence it is planted around places of worship<sup>3</sup>. Other than religious importance, chinar is a good ornamental tree. The leaves are used as charcoal by the locals, the wood in crafts, and the huge and lofty branches house birds like the kite (*Milvus migrans*). The decoction of boiled bark of chinar is used in Greek folk medicine to treat haemorrhage and relieve burns, and when mixed with potassium carbonate is used as a traditional dye for silk<sup>2</sup>.

Despite its sacred value and all other utilities, the number of chinar trees has dwindled from 42,000 (1970s) to 2000 at present<sup>3</sup>. The main reason for this decrease may be reckless felling and pruning of trees for construction and road widening, and due to poor management practices adopted by Social Forestry and Tourist departments of J&K.

Due to frequent tourists flocking Kashmir, road widening and other developmental activities have been expedited. Widening of roads throughout Kashmir valley, along Gulmarg National Highway, especially near Magam (Figure 1) has resulted in the loss of many trees due to the surrounding concrete. In Srinagar, along the banks of the Jhelum (Bund area, Lal Chowk) many trees are unable to survive as chinar grows well in drained sandy loam soil. But in Bund

area, deep pits have been dug around the trees. During rainy season and snowfall water gets collected in these pits. This water brings a lot of silt and clay content along with it, which gets deposited on the surface of the soil that hinders growth of the tree, depriving the roots of oxygen, resulting in senescence and finally death of the tree.

However, to reduce the impact of development on the environment, ecologists and environmentalists should be consulted. During widening of roads, proper aeration of roots of trees and other plants must be considered. For example, the roots of the trees should be covered with soil from all the sides for aeration, instead of concrete.

1. Husaini, A. M., Bhat, M. A., Kamili, A. N. and Mir, M. A., *Curr. Sci.*, 2013, **104**, 686–687.
2. Diamandis, S., [http://www.dendrology.org/site/images/web4events/pdf/Tree%20info-%20IDS\\_04\\_pp52\\_53\\_Platanus.pdf](http://www.dendrology.org/site/images/web4events/pdf/Tree%20info-%20IDS_04_pp52_53_Platanus.pdf)
3. Raina, J. N., *Deccan Herald*, 2013; <http://www.deccanherald.com/content/79029/content/216225/F>

R. K. MANHAS

*Department of Botany,  
Government Degree College,  
Kathua 184 104, India  
e-mail: manhasrk@rediffmail.com*

## Current Science: open access journal and institutional members

Open access has allowed us to use the entire article collections of *Current Science* without any subscription and the visibility factor is important for encouraging open access. Those who enjoy the subscribed electronic journals should consider promoting the unrestricted, life-long use of open access journals which could be collectively supported, thus doing away with the profiteering science publishers. Whatever the barriers we may come across, there is a clear cause for

supporting open access which is based on the tenet ‘holdings have no say where access is free and fast’.

The sponsoring society and the editorial team of open access journal *Current Science* have devised a *wonderful mechanism* of Institutional Members. One can click the ‘Category’ link of this online journal homepage and compile the following statistics (<http://www.current-science.ac.in/php/feat.php?feature=Institutional%20Members&featid=10044>).

Since 2000 (with just 184 institutional members), we witness an average addition of 12 members per year for seven years and in the recent six years there is a good increase of 28 members per year. The latest update is on 9 May 2013 and the total institutional members stand at 416. The editorial team has identified 27 categories of institutional members (as on 22 March 2013, a total of 406) and I have regrouped this in a much simpler manner (Table 1).

**Table 1.** Institutional members of *Current Science*

Category	Subtotal	Percentage
Universities and institutions	135	33.25
CSIR, DRDO, DAE, ICAR, ICMR	152	37.19
Union Ministry, State agency, DST, DBT	77	18.97
Public–Private R&D centres and institutions	42	10.34

It is found that at least 22 institutions are wrongly designated/categorized. For instance, Central Coffee Research Institute, Chikmagalur is not a CSIR laboratory. Institutions such as Bharath Institute of Higher Education, Chennai; Chennai Mathematical Institute, Chennai; SASTRA University, Thanjavur and Sri Ramachandra University, Chennai are not State Universities – they belong to ‘Institutions deemed to be universities’ (under section 3 UGC Act, 1953) and are not funded by UGC. Two private universities are listed as State Government universities. Moreover, the nomenclature of a few privately funded institutes is listed without following the norms of UGC regulations (2010). No deemed university can suffix the word ‘university’ ([http://www.ugc.ac.in/old-](http://www.ugc.ac.in/old-pdf/regulations/gazzeetenglish.pdf)

[pdf/regulations/gazzeetenglish.pdf](http://www.ugc.ac.in/old-pdf/regulations/gazzeetenglish.pdf)). One would not call Indian Institute of Science a university! It is unfortunate that many deemed universities deceptively use the word ‘university’ in the names of their institutes. For correct nomenclature of universities one may refer to <http://www.ugc.ac.in/oldpdf/alluniversity.pdf>.

I am of the opinion that more number of institutional members could bring a better fiscal convenience for the publisher with a concern for open access to millions of readers. Among the 640 universities in India, less than 25% are institutional members of *Current Science* and the private universities and private deemed universities contribute a meagre 14 (3%). Two hundred and seventy-four autonomous colleges of 70 state universities are potential candidates and not yet

listed, though some of them have subscribed for the print version. If we presume that most of the print versions of Indian journals are printed in a few thousands, what is the optimum number of institutional members for the sustainability of *Current Science*? It is an open-ended question to all categories of institutional members!

The classification of the members is found in the web pages only (not in the print version to my knowledge). I have pointed out in good faith the errors committed in designating the institutional members. The students, faculty, researchers, working professionals or simply stated science information seekers can extend their wholehearted support for open access science journals. We must encourage a culture of critical reading and sustainable growth of peer-reviewed open access science journals.

T. MURUGESAN

*Centre for Nanoscience and Technology,  
Anna University,  
Chennai 600 025, India  
e-mail: murugesantha@gmail.com*

## Severe oxygen depletion in the shallow regions of the Bay of Bengal off Tamil Nadu coast

Oxygen depletion in the subsurface waters and formation of hypoxic/anoxic systems has expanded significantly in coastal systems around the world in the last few decades<sup>1</sup>. Depletion in dissolved oxygen concentration in the water column leads to hypoxic ( $O_2 \leq 2 \text{ mg l}^{-1}$ ) and/or anoxic ( $O_2 \leq 0 \text{ mg l}^{-1}$ ) conditions, and further formation of oxygen minimum zones (OMZs) in the coastal areas. Oxygen deficiency in the shelf region could be a critical determinant for fisheries, ecological and biogeochemical processes<sup>2</sup> along with the economic condition of the region. Rise or expansion of hypoxia and anoxia at par with the urbanization and industrialization indicates major perturbation to the structure and functioning of coastal marine ecosys-

tems. Here we report the vertical expansion of hypoxia within OMZ along the outer shelf and slope region, and emergence of an inner-shelf hypoxia that was not apparent in the southwestern Bay of Bengal (BoB).

Off BoB hypoxic conditions are persistent on the outer shelf beyond 100 m and OMZ ( $O_2 < 0.7 \text{ mg l}^{-1}$ ) is present from 150 m to about 600 m (refs 3, 4). Minimum oxygen concentrations within the Indian Ocean OMZ are generally deeper (~800 m) than the Atlantic and Pacific Oceans<sup>5</sup>. Long-term data (1960–1990) on the Indian Ocean, Arabian Sea (AS) and BoB show constancy in OMZ over the past few decades<sup>5,6</sup> (Table 1). However, shelf water column hypoxia and anoxia was not prevalent in BoB.

The Bay of Bengal sustains a strong potential for impacts from riverine nutrient loads due to the very high nutrient yield in its catchment basins, e.g. via the Ganges/Brahmaputra, Godavari and Mahanadi rivers<sup>7</sup>. It is the most open of all the systems receiving high nutrient inputs, with no physical barriers separating its coastal zone from the open ocean. During the southwest (SW) monsoon (July–September), isopycnals from depths up to about 70 m surfaced due to upwelling forced by local winds, and the geostrophic velocity in the upwelling band is in the direction of the winds. The residence time of the intermediate waters or OMZ (100–1000 m) of the bay is 12 years<sup>6</sup>. Southern and northern regions of the bay have distinct mixed layer depths