

Orchid Research Newsletter No. 54 (July 2009)

The fifth volume of *Genera Orchidacearum* is being printed, now that the fourth (and thankfully final) set of proofs has been corrected and submitted. Reasons for the delay, as spelled out in the last issue of the *Orchid Research Newsletter*, can be summed up in two words: Maxillariinae and Oncidiinae. Had we chosen to maintain the *status quo* in *Maxillaria* as well as *Oncidium* and *Odontoglossum*, we probably could have published two years ago. But DNA sequencing underway at the Florida Museum of Natural History and the Royal Botanic Gardens, Kew, was producing strongly supported and congruent trees that clearly showed the polyphyly of those genera, so that the classifications and relationships would have been outdated and stale as soon as the volume appeared.

In this context, it might be appropriate here to discuss those principles that have guided contributors to *Genera Orchidacearum* in circumscribing genera. Throughout the series or even the same volume, should we expect a slavish, philosophical consistency in lumping and splitting? Or do we allow for another, mongrel option -- 'splimping', as Dressler (1981) as called it -- wherein the author splits in the group he or she is studying and lumps in other, less familiar groups? However, there is another method used in 21st century biosystematics, one that we have tried to follow in *Genera Orchidacearum*. Let's call this new mongrel 'splumping', wherein the systematist lumps and splits not according to any predispositions based on familiarity with a group (and the intuitive weighting that inevitably tags along like a remora) but according to a hierarchy of principles discussed so concisely and cogently by Backlund and Bremer (1998). Foremost among these is monophyly, which has dominated comparative biology for the last 30-40 years. Although some taxonomists have argued that paraphyletic taxa cannot be eliminated from Linnaean classification (Brummitt and Sosef, 1998), monophyly is absolutely critical in phylogenetic reconstructions and assessing evolutionary trends; to accept anything less is to introduce ambiguity (at the very least) and loss of information into classifications and nomenclature. Most orchid phylogeneticists accept monophyly, but problems and disagreements arise over whether or not we should elevate infrageneric taxa to generic rank. Should we, for instance, recognize the many sections of *Dendrobium*, *Bulbophyllum*, and *Masdevallia* as distinct genera?

This is where the secondary principles of Backlund and Bremer (1998) come into play, not necessarily listed in order of importance: 1) maximizing stability; 2) maximizing phylogenetic information (minimizing

redundancy); 3) maximizing support for monophyly; and 4) maximizing ease of identification. Although all of these are relevant in most systematic decisions, some principles might be given extra consideration under certain circumstances. Maximizing stability and ease of identification are particularly important in treating those large genera that have been widely hybridized such as *Dendrobium* and *Masdevallia*, but only after monophyly is achieved. On the other hand, maximizing both phylogenetic information and monophyly should guide us in deciding whether to accept monospecific genera or monogeneric subtribes or tribes.

In the end, once monophyly is achieved, phylogenetic classification becomes a subjective undertaking. But that does not mean that it should occur in a consensual vacuum -- without rules, without regard for the needs of society. After all, it is society that will determine the success or failure of that classification simply by usage.

Alec Pridgeon

Literature cited

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News from Correspondents

Please submit any news about newly completed research, future research plans and needs, change of address, upcoming or recent fieldwork, etc. to David Roberts (d.roberts@kew.org). Graduate students are especially encouraged to share the subjects of their thesis or dissertation with the international community. We will print submissions in the format below from the last issue. Many thanks to those who have contributed.

Mario Blanco (Herbarium, Florida Museum of Natural History, University of Florida, 385 Dickinson Hall. P. O. Box 117800, Gainesville, Florida 32611-7800; e-mail: mblanco@flmnh.ufl.edu) has written to report that the National Orchid Conservation Center in Guangdong, China, has recently registered its herbarium (as NOCC) in *Index Herbariorum*. More information is available from:

<http://sweetgum.nybg.org/ih/herbarium.php?irn=155684>.

Upcoming Conferences

We welcome any news about future conferences for promotion here. Please send details to David Roberts (d.roberts@kew.org) as far in advance of the event as possible, remembering that the *Orchid Research Newsletter* is published only in January and July of each year.

Recent Orchid Nomenclature

New orchid names may now be accessed on the IPNI website:
(www.ipni.org/ipni/plantsearch?request_type=search&output_format=query&ret_defaults=on)
Click on "Show additional search items" on the right-hand side of the screen. After the search page appears, type in **Orchidaceae** under family name and (for example) **2005-11-30** under "Record date" and "Added since." This will pull up a list of all names added to the IPNI database since 30 November 2005.

Recent Literature

We are grateful to Ann McNeil and Margaret Ramsay for providing citations for the following publications received between 1 January and 1 July 2009.

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Anatomy and morphology

Chemisquy, M. A., Prevosti, F. J., and Morrone, O. 2009. Seed morphology in the tribe Chloraeae (Orchidaceae): combining traditional and geometric morphometrics. *Bot. J. Linn. Soc.* 160: 171-183.

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