



# Plant Genetic Resources: Characterization and Utilization

Volume 11 2013 ISSN: 1479-2621

## Aims and Scope

The journal provides a forum for describing the application of novel genomic technologies, as well as their integration with established techniques, towards the understanding of the genetic variation captured in both *in situ* and *ex situ* collections of crop and non-crop plants; and for the airing of wider issues relevant to plant germplasm conservation and utilisation. We particularly welcome multi-disciplinary approaches that incorporate both a technical and a socio-economic focus.

Technical aspects can cover developments in technologies of potential or demonstrated relevance to the analysis of variation and diversity at the phenotypic and genotypic levels; the development of rational germplasm collection, evaluation and conservation strategies; and the impact of crop genetic modification and biotechnology on plant genetic resources. Authors should note that the journal will not review submissions using the RAPD marker system, except where very large numbers of assays place a cost limitation on the analysis, or where RAPD data is combined with, and is co-analysed with other forms of descriptive data, which allows an objective means of assessing the credibility of the RAPDs.

Non-technical aspects can include ethical, legal, commercial and social issues of relevance, in particular relating to farmers' rights, intellectual property and ethnobotany.

### **Editor-in-Chief**

Robert Koebner CropGen International, UK plantgeneticresources@googlemail.com

### **Editorial Board**

- M. T. Abberton, *International Institute of Tropical Agriculture*, *Nigeria*
- A. Beharav, University of Haifa, Israel
- D. Bertioli, University of Brasilia, Brazil
- H. Bockelman, National Small Grains Collection, USA
- A. Börner, Leibniz Institute of Plant Genetics and Crop Plant Research, Germany
- C. Fatokun, *International Institute of Tropical Agriculture, Nigeria*
- B. Ford-Lloyd, University of Birmingham, UK
- L. Guarino, Global Crop Diversity Trust, Germany
- D. Jarvis, Bioversity International, Italy
- C. Kole, Clemson University, USA
- U. Lavania, Central Institute of Medicinal & Aromatic Plants. India

- S-H. Lee, Seoul National University, The Republic of Korea
- Y. Li, Chinese Academy of Agricultural Sciences, China
- Q. H. Pan, South China Agricultural University, China
- R. J. Smith, Royal Botanic Gardens Kew, UK
- R. Tuberosa, University of Bologna, Italy
- T. J. L. van Hintum, Centre for Genetic resources, Wageningen University and Research Centre, Netherlands
- R. Varshney, International Crops Research Institute for the Semi-Arid Tropics, India

Cover image: Whole plant of *Chlorophytum borivillianum* showing medicinally/nutraceutically important fascicular roots. (Photo by U. C. Lavania.)

2013 Cambridge University Press. All rights reserved Published by Cambridge University Press, Cambridge CB2 8RU: New York, NY 10013-2473

# Plant Genetic Resources Characterization and Utilization

### **Contents**

In this Issue	
Robert Koebner	
Diversity and geographical gaps in Cajanus scarabaeoides (L.) Thou. germplasm conserved at the ICRISAT genebank	
H. D. Upadhyaya, K. N. Reddy, R. P. S. Pundir, Sube Singh, C. L. L. Gowda and M. Irshad Ahmed	
Distribution of downy mildew ( <i>Bremia lactucae</i> Regel) resistances in a genebank collection of lettuce and its wild relatives	
R. van Treuren, A. J. M. van der Arend and J. W. Schut	15
Screening of wild and cultivated lentil germplasm for resistance to stemphylium blight  Rajib Podder, Sabine Banniza and Albert Vandenberg	20
Correspondence between genetic structure and farmers' taxonomy – a case study from dry-season sorghum landraces in northern Cameroon	
Clelia Soler, Abdoul-Aziz Saidou, Tuong Vi Cao Hamadou, Marco Pautasso,	
Jean Wencelius and Hélène H. I. Joly	30
Genetic diversity among INERA-Mulungu (DR Congo) <i>Musa</i> spp. germplasm and their relatedness to those in Tanzania using numerical taxonomy	
D. B. Nzawele, C. L. Rweyemamu and A. P. Maerere	50
Portable search engine for registered crop germplasm: a new concept for enhancing access to information on plant genetic resources	
Sunil Archak and Vikas Kumar	62
Geographical distribution and phenotypic diversity of wild/weedy sorghum [Sorghum bicolor (L.) Moench] in Ethiopia: implications for germplasm conservation and crop—wild gene flow	
Asfaw Adugna and Endashaw Bekele	68
Phenotypic evaluation of the Chinese mini-mini core collection of peanut ( <i>Arachis hypogaea</i> L.) and assessment for resistance to bacterial wilt disease caused by <i>Ralstonia solanacearum</i>	
Huifang Jiang, Xiaoping Ren, Yuning Chen, Li Huang, Xiaojing Zhou, Iiaquan Huang, Lutz Froenicke, Jiujiang Yu, Baozhu Guo and Boshou Liao	7
	/ /
Short Communications  Collection, characterization and olfactory evaluation of <i>Pandanus</i> species in Southern India	
Rabul L. Zanan and Altafbusain B. Nadaf	84
Anthocyanin indexes, quercetin, kaempferol and myricetin concentration in leaves and fruit of	
Abutilon theophrasti Medik. genetic resources	
I. B. Morris and M. L. Wang	8
Molecular distinction of two closely resembling <i>Morinda</i> species using <i>rbc</i> L and <i>mat</i> K loci for quality management of Indian herbal medicines	
Rahul R. Nair, P. S. Udayan, S. Thilaga, M. Kavitha, R. M. Bharathanandhini, A. M. Nizzy and D. Ganesh	90
Partianana list 2012	0

# Plant Genetic Resources Characterization and Utilization

journals.cambridge.org/pgr

# Publishing, Production, Marketing and Subscription Sales Office:

Cambridge University Press The Edinburgh Building Shaftesbury Road Cambridge CB2 8RU

#### For Customers in North America:

Cambridge University Press Journals Fullfillment Dept 100 Brook Hill Drive West Nyack 10994-2133 USA

#### Publisher: Katy Christomanou

Plant Genetic Resources: Characterization and Utilization is an international journal published tri-annually by Cambridge University Press in April, August and December on behalf of NIAB. The online edition is available at journals.cambridge.org/pgr.

### Special sales and supplements:

This Journal accepts advertising and inserts. We also provide bulk reprints of suitable papers to meet teaching or promotional requirements. The Journal also publishes proceedings on behalf of academic and corporate sponsors. Please contact Katy Christomanou at the Cambridge address above.

#### **Subscription information:**

The subscription rates for Volume 11, 2013 (3 issues) are: Institutional subscription Internet/Print Package £375.00/\$665.00 (Americas only) Internet only £280.00/\$515.00 (Americas only) Print only £350.00/\$595.00 (Americas only)

Any **supplements** to this Journal published in the course of the annual volume are normally supplied to subscribers at no extra charge.

**Back volumes** are available. Please contact CUP Publishing for further information.

Claims for non-receipt of journal issues will be considered on their merit and only if the claim is received within six months of publication. Replacement copies supplied after this date will be chargeable.

**US POSTMASTERS:** please send address corrections Plant Genetic Resources USA address.

### **Information for Authors:**

Please email manuscript (with any accompanying figures or tables) to the Journal Administrator Faye Kalloniatis at plantgeneticresources@googlemail.com

**Notes for Authors** are available on the internet at journals.cambridge.org/pgr

**Offprints:** The corresponding author of an accepted paper will receive a pdf offprint. Additional offprints are available for a fee and should be ordered at proof stage. **No page charges or submission charges are levied by this journal.** 

Copyright: © NIAB 2013. All rights reserved: permission for reproduction of any part of the journal (text, figures, tables or other matter) in any form (on paper, microfiche or electronically) should be sought directly from CUP or a licence permitting restricted copying obtained from the Copyright Licensing Agency, Tottenham Court Road, London WIP 9HE, UK, or in the USA from the Central Clearance Center, 27 Congress Street, Salem MA 01970.

**Disclaimer:** The information contained herein, including any expression of opinion and any projection or forecast, has been obtained from or is based upon sources believed by us to be reliable, but is not guaranteed as to accuracy or completeness. The information is supplied without obligation and on the understanding that any person who acts upon it or otherwise changes his/her position in reliance thereon does so entirely at his/her own risk.

CUP uk\_journals\_customerservice does not accept responsibility for any trade advertisement included in this publication.

Printed by Latimer Trend, Plymouth, UK.

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 for information.