More on 'taxanamists'

I completely share the views put forth by Ajith Kumar (*Curr. Sci.*, 1998, **75**, 426–427) and Ganeshaiah (*Curr. Sci.*, 1998, **75**, 412) regarding the eroding standards of assigning names to organisms. In my opinion, names should be assigned to organisms in the following order of priority: character, type locality and 'model taxonomists' (who has played a remarkably significant role in documenting the flora or fauna).

The basic concept of defining a species itself is based on the degree of qualitative and quantitative differences in the macroscopic morphological feature exhibited by the organisms (except in few groups of organisms where stereomicroscopy is resorted to); thus it is not a strange demand that taxonomists should name the species based on its distinguishing characters. Further, since most of the Latin or Greek words are used in English language, even non-biologists can unravel their meaning. Thus, naming species after their characteristic features would most certainly be helpful in remembering and identifying the plants by its 'characteristic' specific epithet. This is not a far cry, because in any case, as illustrated by Janarthanam (accompanying article), a taxonomist generally takes into consideration all known morphological variations (from monograph search and accessible herbaria) while identifying the status of a species. Even our students, at their basic degree level, are exposed to morphological variations of species (size and shape of various plant parts at various stages of their growth) to develop an appreciation for the diversity of forms and complexities of the species.

Naming plants after places provides a ready reference of the type locality from where the plants were collected. Since most of the new taxa described are either endemics or neo-endemics, the specific epithet itself will be enough to geographically locate the plants. The number of such specific epithet in a list of endemic plants can indicate the importance of conserving a particular locality. Further, naming species after their place of collection or occurrence may motivate even non-biologists to develop an appreciation of the area and catalyse them to help conserve the area. Finally, in the present context of intellectual property rights and growing biopiracy, the practice of naming species after places of collection would serve to safeguard our local biological resources.

However, despite these overriding advantages of naming species after their distinguishing characters and places of occurrence, there may still be some merit in naming species after personalities, as a token of their services in advancing the knowledge on a specific taxa. This is critically so today, when we find that, in general, the field taxonomy is becoming a relict field of biology, hardly attracting the present generation of researchers. Naming species after illustrious taxonomists can inspire the present-day biology students and provide them with a feel for the study of taxonomy. It is also a wonderful way to acknowledge these taxonomists, who by sheer dint of their hard work and courage, have provided posterity with the biological descriptions of plants and animals that were until then not known to science. However, I agree that discretion should prevail in affixing names and should clearly not be done for purely personal gains.

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In defence of 'taxanamists'

I remember your name perfectly, but I just can't think of your face.

—William Archibald Spooner

Ajith Kumar (*Curr. Sci.*, 1998, **75**, 426–427) has echoed a very valid concern faced by field biologists in remembering the Latin names of the species which do not provide any clue to their character or behaviour. It is a fact that increasingly, species are being named after the persons who have discovered them or their kith and kin, than on the characters or features that might distinguish the species from others such that their field identification is easily forthcoming. In this regard, as rightly pointed out by Ganeshaiah (*Curr. Sci.*, 1998, 75, 412), taxonomists perhaps are guilty of being 'taxanamists', eager to christen newly discovered species or renaming already known and described species after their kith and kin and superiors in office. However, as a practising taxonomist, I have a few reservations on some of the issues raised by Ajith.

First, the difficulty of confronting Latin names is not merely restricted to field biologists; even taxonomists have problems unless and until they happen to be thorough with the local flora and fauna. In fact, it would be surprising to know that very few taxonomists actually are able to correctly decode and explain the adjectival Latin names; most often the names appear Latin and Greek (*sic*) to the taxonomists. If this is the case, does it really matter if the names are made after the characters or features of the system?

Second, it is unfair to only single out the Indian taxonomists to be taxanamists. I specialize in the taxonomy of *Utricularia*, a group of insectivorous plants. Analysis of the correct names of *Utricularia* species published between 1900 and 1950 shows that 65% were named after characters of the species, 30% after persons and 5% after place of collection; after 1950, names based on characters were 53%, persons 40% and place 7%. Indian botanists published none of these names and hence the idiosyncrasy of naming species after persons seems to be a universal affliction.

Third, the practice of naming species after morphological characters which are

distinct or characteristic of the species may in fact not be very appropriate in several situations for the simple reason that what is distinct today may not be so forever. Linnaeus named *Utricularia caerulea* due to its blue colour. Subsequently other species having blue-coloured flowers have been wrongly identified as *U. caerulea*, causing much confusion in the application of the name. On the other hand, plants having different coloured flowers, but otherwise resembling *U. caerulea*, have been described as new species under various names (e.g. *U. nivea* Vahl, *U. rosea* Edgew., *U. purpurea* Willd. ex Benth., *U. albiflora* Griff., *U. albina* Ridley etc.). Now all these names are synonyms under *U. caerula*, which consists of white, cream, pink, blue and violet flowers. This problem occurred because too much emphasis was laid on the name based on the character and every other variation in flower colour was described as a new species. To cite another example, *Dioscorea pentaphylla* L. was named after its five foliate leaves, a distinct character then in the specimens referred by Linnaeus. Now, it is well known that plants with three leaflets are also recognized as *Dioscorea pentaphylla*. A novice or a field biologist may not agree that the specimen with three foliate leaves in hand is actually *D. pentaphylla*, as the number of leaflets is not matching. Literature is littered with numerous examples from 'nana' (small) to 'gigantea', where these names have lost their relevance. As the explorations are continuing, more and more species are being discovered. These are being distinguished from their close relatives by the combination of characters. The powerful stereomicroscopes are also being used in elucidating the differences. In these circumstances, it is neither possible for a taxanomist to name a species based on combination of characters nor is it possible for a field biologist to identify them without using stereomicroscopes, keys, etc. in the field.

Fourth, I disagree with Ajith's argument that the inclination to name species after personalities could be because of a poor understanding (*by the taxonomist*) of the morphological features distinguishing the species in question. Generally, a taxonomist comes to a conclusion on the novelty of species after (*thoroughly*) analysing the features (characters) of a species in relation to its closest allies. He would therefore be in a better position to publish a name based on the characters at this stage. It is thus incorrect to argue that the taxonomist might not have enough time to analyse the characters because it is time consuming. So why does a taxonomist continue to name species after persons and places? Several suggestions are in place:

(i) To avoid homonyms: According to the rule of nomenclature, no two species under a genus can have the same name. If they have, then the later published one is considered as a 'later homonym' and 'illegitimate' and by definition an illegitimate name cannot be used. There are several examples to show that in instances where these do occur, the names are based on characters. The simplest way out is to name the species after a person or place, where the chance of it becoming a later homonym is remote.

(ii) As an honour: It is well known that pupils of Linnaeus and other taxonomists went to different parts of the globe in pursuit of studying nature and though specimens collected by them reached Europe they themselves never returned back. One such illustrious student was the missionary surgeon and naturalist, Johann Gerhard Koenig. He collected specimens from Tarangambadi (Tamil Nadu) and sent them to Linnaeus, Banks, Vahl and Retzius, but never published accounts on them himself. Later workers honoured Koeing by naming the species after him (e.g. *Bergera koenigi* L., *Aneilema koenigii* Wall., *Chionachne koenigii* (Sprengel) Thwaites, *Enhalus koenigii* Rich., *Ischaemum koenigii* Stapf, *Salvadora koenigii* Arn., *Scaevola koenigii* Vahl, etc.). Scores of '*hookeri*', '*wallichii*', '*wightiana*' etc. were not coined by the biologists of Indian origin. In any case, if honouring a fellow biologist is a sin, that sin is being committed world over and that too right from the beginning. However, as pointed out by Ajith it is more now, probably because there are too many taxonomists and consequently too many teachers and heroes to be acknowledged. The following names published by British botanists in honour of presently active plant taxonomists in India is an eye opener: *Paracautleya bhattii* R. M. Smith named after K. G. Bhat of Udupi and *Utricularia cecilii* in honour of Cecil J. Saldanha of Bangalore. And interestingly these were published not in the remote past. The naming of species after persons and places is not new. Linnaeus (father of binomial nomenclature) himself adopted this practice. What of the innumerable *indica*, *zeylanica* and *chinensis* in his publications, which refer to species from India, Ceylon (Sri Lanka) and China respectively? What about *Parkinsonia* L., and *Sigesbeckia* L., the latter allegedly named after his friend who was 'stingy' akin to the sticky nature of the plant. The literature is replete with such examples.

While naming a species, a plant taxonomist faithfully follows the guidelines laid down in the International Code of Botanical Nomenclature (ICBN). Article 23.2 of the ICBN stipulates that '*the epithet in the name of a species may be taken from any source whatever, and may even be composed arbitrarily*'. Probably this provision is being misused by the people to name the species after their bosses. In my opinion, it is not worse than naming a species arbitrarily as per the ICBN. Though it is understandable that these names might inconvenience field biologists, we must realize that naming species after persons or places is not a problem at all, provided we follow healthy identification practices. Imagine applying names to our colleagues based on their characters alone (!).

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