

# EDINBURGH JOURNAL OF BOTANY

---

AN INTERNATIONAL JOURNAL OF PLANT  
SYSTEMATICS AND BIODIVERSITY

Editor  
DR DAVID MIDDLETON

Chairman of the Editorial Board  
PROFESSOR JOHN RAVEN

Book Review Editor  
DR MARK HUGHES

VOLUME 68 2011

No. 1	pages	1–158 (Published 18 March 2011)
No. 2		159–332 (Published 14 June 2011)
No. 3		333–522 (Published 14 October 2011)



PUBLISHED BY THE PRESS SYNDICATE OF THE UNIVERSITY OF  
CAMBRIDGE  
The Pitt Building, Trumpington, Cambridge CB2 1RP, United Kingdom

CAMBRIDGE UNIVERSITY PRESS  
The Edinburgh Building, Cambridge CB2 8RU, United Kingdom  
32 Avenue of the Americas, New York, NY 10013–2473, USA  
477 Williamstown Road, Port Melbourne, VIC 3207, Australia  
C/Orense, 4, planta 13, 28020 Madrid, Spain  
Lower Ground Floor, Nautica Building, The Water Club, Beach Road, Granger  
Bay, 8005 Cape Town, South Africa

© Trustees of the Royal Botanic Garden Edinburgh (2011)

*Printed by Latimer Trend, Plymouth, UK*

## CONTENTS OF VOLUME 68 (2011)

VOL. 68, No. 1, MARCH 2011

Notes on Papuan Sapindaceae: <i>Harpullia mabberleyana</i> sp. nov., <i>Harpullia rhachiptera</i> and <i>Lepisanthes mixta</i> . W. TAKEUCHI	1
A revision of Philippine <i>Gardenia</i> (Rubiaceae). K. M. WONG & Y. W. Low	11
Rediscovery of <i>Croton josephinus</i> (Euphorbiaceae) in Minas Gerais, Brazil. D. MEDEIROS, R. J. V. ALVES & L. DE SENNA-VALLE	33
<i>Diplycosia bartolomei</i> (Ericaceae), a new species from the Philippines. U. F. FERRERAS & G. C. G. ARGENT	39
Clarifying the nomenclature and taxonomy of <i>Gagea kunawurensis</i> (Royle) Greuter (Liliaceae) and allied taxa. M. ZARREI, P. WILKIN, H. J. NOLTIE, M. J. INGROUILLE & M. W. CHASE	43
Revision of <i>Pedicularis</i> series <i>Tenuirostres</i> (Orobanchaceae). R. R. MILL	61
Revision of the limits of <i>Pedicularis</i> series <i>Megalanthae</i> (Prain) Bonati (Orobanchaceae). R. R. MILL	111
Comparative anatomy of <i>Calolisianthus</i> species (Gentianaceae – Helieae) from Brazil: taxonomic aspects. M. N. DELGADO, A. A. AZEVEDO, L. C. SILVA, G. E. VALENTE & M. C. M. KASUYA	139

*Book review*

<i>Floral Diagrams: An Aid to Understanding Flower Morphology and Evolution</i> , by Louis P. Ronse De Craene	157
---	-----

VOL. 68, No. 2, JULY 2011

A new subspecies of <i>Omphalodes luciliae</i> (Boraginaceae) from Turkey. R. R. MILL	159
<i>Stubendorffia</i> and <i>Winklera</i> belong to the expanded <i>Lepidium</i> (Brassicaceae). I. A. AL-SHEHBAZ & K. MUMMENHOFF	165
The correct citation and typification of the name <i>Desmos viridiflorus</i> (Annonaceae). I. M. TURNER	173
A new and unusual xerophytic species of <i>Begonia</i> (Begoniaceae) from Peru. M. C. TEBBITT	177

---

Important Plant Areas in the Arabian Peninsula: 3. ‘Uruq Bani Ma‘arid. M. HALL, A. G. MILLER, O. A. LLEWELLYN, T. M. AL-ABBASI, R. J. AL-HARBI & K. F. AL-SHAMMARI	183
Important Plant Areas in the Arabian Peninsula: 4. Jabal Aja’. O. A. LLEWELLYN, M. HALL, A. G. MILLER, T. M. AL-ABBASI, A. H. AL-WETAID, R. J. AL-HARBI & K. F. AL-SHAMMARI	199
Nine new species of <i>Begonia</i> (Begoniaceae) from South and West Sulawesi, Indonesia. D. C. THOMAS, W. H. ARDI & M. HUGHES	225
Two new species of <i>Eriocaulon</i> (Eriocaulaceae) from India. S. NAMPY, K. M. MANUDEV & A. K. PRADEEP	257
A new species of <i>Selliguea</i> (Polypodiaceae) from Thailand. P. HOVENKAMP	265
<i>Ficus trivia</i> (Moraceae) redefined. C. C. BERG	269
A floristic description of the San Pastor Savanna, Belize, Central America. J. HICKS, Z. A. GOODWIN, S. G. M. BRIDGEWATER, D. J. HARRIS & P. A. FURLEY	273
New and noteworthy species of <i>Primula</i> (Primulaceae) from China. C. M. HU & G. HAO	297
The <i>Themeda quadrivalvis</i> tall-grass savannah of Oman at the crossroad between Africa and Asia. A. PATZELT	301
<i>Appendicula nicobarica</i> (Orchidaceae – Epidendroideae – Podochileae), a new species from Great Nicobar Biosphere Reserve, India. J. JAYANTHI, R. SUMATHI, K. KARTHIGEYAN & D. NARASIMHAN	321
 <i>Book reviews</i>	
<i>Seeds of Amazonian Plants</i> , by Fernando Cornejo & John Janovec	325
<i>Flora Malesiana, Series I. Volume 19. Cucurbitaceae</i> , by W. J. J. O. de Wilde & B. E. E. Duyfjes	327
<i>Flora of Peninsular Malaysia, Series I: Ferns and Lycophytes, Volume 1</i> , edited by B. S. Parris, R. Kiew, R. C. K. Chung, L. G. Saw & E. Soepadmo; <i>Flora of Peninsular Malaysia, Series II: Seed Plants, Volume</i> <i>I</i> , edited by R. Kiew, R. C. K. Chung, L. G. Saw, E. Soepadmo & P. C. Boyce	328
<i>Natural and Cultural History of the Golfo Dulce Region, Costa Rica</i> , edited by Anton Weissenhofer, Werner Huber, Veronika Mayer, Susanne Pamperl, Anton Weber & Gerhard Aubrecht	330

## VOL. 68, NO. 3, NOVEMBER 2011

A new species of <i>Rhinacanthus</i> (Acanthaceae) from Sri Lanka. A. P. P. R. AMARASINGHE & D. S. A. WIJESUNDARA	333
A new name for a South Asian <i>Xylopia</i> (Annonaceae) species. I. M. TURNER	339
<i>Thecacoris</i> , including <i>Cyathogyne</i> (Phyllanthaceae), in West Africa: generic delimitation, description of a new species, and a synopsis of all West African species. F. J. BRETELER	343
Systematic and ecological significance of seed coat morphology in South African Campanulaceae <i>sensu stricto</i> . C. N. CUPIDO, W. M. M. EDDIE & L. R. TIEDT	351
An analysis of species distribution patterns in the Atlantic Forests of southeastern Brazil. M. F. SANTOS, H. SERAFIM & P. T. SANO	373
Structure and floristics of the arboreal component of a dystrophic cerradão and comparison with other cerradões in central Brazil. G. M. ARAÚJO, A. R. T. NASCIMENTO, S. F. LOPES, R. F. RODRIGUES & J. A. RATTER	401
<i>Vaccinium nagamasu</i> (Ericaceae), a new species (sect. <i>Bracteata</i> ) from Sumatra, Indonesia. G. ARGENT	419
Novitates Gabonenses 80. Additions and corrections to the flora of Gabon. G. WALTERS, G. DAUBY, T. STÉVART, S. DESSEIN, R. NIANGADOUMA & O. LACHENAUD	423
Revision of Malesian <i>Endospermum</i> (Euphorbiaceae) with notes on phylogeny and historical biogeography. S. ARIAS GUERRERO & P. C. VAN WELZEN	443
<i>Book review</i>	
<i>Trees of Panama and Costa Rica</i> , by R. Condit, R. Pérez & N. Daguerre	483
Reviewers for Volume 68	485
Index to Volume 68	487
Volume contents	

CAMBRIDGE

Fantastic Title from Cambridge University Press

## Early Flowers and Angiosperm Evolution

ELSE MARIE FRIIS

*Swedish Museum of Natural History*

PETER R. CRANE

*Yale University*

KAJ RAUNSGAARD PEDERSEN

*University of Aarhus*

The recent discovery of diverse fossil flowers and floral organs in Cretaceous strata has revealed astonishing details about the structural and systematic diversity of early angiosperms. Exploring the rich fossil record that has accumulated over the last three decades, this is a unique study of the evolutionary history of flowering plants from their earliest phases in obscurity to their dominance in modern vegetation. The discussion provides comprehensive biological and geological background information, before moving on to summarize the fossil record in detail. Including previously unpublished results based on research into Early and Late Cretaceous fossil floras from Europe and North America, the authors draw on direct palaeontological evidence of the pattern of angiosperm evolution through time. Synthesizing palaeobotanical data with information from living plants, this unique book explores the latest research in the field, highlighting connections with phylogenetic systematics, structure and the biology of extant angiosperms.

\$160.00: Hardback: 978-0-521-59283-3: 596 pp.

*Prices subject to change.*

[www.cambridge.org/us/](http://www.cambridge.org/us/) 9780521592833  
800.872.7423



CAMBRIDGE  
UNIVERSITY PRESS

## EDINBURGH JOURNAL OF BOTANY: INSTRUCTIONS FOR AUTHORS (July 2010)

*Edinburgh Journal of Botany* is an international journal of plant systematics. Contributions relating to plant systematics and allied subjects, including biodiversity, conservation science and phytogeography, will be considered. Papers reporting the results of research that link traditional and modern techniques are especially welcomed. **Manuscripts should be sent in electronic form** to ejb@rbge.org.uk. All manuscripts will be subject to multiple peer review before publication. Submitted manuscripts should not have been accepted for publication or be under consideration elsewhere. Authors whose mother tongue is not English should if possible have their papers checked by a fluent or proficient English speaker before submission.

There are no page charges. A PDF offprint will be supplied free of charge. Paper offprints may be purchased through the publisher. Colour plates may be included in the online version free of charge; the cost of including colour plates in the printed version will be charged to the author. Halftone plates are free of charge both online and in print.

**Text** pages should be numbered serially, with the title and abstract on the first. Genus and species names should be italicised and should be followed by the authority when first used in the main text or in diagnoses. SI (metric) units must be used other than in specimen citations where appropriate. Authors are advised not to return loan material of new taxa until papers have been reviewed. Refer to volume 63 onwards to see how nomenclatural details, typification and specimens seen should be formatted.

The **title page** should include the title, the name(s) and address(es) of the author(s), the abstract, a short running title and a few important keywords. Titles do not normally include authors of scientific names. It will be assumed that correspondence should be addressed to the first author unless otherwise indicated. The **abstract** should be concise and informative, indicating what the paper contains without summarising it.

**Author abbreviations** should precisely follow: BRUMMITT, R. K. & POWELL, C. E. (eds) (1992). *Authors of Plant Names*. Kew: Royal Botanic Gardens, Kew; KIRK, P. M. & ANSELL, A. E. (1992). *Authors of Fungal Names* [Index to Fungi Supplement]. Wallingford: CAB International.

**Herbarium abbreviations** should follow: HOLMGREN, P. K., HOLMGREN, N. H. & BARNETT, L. C. (eds) (1990). *Index Herbariorum. Part I: The Herbaria of the World* [Regnum Veg. vol. 120]. New York: New York Botanical Garden. Newer entries can be found at <http://sciweb.nybg.org/science2/IndexHerbariorum.asp>.

**Journal abbreviations** should follow: BRIDSON, G. D. R., TOWNSEND, S. T., POLEN, E. A. & SMITH, E. R. (eds) (2004). *BPH-2: periodicals with botanical content: comprising a second edition of Botanico-Periodicum-Huntianum*. Pittsburgh: Hunt Institute for Botanical Documentation.

**Book title abbreviations** should follow: STAFLEU, F. A. & COWAN, R. S. (eds) (1976–88). *Taxonomic Literature*. 2nd edition. 7 vols [Regnum Veg. vols 94, 98, 105, 110, 112, 115, 116]; STAFLEU, F. A. & MENNEGA, E. A. (eds) (1992–). *Taxonomic Literature*. Supplements [Regnum Veg. vols 125, 130, 132], except that all abbreviated words should be capitalised, e.g. Sp. Pl. not Sp. pl.

**References in the text** should be cited by author and publication date: (Smith, 2009) or ‘as stated by Smith (2009)’. Multiple references should be arranged chronologically. For three or more authors use *et al.* In the **reference list**, references should be in alphabetical order and should appear in the following style:

- ZHU, R.-L. & CHENG, X. F. (2008). The status of *Amblyolejeunea* (Lejeuneaceae) from Ecuador and Guadeloupe. *Syst. Bot.* 33: 617–620.  
MABBERTLEY, D. J. (2008). *Mabberley's Plant-Book: A Portable Dictionary of Plants, Their Classification and Uses*, 3rd edition. Cambridge: Cambridge University Press.  
MANN, D. G. & EVANS, K. M. (2007). Molecular genetics and the neglected art of diatomics. In: BRODIE, J. & LEWIS, J. (eds) *Unravelling the Algae: The Past, Present, and Future of Algal Systematics*, pp. 231–265. Systematics Association Special Volume 75. Boca Raton, FL: CRC Press.

**Tables** should be numbered in arabic numerals and carry a descriptive title. **Figures**, whether line drawings or photographs, should be numbered consecutively in arabic numerals and referred to in the text thus: (Fig. 1), (Figs 2, 3), (Figs 1–4). Line drawings should be scanned in black and white at 600 dpi and photographs at 300 dpi (but correspond with the editor if this should prove problematic) and sent electronically with the manuscript. Please use LZW compression for tif files, remove excess space and elements from around the image, and crop or scale the image to the journal page size (12.5 × 19.5 cm to include caption). A measured scale mark should be included on each illustration to indicate magnification.

© Trustees of the Royal Botanic Garden Edinburgh

This journal issue has been printed on FSC-certified paper and cover board. FSC is an independent, non-governmental, not-for-profit organization established to promote the responsible management of the world’s forests. Please see [www.fsc.org](http://www.fsc.org) for information.

VOLUME 68, NO. 3 (2011)

## CONTENTS

A new species of <i>Rhinacanthus</i> (Acanthaceae) from Sri Lanka. A. P. P. R. AMARASINGHE & D. S. A. WIJESUNDARA	333
A new name for a South Asian <i>Xylopia</i> (Annonaceae) species. I. M. TURNER <i>Thecacoris</i> , including <i>Cyathogyne</i> (Phyllanthaceae), in West Africa: generic delimitation, description of a new species, and a synopsis of all West African species. F. J. BRETELER	339
Systematic and ecological significance of seed coat morphology in South African Campanulaceae <i>sensu stricto</i> . C. N. CUPIDO, W. M. M. EDDIE & L. R. TIEDT	343
An analysis of species distribution patterns in the Atlantic Forests of southeastern Brazil. M. F. SANTOS, H. SERAFIM & P. T. SANO	351
Structure and floristics of the arboreal component of a dystrophic cerradão and comparison with other cerradões in central Brazil. G. M. ARAÚJO, A. R. T. NASCIMENTO, S. F. LOPEZ, R. F. RODRIGUES & J. A. RATTER	373
<i>Vaccinium nagamasu</i> (Ericaceae), a new species (sect. <i>Bracteata</i> ) from Sumatra, Indonesia. G. ARGENT	401
Novitates Gabonenses 80. Additions and corrections to the flora of Gabon. G. WALTERS, G. DAUBY, T. STÉVART, S. DESSEIN, R. NIANGADOUMA & O. LACHENAUD	419
Revision of Malesian <i>Endospermum</i> (Euphorbiaceae) with notes on phylogeny and historical biogeography. S. ARIAS GUERRERO & P. C. VAN WELZEN	423
	443
<i>Book review</i>	
<i>Trees of Panama and Costa Rica</i> , by R. Condit, R. Pérez & N. Daguerre	483
Reviewers for Volume 68	485
Index	487
Volume contents	

The cover illustration, drawn by Mary Mendum, is of the diminutive alpine plant *Sibbaldia procumbens*, named in honour of one of the Royal Botanic Garden Edinburgh's founders Robert Sibbald. This plant is used, in a stylised form, as the Garden's official logo.