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**Stapeliads of Southern Africa and Madagascar.** Peter V. Bruyns. Hatfield, South Africa: Umdaus Press. Boxed set of two volumes, vi + 606 pp., copiously illustrated. ISBN 1 919766 37 5 & ISBN 1 919766 38 3. ZAR 1500 + 240 postage and packing. doi:10.1017/S0960428609000079

*Stapeliads of Southern Africa and Madagascar* is a boxed pair of volumes with 606 pages and a total of 1385 colour photographs, drawings, maps, scanning electron micrographs and cladograms covering the 20 genera and 182 species accepted for Africa south of 17°S plus, as is clear from the title, Madagascar. The quality of the production is excellent – at last dust covers that still look new after quite a lot of handling! This is a work that will take a lot of use. Any reasonable worries about the price of this magnum opus, because that is certainly what this is, are certainly put to rest by the quantity and quality of material that you get for your money. The photographs and drawings are well up to the standard long established by South African botanical publishers. The real strength of this work is that the author has studied every species in the account in the field and prepared all his own drawings and nearly all his own photographs. I think that there can be rather few other taxonomic accounts comparable.

The introductory section of 58 pages covers all the stapeliads, not just the southern taxa. It includes sections on morphology, phytogeography, background history of the study of the group, pollination biology and cultivation. The section on stapeliad morphology is particularly good, and very well illustrated with scanning electron micrographs. This attention to detail is repeated in the consistently fine drawings that illustrate every species in the account, and certainly makes this work the landmark publication on the southern stapeliads. What is of interest is how close this is to the final word. The production of taxonomic accounts is always a matter of successive approximations. In this case, the decline in the number of new discoveries does suggest that this work is getting close to a final picture but, however thorough an author tries to be, there is always the possibility that someone is going to come upon a plant that is not covered by the account and which might require a reconsideration of the existing taxonomy.

Any consideration of the classification of the stapeliads as a whole has two problems – first, our less complete knowledge of the northern members of the group, and second, the as yet extremely incomplete molecular data. Only seven new taxa have been described from the area covered by this work in the last 10 years, four

species and three infraspecific taxa, which does indicate that knowledge of the southern members of the group must be approaching completion. However, one of those new species represented the rather distinct new genus *Baynesia*, so there could be further surprises, but novelties on the scale of those still being described from north of the area covered, where 25 new taxa were described within the same period, are clearly not going to happen. But even in the north, knowledge is perhaps not quite as bad as Bruyns suggests on p. 575 as there has been a reduction in the rate at which new taxa have been discovered since the 1970s and 1980s whilst the number of possible new genera is small, especially if one does not follow the 'ultrasplittity' treatment of *Caralluma* by Plowes (1995).

There will probably be changes in the details of interpretation, particularly with regards to generic delimitation and to a lesser degree the rank of lower taxa, and the author is to be commended for drawing attention to situations where there is still uncertainty such as the decision to restrict *Lavrانيا* to a single species and not to include all the species of *Larryleachia* as he had done previously. However, this work must be getting rather close to the final picture of the southern stapeliads and whatever might happen in the future, such as, perhaps, a reconsideration of such a widely drawn *Orbea*, everyone is going to have to refer back to 'Bruyns' and justify any changes against his standard.

The introduction of molecular data has very greatly influenced modern plant systematics. Such data have been of particularly great value in groups such as the stapeliads in which the morphological data are restricted as a result of selection for succulence. Unfortunately it has been more difficult than usual to obtain informative DNA sequences from the stapeliads. Data collection has been slow and the results still remain much too fragmented to justify making formal changes in taxonomy. Meve & Liede (2002) have presented what has to be considered a preliminary analysis of some 67 species but the level of sampling is surely too low to justify making the formal changes in generic delimitation that they proposed. Bruyns indicates that he is gathering more such data but, more wisely, declined to make explicit use of it at this stage. He does present cladograms based only on morphological data for every genus but the number of characters available is rather few and one does question the stability of some of the cladograms obtained. Only a few changes in the interpretation of particular characters could have quite a large effect on the resultant cladogram.

Are there any parts of this magnum opus open to criticism? One has to look rather hard to find any illustrations that are less than excellent, perhaps one or two habitat views that look as if they were made from rather old and slightly faded original slides. Every taxon is mapped, genera often as area maps. Those of strictly South African taxa showing the number of species per unit area are excellent as is to be expected for South Africa which is much better mapped than anywhere else within the overall range of the stapeliads. Those of the more widely distributed genera, however, are rather crude and sometimes misleading – certainly the map showing the overall distribution of stapeliads is misleading as it seems to suggest the occurrence

of stapeliads throughout the dense forests of SW Ethiopia. A lot of the forest might have gone but the rainfall is still much too prolonged to be survived by any normal stapeliad. The maps of individual species are much better as they are well-designed dot maps giving a rather exact representation of the distribution. There is a series of errors for *Stapelianthus*, however, where all the maps are identical: an error has led to each species being illustrated by the map for the genus as a whole. I very much doubt that the author was responsible! Perhaps the least satisfactory section is that on the historical background. This is obviously inspired by the very detailed account provided by the previous landmark work on the group, White & Sloane's *The Stapelieae* (White & Sloane, 1937), and suffers by comparison. It would have been so much better if it could have provided a comparable systematic update of the personalities involved in the collection and study of the southern stapeliads in the seventy odd years since 'White and Sloane' rather than an anecdotal commentary on just a selection, ignoring other very significant contributors to our knowledge. There is extra information about quite a number of further collectors included under the taxa that they collected but this is only easily located where they happen to have had a taxon named after them.

This work is a significant landmark in the history of the stapeliads, up there with Masson (1796) who first made people aware of the wonders of the group and White & Sloane (1937) who drew such a lot of information together. 'Bruyns' is definitely a publication that will be lusted after for years to come.

#### REFERENCES

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