PALM LITERATURE

AUSTRALIAN PALMS: B I O G E O G R A P H Y, ECOLOGY AND SYSTE-MATICS. John Leslie Dowe. CSIRO Publishing, Collingwood, Victoria, Australia. 2010. ISBN 9780643096158. Price AU\$140.00. Soft cover. Pp. 290.



Australia with its offshore territories has 21 genera and 60 species of palm - not a large flora in relation to its size, but one of great scientific interest. Furthermore, Australian palms include some of the most important cultivated ornamental species. John Leslie Dowe has written a book that deals with many aspects of the palms of Australia, and this work will be of lasting value to our knowledge of the flora. It is also a beautiful book, lavishly and consistently illustrated with color photographs and maps throughout. No one knows the palms of Australia better than John Dowe, and so it is excellent that he has synthesized what he knows into this single 290 page volume. All you need to know about Australian palms? well perhaps not everything, but there is an immense amount of useful information in the book.

The book is divided into two main sections. The first provides a general introduction and a discussion of the history of Australian palm botany, historical biogeography and distribution and ecology. This is followed by the second part, devoted to the systematics of Australian palms, arranged according to the latest generic monograph, *Genera Palmarum Ed. 2*. Finally there is a field key, a checklist, a glossary, bibliography and index.

The chief glory of the book is the thorough illustration of the species. Almost every species is illustrated with high-quality, color photographs illustrating details of habit (and sometimes habitat too), leaves and/or crown, inflorescences, flowers of both sexes and fruit, and a photograph of the type specimen. This is wonderfully valuable in genera such as *Linospadix* and *Archontophoenix* where there are several rather similar species – in fact, these are easily distinguished in the superb photographs.

For each genus and species there is a complete nomenclatural citation, properly typified, a full description, a discussion of distribution and ecology, including conservation status, highly detailed etymology and notes. Genera, and in some instances species too, are placed in a phylogenetic framework, in the case of genera, largely derived from *Genera Palmarum Ed. 2*.

Dowe clearly relishes delving into the minutiae of the etymology of each genus and species. In some places, I feel a simple single phrase would have sufficed. For example, it takes five lines of text to explain the origin of maxima under Archontophoenix maxima. In one case, Linospadix the etymology seems just perverse to me - instead of being derived, as generally accepted, from Greek Linon, flax or a thread, and Greek spadix, from the slender thread-like inflorescences, Dowe suggests it is from the Latin "line," a twelfth of an inch (which in any case should be linea) and spadix. Wendland, the author of the genus, would have been unlikely to use a macaronic generic name, mixing Latin and Greek roots, and what has a twelfth of an inch to do with the threadlike inflorescence?

Although the text of the systematic part if the book is extremely thorough, there are some loose ends. One is in Livistona. An unusual feature of the genus in Australia is the fact that there is variation in sexuality. The author describes two species, L. concinna and L. humilis, as being dioecious with male inflorescences of a form different from that of the female, and borne on separate trees. No differences in flowers are described or discussed, although close-up photographs of male and female flowers of L. humilis are included and do not seem to show any differences. All other species are described as being "functionally dioecious." "Functionally" is superfluous - if a palm is dioecious then it is dioecious - that is its function. Unfortunately, nowhere does John Dowe explain what he means by this. The flowers of all these Livistona spp. seem to be hermaphroditic so where does the dioecy enter the story? Could it be that although the inflorescences and flowers appear similar, only certain trees bear fruit. and are hence female. while the others never fruit and are thus male? Is there really no difference in appearance between the flowers? This seems to me to be such an interesting aspect of Livistona that I find it surprising and disappointing that there is no discussion at all of sexuality in this genus.

For *Lepidorrhachis*, although John Dowe cites the paper of Baker and Hutton (*Lepidorrhachis*.

Palms 50: 33–38. 2006), he still describes the inflorescences as bearing triads of male and female flowers, and makes no mention of the observations in the Baker and Hutton paper that *Lepidorrhachis* produces unisexual inflorescences (also reported in *Genera Palmarum Ed. 2*), completely missing a very unusual and important character of the genus. This is bizarre when he also uses illustrations taken from the Baker and Hutton paper to illustrate male and female flowers, close-ups that provide strong evidence for the unisexuality of the inflorescences.

I have a few minor quibbles. The flange on the upper surface of the leaf rachis in *Oraniopsis* is certainly not unique – it's also present in *Ceroxylon, Nypa* occasionally has a ruminate endosperm (not mentioned) and given the fact that we have a recent monograph of the whole family at the generic level (*Genera Palmarum Ed. 2*), that accepts with good justification 183 genera, it seems rather contrary on page 54 of *Australian Palms* to use a total of ca. 190 genera. I feel that the field key could have been constructed in a more friendly way that relies less on characters of flowers and fruit. However, even though there is a field key, the format of this book is not designed for it to be taken in the field. The book at 21×27 cm and 290 pages means that the covers (paper) are really too thin to support the book, and I doubt it would withstand much fieldwork.

So, for whom has this book been written? It is clearly not a field guide (but, incidentally would provide the perfect basic material for developing a user friendly, pocket-sized field guide in the future, for which, I feel, there would be a real market). The amount of detail in the descriptions suggests that it is aimed at an academic audience, and it will be an invaluable reference. At \$140 Australian dollars this is not a cheap book, which is a shame – it is so beautiful and contains so much useful material that it deserves a wide readership among palm lovers, not just academics.

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BRAZILIAN **FLORA** LORENZI ARECACEAE (PALMS). Harri Lorenzi, Larry Noblick, Kahn Francis and Ferreira. Evandro Instituto Plantarum de Estudos da Flora, Nova Odessa, Brazil. [www. plantarum.com.br]. 2010. 85-86714-35-1. Price \$60.00. Hardcover. Pp. 384.



Brazil is the largest country in South America, with a correspondingly large number of different natural habitats, from ever-wet Amazonian rainforest to seasonally flooded plains, cloud forest, dry scrub and grasslands. The palm flora of Brazil is, not surprisingly, just as diverse and is the largest in South America. With the publication of this new book, the number of palm species in Brazil just grew even larger. The new species described in this work (adding to the many that were described earlier this year in anticipation of the book) are Acrocomia glaucescens, Butia catarinensis, B. lepidotispatha, B. pubispatha, Geonoma bondariana, G. conduruensis, G. littoralis, G. meridionalis and G. telesana. New combinations published for the first time are *Acrocomia emensis* and *Butia odorata*. The authors' species concepts are considerably narrower than that used by Henderson et al. in their *Field Guide to the Palms of the Americas* (1995. Princeton University Press). All told, Lorenzi and co-authors recognize 300 species, nearly all of which get a full page treatment in this lavish, large-format $(31 \times 21 \text{ cm})$ volume.

Too large for a field guide, the book is intended as an identification manual, although there are brief sections on general palm morphology and propagation from seed. A key to the genera of Brazilian palms takes up only two pages of text. The genera and species are then treated alphabetically and make up the bulk of the book. Lorenzi is the author for most treatments, but other genera are treated by Noblick (*Butia, Lytocaryum* and *Syagrus*), Kahn (*Astrocaryum*) and Ferreira (*Bactris*).

The glossy photographs that illustrate the species treatments are generally outstanding. Four poorly known *Astrocaryum* species are illustrated by drawings, but each of the remaining 296 species is illustrated by at least one photo of the palm's habit, along with a photo of flowers or fruits and a small but useful distribution map. Readers familiar with Lorenzi's work will recognize his blue grid

background for the photos of flowers and fruits. What these compositions lack in artistry they make up for in utility. The habits and parts of small palms, such as many understory *Geonoma* species, were photographed with a black backdrop that shows off the palms to good advantage.

As an identification manual, the book is largely successful. The keys to the species, coupled with the photos, locality data and descriptions of major features, should facilitate naming an unknown palm. The "major features" section for each species could be more succinct and thereby more user-friendly. For example, is it necessary to describe every species of Attalea as having pinnate leaves? Surely that information is in the genus description and does not need to be repeated for every species. The species treatments also provide common names, information on uses and notes on propagation (including for many species, the number of seeds per kilogram - without doubt useful information for the commercial nurseryman). On the other hand, the treatments also include more technical details than one expects in a book of this sort, e.g. citation of original publication, synonymy and at least one voucher specimen. These extras do not detract from the book, but one wonders if they are necessary in pages that are already crowded with text and illustrations.

Overall, I can recommend this book to anyone wishing for an accessible account of the palms of Brazil. It is good value for money. The treatments of the large genera, such as Geonoma, Bactris and Astrocaryum – genera that are not often seen in gardens – are especially fascinating, as are the seldom-seen Barcella odora and Dictyocaryum ptarianum. I found the photos of the grass-mimicking Butia and Svagrus species to be especially interesting, and now that grasses are no longer fashionable among arbiters of garden design, I mused on creating a "prairie" of palms. For those of us not privileged to see these palms in the wild, this book will fuel the desire to see them enter the trade and become available to growers throughout the world. The palms of Brazil, as this book amply illustrates, are too beautiful to ignore.

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