

REVIEWS AND NOTICES OF PUBLICATIONS

Edited by Rudolf Schmid

Topic areas for Notices: Reviews are cross referenced.

General works, including on evolution	000
Taxonomic, ecological, and horticultural groups, including plant algal fungal structure	000
Floristics, biogeography, and synecology	000
Multivolume floras and other works issued serially	000
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Economic botany, ethnobotany, and medical botany	000
History and biography	000
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REVIEWS

Bednarek-Ochyra, Halina. 20 June 2006. *A taxonomic monograph of the moss genus Codriophorus P. Beauv. (Grimmiaceae)*. W. Szafer Institute of Botany, Kraków (www.ib-pan.krakow.pl). 276 pp., errata slip (key to N. Amer. taxa), ill., 303×213 mm, ISBN 8389648407 HB, €45.00. — *Contents:* intro; hist.; methods; 27 tax. chars.; phytogeogr., ecol.; syst.; tax. pt.; unlocated, excl. types; 2-p. summary; biblio.; index; list nomen. novelties.

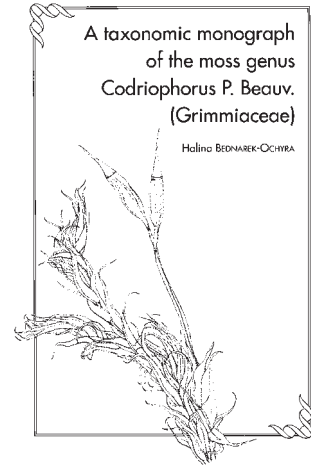
This lavishly illustrated monograph helps reviving one of the obscurest generic names in mosses, *Codriophorus* P. Beauv., misspelled upon publication as “*Codonophorus*” and rested in synonymy for almost 200 years. As newly defined by Halina Bednarek-Ochyra, *Codriophorus* is a segregate of *Racomitrium* (one of the largest genera of Grimmiaceae, of harsh, mostly rocky environments) and includes some very well-known species such as *C. acicularis*, *C. fascicularis*, and *C. aquaticus*, already described as early as 1741 by Johann Dillenius in his *Historia muscorum*. Members of *Codriophorus* stand out by, among other features, papillosity of leaf cells and calyptra, and the lack of hair points typical of Grimmiaceae. Moreover, they are usually found in wet habitats as contrary to other members of the family, which may explain the absence of the hair points usually considered an adaptation to arid environments.

Based on study of about 11,000 specimens from the world’s major herbaria, Halina Bednarek-Ochyra was able to recognize 15 species in *Codriophorus*, out of a total of 42 species (and 25 varieties and 13 forma) previously attributed to the group; in addition, she described 2 sections and 7 subsections. The treatments for species are very detailed, with much atten-

tion to nomenclature, types and other specimens, morphological variation and differentiation among taxa, and (as far as is known from labels) distribution and ecology. The impeccable morphological descriptions are a mine of information on the species.

Undoubtedly the most captivating feature of this monograph is the superb illustration, with several full-page plates of line drawings per species (up to 9 plates for *C. aciculare*, 6 for *C. aquaticus*) showing morphological characters and variation in great detail. There are also numerous distribution maps. Geographical distribution of *Codriophorus* is essentially bipolar, although most species (13) are confined to the Holarctic, with some being widespread, but others very restricted in range. One species, *C. laevigatus*, occurs in southern South America and another, *C. dichelymoides*, is endemic to the páramo of Colombia. Although not discussed in this monograph, I assume that dispersal in *Codriophorus* is by spores because asexual means of reproduction are unknown. Western North America appears to be the main center of endemism in the genus, with four species being known only from this part of the world. Interestingly, two of these (*C. norrisii*, *C. rysardii*) as well as most localities of the western North American species, were discovered only rather recently. Collecting apparently still holds great promises in *Codriophorus*, despite the large amount of material already available.

This is a splendid monograph that leaves little to be desired. If anything, I would have liked to see a phylogenetic analysis of *Codriophorus* and its relatives. This might have helped demonstrating the relationships among the species, and the need for splitting *Racomitrium* into segregates. On the nomenclatural side, I believe that the very lengthy type citations, providing full citation of the published data as well as of the labels, could have been shortened without loss of important information. Errors in citation are very few. Some general herbarium collections seem to have been incorrectly cited as separate ones (e.g., herbarium Herzog and herbarium Hooker). The old 19th



Column closed 15 Jan. 2007. Deadlines for receipt of materials are 10 Jan., 10 Apr., 10 July, and 10 Oct. for inclusion in, respectively, the following Feb., May, Aug., and Nov. issues. **Send all materials for this column to:** Rudolf Schmid, 16 Edwin Dr., Kensington, CA 94707-1022, U.S.A. (for faster, more secure arrival) or Department of Integrative Biology, University of California, Berkeley, CA 94720-3140, U.S.A. (phone 510/525-0439; fax 510/643-6264; schmid@berkeley.edu; http://socrates.berkeley.edu/~schmid).

Unless noted otherwise, “Notices” are by Rudolf Schmid, prices are in U.S. dollars and exclude postage, and illustrations (ill.) are all black-and-white (B&W) versus partly or all in color (col.). Abbreviations usually follow *Botanico-periodicum-Huntianum*, 2nd ed. (BPH2, 2004), but “HB/PB” = hard-/paperbound and “ep.” = endpaper (“ep.” is used for HB and PB items). **Note:** Full snail-mail addresses are given for publishers only if no website or email address is indicated.

century collection of *C. fascicularis* from “Tahiti,” the only record of this species from outside the Holarctic, is suspect. The editing of the book is impeccable. — Robbert Gradstein, GOET (sgradst@gwdg.de)

Weber, William A. (ed.). Winter 2004. *The valley of the second sons: Letters of Theodore Dru Alison Cockerell, a young English naturalist, writing to his sweetheart and her brother about his life in West Cliff, Wet Mountain Valley, Colorado 1887–1890*. Pilgrims Process, Longmont (www.pilgrimsprocess.com). xxi, [i], 567, [2] pp., ill., 236×192 mm, ISBN 0971060991 PB, \$39.95. — *Contents*: intro; ed. note; chron. Cockerell; biogrs., obits., notices; ancillary refs. on Cockerell fam.; biblio.; Cusack fam.; letters (566 pp.); index.

Octogenarian Bill Weber edited *The American Cockerell: A naturalist's life, 1866–1948* (2000), a collection of autobiographical writings by the remarkable biologist Theodore



Theodoere Dru Alison Cockerell

(“Theo”) Dru Alison Cockerell (22 Aug. 1866–26 Jan. 1948). I lauded this work in *Taxon* 49: 361–362. At age 20 Cockerell was a health escapee from England to the American West, residing in New Mexico and especially Colorado. The mammoth 2004 companion volume on Cockerell (and Weber did two other works on the man—see citations in *Taxon* 49: 361) devotes 566 pages to the transcriptions of letters Cockerell wrote from Colorado: letters from 27

Sep. 1888 to 26 Feb. 1891 to his British sweetheart Annie Fenn (died 14 Sep. 1893), whom he married in England on 2 June 1891, and earlier letters from 24 June 1887 to 8 Sep. 1888, to her brother Frederic Fenn, who passed on the letters to Annie because their father had forbidden Theo and Annie to communicate. Alas, no return letters survived. Included also are two letters from the father to Theo, 13 Sep. 1888 and 8 Aug. 1893, the first allowing the lovers to communicate.

Theo's letters are engagingly written, as only Victorians could write, and one must lament again that in this age of e-mail the art of letter writing is increasingly endangered, with the dire consequence that the Hunt and other archival institutions will be the poorer for it. Cockerell's letters are also rich in historical and biological detail, detail made richer by Weber's extensive annotations included in brackets. A nine-page detailed index allows access to the treasure trove, for instance, 18 entries for Alice Eastwood (1859–1953), then a school teacher in Denver. The 22 pages of preliminaries include 9 pages of background information plus 8 pages for a chronology, bibliographies, plus notes on the Cusack family, with whom Cockerell resided. Weber's concluding introductory statement says it better than I can: “There is something for everyone in these wonderful letters” (p. xiii). — Rudolf Schmid, UC

A fine work on gingers of South India

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Sabu, M. (Mamiyil). Mar. 2006. *Zingiberaceae and Costaceae of South India*. Indian Association for Angiosperm Taxonomy, Kerala. [xi], 282 pp., ill. (most col.), ISBN 8190163701 HB, Rs. 1800.00 India, US\$120.00 foreign (from msabu9@gmail.com). — *Contents*: foreword by K.S. Manilal; intro (earlier work; study area); comp. morph.; dermal morph.; palynol.; cytol.; class.; format, herb.; 223-p. tax. pt.; biblio.; index.

As Mamiyil Sabu coherently states in his introduction, a comprehensive text is greatly needed to detail the diversity of gingers (Zingiberaceae) and spiral gingers (Costaceae) in the mega-diverse region of South India. Sabu's engaging and visually pleasing work successfully fills the void and provides a thorough survey of the ginger flora of South India.

The book opens with an introduction that reviews and summarizes information on morphology, palynology, cytology, and classification of gingers, focusing on species native to or cultivated in South India. A systematic treatment, with keys, of first Zingiberaceae then Costaceae follows: 10 genera, 65 species (29 endemic, 6 alien), and 2 varieties. A detailed but concise description of the diagnostic characters and/or defining characteristics accompanies most levels of the taxonomic hierarchy and includes the history of the classification system associated with taxonomic ranks from family to genus. The information and keys provided are in a logical format that makes the book fulfill its self-proclaimed goal of enabling students, amateurs, and professionals alike to identify plants to species. Those using the book will also learn a great deal about the biology and natural history of the plants.

As with any regional flora, defining taxonomic associations among species is troublesome due to incomplete sampling of the diversity of most families or genera in any particular geographic region. This factor is further complicated in this work by the treatment of two families, Zingiberaceae and Costaceae. Much of the introductory sections on morphology and palynology consider only Zingiberaceae. Other morphological sections list *Costus* (Costaceae) among genera of Zingiberaceae, apparently not making a distinction between the two families and thus removing the morphological observations from an evolutionarily comparative framework. In the taxonomic section on Zingiberaceae, the author states (p. 43): “The family is related to the sister families of the order Scitamineae (Zingiberales or Arillatae): Musaceae, Cannaceae and Marantaceae.” Missing from this list is Costaceae as well as Heliconiaceae, Strelitziaceae, Marantaceae, and Lowiaceae. This is an unexplained adherence to an older system of classification, even though the author had earlier cited more recent publications that use the ordinal title Zingiberales, include all eight families, and indicate the position of Costaceae as sister to Zingiberaceae. The 1934 Hutchinson citation (p. 43) considering Zingiberaceae advanced and “the climax of one line of development” is interesting historically but is inappropriate and a bit confusing in the context presented, given our current understanding of the systematics of monocotyledons (for the proceedings of the 2003 “Monocots III” conference see entry below for Columbus & al.).

This lack of adherence to a single taxonomic treatment is understandable considering the confusing taxonomic history of the group, some of which the book details (pp. 36–39), but our

current understanding of evolution in these families could enable this work to clear up some of the taxonomic confusion and present the systematic treatment in a comparative context. Because only one species of Costaceae is native to South India, the inclusion of Costaceae in this volume is not essential, and much of the aforementioned confusion could be removed were coverage limited to Zingiberaceae. If Costaceae be included, comparisons with it would ideally be used to point out interesting evolutionary trends in species of Zingiberaceae and between the two sister families.

The section on comparative morphology (p. 9) provides a nice summary of both vegetative and reproductive characteristics, focusing especially on Zingiberaceae. It is one of the sections where comparisons between Zingiberaceae and Costaceae would have been a welcome and appropriate addition, especially considering the diversity of species the flora covers for southern India. Throughout this section, genera of Costaceae are either treated as part of a larger Zingiberaceae (e.g., ovary, fruit, seeds), or Costaceae is not explicitly treated (e.g., inflorescence, bracts, bracteole, flower, calyx, corolla, staminodes, labellum, stamen, etc.). The lack of comparison between the two families is especially apparent in the description of the labellum, which fails to mention research showing that this develops differently: fusion of two staminodia in Zingiberaceae versus five in Costaceae. Comparison of the labellar morphology in these families would have been more valuable than the comparison of the labellum of Zingiberaceae with that of Orchidaceae (p. 17). While it is often difficult to place regional projects in an evolutionary context, the discussion of morphological and anatomical characters nicely detailed in this volume would benefit from being placed in a phylogenetic framework to clarify character evolution.

In the systematic treatment, Sabu presents detailed descriptions of subfamilies, tribes, genera, and species. The keys to these are easy to follow and are sufficient to identify properly species found in South India, both native and non-native. Ninety full-page illustrations—70 B&W (10 of maps, 60 of line drawings), 20 color (with 90 photos)—are available for all species, making it particularly useful to identify fresh and potentially dried material. The illustrations are not of the same quality throughout and are sometimes difficult to interpret due to a lack of precision in shading or unusual interpretations of floral shape, but they are invaluable in the context of this work and provide overall views of the plants, with many fine, detailed sketches of important characters. There are also several comparative illustrations, for instance, rhizomes and anthers of Zingiberaceae, anthers of *Curcuma*; these are very informative to demonstrate overall diversity and, for *Curcuma*, to

distinguish among species. Plates containing color photos are of excellent quality for demonstrating various aspects of plant morphology, even vegetation and habit (notoriously difficult to photograph in the field).

In each species description, the “taxonomic notes” section is particularly useful. This section demonstrates Sabu’s deep knowledge of these species, detailing characters that can be used to distinguish among similar looking species. Sabu does not formally address relationships but does note when two species appear closely related. All species have distribution maps; the text gives more detailed distributional information, including indication when Sabu found new records for a given area or if previous reports are inaccurate based on his extensive experience. The ecology (overall habitat, elevation, forest type) of each species is given, and the pollination, flowering and fruiting phenology, and human uses are noted for most species. The phenology is particularly important for

future collections, targeting species that are unknown or under-represented in regional herbaria. There are a few cases where the native distribution of a taxon is not listed, and in at least one case (*Costus erythrophyllus*) the species is not native to India. Clarification of the position of each species in the native flora would be helpful, especially as many Zingiberaceae and Costaceae are non-native but are either cultivated or naturalized pantropically.

The work has throughout various typographic and grammatical errors, although few have a strong negative effect on overall readability. Some of the nomenclatural errors occur consistently in published genera (“*Tapeinochilus*” = *Tapeinochilos* Miq.), though most are single occurrences (“*Pommeresehea*,” p. 37). As several recent papers on the phylogeny and taxonomy of Zingiberaceae and Costaceae have succeeded the publication of this book, including a number of generic changes affecting the systematic treatment, the taxonomy section would benefit greatly from a second edition. The grammar of the introductory section could then also be revised. Thus, while this first edition is an excellent addition to any botanical library, a second edition would be most useful and very welcome.

Overall, this is a lovely and enjoyable book providing invaluable information on Zingiberaceae (and Costaceae) from a region in which they are very diverse. This work will only get better as more detailed taxonomic information enables refined definitions of diverse genera such as *Alpinia* and *Amomum*. I hope that this work will continue to be updated as taxonomic changes are made; an on-line companion would be an excellent way to ensure its timeliness. In summary, I highly recommend this book, and I certainly would *not* contemplate traveling to India and trying to identify a ginger without it!

