With technical support from experts and KVK, RCDSSS has been able to develop 9000 contour trenches taking into consideration the terrain. In addition, 45 gully plugs and one gabion using local expertise have been constructed, which in turn have ensured that water is available at marginally lesser depths. Of the three check dams that have been built to increase the storage of water to 5000 cusecs, the check dam Kodya Nadi has enabled 25 households to double their total area of cultivation to 25 ha. Two sustained capacity building initiatives on cropping patterns and improved agronomic practices and livestock management have also been undertaken. Supported with 15 demonstrations, this programme was helped 58 farmers in increasing then yield of maize by 6 quintals/acre. Another significant dimension to this project is that the labour involved in the construction is only the women of the village – a step that enhances their skills, provides income as well as economic independence. These women stated that their visit to Ralegaon Siddi in Maharashtra was the turning point. Inspired by the success that is palpable there, they are convinced of replicating this in Rajoshi.

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Is *Leptadenia reticulata* a threatened species?

This is with reference to the article on morphogenesis of *Leptadenia reticulata* by Parabia *et al.*[1]

L. reticulata is a common roadside, weedy, perennial climber. Although some medicinal uses are indicated for this species in various texts of alternative systems of medicine, its use is not extensive to threaten its existence. However, the authors claimed that 'it is now becoming a threatened/nearly extinct species' and cited the *1997 IUCN Red List*[2] in support.

The threat status of a species should be determined according to IUCN guidelines, the two most important criteria being (a) that it should be based on quantitative data, and (b) that the entire range of global distribution should be taken into account. The terms rare, endangered, threatened, etc. should be used according to IUCN definitions and not loosely, and/or on the basis of personal perceptions. The term 'nearly extinct' has no scientific status and the term 'extinct' should be used extremely cautiously, as some species that were considered extinct have been rediscovered, as for example the Indian species *Hubbardia heptaneuron.*

The authors have cited the *IUCN Red List*[2] to qualify their impression of the threat status of *L. reticulata.* We have compiled the Indian threatened species[3] from the *IUCN Red List*[2]. We could not locate *L. reticulata* in either list. We are perplexed about the source of the authors' information.

The merits of a piece of research lie in the right choice of the species, standard of the methods, correctness of conclusions drawn and more importantly, its contribution to advancement of science. Qualifying a species as an important or threatened medicinal plant does not enhance its value. Much worse is the situation when standard publications are carelessly or even deliberately mis-cited.

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No reply was received from Parabia et al.

—Editors

Ash beds from the Himalayan Foreland Basin: Their nature and significance

This has reference to the discovery of volcanic ash bed from the Subathu Formation, near Kalka, Himachal Pradesh[1]. The authors appear to be ignorant about reports on many similar and related volcanic rocks and ash-bed occurrences from the Himalayan Foreland Basin (HFB)[2–8]. The ash bed near Kalka neither represents the oldest nor is it the only record of volcanic rocks from the Subathu Formation. The presence of a rhyolitic cherty breccia and tuff bed was recorded[2] from the basal section of the Subathu Formation at Kanthan bridge on the Chenab River, Salal village, Jammu. The rhyolitic tuff is closely associated with the basal lateritic bauxite, which is overlain by Nummulitic carbonaceous shale, coal and then by the limestone. The cherty breccia bed was studied later from Salal village[9], but its rhyolitic character remained unrecognized. On the other hand, an ash bed associated with vertebrate fossils in Sindkhatauti locality in Kala-

kote area, Jammu, occurs near the upper stratigraphic contact of the Subathu Formation and is dated Late Eocene in age[8]. Basaltic flows have been also reported from the lower levels of the Subathu Formation, Deoban window, from Peontra area, Himachal Pradesh[7]. Thus the rhyolitic breccia is of Late Paleocene age at Salal village, Jammu, occurring at the base of the Subathu Formation[2,9]. The ash bed from Kalka area[1] occurs within the overlying Early Eocene carbonaceous and coal-bearing beds of the Subathu while the ash bed at Sindkatauti locality, Kalakote, occurs at the highest level of the Subathu Formation[8] of Late Eocene age. Therefore, the Kalka ash bed neither represents any unique occurrence from the Subathu Formation, nor is it the oldest of such occurrences as have been claimed[1]. Further, naming them 'Basal Subathu Tonstein'[1] is thus invalid. As distinct from the 'tonstein' from Kalka area[1], the volcanic rocks so far studied from the HFB are mainly basaltic in composition with minor acidic components[4]. The major, trace and REE abundances of these basaltic rocks are of Continental Flood Basalt affinity and are not comparable to those reported from Kalka area 'tonstein'. This is due to difference in nature of parent volcanic rock and later devitrefication and alterations. High concentrations of Zr (515–735 ppm), Th (60–69 ppm) and Y (50–58 ppm)[1] indicate acid volcanic glass affinity, whereas moderate concentrations of Cr (166–185 ppm) and V (244–278 ppm)[1] are not compatible with acidic ash.

The authors state that the ash bed discovered by them has manifold importance. Since its stratigraphic position corresponds well with the India–Asia collision event, it is thus significant for its better understanding and is also a good proxy to understanding the nature of volcanism and the collision process[1]. The Eocene volcanism in HFB might have been caused by the thermal anomaly related to break-off of the Indian oceanic slab following India–Asia collision, and some deep faults in HFB[4,6,10].

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Taxonomic vandalism: The case of the giant wrinkled frog

A recent issue of *Current Science* carried a research communication, '*Nyctibatrachus karnatakaensis* nom. nov., a replacement name for the giant wrinkled frog from the Western Ghats' by Dinesh *et al.*[1]. Having read the communication, I am compelled to write the following comments in the interest of the readers of *Current Science* in general and amphibian taxonomists in particular.

The giant wrinkled frog was first collected by me in 1990 from a private estate, Neria in Karnataka. I had then referred the two specimens (5.0–8.0 cm SVL) first to the Zoological Survey of India, Chennai, where R. S. Pillai confirmed that it was not *Nyctibatrachus major*; the largest species in the genus known at that time. Pillai suggested that I compare it with yet another species *Nyctibatrachus humayuni* that was earlier described from northern Karnataka. When I did that, the specimens at hand so closely matched the published descriptions that it was identified as *N. humayuni* and a note published in *Hamadryad* on range extension of the species[2]. As I had no access to the types of *N. humayuni*, the Neria frogs were sent to the Bombay Natural History Society for comparison, where they were identified as *N. major* and deposited with appropriate registration numbers.

More than 10 years later, S. V. Krishnamurthy showed me photographs of the giant wrinkled frog that he had collected from the Kudremukh landscape. Since he had by then also made an attempt to describe the frog as a distinct species, I suggested that he submit the manuscript to *Current Science*. Ever since Krishnamurthy *et al.*[3] described and named the giant wrinkled frog as *N. hussaini*, there have been rumblings amongst fellow amphibian taxonomists. Various reasons were cited for disqualifying the validity of the species, and some like Das and Kunte[4] even suggested that the species be treated as invalid, mainly because there were no types deposited to authenticate the description.

In 2000, I reviewed a book on taxonomic procedures and guidelines for biologists. The review was published in *Current Science*[5]. The book by Judith Winston[6] has an exclusive chapter titled 'Common problems'. And according to her, the first and most common problem that taxonomists face is that of 'missing types'. She starts her discussion by saying, 'One of the problems you might have to deal with during background research for your project is what to do when you cannot locate the type material for a species that you need to study or compare. Perhaps, no type material was ever deposited in an institutional collection, or, although deposited, it has since been lost or destroyed'. Winston[6] goes further to describe the various circumstances when type material has been missing as follows: (1) Sometimes type material has been lost or damaged because a taxonomist did not make arrangements for the preservation of his/her private collection after death. (2) Types have been destroyed deliberately. (3) Museum collections have perished in floods and fires and especially during wars when museums were bombed.

According to Winston[6]: 'There are several ways to solve the problem of missing types. In some cases, descriptions and original illustrations are so indicative that there is no doubt about a species'