

LIST OF CONTENTS

| | |
|----------------------|------|
| Preface | vi |
| List of contents | vii |
| List of authors | xi |
| List of participants | xiii |

New ornamental plants

| | |
|---|----|
| Good genes – using germplasm and breeding to create new plants at the U.S. National Arboretum <i>M. Pooler</i> | 1 |
| Northern Empress® Japanese elm and Cinnamon Curls® dwarf Korean birch: new ornamental woody plant releases <i>T.P. West</i> | 7 |
| <i>Symplocos paniculata</i> : a new ornamental plant species <i>Q. Liu, Y. Sun, J. Chen, P. Li, C. Li, L. Jiang and G. Niu</i> | 11 |
| <i>Diospyros kaki</i> Thunb. ‘Zhongshi 3’ for both fruits and ornamentals <i>J. Fu, P. Sun, D. Zhang, W. Han, S. Diao, Y. Suo, G. Du and F. Li</i> | 21 |
| <i>Clarkia</i> : a new flower crop <i>P. Jiang</i> | 25 |

Germplasm resources

| | |
|---|----|
| <i>Agapetes</i> : jewels from the Himalayas <i>K. Hummer, J. Oliphant, T.T.T. Hoai and N.V. Kien</i> | 29 |
| Germplasm resources and breeding of mei, an ornamental woody plant <i>J. Tang, L.D. Sun, F. Bao, Y. Han, K.F. Ma, T.R. Cheng, J. Wang, H.T. Pan and Q.X. Zhang</i> | 35 |
| Current germplasm conservation of camellias in China <i>J.Y. Li, N. Sui and L.B. He</i> | 47 |
| Investigation of germplasm in chrysanthemum cultivars with light-independent coloration <i>H. Huang, Y. Li and S. Dai</i> | 55 |
| Investigation on resources of <i>Hemerocallis</i> in North China <i>Y. Ren, Y.K. Gao, J.J. Liu, M. Fu and Q.X. Zhang</i> | 65 |
| Biodiversity of the excellent ornamental plant <i>Euscaphis japonica</i> <i>B.P. Cai, H.Z. Guo, X.Y. Zhang, X. Chen and S.Z. Liu</i> | 73 |
| Great woody plants from Texas <i>M. Gu and H.T. Pan</i> | 79 |
| Resources and geographical distribution of <i>Magnoliaceae</i> in Hunan Province and other regions of China <i>R. Li, Y. Chai, M. Cai and X. Jin</i> | 83 |

| | |
|---|-----|
| Resource evaluation and applications of <i>Hosta</i> cultivars <i>D. Liu, S. Zhao, L. Guo and X. Wang</i> | 91 |
| Selection and breeding | |
| Ornamental plant breeding and evaluation at The University of Georgia <i>J.M. Ruter, D. Zhang, M. Chappell and C. Robacker</i> | 101 |
| Internationally registered cultivars in <i>Chimonanthus</i> Lindley (2014-2015) <i>L.Q. Chen, K.G. Zhao, Y.Q. Du, X.D. He, B. Jiang, C.W. Li and Q.S. Mao</i> | 105 |
| Rebuilding Hawaii's anthurium germplasm collection for cultivar and species preservation, breeding, and biotechnological research <i>T.D. Amore, T.K. Matsumoto, J.Y. Suzuki, P.J. Toves and J.S.L. Imamura</i> | 117 |
| Treasure the exceptions: opportunities arise from wide crosses! <i>N.O. Anderson</i> | 123 |
| Floral morphology and hybrid fruiting characteristics of distylous <i>Primula forbesii</i> <i>X.M. Zhang, M. Wang, Y.F. Zheng and Y.L. Wang</i> | 135 |
| Applications of modern technology | |
| Advances in transcriptome-based analyses of cold response and signaling pathways of plants <i>Y.B. Yong, J.M. Wang and Y.M. Lu</i> | 143 |
| ISSR analysis of tree peony (<i>Paeonia</i> sect. <i>Moutan</i>) in Hunan province <i>M. Zhang, X. Jin, F. Cheng, J. Lu and S. Wu</i> | 155 |
| Proteome analysis of <i>Lilium lancifolium</i> in response to cold stress and abscisic acid induction <i>Q. Wang, J.M. Wang, Y.Y. Yong, W.Q. Li, Y.Y. Zhang, Y. Zhang and Y.M. Lu</i> | 163 |
| A primary investigation of the photoperiod effect for flowering induction in <i>Lilium ×formolongi</i> <i>Y.F. Li, X.L. Han, M.F. Zhang and G.X. Jia</i> | 175 |
| Key factors affecting in vitro conservation and rapid propagation of wild ornamental <i>Gentiana</i> <i>H.Z. Wu, Y. Xiao, S.L. He, Q. Shao, S.Y. Zhang and J.Z. Wu</i> | 183 |
| Assessment of the genetic diversity and phylogenetic relationship of <i>Dianthus caryophyllus</i> germplasm using ISSR and RAPD molecular markers <i>A. Manivannan, P. Soundararajan, Y.G. Park and B.R. Jeong</i> | 191 |
| Deep sequencing-based transcriptome profiling analysis of <i>Rhododendron latoucheae</i> revealed insights into secondary metabolite biosynthesis <i>W. Xing, M. Cai, Y. Chai, W. Zeng and X. Jin</i> | 197 |
| Plant genome editing made efficient and easy: targeted mutagenesis using the CRISPR/Cas system <i>Y.H. Gao, Y.K. Gao, L. Yuan and Q.X. Zhang</i> | 209 |

| | |
|--|-----|
| Clone variation and cultivar discrimination of <i>Distylium</i> using ISSR markers <i>Y. Yang, D. Zhang, J. Kardos, H. Li, M. Dirr and X. Jin</i> | 215 |
| Ornamental exploration and utilization | |
| Characteristics of native <i>Cymbidium tortisepalum</i> populations in Yunnan province of China <i>Y. Bi, M. Suo, M. Tang, G. Ye and H. Wang</i> | 221 |
| Collecting horticulturally useful traits in the wild: methodology to maximize genetic gain and minimize risk <i>N.O. Anderson</i> | 231 |
| Utilization of <i>Kalmia latifolia</i> L. germplasm as ornamentals <i>H. Li, D. Zhang and M. Chappell</i> | 241 |
| Cold hardiness of nine introduced evergreen <i>Ilex</i> cultivars <i>S. Shen, W. Zeng, Y. Chai, M. Hu and X. Jin</i> | 247 |
| Physiological response under drought stress and the garden application of <i>Sedum emarginatum</i> <i>L. Yang and H. Zeng</i> | 255 |
| Geographic distribution and ecological zoning of <i>Taxus chinensis</i> var. <i>mairei</i> in China <i>J. Cao, C. Liu, Y. Wu, H. Li, D. Yin, L. Wu, W. Xu and M. Li</i> | 265 |
| Conservation and sustainability | |
| Screening for drought-resistant pepper cultivars by multivariate statistical analysis <i>J. Gong, D. Zhang, K. Hong, X. Zhang, X. Zhang, J. Tang, M. Tang and Y. Yi</i> | 277 |
| Estimating the age of old oil-tea camellia trees <i>Y. Chen, L. Chen, Y. Xu, J. Luo, X. Wang and S. Peng</i> | 287 |
| Pollination biology of <i>Michelia crassipes</i> Y.W. Law <i>Y. Chai, X. Jin and M. Cai</i> | 297 |
| Research on the comprehensive evaluation and landscape application of 62 <i>Lagerstroemia</i> cultivars <i>F. Wu, D. Liu, M.M. Wang, P. Li, M. Zhao and S. Zhao</i> | 305 |
| The spatial and temporal distribution of programmed cell death (PCD) during petal senescence of <i>Osmanthus fragrans</i> <i>J. Zou, X. Cai and C. Wang</i> | 315 |