Majority of the times errors in such ECATs are mere reflections of the errors (such as spellings, synonyms, taxonomic opinions, etc.) that exist in the sources of literature. For instance, species *Oligotoma annandalei* has been spelt by Mitra[3] (p. 205), Das[4] and Kapur and Kripalini[5] as *Oligotoma annandalei*, while Mitra and Srivastava[6], on p. 293 have spelt it as *O. anandalei* and on p. 294 as *O. annandalei*.

Therefore, developing ECAT is a dynamic and on-going process for which periodic reviews are essential to maintain the quality, authenticity and current taxonomic opinion. Further, this is crucial as changes in taxonomic opinions need to be archived in such catalogues. ECAT thus forms a baseline dataset that can expedite the process of taxonomic revision[1], as it forms the much required collaboratory environment for taxonomists to initiate dialogue for much essential taxonomic scrutiny involving taxonomic data authentication and validation, as well as taxonomic revision.

Our experience of IndFauna suggests that because of its web-based nature, distributed taxonomic expertise can share and exchange their views and get themselves involved in the virtual process of data authentication, curation, and quality control. In fact, over 100 taxonomists (both within India and overseas) representing major faunal systematics agencies and individuals have volunteered themselves for taxonomic scrutiny of data collated in IndFauna. During the next 2 years, we have planned to hold several taxonomic scrutiny workshops, which, we believe, will complement and expedite the process of web-based collaboration. However, the process of taxonomic scrutiny being collaborative and participatory in nature, is expected to take longer.

Further, even widely used global and regional ECATs such as Integrated Taxonomic Information System (ITIS)[7] and others are also not entirely scrutinized. ITIS currently collates data of about 334,000 scientific names. Out of this, about 45% remains to receive taxonomic scrutiny or verification[6]. This only stresses the urgent and increasing involvement of taxonomists in development and updating of ECATs, which can act as 'digital registry of names of organisms' once taxonomic treatment is received. Hence, we wish to congratulate Chandra[2] for this, as such a statement from a seasoned and reputed taxonomist would certainly encourage fellow colleagues to actively participate and collaborate.

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Rice–wheat cropping system

In the rice–wheat cropping system (RWCS) in India wheat is taken soon after rice. Since there is not much time gap between the two crops, rice stubble after harvesting is burnt *in situ*. The authors have rightly pointed out[1] that burning besides causing loss of precious plant nutrients also creates environmental pollution. I understand that in Russia, where RWCS is followed, rice stubbles are ploughed into the soil after harvesting the grains and wheat is sown after that. Soil microorganisms decompose the stubbles and thereby enrich soil with nutrients. Perhaps, we can follow this in our country together with the addition of some decomposing organisms at the time of ploughing in rice stubbles in order to hasten the process of decomposition.

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Nano-energy

The observation of a measurably small voltage generated by some liquids/gases flowing through a single or multiwalled carbon nanotube, or over the surfaces of such semiconductors as Ge and Si has been reported by Sood and coworkers[1,2]. Of course, these are elegant experiments. The results of the experiments have been viewed by the Department of Science and Technology (DST) to be a new source of energy. While highlighting the significant achievements in science and technology last year in paid advertisements in national newspapers, the DST hailed the observations as a significant achievement of Indian science, and supported its statement graphically by showing an observed linear plot of voltage generated as

a function of the fluid velocity. The rate of electrical energy generated being the product of current and voltage, it is a very small fraction of a nano watt, in this case, since the current, although not mentioned in the report, is a small fraction of a nano-ampere. Such a source can, at best, power a sensor. Unfortunately, media (national newspapers, and prominent magazines such as *India Today*, etc.) splashed the news of this DST-pronounced hype of a new source of energy. These reports were taken so seriously by some scientific officers in the Ministry of Non-Conventional Energy Sources (MNES) that the use of carbon nanotubes for generation of a usable source of energy was proposed as a new thrust area. Being a member of the R&D committee of MNES, I had the proposal rejected.

It should be pointed out that reports of voltages in the range of microvolts generated by pumping water through porous glass by Larry Kostiuk of the University of Alberta, Canada (*Science Reporter*, CSIR, December 2003) have also appeared in the scientific literature. The electric current so obtained is stated by the investigators to be very small. The generation of some voltage by rubbing a glass (and several other materials) surface is a well-known phenomenon. One can also create a voltage difference by rubbing differentially or by passing a stream of dry air over the surface of a variety of insulating or semi-insulating surfaces. Along similar lines, some years ago, MNES received a research proposal, strongly recommended by a Minister of the Govt of India, for generation of useful electrical energy by pumping dry sand over an appropriate surface. I reviewed the proposal and recommended its rejection.

As to the origin of this fraction of nano-energy, thermoelectric power created by the difference in the temperature across a suitable surface by a gas flowing under Bernoulli pressure difference conditions is a possibility, as has been pointed out by Bhattacharya[3]. In such a case, the observed voltage should depend on the square of the gas velocity. Further, the role of surface electrostatic charges generated by friction or by a desorption process, as also pointed out by Kostuik, cannot be ruled out. Some simple experiments should be able to sort out the origin(s) of the observed voltage so that the observed nano-energy finds an appropriate place in the scientific literature.

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Mass mortality of livestock in the high altitude areas of western Himalaya

Pastoralism has been a mode of livelihood for villagers dwelling in the high altitude areas of Himalaya. Limited agricultural land, severe climatic conditions and seasonal availability of resources have been the main reasons for migration of pastoral communities from one place to another[1]. *Gaddis*, *Bhangalis* and *Gujjars* represent some of the pastoral communities of the western Himalaya[2]. Bara Bhangal area of Himachal Pradesh (HP) lying in the western Himalaya has been an age-old summer grazing ground for these communities and is seasonally visited by them along with their sheep and goats. From June to September, the pastoralists use the resources of the alpine pasture (above 3500 m) of Bara Bhangal and in October they start their return journey of Bir, Baijnath, Barot and Billing areas of HP that are located at comparatively lower altitudes (1800 m). Their movement patterns from one place to another are guided by their traditional practices and local knowledge.

At times they have to brave the vagaries of inclement weather. Recently in the first week of October, unprecedented heavy snowfall in the Bara Bhangal area has left many families shocked and dejected as the graziers while returning to their winter grazing areas were trapped in about 1 m deep snowfall. In the snow clad surrounding the livestock had nothing to eat except the vegetation or plants that were protruding out of the snow. Consequently, more than 3500 sheep and goats died in the area[3,4] and a large number of them are still ailing. It was soon realized that the livestock had died of consuming leaves of a plant that is locally referred to as 'kashmiri patta'. This was the only plant that could be seen coming out of the snow during that time.

In order to ascertain the identity, the plant sample was brought to the herbarium of the Institute of Himalayan Bioresource Technology, Palampur. It was identified as *Rhododendron campanulatum* D. Don (Figure 1). The plant belongs to the family Ericaceae and is one of the most common plants found in the high altitudes of the Himalaya. Rhododendrons have 72 species in India and their diversity in the eastern Himalaya (71 species) is par excellence. Out of the total 72 species, 61 are found in Arunachal Pradesh alone[5]. In order to protect the high species diversity amongst them, a Rhododendron sanctuary has been established in the north-east. As compared to eastern Himalaya, the western Himalaya has only 8 species. These species are well distributed from lower (1800 m) to higher altitudes (4500 m). The lower altitude forests are dominated by *R. arboreum* while at higher altitudes (above 3000 m) *R. campanulatum* dominates the

Rhododendron campanulatum in flowering.