

I Denounce: Binomial Nomenclature!

I will come straight out with it: Linnaeus's big mistake was binomial nomenclature.

We name species so that we can retrieve and communicate information about them. The lure of the binomial is that a group of similar species share part of their name, that of the 'genus'. Thus *Sticta* is a recognisable genus of lichens, and *Sticta limbata* and *Sticta sylvatica* are different kinds of stictas. This is helpful to memory.

The fatal flaw in the system is that the binomial is not only a label for a species, but carries information on perceived (close) relatedness. If opinions on the degree of relatedness change, as they always have, then the label will change, and the primary function of the name is impaired.

Is the phylogenetic information carried by the binomial really that useful? Sharing a generic name implies that a set of species are closely related, but it tells us nothing about relationships within the genus nor the relationship to any other genus of living thing. Also, many recently-erected genera are scarcely recognisable by appearance. This is not helpful to memory.

The snippet of information carried by the name would make the binomial system worthwhile if the concept of genus were stable, but in fact concepts change regularly. Each change implies that the information that the name conveyed previously was wrong. We were misled, and now we are asked to believe the new arrangement. The cost of change is chaos for all types of inventories, databases, floras, ecological studies, conservation effort, herbaria, personal memory, and an increase in the widespread distaste for taxonomy.

It might be tempting to hope that molecular methods will uncover true phylogeny and create real stability. There are several reasons why this is a false hope: there are not the resources to investigate every species in depth, sequencing technology and analysis will continue to improve, and the limits of a genus, even if it is monophyletic, are a matter of opinion and fashion. Names will continue to change as authors issue the latest bulletin of microphylogeny.

An alternative? Ultimately, to remove the information-content of names. An agreed name could be hyphenated to give an unchanging monomial, such as '*Verrucaria-maura*'. This species would always be called *Verrucaria-maura*, but if you really need to know, you can rapidly discover that it is currently considered to belong to the *Hydropunctaria* clade and you can peruse its position in a cladogram. It could formally be called '*Verrucaria-maura* [*Hydropunctaria*] Wahlenb.' If the genus *Hydropunctaria* is dumped or split (and who can say it will not be?) then the latest genus can serve its time in the square brackets.

A change in genus is of course not the only way that names change. For good reasons, species can be split or merged. Ironically, this need not affect the name: '*Caloplaca citrina*' persists, but implies a very different entity to twenty years ago. To

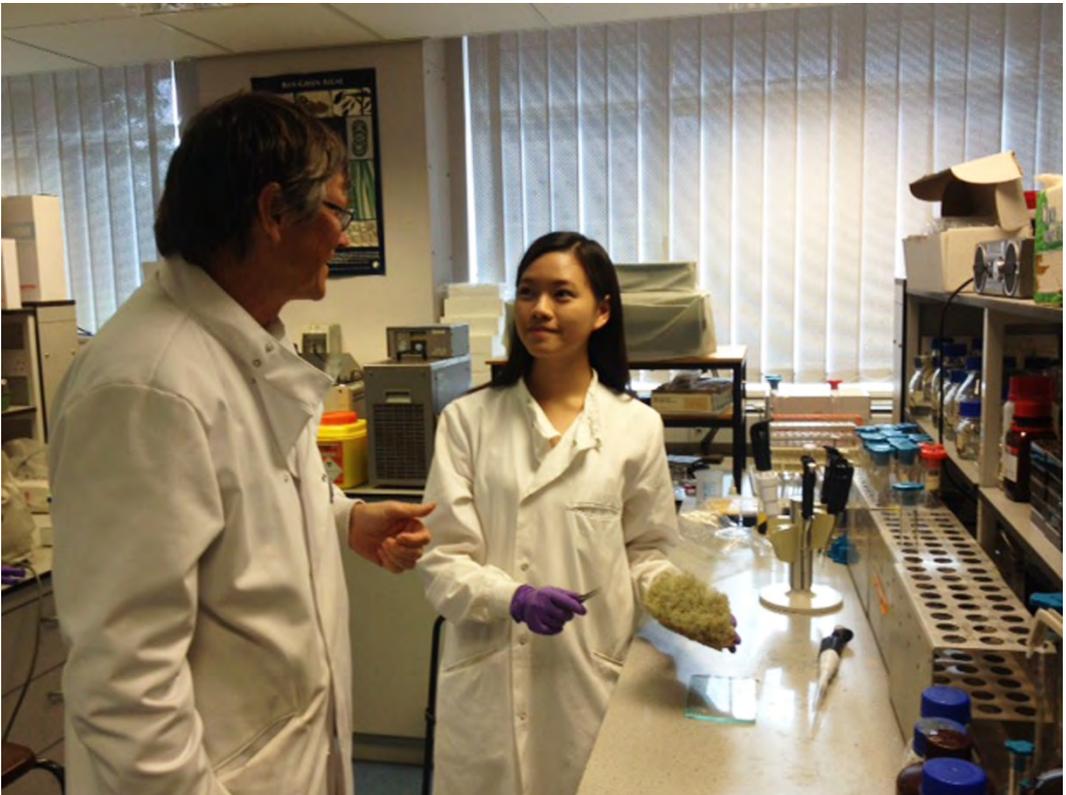
specify what we mean by this label we need to refer to a particular circumscription of the species, such as a description in a flora (a return to the polynomial?).

Maybe one day lists of species will have three headings: the monomial, the current placement, and a statement of the circumscription. Until then, remember that names are primarily labels; if a species is moved to a new genus and the name changes, at least be cautious in adopting it, and perhaps even ignore it. It doesn't really matter!

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Report - British Lichen Society Summer Vacation Scholarship



Frida Latif and Peter Crittenden in the lichen research lab at the University of Nottingham

This summer I spent 10 weeks working on a BLS Summer Vacation Scholarship at the University of Nottingham. I was supervised by Peter Crittenden and Niall