



Taxonomy of the Cactaceae

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

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210 × 297 mm (8.27 × 11.69 inches, two hardbound volumes, 1436 pages, 9,500+ photographs

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A portable table should also be included with the purchase of each copy of this work, such is its size and weight. At over 15 ½ lbs for the combined volumes, holding either for any length of time becomes a challenge, but that is what you will want to do. For those who were disappointed or simply irritated by the *New Cactus Lexicon* (NCL), this is the antidote you have been waiting for.

The book begins with a rather long foreword “par” the author, followed by an introduction by Fabrice Cendrin and the author. This constitutes something of a review of various aspects of taxonomy, biology, botany and molecular genetics intended to introduce the reader to the current approaches used today. Sections on the origin of cacti and cactus pollination and seed dispersal end this section. The writing style here is somewhat chatty, and this detracts a little from its task of actually enlightening the reader. Tightening up the language (or translation) used with the help of a technical editor would make this section far more readable. Rather too many examples are included, so the effect is to overwhelm than instill true understanding. There are also lapses in translation, particularly in the text in the figures. Many of the illustrations in this section are of rather a low quality compared to the rest of the publication, and, particularly in the phylogenetics section, repetitious. The next short section concerns classification within the Cactaceae and delineates the various tribes, with illustrated examples from each.

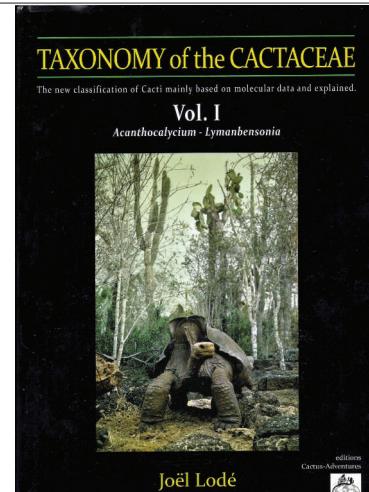
The alphabetical catalog of genera, the largest part of the work, follows. It starts with a page explaining the various codes and conventions used for the header page for each genus. This includes information about the original author and publication, as well as a

thumbnail distribution map and images of plants, flowers, fruit, and seeds. Occasionally, there is an image pertaining to the etymology of the name—the person it honors, or a map showing place it is named after.

This would be better placed with the later text covering this, as it can be somewhat confusing. These latter four are perhaps superfluous when one considers the number of images that follow in the illustrations section, and the space would be better used by enlarging the distribution map. The etymology of the genus is given, but only a translation of the name. It would have been useful to give the linguistic roots of the name consistently. We are treated to a full explanation of *Ancistrocactus*, but nothing for *Echinocereus*. The literal translation of cereus as ‘wax candle’ throughout does not sit easily with me, particularly since this genus was used as the root of many subsequent names. These authors referred to the genus *Cereus* as a form of cactus, eg. *Dendrocereus*. It does not mean “tree candle”.

A lot of work is done by the typeface, where the various combinations of italic, bold and upper case have been given new meanings in the context of the book. This seems to have lead to the unfortunate lumping of genera that are ‘obsolete, inappropriate, superfluous, invalid or abandoned’ which are taxonomically distinct entities. The author also explains his use of the terms subspecies and variety, which unfortunately do not follow the recommendation of the International Code of Nomenclature. Suggesting that amateurs and botanists (there are many who fit into both categories) use different systems isn’t consistent with the quality of this work.

Each genus begins with a full-page image of a plant in habitat. The majority are of excellent quality, but there are a few poor ones. There must be many better pictures of an *Echinocereus* in habitat that could have been used, for example. The layout for each genus is consistent, but not particularly efficient. Approximately a fifth of the page height is devoted





BOOK REVIEW

TIM HARVEY

to a graph depicting the altitude distribution of the genus. The same information would have taken perhaps half a line of text, and really does not add anything to any understanding of the genus when presented graphically.

The comments section of the genus description contain the information that makes this book incredibly valuable. Some taxonomic history is provided, together with any molecular systematic work. This information is distilled from a wide range of sources and covers a long period of time. The author précis the conclusions of the various works cited in their commentary, and ends with his opinion on the current status of the genus. I cannot over-emphasize what an enormous amount of literature has been distilled into this part of the work. For the hobbyist without access to an academic library, this is invaluable information.

A statement that the genus is correct (I'm not sure what bold means in this instance—it seems to be a duplication of the typeface code), is followed by the author's list of accepted species, together with notes on habitat and distribution. The list of species is provided in wastefully large text together with checkboxes. Sometimes there is a small bee, bat or bird icon at the end of the text. It is easy to miss, and so would probably be better represented in text. Many genera do not have any icon, so it is not clear whether this is an oversight, or the pollinators are unknown or diverse.

Interspersed between accepted genera are those which are not, helpfully with a reference to their publication and a reference to their current status. However, these tend to get lost or distract from this section of the book.

The first volume covers *Acanthocalycium* to *Lymanbensonia*, but this is only the first 354 pages of 667 in volume I. There then follows a visual feast of illustrations (mostly of plants in flower) of the species in the genera covered earlier in the volume. They are a mixture of habitat and cultivation shots. Some are a little out-of-focus, some would benefit from digital intervention to improve overall quality, some, particularly insets, are a little too small to be useful. I suspect there is the odd misidentified plant here and there—there are simply so many illustrations—but I do not have the expertise to be able to quantify this. The fact that so many rarely pictured taxa are included more than makes up for any (assumed) errors. A couple of pages in the review copy were blurred due to printing problems, but the book is nicely bound and uses quality paper. Volume I ends with an illustrated glossary, which could be improved by the inclusion of a textual

explanation of the terms alongside the images. Could actinomorphic mean yellow?

Volume II covers *Maihuenia* to *Yungasocereus* in the same way as volume I, and ends with a section of country maps with states/departments depicted in those with indigenous cacti, a rather short list of internet resources, pictures of some of the contributor, a Bibliography, and a Glossary. The glossary is rather incomplete, and frequently uses technical terms which are not defined to explain others. Many are simply missing, unless everyone these days is very familiar with what a chromosome or a nucleus is. Again, a technical editor would have helped considerably here. A few articles from the International Code of Nomenclature are tagged on to the end of the glossary, but the code itself is a surprising omission from the list of internet resources.

A paperback index listing current taxa and synonyms is also included. I hope I am able to stop it getting separated from the hardback volumes.

All in all, this is a phenomenal work, without even considering the different language editions. It has probably already eclipsed the NCL as a reference, for those who have both, due to the number of images it contains. Unlike many of the vanity publications that are appearing with increasing regularity, the author has made strenuous efforts to gather as much information as possible for the benefit of his readers. There remains much that could be improved, particularly in the layout and use of space. I would have preferred a few pounds less of paper or larger images, instead of the altitude graphs, and I believe everyone should improve their vocabulary and appreciation of their plants by increasing their understanding of Latin and Greek. If you have a serious interest in cacti, you should acquire a copy of this work. All cactus club libraries should have a copy for their less cactoholic members, since it may inspire them to grow more. It would be an ideal Christmas present for many teetering on the edge of manic obsession. Fortunately, there is now a second print run available, so do not delay!

