

BOOK REVIEW by Neil Davis

The Taxonomy of the Cactaceae

Joël Lodé

Editiones Cactus Aventures

In two volumes (I *Acanthocalycium* – *Lymanbensonia*; II *Maihuenia* - *Yungasocereus*) presents a new classification of the genera of the Cactaceae, based mainly on molecular data. It also attempts to explain the difficulties of classification that arise not only from the variability and vagaries of the plants, but from human foibles as well.

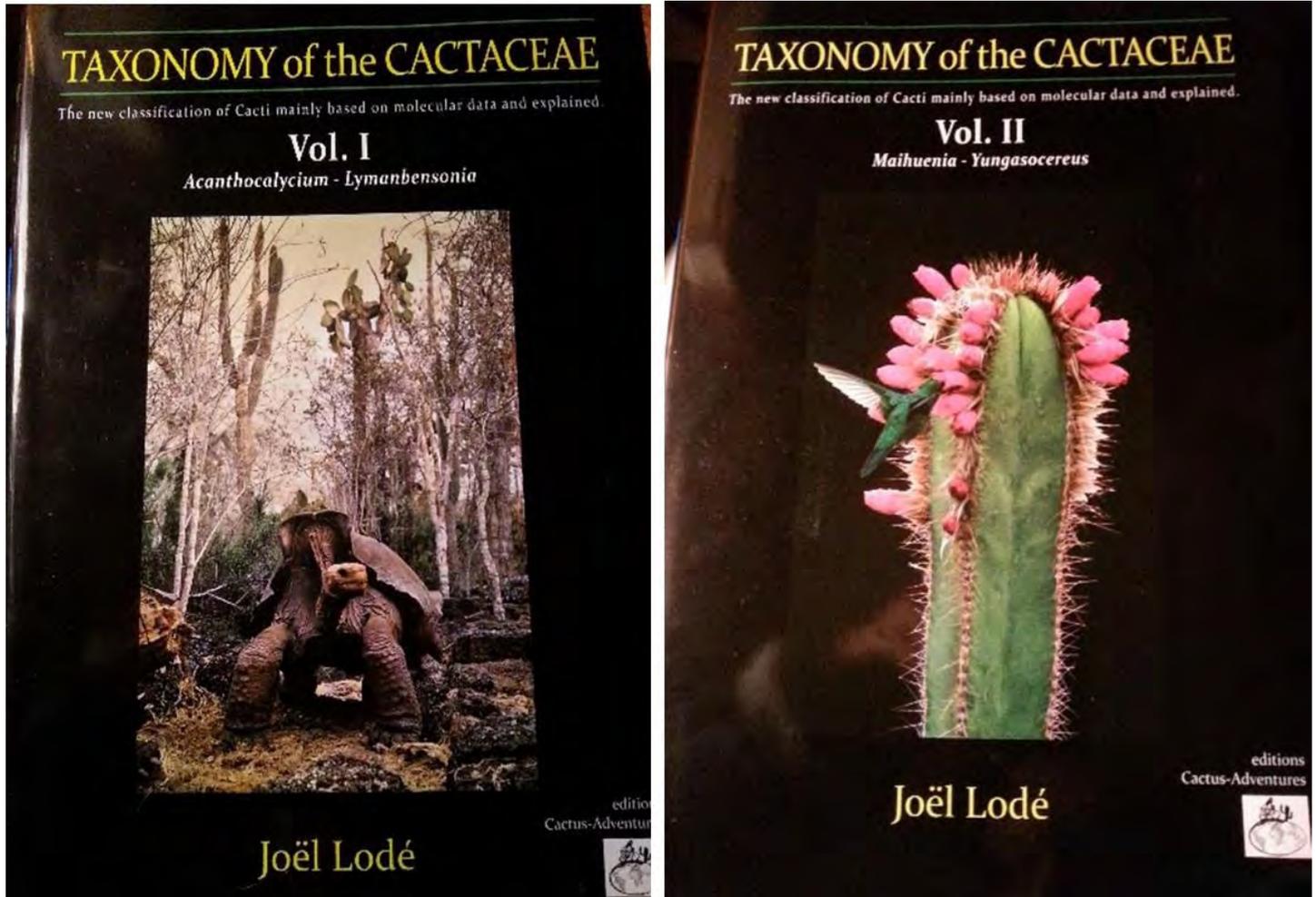


Figure 1 The Front covers of the two volumes

The advent of DNA analysis of cacti in 1992 and the subsequent accumulation of data from more and more molecular studies is leading to a new understanding of evolutionary relationships. Consequently the complexities deriving from convergent evolution and hybridisation are being elucidated and eventually this will lead to more rational and scientifically based classifications. These will still remain useful to people whose only interest is to collect and admire these plants but the point is made that the ultimate purpose of classification is not to give stable names for collectors to apply to labels, (or multifarious names for commercialists). The true intention of a taxonomic system is to reveal evolutionary relationships between living things.

After a foreword by Joel Lode, Biologist Fabrice Cendrin offers a detailed discussion of the problems that face the taxonomist dealing with the Cactaceae. Ultimately phylogenetics will require taxonomic changes as the range and quality of data reveals the relationships. But Cendrin is considerate of the collector and the problems of ever-changing names. His closing paragraph offers solace to the amateur. *"While the constant changing of labels continues in the pots of cactophiles, they can seek consolation by saying that this time, it will be less dependent on the mood of the taxonomists. It seems that we have neglected the criteria of resemblance with their errors, to*

slowly take a phylogenetic approach, a much less slippery slope.”

The next section, also written by Cendrin, will be of great use to the intelligent collector who is yet unfamiliar with phylogenetics. It is an excellent explanation of why plants change names, very plainly worded, but detailed in its interpretation of phylogenetic trees, cladistics and the need to resolve paraphyletic and polyphyletic genera. If these terms frighten you at first, be reassured that they will be no problem for you after you have read the well-illustrated and easily understandable text by Cendrin. If you want to understand Joel Lode’s arguments for accepting or rejecting particular genera, then you will have to read this section.

After a brief text and photo essay on pollinators and dispersers of cacti, Lode introduces the Classification of the tribes of the Cactaceae family. Then straight on to the main purpose of the work, the systematics of the genera of Cactaceae. He uses a standard format for each genus. The sequentially numbered, alphabetically arranged genera accepted by Lode as correct, are introduced by a magnificent full page colour photograph in each case.

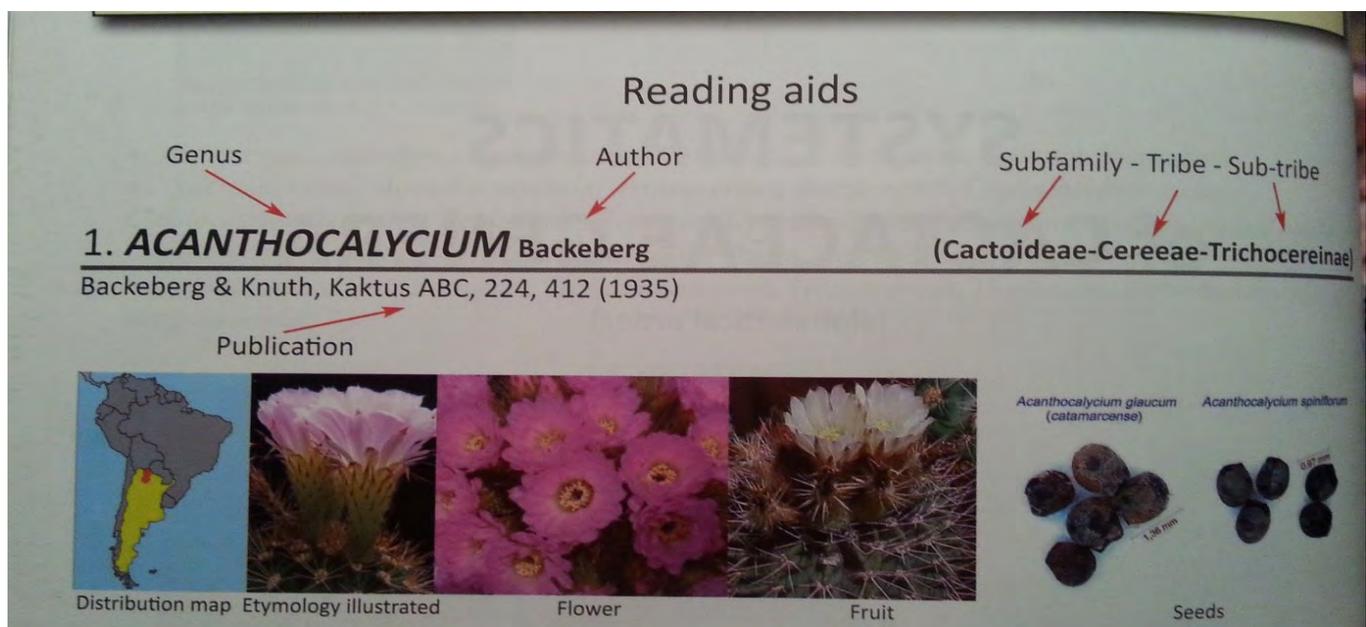


Figure 2 The attractive "information at a glance" panel explained. There are sometimes two rows of pictures.

Figure 2 (above) shows the reading key/code/guide of a summary panel for of the entries (page 44). This sometimes extends to a double panel and includes the delightful idea of the "Etymology Illustrated" which is a picture metaphor for the origin of the name of each genus, i.e. the person, feature of the plants, or map showing the habitat location. Occasionally a blank cameo appears where no portrait of the namesake is available, such as with *Consolea*, named in honour of Michelangelo Console.

Under the panel/s is a colourful graphic representing the minimum and maximum altitude range of the genus. I thought initially that this was superfluous but in retrospect is an interesting way to make comparisons, for Lode, very sensibly maintains a constant scale for these graphics.

Following this are headings re etymology, description of the genus, comments by Joel Lode discussing the history and his reasons for accepting the genus as correct, an alphabetical listing of the species currently accepted in the genus, habitat and distribution. Quite often there is a large full colour photograph of one of the species. Interspersing the entries for the genera are entries for other genus names that have appeared in the literature with their accepted equivalents. What may please collectors is the reappearance of names subsumed not so long ago under broader genera by the cacti Systematics group, e.g.. *Notocactus* re-emerges from *Parodia*. On the other hand some may be dismayed to see *Echinocactus grusonii* become *Kroenleinia grusonii*

(see Lodé, J. 2014 *Kroenleinia* Gen. nov. Un nouveau genre pur un cactus bien connu: *Echinocactus grusonii*. *Cactus-Aventures International* 102, 25-29 or <http://cactus-aventures.com/Kroenleinia%20gen.nov.CAIFR102.pdf>). Enthusiasts should be getting used to such readjustments with the rationalisation of *Aloe* and *Haworthia*. The *Cactaceae* though, seem to be a harder case, and there is ample material in the *Taxonomy* for deep and passionate discussion among the students of those plants for a long time to come.

Whatever you think of the offerings of the text on systematics, what follows will delight you. The final section of volume I and first of volume II are full colour photographs of almost all the taxa covered in the pair. The illustrations are beautiful, captivating and very useful. There are some minor oddities in the captions; “Bold + italicised” text is used to indicate species which Lode considers valid. Some of the photographs have captions in bold but the species is not listed as valid in the text entry for the genus, usually because the photo refers to a variety, and he deems subspecies to be the lowest formal taxonomic division. However the work is meant to be a statement about the genera of cacti, not a definitive exposition on the species, so the fine detail of the photographic captions should not be of any concern. You can spend hours just going through the pages of illustrations admiring the subjects and comparing them with the plants in your care to see if they correspond.

Volume II also includes colourful maps of the countries where the cacti grow, web sites of interest, a section on “thanks to the geneticists”, bibliographical references and a glossary. The index is a separate document.

Who would wish to buy these volumes? The ardent collector of cactus literature will surely want it in his or her bookshelves. Every Society should contemplate the purchase for the benefit of its members. The volumes are heavy and despite the excellent binding will need to be handled with care. I would recommend that clamshell boxes or slip cases be purchased (or custom made if necessary) to protect the investment. One could also contemplate rebinding into several smaller volumes to enable more members of one’s society to get access to this valuable asset. The summary details are: 2 volumes, A4 size, hard bound. 1436 pages and more than 9500 photographs. Price for the books is 189.00€ including postage. Subscribers to *Cactus-Aventures* for 2015 may have it at 165.00€ (available in English, French or Spanish versions).

Get it, it is magnificent.

(Photographs from the work used in this review with permission of J. Lode)

Chain of Hearts (*Ceropegia woodii*) by Carole Hubbard

From experience I find that some succulents that you would think were easy to grow, may not always be. Chain of Hearts falls into that category, and sometimes in a small pot it really struggles for some reason. My way around this is to put the small pot with plant in it, into a bigger hanging pot with some potting mix in the bottom - this no doubt creates its own special type of micro-climate with more humidity, also the roots of the plant can escape the small pot into the potting mix.

This environment must be very special as a little primula has popped up in it. I have no idea where this one came from as I don’t grow primulas myself - maybe a bird brought the seed. Anyway this one seems to be doing quite nicely.

