

Literature review

Author: Al Laius unless otherwise stated
Layout by David Quail



News and views on recent publications from the world of succulents

Lodé, Joël

Taxonomy of the Cactaceae

The new classification of Cacti mainly based on molecular data and explained.

2 Volumes (English edition). Editions Cactus-Adventures. 2015. ISBN 978 8 461729 74 6. Price £135.00 from Keith Larkin (postage extra).

1386 pages (Vol 1 – 667 pages and Vol 2 – 719 pages) plus separate index of 44 pages, 7,380 photos (but see comments below) and 177 distribution maps, one for each genus. 30×21.8cm, hardbound with illustrated dust wrapper.

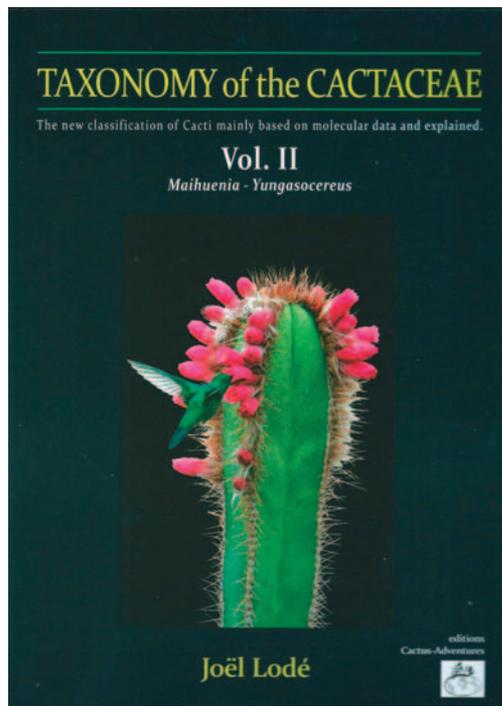
No sooner than you get your hands on this two-book set (hands being the operative word as these are large, heavy books and you will need both of them), you are made aware of the mammoth scale of this publication.

Just inside the dust jacket you will find the following facts: 177 genera recognised, all described and explained; 2,360 taxa listed and photographed; 1,430 pages A4 size; 7,380 pictures; pollinators and dispersers illustrated; graphs of minimum and maximum altitudes; illustrated etymology of genera; 177 distribution maps; seeds illustrated for every genus; habitat descriptions for every genus; precise geographical distribution for every genus; 22 country maps; glossary; bibliography with over 500 references; index and list of synonyms.

This is just the start. The first 40 or so pages in the first volume cover subjects such as naming of plants, history

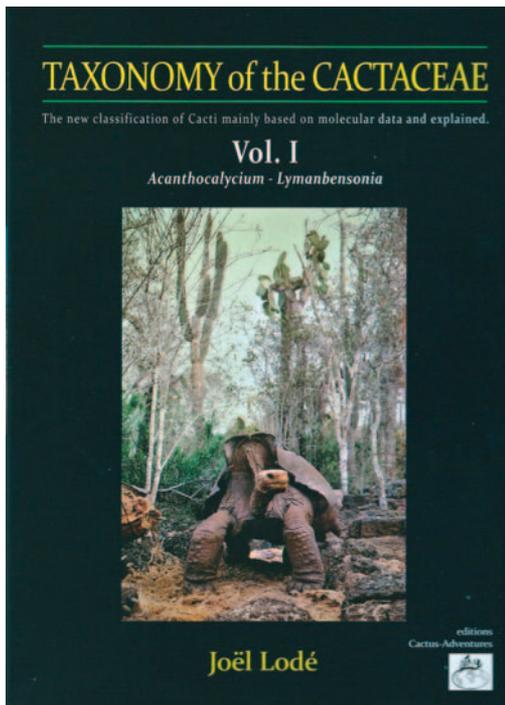
of taxonomy and plant relationships and convergence of forms. An essay on classification and genetics follows, and this also includes a layman's explanation of phylogenetic studies. Pollinators and dispersers are discussed briefly with a delightful series of photographs of various birds, bats, lizards, moths and other insects.

Then we come to the 'meat' of the books, which in each of the two volumes consists of the author's accepted genera (listed alphabetically) in the first half followed by the illustrations in the second part. That said, there are also illustrations in the first half. For each genus the information consists of etymology, a description,



comments on the classification based on molecular studies (mainly), a list of his accepted species, habitat information and distribution. This section is illustrated by one or two large-sized photos as well as a number of thumbnail-sized images which include flowers, fruits and seeds, a distribution map and a max/min altitude range map. As mentioned, the main photographs are at the rear part of each book.

So now you know what the books are about. But what prompted the author even to begin to contemplate such a huge work which has taken so many months and years to produce? Joël felt that DNA data in cacti had been ignored for over 20 years, with people initially saying that it was not accurate or that sampling was either faulty or inadequate. However he noticed that over time researchers from many countries were repeating their investigations and arriving at better resolutions, and he felt it was time to



do something because otherwise a 'wait and see' approach would just drag on and on. He felt that perhaps people were comfortable with the *NCL* taxonomy, or that they did not want change, or maybe even that they wanted to wait another 10 or 20 years to get a better result. He is quoted as saying, "Since the first discovery of cacti we are trying to get a better result in taxonomy. Sometimes you just have to jump and see what's happening." And jump he did. Out went morphology-based classification and in came this 'revision' based upon the results of molecular studies. However, the author acknowledges that his current assessment is likely to change with further refinement of the techniques used (see my comments on NGS in the Editorial) and the results they may produce, and this open-mindedness is refreshing.

As stated on the rear cover, the book is intended primarily for amateurs, and whilst the initial objective appears to have been a reclassification of the cactus family, this is only partly achieved by the adoption or rejection of taxonomic limits that have already been defined. There is no new phylogeny and no revisions to existing nomenclature, and details such as places of publication (other than for the genera) and types are absent. Therefore this book, for amateurs as the author states, then naturally falls into the category of illustrated handbooks known as lexicons.

So, what should a popular lexicon have? Yes, you know the answer – illustrations. These are indeed the main strength of this two volume set and are a mixture of plants in habitat and in cultivation. Although advertised as having 7,380 photographs, there are actually many more than that. Roy Mottram has counted 8,140 photos in the picture galleries which appear in the second halves of each volume, and in addition he has noted 1,400 photo text-figures which the author did not count because some repeat those in the galleries and others are small thumbnails. However, most of the latter are not repeated and include portraits of people for whom plants have been named, as well as seed photos. Consequently the total number of illustrations is around 9,500, which well outstrips the 2,500

of its nearest competitor, *The New Cactus Lexicon* (2006). Even Backeberg in his six-volume masterpiece had only 3,500 illustrations. Another point about the illustrations is that the standard of identification is very high. Naturally, when choosing to buy an expensive book, the accuracy and reliability of correct identification should be an important factor, and here you have just that.

Although initially appearing expensive, just look at what you are getting for your money. Two hefty A4 sized volumes, weighing over 7kg (15.5lb) in total, with 9,500 illustrations and a wealth of information. We do not have to follow the author's classification but if we do follow up on the references which detail the studies that have led to said classification, then we can surely be thankful that someone has done the hard work of putting all this together for us.

To conclude I would like to quote Roy Mottram who has succinctly summarised this book. "The sheer scale of this work is much to be admired, and it will be hard to surpass. It exudes the infectious enthusiasm of its globe-trotting author, who keeps pushing the boundaries in so many different ways. This compendium marks the culmination of the life's work of the author and is an illustrated reference without equal."

Barthlott, Wilhelm et al.

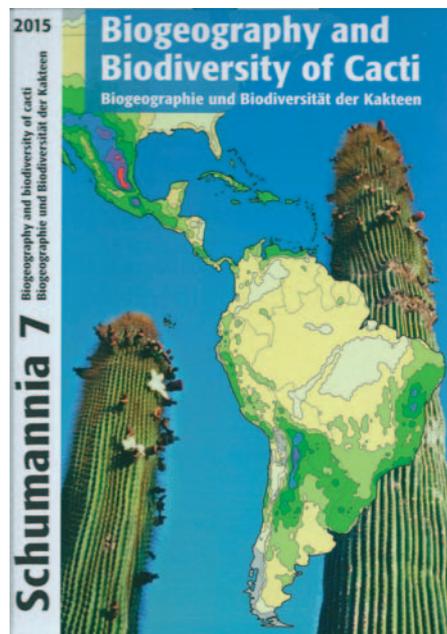
Biogeography and Biodiversity of Cacti

***Schumannia* 7**

Deutsche Kakteen-Gesellschaft e.V.
31 January 2015. ISBN 978 3 730811
44 3. Published price €46.00
(includes P&P to UK). Available from:
www.dkg.eu/cms/cs/index.pl?navid=1306

206 pages, 55 colour photos and 333 maps. 30x21.4cm, hardbound with illustrated boards. Printed on high quality gloss paper.

Schumannia is the German equivalent of our *Bradleya*, and whilst it does



not appear annually, it similarly contains articles of a more technical nature. Since issue 4, articles have appeared bilingually in both German and English. This issue contains six articles in total, though the sixth, which consists of comprehensive distribution maps of the Cactaceae easily fills half the book.

Articles on 'Cactus ecology and biogeography', 'Phylogeny, evolution and systematics', 'Mapping the diversity of cacti', 'Patterns of diversity and endemism' and 'Conservation and hotspots: cactus diversity in change' are all readable and well illustrated. Despite the notion that this publication is classed as 'technical', the writing is easy to follow and absorb and for anyone interested in the latest ideas about diversity patterns of genera, tribes and subfamilies, this book is a must.

Over half the book contains the distribution maps of the Cactaceae and this is conveniently divided into four subfamilies. These maps not only show distribution ranges but also diversity patterns for certain genera. Apart from some of the plant photos being rather dark, the distribution maps are clear and crisp and comprehensive. This is a recommended addition to your library.