Impact of Indian journals is escalating

Publishing in *Science Citation Index* (*SCI*) journals with impact factor (IF) continues to draw attention of researchers[1] as also issues like page/publication charges[2] for publishing in such journals. Now there is good news from Indian S&T journals with IF of 1.000 or more that do not demand page/publication charges and at the same time are available on the internet as open access.

In 2004, two Indian journals crossed IF of 1.000 for the first time[3]. It became one in 2005 (ref. 4) and three in 2006 (ref. 5; Table 1). This is indeed an encouraging trend and one hopes more Indian journals will cross IF of 1.000 in future and some of these journals may even touch IF of 2.000 shortly. What is important is that not many journals have high IF. Specifically, in 2006, the highest IF was 63.342 for *CA: A Cancer Journal for Clinicians*. Of the 6164 journals included in the *Journal Citation Reports* (*JCR*), Science Edition, 2006, just 109 (1.77%) had IF of 10.000 or more and more than half of the total journals, i.e. 3399 (55.14%) had IF of 1.000 or more[5]. And in 2006, three Indian journals, including *The Indian Journal of Medical Research*, published by the Indian Council of Medical Research, New Delhi had the highest IF of 1.224 by any S&T journal in India[6]. It is high time that the editors of these five Indian journals (Table 1) be honoured appropriately.

Table 1. Indian journals with impact factor of 1.000 or more during 2004–06

JCR, Science edition, Year	No. of total journals	No. of Indian journals	Indian journal(s) with IF of 1.000 or more, including URL	Publisher
2004	5968	47	2 *Journal of Biosciences* (IF2004: 1.102) http://www.ias.ac.in/jbiosci/index.html	Indian Academy of Sciences, Bangalore
			Journal of Genetics (IF2004: 1.100) http://www.ias.ac.in/jgenet/index.html	
2005	6088	49	1 *Journal of Biosciences* (IF2005: 1.031) http://www.ias.ac.in/jbiosci/index.html	Indian Academy of Sciences, Bangalore
2006	6164	45	3 *The Indian Journal of Medical Research* (IF2006: 1.224) http://www.icmr.nic.in/ijmr/ijmr.htm	Indian Council of Medical Research, New Delhi
			Journal of Chemical Sciences (IF2006: 1.120) http://www.ias.ac.in/chemsci/	Indian Academy of Sciences, Bangalore
			The National Medical Journal of India (IF2006: 1.000) http://www.nmji.in/the%20Journal/the_Journal.htm	All India Institute of Medical Sciences, New Delhi

1. Singh, H. P., *Curr. Sci.*, 2007, **93**, 887.
2. Narayanan, M. S., *Curr. Sci.*, 2007, **93**, 889–890.
3. Jain, N. C., *Curr. Sci.*, 2005, **89**, 429.
4. *Journal Citation Reports 2005*, Science Edition (CD-ROM), Thomson, Philadelphia, 2006.
5. *Journal Citation Reports 2006*, Science Edition (CD-ROM), Thomson, Philadelphia, 2007.
6. Satyanarayana, K., *Indian J. Med. Res.*, 2007, **126**, 4–5.

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Tissue culture technology and transgenic biology – A boon or bane?

Plant tissue culture is an important tool in the field of plant biotechnology for the conservation of endangered and economically important plant species. The technique is also helpful in producing genetically modified (GM) crops. But is the technology really following its path? A large amount of money is pumped in every year for the conservation of endangered plants through 'clonal propagation' and large number of protocols are available at present. Unfortunately, we are not witnessing an improvement in the status of these plant species in nature. The *2007 IUCN Red List* revealed that the number of threatened plant species is increasing gradually[1].

Moreover, the GM crop plants produced through transgenic technology pose ethical, economical, ecological and technological risks. Their existence in nature causes a rapid depletion of the genetic resources, which has resulted in gene erosion, genotype decrement and biodiversity loss. Further, the GM plants cause various ill-effects to soil physiochemical properties and the soil becomes unfit for other plant species. The greed of farmers to gain more profits in a short span of time has led to severe distur-

bance in biological diversity. Moreover, organized market created by some biotechnological companies has gradually replaced the normal agricultural practices (by farmers) which used to be the backbone of our nation. Farmers are persuaded and sometimes forced to purchase these seeds which are expensive compared to the non-GM seeds. However, the productivity is not good. Farmers commit suicide as they become bankrupt! Unfortunately, the Indian Government has only become a mute spectator.

Further, transgenes, especially those conferring resistance to pests, diseases, herbecides and stress may get transferred by cross-pollination to sexually compatible wild weedy species, offering them a selective advantage over cultivated ones. Moreover, repeated transformation of genome and elimination of ancillary sequences are the major issues facing global transgene marketing strategy. Transgenic varieties may lead to proliferation of new viral, fungal and insect strains that have gained resistance to transgenic-resistant plants and, this could have serious impact on biological species. Efforts should be made by Government and Non-Government organizations to inculcate the tissue culture technology at the grass roots level. For this, farmers and local youth should be mobilized for 'organized cultivation' of economically and medicinally important plants. They should be provided adequate facilities and financial assistance which could act as an alternate source of income. Awareness should be generated among the rural people about increasing biodiversity loss. Further, transgenic crops should be produced (if necessary) after considering all repercussions and simultaneously precautionary measures should be implemented. Big companies (along with the Government of India) should not misguide farmers. Otherwise a time will come when the Indian farmer, who is considered as the backbone of this so-called developing nation would disappear!

1. http://www.iucnredlist.org

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Forest destruction in Eastern Himalayas

The Himalayas dominate a vast region in Asia, and have contributed much to shaping the environment of India and its neighbouring countries. In northern Sikkim, areas like Lachen, Lachung, Yumthang, Thangu and Sevo have dense natural forests. The green area is covered with old coniferous trees – *Abies densa* Griffith., *Larix griffithiana* Carr. and *Juniperus* spp. Linn. The bark of old trees are peeled-off by locals for domestic and religious purposes. The wood obtained from tall *A. densa* Griffith. tree is used for making long flag-posts. The denuded mountains with stumps of old conifers and frequent landslides are a common sight in certain areas of Thangu and Yumthang. Increasing terrace cultivation is another major problem affecting extinction of many tree species. Arunachal Pradesh (Tawang, Se-La, Zemmithang, West Kameng, Itanagar) displays conditions that are contradictory to those of Sikkim. Both shifting and terrace cultivations are prominent features of this area. Tribes from Arunachal Pradesh cause damage to trees; they practice shifting cultivation converting green mountain slopes into barren patches of land. In Se-La, like Jaswantgarh, trees are cut down by the Indian army for their defence purposes. In Tawang, plants like *Berginia ciliata* Sternb., *Rhododendron* sps Linn., *Meconopsis* sps Vig. and *Primula* sps Linn. have become rare due to terrace cultivation. In Itanagar, plants like *Dipteris wallichii* (R. Br. ex Hook et Grev.) T. Moore, *Costus speciosus* Smith. and *Strobilanthes* sp. Blume have become rare due to shifting cultivation. Destruction of forests in the Eastern Himalayan region is changing the temperature, enhancing the rate at which Himalayan glaciers melt and consequently threatening the biodiversity.

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Equitable sharing of benefits from marine genetic resources

In an earlier article[1], I had put forth the possibility of setting up an International Marine Bio-prospecting Authority (IMBA). This Authority is necessary because the oceans are to be the Medicine Chest of the New Millennium and many pharma/biotech companies and oceanographic institutions are now eyeing to bio-prospect the oceans in a big way[2,3].

According to the present international law[4], the resources of the high seas are open to all (the international law is silent about marine genetic resources). In practice, it is only the developed countries that are actually bioprospecting the deep seas (the developing countries neither have the resources nor the expertise).

One of the biggest problems of any bio-prospecting effort[5] is that most of the time samples of flora and fauna are collected, turn out to be ones already known. This could be avoided to a large extent if biodiversity maps are freely available to both academia and industry. It might be even desirable that all marine biodiversity maps be deposited with the IMBA, which could put them in public domain. This would serve several purposes – the complex interrelationships in the marine ecosystem would be thoroughly understood in a worldwide scale, and it would be easier to identify organisms with potential therapeutic properties. Information on the marine biodiversity on a worldwide scale is being systematically compiled, one such endeavour is the