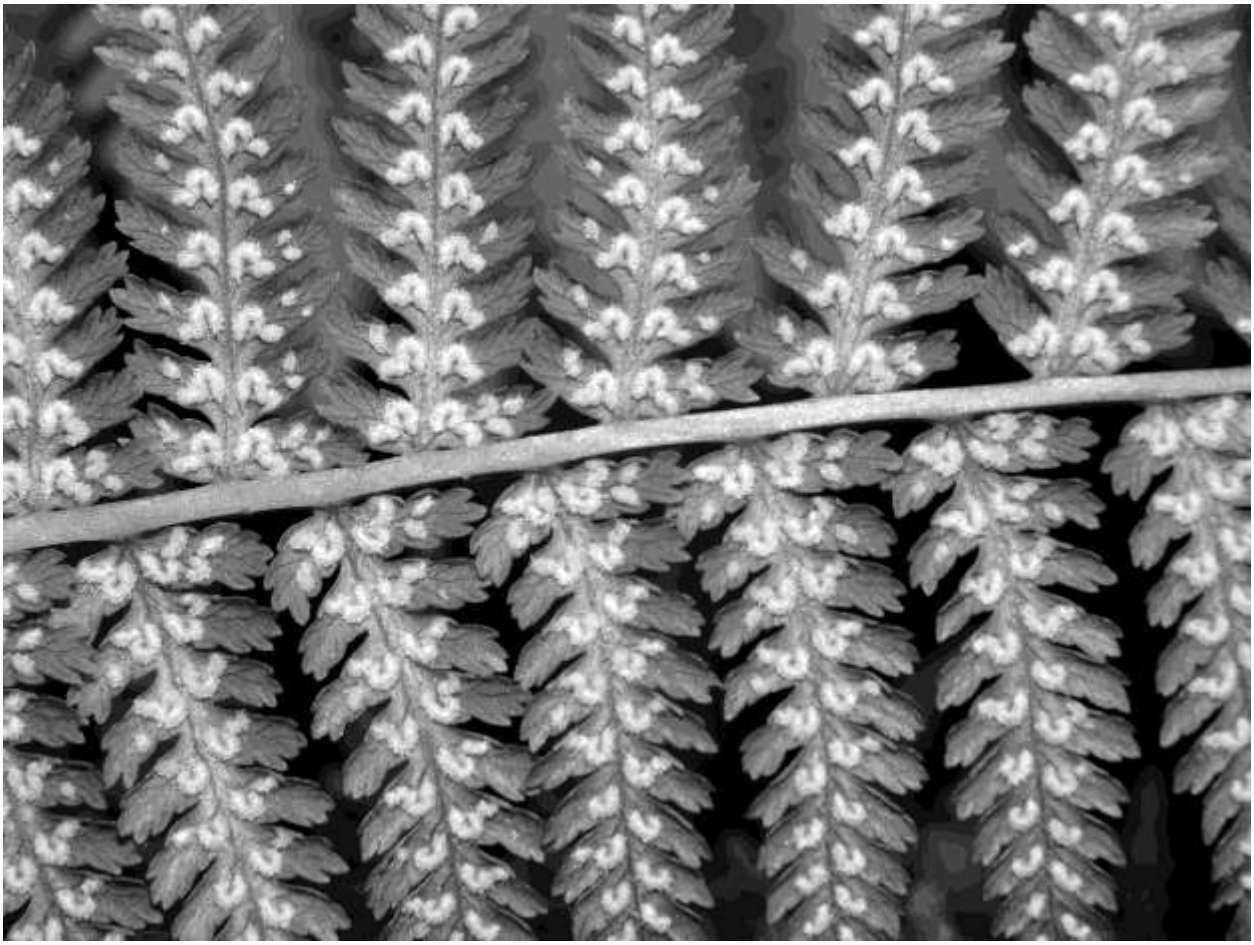
Annual Review of Pteridological Research



Volume 29 2015

ANNUAL REVIEW OF PTERIDOLOGICAL RESEARCH

VOLUME 29 (2015)

Compiled by
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Under the Auspices of:
International Association of Pteridologists

and

Pteridological Section, Botanical Society of America
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Published by Printing Services, Truman State University, December 2016 (ISSN 1051-2926)

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Cover photo: Young indusiate sori of *Athyrium filix-femina*, England (Klaus Mehltreter)

INTRODUCTION

Ferns and lycophytes are of continued interest for research and horticulture worldwide, but especially in Europe, USA, China, India, Japan, Brazil, Mexico, Argentina, New Zealand and Australia. A look at the keywords indicates that most research on ferns and lycophytes is focused on paleontological, ethnobotanical-pharmacological, systematic-phylogenetic and floristic studies. There are still very few species which attract most attention because they serve as N-fixers and fertilizers (e.g., *Azolla filiculoides* with its blue-green algae), for medicinal purposes (e.g., *Equisetum arvense*), for phytoremediation to extract all kinds of heavy metals from contaminated soils (e.g., *Pteris vittata*), as model plants for genetic studies (e.g., *Selaginella moellendorffii*), and because of their invasive potential and even carcinogenetic compounds (e.g., *Pteridium aquilinum*). The latter species might be controlled with various management techniques, but some authors look for potential uses instead (e.g., Yu et al. 2015). We found references for descriptions of 42 new species (see this data entry in the index), four of them fossils. Molecular phylogenetic research advances at all –omic levels (genomic, transcriptomic, metabolomics, proteomic, lipidomic, etc.). Each year some researchers use ferns in some novel ways. Catala et al. (2015) and Garcia-Cambero et al. (2015) used fern spores to study the effect of cocaine metabolites on their development. Mizuno et al. (2015) studied the often assumed role of mosses on the establishment of an epiphytic fern species, and Sudova et al. (2015) showed that even submerged plants of *Isoetes lacustris* in Norway may be colonized by mycorrhizal fungi. We hope that this edition of ARPR will help you quickly find references within your own field of research or personal interest. Long live the ferns!

This *Annual Review of Pteridological Research* (ARPR, ISSN 1051-2926) provides a comprehensive list of 833 literature citations on ferns and lycophytes published during 2015, an index to authors and keywords, and a description of research interests and contact information of pteridologists, who answered our annual questionnaire.

Joanne M. Sharpe supported this year's issue contributing database searches. Elisabeth Hooper took charge of the annual questionnaire, directory and research interests of respondents. Klaus Mehltreter compiled and formatted the literature citations and index. We hope that the continuous publication of ARPR will enhance access to information published about ferns and lycophytes worldwide and stimulate further collaboration among pteridologists. For any feedback on this year's issue, please contact Klaus Mehltreter, Instituto de Ecología, A. C., Red de Ecología Funcional, carretera antigua a Coatepec No. 351, El Haya, 91070 Xalapa, Ver., Mexico (klaus.mehltreter@inecol.mx).

If you are not on our mailing list but would like to receive information about how to be included in future issues, or if you would like to obtain back issues of the *Annual Review of Pteridological Research* please contact Elisabeth A. Hooper, Treasurer, International Association of Pteridologists, Biology Department, Truman State University, 100 E Normal Street, Kirksville MO 63501-4221 USA (iapferns@gmail.com). On-line access to the literature from back issues since 1994 is available on the website of the American Fern Society (www.amerfernsoc.org).

Klaus Mehltreter, Xalapa
Elisabeth Hooper, Kirksville

1. Abdul Wahab, N., Ahdan, R., Ahmad Aufa, Z., Kong, K. W., Johar, M. H., Shariff Mohd, Z. & Ismail, A. 2015. Nutritional values and bioactive components of under-utilised vegetables consumed by indigenous people in Malaysia. Journal of the Science of Food and Agriculture 95(13): 2704-2711. [edible plants, *Stenochlaena palustris*]
2. Abotsi, K., Radji, A., Rouhan, G., Dubuisson, J. Y. & Kokou, K. 2015. The Pteridaceae family diversity in Togo. Biodiversity Data Journal 3: e5078. [Africa, floristics]
3. Abraham, G., Yadav, R. K. & Kaushik, G. K. 2015. Antimicrobial activity and identification of potential antimicrobial compounds from aquatic pteridophyte, *Azolla microphylla* Kaulf. Indian Journal of Experimental Biology 53(4): 232-235. [antibiotics, aquatic plants, biochemistry]
4. Abuhani, W. A., Dasgupta-Schubert, N., Villasenor, L. M., Avila, D. G., Suarez, L. & Johnston, C. 2015. Naturally occurring heavy radioactive elements in the geothermal microcosm of the Los Azufres (Mexico) volcanic complex. Journal of Environmental Radioactivity 139(SI): 33-42. [fumaroles, hot springs, microhabitat, volcanism]
5. Acebey, A. R., Kroemer, T., Vazquez-Torres, M. & Tejero-Diez, J. D. 2015. Ferns and lycophytes from the Los Tuxtlas Biosphere Reserve, Veracruz, Mexico. Botanical Sciences 93(2): 313-344. [diversity, elevational gradients, floristics, Los Tuxtlas, Mexico, Veracruz; Spanish]
6. Acock, P. & Rickard, M. 2015. Japan 23 October – 3 November 2014. Hardy Fern Foundation Quarterly 25(2): 41-43. [field trips]
7. Acock, P. 2015. Fern weeds on Hawaii. Pteridologist 6(2): 166-167. [Hawaii, weedy plants]
8. Acock, P. 2015. Some personal observations on growing *Cyathea cooperi* in cold climate. Pteridologist 69(2): 126-127. [horticulture, tree ferns]
9. Acuna-Tarazona, M., Toledo-Aceves, T., Flores-Palacios, A., Sosa, V. J. & Martinez, M. L. 2015. Post-stripping recolonization of vascular epiphytes in cloud-forest fragments in Mexico. Journal of Tropical Ecology 31(6): 499-508. [cloud forest, disturbance, epiphytes, plant communities, succession]
10. Adams-Groom, B. 2015. Frequency and abundance of pollen taxa in crime case samples from the United Kingdom. Grana 54(2): 146-155. [forensic science, palynology, *Pteridium aquilinum*, spores, UK]
11. Adjorlolo, C., Mutanga, O. & Cho, M. A. 2015. Predicting C3 and C4 grass nutrient variability using in situ canopy reflectance and partial least squares regression. International Journal of Remote Sensing 36(6): 1743-1761. [grasslands, methods, nutrients, *Pteridium aquilinum*, remote sensing]
12. Aedo, C., Medina, L., Barbera, P. & Fernandez-Albert, M. 2015. Extinctions of vascular plants in Spain. Nordic Journal of Botany 33(1): 83-100. [conservation, extinction, *Grammitis quaerenda*, Spain]
13. Aguilar, M. I., Benitez, W. V., Colin, A., Bye, R., Rios-Gomez, R. & Calzada, F. 2015. Evaluation of the diuretic activity in two Mexican medicinal species: *Selaginella nothohybrida* and *Selaginella lepidophylla* and its effects with ciclooxigenases inhibitors. Journal of Ethnopharmacology 163: 167-172. [enzymes, ethnopharmacology, medicinal plants, Mexico]
14. Aguilar-Dorantes, K., Mehltreter, K., Mata-Rosas, M., Vibrans, H. & Esqueda-Esquivel, V. 2015. Glyphosate susceptibility of different life stages of three fern species. American Fern Journal 105(3): 131-144. [*Blechnum appendiculatum*, contamination, ecology, gametophytes, germination, herbicides, *Macrothelypteris torresiana*, spores, *Thelypteris dentata*]

15. Akrofi, A. Y., Amoako-Atta, I., Assuah, M. & Asare, E. K. 2015. Black pod disease on cacao (*Theobroma cacao* L.) in Ghana: Spread of *Phytophthora megakarya* and role of economic plants in the disease epidemiology. Crop Protection 72: 66-75. [*Athyrium nipponicum*, fungi, Ghana, host plants, Phytophthora, plant-fungi interactions]
16. Alarcon, D. & Cavieres, L. A. 2015. In the right place at the right time: habitat representation in protected areas of South American *Nothofagus*-dominated plants after a dispersal constrained climate change scenario. PLoS One 10(3): e0119952. [climate change, conservation, forests, habitat, modelling, Nothofagus, South America, understory]
17. Albrecht, A. C. 2015. Identification guide to Nordic aphids associated with mosses, horsetails and ferns (Bryophyta, Equisetophyta, Polypodiophyta) (Insecta, Hemiptera, Aphidoidea). European Journal of Taxonomy 145: 1-55. [*Equisetum*, insects, plant-insect interactions]
18. Albu, S., Toome, M. & Aime, M. C. 2015. *Violaceomyces palustris gen*. et *sp*. *nov*. and a new monotypic lineage, Violaceomycetales *ord*. *nov*. in Ustilaginomycetes. Mycologia 107(6): 1193-1204. [fungi, Louisiana, plant-fungi interactions, *Salvinia minima*, *Salvinia molesta*, USA]
19. Ali, M. A., Kim, P. J. & Inubushi, K. 2015. Mitigating yield-scaled greenhouse gas emissions through combined application of soil amendments: A comparative study between temperate and subtropical rice paddy soils. Science of the Total Environment 529: 140-148. [*Azolla*, Bangladesh, Japan, Korea, methane, nitrous oxide, rice, soil nutrients]
20. Ali, M., Khan, S. A., Rauf, A., Khan, H., Shah, M. R., Ahmad, M., Mubarak, M. S. & Hadda, T. B. 2015. Characterization and antinociceptive activity (in vivo) of kempferol-3,4'-di-O-alpha-L-rhamnopyranoside isolated from *Dryopteris cycadina*. Medicinal Chemistry Research 24(8): 3218-3229. [biochemistry, medicinal plants, pharmacognosy]
21. Alverson, E. 2015. Annual AFS Fern Foray, McCall, Idaho. Hardy Fern Foundation Quarterly 25(1): 11-13.
22. Alzate Guarin, F., Quijano Abril, M. A., Alvarez, A. & Fonnegra, R. 2015. Atmospheric pollen and spore content in the urban area of the city of Medellin, Colombia. Hoehnea 42(1): 9-19. [aerobiology, dispersal, spores]
23. Amoroso, V. B., Acma, F., M., Dela Cruz, R. Y., Coritico, F. P., Nietes, A. D., Hamo, G. B. & Lumista, H. P. 2015. Diversity of herbaceous pteridophytes in four long term ecological research sites in Mindanao, Philippines. Asia Life Sciences 24(1): 69-85. [long-term studies, montane rainforest]
24. Ancuceanu, R., Dinu, M., Hovanet, M. V., Anghel, A. I., Popescu, C. V. & Negres, S. 2015. A survey of plant iron content-a semi-systematic review. Nutrients 7(12): 10320-10351. [life cycle, nutrients]
25. Andres G. H., Brussa, C. A. & Arana, M. D. 2015. *Diphasiastrum thyoides* (Lycopodiaceae), new record for the flora of Uruguay. Boletin de la Sociedad Argentina de Botanica 50(2): 255-259. [biogeography, Florida, new records; Spanish]
26. Anjum, S., Pant, S. & Khullar, S. P. 2015. A dark-scaled *Dryopteris dickinsii* from Rajouri, Jammu & Kashmir (India). Indian Fern Journal 32(1-2): 135-146. [spores, taxonomy]
27. Arana, M. D. 2015. Lectotypification of the name *Regnellidium diphyllum* (Marsileaceae). Phytotaxa 221(1): 97-99. [taxonomy]
28. Ardenghi, N. M. G. 2015. The flora of the province of Pavia: objectives, outlook and current state of knowledge. Natura 105(2): 71-76. [Europe, floristics, *Isoetes malinverniana*, Italy; Italian]

29. Arguelles, P., Reinhard, K. & Shin, D. H 2015. Forensic palynological analysis of intestinal contents of a Korean mummy. Anatomical Record 298(6): 1182-1190. [forensic science, *Lycopodium*, mummy, palynology, spores]
30. Ariano-Sanchez, D. & Gil-Escobedo, J. 2015. *Plectrohyla pokomchi* (Rio Sananja Spikethumb Frog). Altitudinal distribution. Herpetological Review 46(3): 416. [*Cyathea*, frogs, Guatemala]
31. Armenta-Montero, S., Carvajal-Hernandez, C. I., Ellis, E. A. & Kroemer, T. 2015. Distribution and conservation status of *Phlegmariurus* (Lycopodiaceae) in the state of Veracruz, Mexico. Tropical Conservation Science 8(1): 114-137.
32. Arslan, Z. F., Uludag, A. & Uremis, I. 2015. Status of invasive alien plants included in EPPO Lists in Turkey. Bulletin OEPP 45(1): 66-72. [*Azolla filiculoides*, invasive species, Turkey]
33. Ashihara, H., Ludwig, I. A., Katahira, R., Yokota, T., Fujimura, T. & Crozier, A. 2015. Trigonelline and related nicotinic acid metabolites: occurrence, biosynthesis, taxonomic considerations, and their roles in planta and in human health. Phytochemistry Reviews 14(5): 765-798. [biochemistry, physiology]
34. Astarini, I. A., Claudia, V., Adi, N. K. A. P., Sudirga, S. K. & Astiti, N. P. A. 2015. In vitro propagation and acclimatization of Black orchid (*Coelogyne pandurata* Lindl.). In: Uthairatanakij, A. & Wannakrairoj, S. (ed.). II International Orchid Symposium. International Society of Horticultural Science: Leuven, Belgium, pp. 155-158. [culture media, horticulture, orchids, plant growth, tree ferns, tree trunks]
35. Astiani, D., Mujiman, H., Muhammad, H. & Fifian, F. 2015. Soil CO_2 respiration along annual crops or land-cover type gradients on West Kalimantan degraded peatland forest. In: Trihartono, A. & McLellan, B. (ed.). 5th Sustainable Future for Human Security (SustaiN 2014). Elsevier: Amsterdam, Netherlands, pp. 132-141. [distribution modelling, fire ecology, Kalimantan, peatland, soil respiration]
36. Atallah, N. M. & Banks, J. A. 2015. Reproduction and the pheromonal regulation of sex type in fern gametophytes. Frontiers in Plant Science 6: e100. [antheridiogens, pheromones, reproductive biology, sex determination, signaling metabolites]
37. Aya, K., Kobayashi, M., Tanaka, J., Ohyanagi, H., Suzuki, T., Yano, K., Takano, T., Yano, K. & Matsuoka, M. 2015. De novo transcriptome assembly of a fern, *Lygodium japonicum*, and a web resource database, Ljtrans DB. Plant and Cell Physiology 56(1): e5. [databases, transcriptomes]
38. Babaee, G. & Moniri, M. H. 2015. First chromosome number report for *Cystopteris fragilis* (Cystopteridaceae: Pteridophyta) in Iran. Fern Gazette 20(1): 19-22. [chromosomes, polyploidy]
39. Badger, M., Ortega-Jimenez, V. M., von Rabenau, L., Smiley, A. & Dudley, R. 2015. Electrostatic charge on flying hummingbirds and its potential role in pollination. PLoS One 10(9): e0138003. [dispersal, electrostatics, *Lycopodium*, spores]
40. Bae, Y. J., Kim, M. H., Lee, J. H. & Choi, M. K. 2015. Analysis of six elements (Ca, Mg, Fe, Zn, Cu, and Mn) in several wild vegetables and evaluation of their intakes based on Korea national health and nutrition examination survey 2010-2011. Biological Trace Element Research 164(1): 114-121. [edible plants, nutrients, *Pteridium*]
41. Bagella, S., Peruzzi, L., Caria, M. C. & Filigheddu, R. 2015. Unraveling the taxonomy and nomenclature of the *Isoetes histrix* Bory species complex (Isoetaceae, Lycopodiidae). Turkish Journal of Botany 39(2): 383. [morphology, nomenclature, spores, taxonomy]
42. Bange, C. 2015. Emile Walter, Jean Calle and the contribution of the "Pteridophyta Exsiccata" association to the study of European ferns. Bulletin Mensuel de la Societe Linneenne de Lyon 84(3-4): 75-92. [Emile Walter, herbaria, Jean Calle; French]

43. Banks, J. A. 2015. The evolution of the shoot apical meristem from a gene expression perspective. New Phytologist 207(3): 486-487. [apical meristems, shoot development]
44. Barbosa, M. D., Becker, D. F. P., Cunha, S., Droste, A. & Schmitt, J. L. 2015. Vascular epiphytes of the Atlantic Forest in the Sinos River basin, state of Rio Grande do Sul, Brazil: richness, floristic composition and community structure. Brazilian Journal of Biology 75(2, Suppl.): 25-35. [diversity, ecology, floristics, plant communities]
45. Barreto, C. F., Baptista Neto, J. A., Vilela, C. G. & Barth, O. M. 2015. Palynological studies of Late Holocene Jurujuba Sound sediments (Guanabara Bay), Rio de Janeiro, southeast Brazil. Catena 126: 20-27. [fossils, Holocene, paleobiology, palynology, spores]
46. Bartgis, R. L., Byers, E. A., Fortney, R. H., Grafton, W. & Berdine, M. A. 2015. Rare plants of Canaan Valley, West Virginia. Southeastern Naturalist 14(7): 158-186. [conservation, floristics, *Gymnocarpium appalachianum*, North America, USA, Virginia]
47. Barton, D. A., Overall, R. L. & Thomson, J. A. 2015. Structure and development of the lateral-line aerenchyma in bracken ferns (*Pteridium*: Dennstaedtiaceae). International Journal of Plant Sciences 176(7): 662-669. [developmental biology, morphology, ultrastructure]
48. Bashforth, A. & Nelson, W. J. 2015. A Middle Pennsylvanian macrofloral assemblage from below the Rock Island (No. 1) Coal Member, Illinois: resolving the Bolsovian-Asturian boundary in the Illinois basin. Review of Palaeobotany & Palynology 222: 67-83. [Carboniferous, fossils, North America, paleobiology, USA]
49. Battiston, R. & Marzotto, A. 2015. Evaluating and measuring biodiversity in a subterranean light-gradient. Biodiversity Journal 6(3): 709-718. [*Asplenium trichomanes*, cave ferns, light gradient]
50. Bauer, K., Kustatscher, E., Dutsch, G., Schmeissner, S., Krings, M. & van Konijnenburg-van Cittert, J. H. A. 2015. *Lepacyclotes kirchneri* n. sp. (Isoetales, Isoetaceae) aus dem unteren Jura von Oberfranken, Deutschland. Berichte der Naturwissenschaftlichen Gesellschaft Bayreuth 27: 429-443. [fossils, Jurassic, paleobiology; German]
51. Baunthiyal, M. & Ranghar, S. 2015. Accumulation of fluoride by plants: potential for phytoremediation. CLEAN-Soil Air Water 43(1): 127-132. [*Cyathea*, fluoride adsorption, tree ferns]
52. Bauret, L., Grall, A., Senterre, B., Rouhan, G., Hennequin, S., Ebihara, A. & Dubuisson, J. Y. 2015. New circumscription of *Trichomanes cupressoides* Desvaux (Hymenophyllaceae), an endemic filmy fern from the Seychelles (Indian Ocean), and new insights into the genus *Abrodictyum* C. Presl in the western Indian Ocean. Phytotaxa 202(1): 1-14. [endemism, taxonomy]
53. Bediaf, H., Sabre, R., Journaux, L. & Cointault, F. 2015. Comparison of leaf surface roughness analysis methods by sensitivity to noise analysis. Biosystems Engineering 136: 77-86. [*Equisetum*, leaf surface wettability]
54. Belenovskaya, L. M. & Budantsev, A. L. 2015. The secondary metabolites in Lycopodiaceae *s. str*. of Russian flora and their biological activity. Plant Resources 51(2): 259-300. [Russian]
55. Berget, C., Duran, E. & Bray, D. B. 2015. Participatory restoration of degraded agricultural areas invaded by bracken fern (*Pteridium aquilinum*) and conservation in the Chinantla region, Oaxaca, Mexico. Human Ecology 43(4): 547-558. [invasive species]
56. Berke, L. & Snel, B. 2015. The plant Polycomb repressive complex 1 (PRC1) existed in the ancestor of seed plants and has a complex duplication history. BMC Evolutionary Biology 15: e44. [evolution, genomes, phylogenetics, proteins, *Pteris vittata*, transcription factors, transcriptomes]

57. Bhuvaneshwari, K. & Singh, P. K. 2015. Response of nitrogen-fixing water fern *Azolla* biofertilization to rice crop. 3 Biotech 5(4): 523-529. [fertilizer]
58. Bienaime, C., Melin, A., Bensaddek, L., Attoumbre, J., Nava-Saucedo, E. & Baltora-Rosset, S. 2015. Effects of plant growth regulators on cell growth and alkaloids production by cell cultures of *Lycopodiella inundata*. Plant Cell Tissue and Organ Culture 123(3): 523-533. [auxins, cytokinins, hormones, medicinal plants, tissue culture]
59. Bolson, M., Hefler, S. M., Dall'Oglio Chaves, E. I., Gasparotto Jr., A. & Cardozo Jr., E. L. 2015. Ethno-medicinal study of plants used for treatment of human ailments, with residents of the surrounding region of forest fragments of Parana, Brazil. Journal of Ethnopharmacology 161: 1-10. [ethnobotany, ethnopharmacology, medicinal plants, *Microgramma vaccinifolia*]
60. Bomfleur, B., Grimm, G. W. & McLoughlin, S. 2015. *Osmunda pulchella sp. nov*. From the Jurassic of Sweden-reconciling molecular and fossil evidence in the phylogeny of modern royal ferns (Osmundaceae). BMC Evolutionary Biology 15: e126. [Europe, fossils, new species]
61. Bona, E. 2015. The chorological atlas of the vascular flora of central-eastern Lombardy (BG-BS). Natura 105(2): 77-82. [*Dryopteris affinis*, Europe, floristics, spores; Italian]
62. Bonali, F. & Leandri, F. 2015. Current knowledge on the vascular flora of the province of Cremona and Lodi. Natura 105(2): 63-70. [floristics, Italy, *Salvinia natans*; Italian]
63. Bosch, C., Fiser, B., Gomez-Bengoa, E., Bradshaw, B. & Bonjoch, J. 2015. Approach to cis-Phlegmarine alkaloids via stereodivergent reduction: total synthesis of (+)-Serratezomine E and putative structure of (-)-Huperzine N. Organic Letters 17(20): 5084-5087. [chemistry, *Huperzia*]
64. Boudrie, M. & Cremers, G. 2015. Évolution de la connaissance des Ptéridophytes de Guyane depuis 1990. In: Sanite L. (Coord.) – Nature guyanaise – 50 ans de progrés et de souvenirs, Collection Nature Guyanaise, Sépanguy, Ed. Orphie, pp. 160-170. [diversity, floristics, Guyana; French]
65. Boudrie, M. 2015. Les ptéridophytes du Mont Itoupé – Sommet Tabularie. Dossier spécial Itoupé. Les Cahiers Scientifiques du Parc Amazonien de Guyane 1(1): 1-18. [diversity, floristics, Guyana; French]
66. Bremer, P. 2015. Adelaarsvaren als indicator voor eeuwenoud cultuurlandschap in Overijssel? Varenvaria 28: 24-31. [Netherlands, *Pteridium*; Dutch]
67. Brockway, D. G. & Outcalt, K. W. 2015. Influence of selection systems and shelterwood methods on understory plant communities of longleaf pine forests in flatwoods and uplands. Forest Ecology and Management 357: 138-150. [land management, North America, USA]
68. Brownsey, P. & Perrie, L. R. 2015. Re-evaluation of the taxonomic status of *Cyathea kermadecensis* and *C. milnei* (Cyatheaceae) supports their continued recognition. Tuhinga (26): 49-60. [*Cyathea milnei*, taxonomy, tree ferns]
69. Brownsey, P. J. & Perrie, L. R. 2015. Taxonomic notes on the New Zealand flora: lectotypes in the fern family Ophioglossaceae. New Zealand Journal of Botany 53(3): 165-167. [nomenclature, Ophioglossaceae, taxonomy]
70. Brownsey, P. J. & Perrie, L. R. 2015. Taxonomic notes on the New Zealand flora: types in the fern families Cyatheaceae, Dicksoniaceae and Loxsomataceae. New Zealand Journal of Botany 53(2): 124-128. [taxonomy]
71. Brunton, D. F. & McNeill, J. 2015. Status, distribution, and nomenclature of Northern quillwort, *Isoetes septentrionalis* (Isoetaceae), in Canada. Canadian Field-Naturalist 129(2): 174-180. [biogeography, conservation]

72. Brunton, D. F. 2015. Key to the quillworts (*Isoetes*: Isoetaceae) of the Southeastern United States. American Fern Journal 105(2): 86-100. [classification, USA, North America]
73. Budantsev, A. L. & Belenovskaya, L. M. 2015. *Adiantum capillus-veneris* (Adiantaceae): composition, medicinal usage, biological activity. Plant Resources 51(4): 584-611. [ethnobotany, medicinal plants, nutrients, pharmacognosy, secondary metabolites, terpenoids; Russian]
74. Bujnoch, W. 2015. A contribution to the phylogeny of *Dryopteris remota* by genotyping of a fragment of the nuclear PgiC gene. Fern Gazette 20(2): 79-89. [apomixis, hybrids, phylogenetics]
75. Bundschuh, J., Hollander, H. M. & Ma, L. Q. (eds.). 2015. In-situ remediation of arsenic-contaminated sites. CRC Press: Leiden, Netherlands, pp. 208. [phytoremediation, *Pityrogramma calomelanos*, *Pteris*]
76. Bunting, M. J., Grant, M. J. & Waller, M. 2015. Approaches to quantitative reconstruction of woody vegetation in managed woodlands from pollen records. Review of Palaeobotany & Palynology 225: 53-66. [paleobiology, *Pteridium aquilinum*, restoration, spores, UK]
77. Burke, S. M., Persaud, A. D. & Dillon, P. J. 2015. A case against acidifying freshwater macrophytes prior to C and N stable isotope analysis. Aquatic Ecology 49(2): 251-261. [Canada, ecology, *Isoetes echinospora*, isotopes, limnology, methods, nitrogen, Ontario]
78. Bussmann, R. W., Paniagua-Zambrana, N. Y. & Moya Huanca, A. L. 2015. Dangerous confusion-"Cola de Caballo"- horsetail, in the markets of La Paz, Bolivia. Economic Botany 69(1): 89-93. [Bolivia, *Ephedra americana*, *Equisetum arvense*, *Equisetum bogotense*, ethnobotany]
79. Bussmann, R. W., Paniagua-Zambrana, N., Castaneda Sifuentes, R. Y., Prado Velazco, Y. A. & Mandujano, J. 2015. Health in a pot – the ethnobotany of emolientes and emolienteros in Peru. Economic Botany 69(1): 83-88. [*Equisetum giganteum*, medicinal plants]
80. Butnariu, M., Samfira, I., Sarac, I., Negrea, A. & Negrea, P. 2015. Allelopathic effects of *Pteridium aquilinum* alcoholic extract on seed germination and seedling growth of *Poa pratensis*. Allelopathy Journal 35(2): 227-236. [allelopathy, competition, germination, plant growth]
81. Bystriakova, N., Peregrym, M. & Dragicevic, S. 2015. Effect of environment on distributions of rock ferns in the Mediterranean climate: The case of the genus *Asplenium* in Montenegro. Flora 215: 84-91. [ecology, indicator species, petrophytes, rock outcrops]
82. Cai, J., Feng, J. & Xie, S. 2015. Inhibitory activity of *Athyrium sinense* extracts against *Clavibater michiganense* subsp. *sepedonicum*. Journal of Applied Botany 88: 314-321. [antibiotics, biochemistry, fungicide, pest control]
83. Campbell, A. J., Steiner, K. C., Finley, J. J. & Leites, L. 2015. Limitations on regeneration potential after even-aged harvests in mixed-oak stands. Forest Science 61(5): 874-881. [forest regeneration, modelling, understory]
84. Campos, N. V., Arcanjo-Silva, S., Viana, I. B., Batista, B. L., Barbosa, F., Loureiro, M. E., Ribeiro, C. & Azevedo, A. A. 2015. Arsenic-induced responses in *Pityrogramma calomelanos* (L.) Link: arsenic speciation, mineral nutrition and antioxidant defenses. Plant Physiology and Biochemistry 97: 28-35. [antioxidants, biochemistry, heavy metals, nutrients, phosphorus, physiology, potassium]
85. Campos, N. V., Bueno Guerra, M. B., Mello, J. W. V., Schaefer, C. E. G. R., Krug, F. J., Alves, E. E. N. & Azevedo, A. A. 2015. Accumulation and spatial distribution of arsenic and phosphorus in the fern *Pityrogramma calomelanos* evaluated by micro X-ray fluorescence spectrometry. Journal of Analytical Atomic Spectrometry 30(12): 2375-2383. [heavy metals, nutrients]

86. Canello, S., Bissaro, P., Granata, M., Di Cerbo, A. & De Angelis, L. 2015. Mineralization effect of homeopathic substances on turkeys bones. International Journal of Applied Research in Veterinary Medicine 13(2): 100-103. [*Equisetum arvense*, homoeopathy, medicinal plants, veterinary medicine]
87. Canestraro, B. K. & Labiak, P. H. 2015. Erratum to: The fern genus *Polybotrya* (Dryopteridaceae) in the Atlantic Forest of Brazil, with the description of a new species (vol 67, pg 191, 2015). Brittonia 67(3): 216-220. [erratum, taxonomy]
88. Canestraro, B. K. & Labiak, P. H. 2015. The fern genus *Polybotrya* (Dryopteridaceae) in the Atlantic Forest of Brazil, with the description of a new species. Brittonia 67(3): 191-215. [endemism, *Polybotrya matosii*, taxonomy]
89. Caniceiro, B. D., Latorre, A. O., Fukumasu, H., Sanches, D. S., Haraguchi, M. & Gorniak, S. L. 2015. Immunosuppressive effects of *Pteridium aquilinum* enhance susceptibility to urethane-induced lung carcinogenesis. Journal of Immunotoxicology 12(1): 74-80. [biochemistry, cancer, immunosuppression, ptaquiloside, toxic plants]
90. Cannon, A. E., Salmi, M. L., Bushart, T. J. & Roux, S. J. 2015. Studying molecular changes during gravity perception and response in a single cell. In: Blancaflor, E. B. (ed.). Plant gravitropism: methods and protocols. Humana Press: Totowa, NJ, USA, pp. 199-207. [calcium, cell biology, *Ceratopteris*, germination, gravity, proteomics, spores, transcriptomes]
91. Cao, J. G., Chen, X. F., Xie, Y. H., Zhang, M. & Wang, Q. X. 2015. Isolation and expression profiling of gene encoding chalcone synthase in *Ceratopteris thalictroides*. Plant Science Journal 33(4): 489-498. [chalcone, enzymes, genetics; Chinese]
92. Cao, J. G., Dai, X. L., Wang, G. & Wang, Q. X. 2015. Ultrastructural and cytochemical studies on oogenesis of the horsetail *Equisetum arvense*. Indian Fern Journal 32(1-2): 207-220. [cell biology, ultrastructure]
93. Cao, J. G., Dai, X. L., Wang, Y. & Wang, Q. X. 2015. Cytological observations on the fertilization of the fern *Pteridium aquilinum* var. *latiusculum*. Acta Botanica Boreali Occidentalia Sinica 35(5): 934-941. [cytology; Chinese]
94. Cao, J. G., Zheng, Y. X., Xia, X., Wang, Q. X. & Xiao, J. B. 2015. Flavonoids contents, antioxidant and acetylcholinesterase inhibition activities of extracts from 15 ferns in China. Industrial Crops and Products 75: 135-140.
95. Cao, J., Li, X., Lv, Y. & Ding, L. 2015. Comparative analysis of the phytocyanin gene family in 10 plant species: a focus on *Zea mays*. Frontiers in Plant Science 6: e515. [copper, electron transport, genomes, phytocyanins, proteins, *Selaginella moellendorffii*, transcriptomes]
96. Cao, Y., Wu, Y. P. & Duan, J. A. 2015. A new selaginellin derivative from *Selaginella pulvinata*. Acta Pharmaceutica Sinica 50(2): 199-202. [biochemistry, medicinal plants, pharmacognosy]
97. Cao, Y., Yao, Y., Huang, X. J., Oberer, L., Wagner, T., Guo, J. M., Gu, W., Liu, W. D., Lv, G. X., Shen, Y. N. & Duan, J. A. 2015. Four new selaginellin derivatives from *Selaginella pulvinata*: mechanism of racemization process in selaginellins with quinone methide. Tetrahedron 71(10): 1581-1587. [bioactive compounds, chemistry, medicinal plants]
98. Carlile, N. & Priddel, D. 2015. Snapper Island, New South Wales. Corella 39(4): 100-101. [Australia, floristics, *Pteridium esculentum*]
99. Carriqui, M., Cabrera, H. M., Conesa, M. A., Coopman, R. E., Douthe, C., Gago, J., Galle, A., Galmes, J., Ribas-Carbo, M., Tomas, M. & Flexas, J. 2015. Diffusional limitations explain the lower photosynthetic capacity of ferns as compared with angiosperms in a common garden study.

Plant Cell and Environment 38(3): 448-460. [electron transport, habitat preference, mesophyll conductance, photobiology, physiology, stomata]

100. Carrizo, M. A. & del Fueyo, G. M. 2015. The Early Cretaceous megaflora of the Springhill Formation, Patagonia. Paleofloristic and Paleonvironmental inferences. Cretaceous Research 56: 93-109. [Argentina, fossils, paleobiology]
101. Carvajal-Hernandez, C. I. & Kroemer, T. 2015. Richness and distribution of ferns and lycophytes in the elevational gradient of the Cofre de Perote, centre of Veracruz, Mexico. Botanical Sciences 93(3): 601-614. [diversity, elevational gradients, new records; Spanish]
102. Carvalho, J. C., Cardoso, P., Rigal, F., Triantis, K. A. & Borges, P. A. V. 2015. Modeling directional spatio-temporal processes in island biogeography. Ecology and Evolution 5(20): 4671-4682. [Azores, biogeography, Canary Islands, dispersal, distribution modelling, diversity, Hawaii, plant communities]
103. Cassanego, M. B. B., Silveira, T. & Droste, A. 2015. Lead tolerance and accumulation in initial sporophytes of *Regnellidium diphyllum* Lindm. (Marsileaceae). Brazilian Journal of Biology 75(2): 477-483. [toxicology, wetlands]
104. Catala, M., Dominguez-Morueco, N., Migens, A., Molina, R., Martinez, F., Valcarcel, Y., Mastroianni, N., Lopez de Alda, M., Barcelo, D. & Segura, Y. 2015. Elimination of drugs of abuse and their toxicity from natural waters by photo-Fenton treatment. Science of the Total Environment 520: 198-205. [drugs, mitochondrial activity, physiology, *Polystichum setiferum*, respiration, spores, toxicology]
105. Cavero, R. Y. & Calvo, M. I. 2015. Medicinal plants used for musculoskeletal disorders in Navarra and their pharmacological validation. Journal of Ethnopharmacology 168: 255-259. [Equisetales, Europe, medicinal plants, Spain]
106. Cesari, S. N., Alvarez-Vazquez, C., Mendez-Bedia, I., Alvarez-Lao, D., Turrero, P. & Arbizu, M. 2015. First report of permineralised plants in the Stephanian of Arnao (Asturias, northwestern Spain). Palaeogeography Palaeoclimatology Palaeoecology 440: 475-486. [Carboniferous, Devonian, fossils, paleobiology, Psaronius]
107. Cesari, S. N., Panti, C., Pujana, R. R., Francis, J. E. & Marenssi, S. A. 2015. The late Oligocene flora from the Rio Leona Formation, Argentinian Patagonia. Review of Palaeobotany & Palynology 216: 143-158. [Argentina, *Blechnum*, fossils, paleobiology]
108. Cesaro, P., Cattaneo, C., Bona, E., Berta, G. & Cavaletto, M. 2015. The arsenic hyperaccumulating *Pteris vittata* expresses two arsenate reductases. Scientific Reports 5: e14525. [enzymes, physiology]
109. Chai, T. T., Kwek, M. T., Ong, H. C. & Wong, F. C. 2015. Water fraction of edible medicinal fern *Stenochlaena palustris* is a potent alpha-glucosidase inhibitor with concurrent antioxidant activity. Food Chemistry 186(SI): 26-31. [antioxidants, biochemistry, enzymes, medicinal plants]
110. Chandra, P., Yadav, E., Mani, M., Ghosh, A.K. & Sachan, N. 2015. Protective effect of *Lygodium flexuosum* (family: Lygodiaceae) against excision, incision and dead space wounds models in experimental rats. Toxicology and Industrial Health 31(3): 274-280. [ethnobotany, ethnopharmacology, *Lygodium flexuosum*, medicinal plants, wound healing]
111. Chang, Y. L., Tseng, M. H., Chiou, W. L. & Huang, Y. M. 2015. Effect of temperature on the viability, lifespan and vigour, of chlorophyllous spores of *Osmundastrum cinnamomeum* (Osmundaceae). Fern Gazette 20(2): 55-64. [conservation, chlorophyllous spores, germination, green spores, longevity, *Osmundastum cinnamomeum*, physiology, spores, temperature]

112. Chao, Y. S., Liu, H. Y. & Chiou, W. L. 2015. Taxonomic revision of the *Pteris cadieri* complex (Pteridaceae). Phytotaxa 230(2): 130-150. [taxonomy]
113. Chappuis, E., Lumbreras, A., Ballesteros, E. & Gacia, E. 2015. Deleterious interaction of light impairment and organic matter enrichment on *Isoetes lacustris* (Lycopodiophyta, Isoetales). Hydrobiologia 760(1): 145-158. [conservation, Europe, lakes, limnology, Spain]
114. Chauhan, P. S., Sacher, J. R. & Weinreb, S. M. 2015. Synthesis of the tetracyclic skeleton of the *Lycopodium* alkaloid Lycopladine H via a pivotal double hydroformylation/intramolecular reductive amination sequence. Organic Letters 17(4): 806-808. [alkaloids, chemistry]
115. Chaves-Fallas, J. M., Moran, R. C. & Olviedo-Brenes, F. 2015. *Serpocaulon* x *rojasianum* (Polypodiaceae): A new fern hybrid from Costa Rica. Brittonia 67(3): 185-190. [taxonomy]
116. Chen, C. W., Nitta, J. H., Fanerii, M., Yang, T. Y. A., Pitisopa, F., Li, C. W. & Chiou, W. L. 2015. *Antrophyum solomonense* (Pteridaceae), a new species from the Solomon Islands, and its systematic position based on phylogenetic analysis. Systematic Botany 40(3): 645-651. [taxonomy]
117. Chen, K., Stilwell, J. D. & Mays, C. 2015. Palaeoenvironmental reconstruction of Livingston Island, Antarctic Peninsula, in the Early Cretaceous: interpretations from the Walker Bay erratics. Alcheringa 39(4): 465-476. [*Cyathidites*, fossils, Livingston Island, paleobiology]
118. Chen, L., Xu, W., Shao, R. & Du, X. 2015. Bioactivities of phytochemicals in *Araiostegia yunnanensis* (Christ). Food Chemistry 186(SI): 37-45. [bioactive compounds, flavonoids, medicinal plants, phytochemistry]
119. Chen, Y. M., He, R. L., Deng, C. C., Yang, W. W., Zhang, J., Yang, L. & Liu, Y. 2015. Litter decomposition and lignocellulose enzyme activities of *Actinothuidium hookeri* and *Cystopteris montana* in alpine timberline ecotone of western Sichuan, China. Chinese Journal of Applied Ecology 26(11): 3251-3258. [cellulose, enzymes, leaf litter, litter decomposition; Chinese]
120. Chen, Z., Hu, M., Zhu, X., Guo, D., Liu, S., Hu, Z., Xiao, B., Wang, J. & Laghari, M. 2015. Characteristics and kinetic study on pyrolysis of five lignocellulosic biomass via thermogravimetric analysis. Bioresource Technology 192: 441-450. [biomass, China, *Dicranopteris linearis*, fire ecology, hemicellulose, lignin, lignocellulose]
121. Chinnappa, C., Rajanikanth, A. & Rao, Y. V. 2015. Early Cretaceous plant diveristy and ecology in the Krishna-Godavari basin, East coast. Journal of the Palaeontological Society of India 60(1): 73-95. [fossils, India, paleobiology, *Taeniopteris*]
122. Chips, M. J., Yerger, E. H., Hervanek, A., Nuttle, T., Royo, A. A., Pruitt, J. N., McGlynn, T. P., Riggall, C. L. & Carson, W. P. 2015. The indirect impact of long-term overbrowsing on insects in the Allegheny National Forest region of Pennsylvania. Northeastern Naturalist 22(4): 782-797. [browsing, *Dennstaedtia punctilobula*, diversity, ecology, insects, North America, Pennsylvania, understory, USA]
123. Choi, J. Y., Kim, S. K., Jeong, K. S. & Joo, G. J. 2015. Distribution pattern of epiphytic microcrustaceans in relation to different macrophyte microhabitats in a shallow wetland (Upo wetlands, South Korea). Oceanological and Hydrobiological Studies 44(2): 151-163. [aquatic plants, Korea, microhabitat, plant-animal interactions, *Salvinia natans*, wetlands]
124. Christenhusz, M. J. M. 2015. New combinations in *Drynaria* (Polypodiaceae subfam. Polypodioideae). Phytotaxa 230(3): 299-300. [nomenclature, taxonomy]
125. Christenhusz, M. J. M., Vorontsova, M. S., Fay, M. F. & Chase, M. W. 2015. Results from an online survey of family delimitation in angiosperms and ferns: recommendations to the

Angiosperm Phylogeny Group for thorny problems in plant classification. Botanical Journal of the Linnean Society 178(4): 501-528. [classification, systematics, taxonomy]

126. Cleal, C. J. 2015. The generic taxonomy of Pennsylvanian age marattialean fern frond adpressions. Palaeontographica Abteilung B Palaeophytologie 292(1-3): 1-21. [Carboniferous, fossils, paleobiology, Pennsylvanian, taxonomy]
127. Cleveland, C. E., Hildebrand, T. J., Maclean, J. S. & Hargrave, J. E. 2015. Insights into the Late Quaternary paleoenvironment of northwestern Arizona. Southwestern Naturalist 60(1): 15-20. [Arizona, fossils, North America, paleobiology, Quaternary, USA]
128. Cohen, M. F., Gurung, S., Birarda, G., Holman, H. Y. & Yamasaki, H. 2015. Bimodal effect of hydrogen peroxide and oxidative events in nitrite-induced rapid root abscission by the water fern *Azolla pinnata*. Frontiers in Plant Science 6: e518. [nitric oxide, nitrite, root abscission, signaling metabolites, stress]
129. Corazza, C. & Sykorova Maestri, M. 2015. Monitoring of the habitat of Natura 2000 in SIC ZPS IT 4060010 "Dune di Massenzatica" (Emilia-Romagna, Italy). Quaderni del Museo Civico di Storia Naturale di Ferrara 3: 143-147. [disturbance, diversity, dunes, Europe, Italy, *Pteridium aquilinum*; Italian]
130. Cortinovis, C. & Caloni, F. 2015. Alkaloid-containing plants poisonous to cattle and horses in Europe. Toxins 7(12): 5301-5307. [alkaloids, *Equisetum palustre*, toxic plants]
131. Cramer, L., Ernst, L., Lubienski, M., Papke, U., Schiebel, H. M., Jerz, G. & Beuerle, T. 2015. Structural and quantitative analysis of *Equisetum* alkaloids. Phytochemistry 116: 269-282. [alkaloids, chemistry, *Equisetum palustre*, toxic plants]
132. Crausbay, S. D., Martin, P. H. & Kelly, E. F. 2015. Tropical montane vegetation dynamics near the upper cloud belt strongly associated with a shifting ITCZ and fire. Journal of Ecology 103(4): 891-903. [climate change, cloud forest, *Cyathea*, ecology, fire ecology, tree ferns]
133. Crawford, S. 2015. Formulations comprising extracts from primitive plant species (mosses, ferns and lichens) to treat and prevent cancers. Official Gazette of the United States Patent and Trademark Office Patents: PN US 08945635. [cancer, medicinal plants, patent]
134. Crescenti, A., Puiggros, F., Colome, A., Poch, J. A., Caimari, A., Bas, J., Boque, N. & Arola, L. 2015. Antiurolithiasic effect of a plant mixture of *Herniaria glabra*, *Agropyron repens*, *Equisetum arvense* and *Sambucus nigra* (Herbensurina (R) in the prevention of experimentally induced nephrolithiasis in rats. Archivos Espanoles de Urologia 68(10): 739-749. [diuretic, *Equisetum arvense*, ethnobotany, medicinal plants; Spanish]
135. Crous, P. W. & Groenewald, J. Z. 2015. Fungal Planet description sheets: 342-344. Persoonia 34: 210-214. [epiphytes, fungi, new species, plant-fungi interactions, Thailand]
136. Cueto, M. & Fuentes Carretero, J. M. 2015. About *Marsilea strigosa* Willd. and *Salvinia natans* (L.) All. in Andalusia (Spain). Acta Botanica Malacitana 40: 271-273. [floristics, new records; Spanish]
137. Cui, A., Ma, C., Zhu, C., Bai, J. & Zhang, W. 2015. Pollen records of the Yuxi culture site in the Three Gorges Reservoir area, Yangtze River. Acta Micropalaeontologica Sinica 32(2): 161-173. [China, dispersal, disturbance, *Pteris* , spores; Chinese]
138. da Silva, J. S., Albertoni, E. F. & Palma-Silva, C. 2015. Temporal variation of phytophilous Chironomidae over a 11-year period in a shallow Neotropical lake in southern Brazil. Hydrobiologia 742(1): 129-140. [aquatic plants, Brazil, Chironomidae, ecology, plant-insect interactions, *Salvinia herzogii*]

139. Danton, P., Boudrie, M., Bizot, A. & Viane, R. L. L. 2015. *Pleopeltis* x *cerroaltoensis* (Polypodiaceae), a new fern hybrid from Robinson Crusoe Island (Juan Fernández archipelago, Chile). Fern Gazette 20(2): 65-78. [Juan-Fernández Islands]
140. de Boer, P. 2015. *Nephrolepis* plant named 'Green Moment'. Official Gazette of the United States Patent and Trademark Office Patents: PN US PP025311. [cultivar, patent]
141. de Freitas, A. G., Carvalho, M. D., de Toledo, M. B., Mendonca, C. B. F. & Goncalves-Esteves, V. 2015. Bryophyte and pteridophyte spores and other palynomorphs in Quaternary marine sediments from Campos Basin, southeastern Brazil: Core BU-91-GL-05. Acta Botanica Brasilica 29(2): 161-174. [fossils, paleobiology]
142. de Gasper, A. L. & Salino, A. 2015. Ferns and lycophytes of Santa Catarina State: composition, richness and endangered species. Iheringia Serie Botanica 70(2): 321-342. [Brazil, conservation, diversity, floristics; Portuguese]
143. de Gasper, A. L., Eisenlohr, P. V. & Salino, A. 2015. Climate-related variables and geographic distance affect fern species composition across a vegetation gradient in a shrinking hotspot. Plant Ecology & Diversity 8(1): 25-35. [Atlantic forest, biogeography, Brazil, conservation, diversity, floristics, forest fragments, plant communities, vegetation gradient]
144. de Oliveira, L. M., Lessl, J. T., Gress, J., Tisarum, R., Guilherme, L. R. G. & Ma, L. Q. 2015. Chromate and phosphate inhibited each other's uptake and translocation in arsenic hyperaccumulator *Pteris vittata* L. Environmental Pollution 197: 240-246. [chromate, detoxification, heavy metals, nutrients]
145. de Oliveira, P. C., Domingues Torezan, J. M. & da Cunha, C. N. 2015. Effects of flooding on the spatial distribution of soil seed and spore banks of native grasslands of the Pantanal wetland. Acta Botanica Brasilica 29(3): 400-407. [Brazil, *Isoetes pedersenii*, plant communities, vegetation dynamics]
146. de Queiroz, G. M., Politi, F. A. S., Rodrigues, E. R., Souza-Moreira, T. M., Moreira, R. R. D., Cardoso, C. R. P., Santos, L. C., Pietro, R. C. L. R. 2015. Phytochemical characterization, antimicrobial activity, and antioxidant potential of *Equisetum hyemale* L. (Equisetaceae) extracts. Journal of Medicinal Food 18(7): 830-834. [antibiotics, anti-inflammatory, antioxidants, bioactive compounds, biochemistry, diuretic, medicinal plants]
147. de Winter, W. 2015. The Dutch Rush: history and myth of the *Equisetum* trade. Fern Gazette 20(1): 23-45. [commercial trade, *Equisetum hyemale*, Europe, Netherlands]
148. Delaux, P. M., Radhakrishnan, G. & Oldroyd, G. 2015. Tracing the evolutionary path to nitrogen-fixing crops. Current Opinion in Plant Biology 26: 95-99. [*Azolla*, host plants, nitrogen fixation, symbiosis]
149. Derzhavina, N. M. 2015. Adaptation of epilithic ferns on different levels of structural organization. Contemporary Problems of Ecology 8(2): 141-147. [adaptive strategies, ecology, petrophytes]
150. Derzhavina, N. M. 2015. Adaptive strategies of homosporous helophytic and hydrophytic ferns. Contemporary Problems of Ecology 8(5): 560-573. [aquatic plants, helophytic ferns]
151. Dias-Terceiro, R. G., Peixoto, G. M., Gomes, V. S., Menezes, M. C., Neco, E. C., Alves Pessoa, T. S., Fabricante, J. R. & Albuquerque, M. B. 2015. Edge effect on vascular epiphytic composition in a fragment of Atlantic Forest in northeastern Brazil. Acta Botanica Brasilica 29(2): 270-273. [edge effects, epiphytes, *Microgramma vaccinifolia*, plant communities]
152. Diaz, F., Marino, P. I., Ronderos, M. M. & Spinelli, G. R. 2015. Detailed description of larvae and pupae of two Neotropical species of *Alluaudomyia* Kieffer (Culicomorpha:

Ceratopogonidae). Zoologischer Anzeiger 257: 87-95. [*Alluaudia amazonica*, *Alluaudia schnackii*, Argentina, *Azolla filiculoides*, Buenos Aires, Corrientes, insects, plant-insect interactions, *Salvinia biloba*]

153. Dietrich, D., Viney, M. & Lampke, T. 2015. Petrifactions and wood-templated ceramics: comparisons between natural and artificial silicification. IAWA Journal 36(2): 167-185. [ceramics, fossils, petrifaction, *Psaronius*]
154. Dimichele, W. A., Lucas, S. G., Logy, C. V., Chaney, D. S. & Voigt, S. 2015. Early Permian fossil floras from the red beds of Prehistoric Trackways National Monument, southern New Mexico. Bulletin of the New Mexico Museum of Natural History and Science (65): 129-140. [fossils, North America, paleobiology, *Taeniopteris*, USA]
155. Ding, G., Li, C., Han, X., Chi, C., Zhang, D. & Liu, B. 2015. Effects of lead on ultrastructure of *Isoetes sinensis* Palmer (Isoetaceae), a critically endangered species in China. PLoS One 10(9): e0139231. [anatomy, cell biology, heavy metals, physiology]
156. Dittrich, V. A. O., Salino, A. & Monteiro, R. 2015. The *Blechnum occidentale* (Blechnaceae, Polypodiopsida) species group in southern and southeastern Brazil. Phytotaxa 231(3): 201-229. [*Blechnum*, new records, taxonomy]
157. Doherty, C. 2015. 2015 Spore exchange. Hardy Fern Foundation Quarterly 25(1): 25-28.
158. Doi, M., Kitagawa, Y. & Shimazaki, K. I. 2015. Stomatal blue light response is present in early vascular plants. Plant Physiology 169(2): 1205-1213. [gas exchange, photobiology, phylogenetics, physiology, stomata]
159. Dong, X., Wang, H., Gu, J., Wang, Y. & Wang, Z. 2015. Root morphology, histology and chemistry of nine fern species (Pteridophyta) in a temperate forest. Plant and Soil 393(1-2): 215-227. [China, histology, morphology, roots, soils]
160. dos Santos Reinaldo, R. C. P., Pessoa Santiago, A. C., Medeiros, P. M. & Albuquerque, U. P. 2015. Do ferns and lycophytes function as medicinal plants? A study of their low representation in traditional pharmacopoeias. Journal of Ethnopharmacology 175: 39-47. [*Adiantum raddianum*, Brazil, ethnobotany, *Microgramma squamulosa*]
161. Dosmann, M. S. & Pearson, L. E. 2015. Charles Edward Faxon: Botanical Draftsman. Arnoldia 73(1): 2-10. [*Adiantum tenerum*, botanical illustrations, history, North America, *Polypodium*]
162. Duan, Y. F. & Zhang, L. B. 2015. Notes on the fern flora of Fiji: Synonymization of *Ctenitis minima* and *Dryopteris waiwaiensis* with *Tectaria dissecta* (Tectariaceae) and *Deparia boryana* (Athyriaceae), respectively. Phytotaxa 218(2): 197-199. [taxonomy]
163. Duffy, A. M., Stensvold, M. C. & Farrar, D. R. 2015. Independent gametophytes of *Hymenophyllum wrightii* in North America: not as rare as we thought. American Fern Journal 105(1): 45-55. [Alaska, Canada, conservation, gametophytes, USA]
164. Dulya, O. V., Mikryukov, V. S. & Hlystov, I. A. 2015. Interspecific differences in determinants of plant distribution in industrially polluted areas: endogenous spatial autocorrelation vs. environmental parameters. Plant and Soil 394(1-2): 329-342. [copper, *Equisetum silvaticum*, heavy metals, plant communities, pollution, toxicology]
165. Dyer, A. 2015. The life and craft of William and Henry Bradbury, masters of nature printing in Britain. Huntia 15(2): 115-124. [botanical illustrations, methods]
166. Dzigurski, D., Ljevnaic-Masic, B. M. & Acanski, J. D. 2015. Impact of climate changes on aquatic vegetation of hydromeliorative facilities. Contemporary Problems of Ecology 8(3): 295-308. [aquatic plants, *Azolla filiculoides*, biogeography, climate change, Danube river, Europe, Maxent model, modelling, *Salvinia natans*]

167. Ebihara, A., Nakato, N. & Matsumoto, S. 2015. Updates of taxonomic treatments for ferns of Japan 1. *Botrychium*, *Osmolindsaea* and *Pteris*. Bulletin of the National Museum of Nature and Science, Series B 41: 15-24. [Japan, taxonomy]
168. Edwards, D., Yang, N., Hueber, F. M. & Li, C. S. 2015. Additional observations on *Zosterophyllum yunnanicum* Hsu from the Lower Devonian of Yunnan, China. Review of Palaeobotany & Palynology 221: 220-229. [anatomy, dehiscence, fossils, paleobiology]
169. Einzmann, H. J. R., Beyschlag, J., Hofhansl, F., Wanek, W. & Zotz, G. 2015. Host tree phenology affects vascular epiphytes at the physiological, demographic and community level. Aob Plants 7: plu073. [Barro Colorado Island, ecology, host plants, microhabitat, Panama, plant communities]
170. Elgorriaga, A., Escapa, I. H., Bomfleur, B., Cuneo, R. & Ottone, E. G. 2015. Reconstruction and phylogenetic significance of a new *Equisetum* Linnaeus species from the Lower Jurassic of Cerro Bayo (Chubut province, Argentina). Ameghiniana 52(1): 135-152. [fossils, paleobiology, phylogenetics]
171. Elias Jr., P., Dite, D., Kliment, J., Hrivnak, R. & Ferakova, V. 2015. Red list of ferns and flowering plants of Slovakia, 5th edition (October 2014). Biologia 70(2): 218-228. [conservation, Europe, Red lists]
172. Enamorado, M. F., Connelly, C. M., Deiters, A. & Comins, D. L. 2015. A concise synthesis of the *Lycopodium* alkaloid cermizine D. Tetrahedron Letters 56(23): 3683-3685. [alkaloids, chemistry, medicinal plants]
173. Escapa, I. H., Bomfleur, B., Cuneo, N. R. & Scasso, R. 2015. A new marattiaceous fern from the Lower Jurassic of Patagonia (Argentina): the renaissance of Marattiopsis. Journal of Systematic Palaeontology 13(8): 677-689. [fossils, paleobiology, South America]
174. Espinar, J. L., Diaz-Delgado, R., Bravo-Utrera, M. A. & Vila, M. 2015. Linking *Azolla filiculoides* invasion to increased winter temperatures in the Donana marshland (SW Spain). Aquatic Invasions 10(1): 17-24. [*Azolla filiculoides*, climate change, invasive species, wetlands]
175. Evans, L., Acock, P., Evans, A., Ripley, P. & Pyner, T. 2015. Japan Fern Trip Conclusion. Hardy Fern Foundation Quarterly 25(4): 70-73, 76-77. [field trips]
176. Fagundes, D., Bohn, B., Cabreira, C., Leipelt, F., Dias, N., Bodanese-Zanettini, M. H. & Cagliari, A. 2015. Caspases in plants: metacaspase gene family in plant stress responses. Functional & Integrative Genomics 15(6): 639-649. [caspases, defense, genetics, *Selaginella moellendorffii*]
177. Falcon-Lang, H. J. 2015. A calamitalean forest preserved in growth position in the Pennsylvanian coal measures of South Wales: Implications for palaeoecology, ontogeny and taphonomy. Review of Palaeobotany & Palynology 214: 51-67. [Calamites, Carboniferous, Europe, fossils, paleobiology, UK]
178. Falcon-Lang, H. J., Labandeira, C. & Kirk, R. 2015. Herbivorous and detritivorous arthropod trace fossils associated with subhumid vegetation in the Middle Pennsylvanian of Southern Britain. Palaios 30(3): 192-206. [Carboniferous, Europe, fossils, insects, mites, plant-insect interactions, UK]
179. Faust, A. & Petersen, R. L. 2015. Longevity of Interrupted Fern colonies. Southeastern Naturalist 14(7): 203-209. [North America, *Osmunda claytoniana*, phenology, plant age, plant growth, plant longevity, USA, Virginia]
180. Fayle, T. M., Edwards, D. P., Foster, W. A., Yusah, K. M. & Turner, E. C. 2015. An ant-plant by-product mutualism is robust to selective logging of rain forest and conversion to oil palm

plantation. Oecologia 178(2): 441-450. [ants, *Asplenium*, Borneo, ecology, epiphytes, insects, plant-insect interactions]

181. Fayle, T. M., Eggleton, P., Manica, A., Yusah, K. M. & Foster, W. A. 2015. Experimentally testing and assessing the predictive power of species assembly rules for tropical canopy ants. Ecology Letters 18(3): 254-262. [*Asplenium*, insects, Malaysia, plant-insect interactions]
182. Feng, R., Wang, X., Wei, C. & Tu, S. 2015. The accumulation and subcellular distribution of arsenic and antimony in four fern plants. International Journal of Phytoremediation 17(4): 348-354. [biochemistry, heavy metals, *Humata tyermanii*, *Pteris* , toxicology]
183. Fernando, D. D., Discenza, J. J., Bouchard, J. R. & Leopold, D. J. 2015. Genetic analysis of the threatened American hart's-tongue fern (*Asplenium scolopendrium* var. *americanum* [Fernald] Kartesz and Gandhi): insights into its mating system and implications for conservation. Biochemical Systematics and Ecology 62: 25-35. [genetic diversity, North America, reproductive biology, USA]
184. Ferrer-Gallego, P. P. & Boiset, F. 2015. Lectotypification of the spikemosses *Selaginella denticulata* and *S. ornithopodioides* (Selaginellaceae, Lycopsida). Phytotaxa 205(4): 277-282. [Europe, nomenclature, Spain, taxonomy]
185. Field, K. J., Leake, J. R., Tille, S., Allinson, K. E., Rimington, W. R., Bidartondo, M. I., Beerling, D. J. & Cameron, D. D. 2015. From mycoheterotrophy to mutualism: mycorrhizal specificity and functioning in *Ophioglossum vulgatum* sporophytes. New Phytologist 205(4): 1492-1502. [ecology, plant-fungi interactions]
186. Fincke, O. M. 2015. Trade-offs in female signal apparency to males offer alternative anti-harassment strategies for colour polymorphic females. Journal of Evolutionary Biology 28(4): 931-943. [ecology, fern crypsis, *Odonata*, plant-insect interactions]
187. Flor-Arnau, N., Real, M., Gonzalez, G., Sanchez, J. C., Moreno, J. L., Sola, C. & Munne Torras, A. 2015. The Fluvial Macrophyte Index (IMF), a new tool to assess the ecological status of Mediterranean rivers. Limnetica 34(1): 95-114. [conservation, ecological niche, indicator species, limnology, methods; Spanish]
188. Florencio, M., Fernandez-Zamudio, R., Bilton, D. T. & Diaz-Paniagua, C. 2015. The exotic weevil *Stenopelmus rufinasus* Gyllenhal, 1835 (Coleoptera: Curculionidae) across a "host-free" pond network. Limnetica 34(1): 79-84. [aquatic plants, *Azolla filiculoides*, host plants, insects, plant-insect interactions, Spain, wetlands]
189. Foster, C. N., Barton, P. S., Sato, C. F., MacGregor, C. I. & Lindenmayer, D. B. 2015. Synergistic interactions between fire and browsing drive plant diversity in a forest understorey. Journal of Vegetation Science 26(6): 1112-1123. [Australia, browsing, fire ecology, plant communities, *Pteridium esculentum*]
190. Frank, M. H., Edwards, M. B., Schultz, E. R., McKain, M. R., Fei, Z., Sorensen, I., Rose, J. K. C. & Scanlon, M. J. 2015. Dissecting the molecular signatures of apical cell-type shoot meristems from two ancient land plant lineages. New Phytologist 207(3): 893-904. [apical meristems, *Equisetum arvense*, gene expression, plant growth, *Selaginella moellendorffii*, shoot development, signaling metabolites, transcriptomes]
191. Fraser-Jenkins, C. R. & Matsumoto, S. 2015. New cytotaxonomic studies on some Indo-Himalayan ferns. Indian Fern Journal 32(1-2): 36-79. [cytotaxonomy, chromosomes, genetics, Himalayas, taxonomy]

192. Friesen, C. & Murray, C. 2015. Gastony's Cliffbrake (*Pellaea gastonyi*) in Manitoba: new records and assessment of conservation status. Canadian Field-Naturalist 129(1): 45-52. [Canada, cliff ferns, limestone]
193. Frolov, A. O. & Mashchuk, I. M. 2015. A new fern from lower Jurassic sediments of the Irkutsk coal basin (Eastern Siberia). Paleontological Journal 49(4): 424-428. [fossils, *Lobifolia nana*, new species, paleobiology, Russia]
194. Furini, A., Manara, A. & DalCorso, G. 2015. Environmental phytoremediation: plants and microorganisms at work. Frontiers in Plant Science 6: e520. [*Pteris vittata*]
195. Gabriel y Galan, J. M., Prada, C., Martinez-Calvo, C. & Lahoz-Beltra, R. 2015. A Gompertz regression model for fern spores germination. Anales del Jardin Botanico de Madrid 72(1): e015. [modelling]
196. Galam, D., Silva, J., Sanders, D. & Oard, J. H. 2015. Morphological and genetic survey of Giant Salvinia populations in Louisiana and Texas. Aquatic Botany 127: 20-25. [invasive species, lakes, limnology, North America, *Salvinia molesta*, USA]
197. Galasso, G. 2015. Appendix list of endemites in Lombardy. Natura 105(2): 111-136. [*Asplenium adulterinum*, endemism; Italian]
198. Gallegos, S. C., Hensen, I., Saavedra, F. & Schleuning, M. 2015. Bracken fern facilitates tree seedling recruitment in tropical fire-degraded habitats. Forest Ecology and Management 337: 135-143. [Bolivia, disturbance, fire ecology, *Pteridium*, regeneration]
199. Gandhi, K. N. & Fraser-Jenkins, C. R. 2015. *Bolbitis terminans* and *B. beddomei* (Lomariopsidaceae), two new fern names from South India. Indian Fern Journal 32(1-2): 183-185. [*Bolbitis beddomei*, new combinations, nomenclature, taxonomy]
200. Ganger, M. T., Girouard, J. A., Smith, H. M., Bahny, B. A. & Ewing, S. J. 2015. Antheridiogen and abscisic acid affect conversion and ANI1 expression in *Ceratopteris richardii* gametophytes. Botany 93(2): 109-116. [antheridiogens, developmental biology]
201. Garcia-Cambero, J. P., Garcia-Cortes, H., Valcarcel, Y. & Catala, M. 2015. Environmental concentrations of the cocaine metabolite benzoylecgonine induced sublethal toxicity in the development of plants but not in a zebrafish embryo-larval model. Journal of Hazardous Materials 300: 866-872. [allelopathy, benzoylecigonine, contamination, morphogenesis, *Polystichum setiferum*, pollution, spores]
202. Garcia-Lopez, M. d. C., Schuler, S. B., Lopez-Flores, I., Nieto-Lugilde, M., Terron-Camero, L., Aguilera, I. M. & Suarez-Santiago, V. N. 2015. Development of polymorphic microsatellite markers for the Killarney fern (*Vandenboschia speciosa*, Hymenophyllaceae). Applications in Plant Sciences 3(11): E1500067. [Europe, genetics, microsatellites, Spain]
203. Gersner, R., Ekstein, D., Dhamne, S. C., Schachter, S. C. & Rotenberg, A., 2015. Huperzine A prophylaxis against pentylenetetrazole-induced seizures in rats is associated with increased cortical inhibition. Epilepsy Research 117: 97-103. [*Huperzia serrata*, medicinal plants, pharmacology]
204. Ghannoum, M. A., Long, L., Isham, N., Bulgheroni, A., Setaro, M., Caserini, M., Palmieri, R. & Mailland, F. 2015. Ability of hydroxypropyl chitosan nail lacquer to protect against dermatophyte nail infection. Antimicrobial Agents and Chemotherapy 59(4): 1844-1848. [antibiotics, *Equisetum*, fungi, medicinal plants]
205. Gholizadeh, H., Robeson, S. M. & Rahman, A. F. 2015. Comparing the performance of multispectral vegetation indices and machine-learning algorithms for remote estimation of chlorophyll content: a case study in the Sundarbans mangrove forest. International Journal of

Remote Sensing 36(12): 3114-3133. [*Acrostichum aureum*, chlorophyll, mangroves, remote sensing]

206. Ghosh, P., Rathinasabapathi, B. & Ma, L. Q. 2015. Phosphorus solubilization and plant growth enhancement by arsenic-resistant bacteria. Chemosphere 134: 1-6. [nutrient absorption, phosphorus, *Pteris vittata*, soil chemistry]
207. Giannoutsou, E., Sotiriou, P., Apostolakos, P. & Galatis, B. 2015. Polarized endoplasmic reticulum aggregations in the establishing division plane of protodermal cells of the fern *Asplenium nidus*. Protoplasma 252(1): 181-198. [cell biology, morphology, ultrastructure]
208. Gillespie, L. J., Saarela, J. M., Sokoloff, P. C. & Bull, R. D. 2015. New vascular plant records for the Canadian Arctic Archipelago. PhytoKeys 52: 23-79. [Canada, *Cryptogramma stelleri*, floristics, new records]
209. Gilman, A. V. & Testo, W. L. 2015. Use of gemma characters to identify North American *Huperzia* (Lycopodiaceae). American Fern Journal 105(3): 145-161. [gemmae, morphology, reproductive biology, systematics, taxonomy]
210. Gilman, A. V. 2015. New Flora of Vermont. Memoirs of the New York Botanical Garden 110. NYBG Press, Bronx, NY, pp. 608. [floristics, USA]
211. Gilman, A. V., Farrar, D. R. & Zika, P. F. 2015. *Botrychium michiganense* sp. nov. (Ophioglossaceae), a new North American moonwort. Journal of the Botanical Research Institute of Texas 9(2): 295-309. [new species, taxonomy, USA]
212. Girardi, C., Butaud, J. F., Ollier, C., Ingert, N., Weniger, B., Raharivelomanana, P. & Moretti, C. 2015. Herbal medicine in the Marquesas Islands. Journal of Ethnopharmacology 161: 200-213. [ethnobotany, medicinal plants, *Microsorum grossum*, Polynesia]
213. Gobin, R., Korboulewsky, N., Dumas, Y. & Balandier, P. 2015. Transpiration of four common understorey plant species according to drought intensity in temperate forests. Annals of Forest Science 72(8): 1053-1064. [drought, forests, physiology, *Pteridium aquilinum*]
214. Goes-Neto, L. A. D., Heringer, G. & Salino, A. 2015. *Selaginella salinoi* (Selaginellaceae), a new species from Brazil. Phytotaxa 224(3): 291-295. [taxonomy]
215. Gois Marques, C. A., de Sequeira, M. M. 2015. Darwin, Hooker and Arruda Furtado and the palaeobotany of Azores: Rediscovering the first collections. Review of Palaeobotany & Palynology 221: 47-51. [fossils, paleobiology, *Woodwardia radicans*]
216. Gola, E. M., Dolzblasz, A., Otreba, P. & Sliwinska-Wyrzychowska, A. 2015. Development of abnormal strobili in *Lycopodium annotinum* as an example of the reversion phenomenon in lower vascular plants. Botany 93(10): 701-707. [developmental biology, gene regulation, physiology, sporogenesis, strobilus]
217. Golan, K., Rubinowska, K., Kmiec, K., Kot, I., Gorska-Drabik, E., Lagowska, B. & Michalek, W. 2015. Impact of scale insect infestation on the content of photosynthetic pigments and chlorophyll fluorescence in two host plant species. Arthropod-Plant Interactions 9(1): 55-65. [*Coccus hesperidium*, Hemiptera, insects, *Nephrolepis biserrata*, photobiology, plant-insect interactions]
218. Gonzalez, F., Callejas-Posada, R. & Pabon-Mora, N. 2015. Rediscovery and conservation status of the "cloud fern," *Nephopteris maxonii* (Pteridaceae), with notes on its anatomical traits. Brittonia 67(1): 59-67. [anatomy, Colombia, South America]
219. Gottlieb, J. E. 2015. Book review, The plant lover's guide to ferns. Hardy Fern Foundation Quarterly 25(2): 44-46. [horticulture]
220. Gottlieb, J. E. 2015. Fern sex after 60 million years of separation. Hardy Fern Foundation Quarterly 25(4): 79-85. [evolution, gametophytes, reproductive biology]

221. Gottlieb, J. E. 2015. The joy of responsible fern gardening. Hardy Fern Foundation Quarterly 25(1): 16-22. [horticulture]
222. Granereau, G. 2015. The Ophioglossaceae (Pteridophyta) of Poteau Camp (Landes). First part: setting up a study of the post Ophioglossaceae Camp (Landes). Bulletin de la Societe Linneenne de Bordeaux 43(2): 191-196. [conservation, Europe, France, hybrids, *Ophioglossum azoricum*, polyploidy; French]
223. Gregg, K. B. & Klotz, L. H. 2015. The Flora of Beavers' Meadow, Barbour County, West Virginia, revisited after a quarter century. Castanea 80(2): 130-143. [*Athyrium filix-femina*, conservation, ecology, floristics, long-term studies, North America, USA]
224. Greuter, W. & Troia, A. 2015. Disentangling *Isoetes setacea* and removing threats to *Isoetes echinospora*. Taxon 64(4): 811-815. [*Isoetes delilei*, nomenclature, taxonomy]
225. Grewal, H. S., Cho, I. J. & Yoon, E. S. 2015. The role of bio-inspired hierarchical structures in wetting. Bioinspiration & Biomimetics 10(2): E026009. [epicuticular waxes, epidermis, leaf hydrophobicity, *Salvinia minima*]
226. Grieve, G. R. H. & Downs, C. T. 2015. A checklist of the plants of the forests and grasslands in the Weza district, southern KwaZulu-Natal and a review of their status in the Red Data List. Koedoe 57(1): e1237. [Africa, conservation, diversity, floristics, South Africa]
227. Grigalius, S. & McPhee, D. 2015. In conclusion, something to chew on: native plant foods of the Gold Coast. In: Hundloe, T., McDougall, B. & Page, C. (ed.). Gold Coast transformed: from wilderness to urban ecosystem. CSIRO Publishing: Clayton, Victoria, Australia, pp. 183-191. [Australia, edible plants, ethnobotany, *Pteridium esculentum*]
228. Grimm, G. W., Kapli, P., Bomfleur, B., McLoughlin, S. & Renner, S. S. 2015. Using more than the oldest fossils: dating Osmundaceae with three bayesian clock approaches. Systematic Biology 64(3): 396-405. [Bayesian dating methods, evolution, fossils, molecular clock, phylogenetics]
229. Grusz, A. L. & Pryer, K. M. 2015. Development of microsatellite markers for the apomictic triploid fern *Myriopteris lindheimeri* (Pteridaceae). Applications in Plant Sciences 3(11): E1500061. [apomixis, Arizona, *Cheilanthes*, microsatellites, polyploidy]
230. Grzybowski, M. & Kruk, M. 2015. Variations in the population structure and ecology of *Matteuccia struthiopteris*. Population Ecology 57(1): 127-141. [demography, Europe, phenology, plant traits, Poland]
231. Gu, Y., Shang, H., Chen, B., Wu, J., Dai, X. & Yan, Y. 2015. New records of lycophytes and monilophytes distributed in Fujian Province. Journal of Plant Resources and Environment 24(1): 116-118. [China, floristics, new records; Chinese]
232. Guerin, N. & Durigan, G. 2015. Invasion impact by *Pteridium arachnoideum* (Kaulf.) Maxon (Dennstaedtiaceae) on a neotropical savanna. Acta Botanica Brasilica 29(2): 213-222. [Brazil, diversity, ecology, invasive species, plant communities]
233. Guo, W., Grewe, F. & Mower, J. P. 2015. Variable frequency of plastid RNA editing among ferns and repeated loss of uridine-to-cytidine editing from vascular plants. PLoS One 10(1):e0117075 . [*Adiantum capillus-veneris*, *Ophioglossum californicum*, *Psilotum nudum*, transcriptomes]
234. Gureyeva, I. I. & Kuznetsov, A. A. 2015. Spore morphology of the North Asian members of Cystopteridaceae. Grana 54(3): 213-235. [evolution, spores, taxonomy]
235. Gureyeva, I. I., Kuznetsov, A. A. & Ulko, D. O. 2015. The findings of *Cystopteris almaatensis* Kotukhov (Cystopteridaceae) in the Altai. Systematic notes on the materials of P. N. Krylov Herbarium of Tomsk State University 112: 62-65. [systematics; Russian]

236. Guzman-Cornejo, L., Sanchez-Morales, A. & Pacheco, L. 2015. Ferns and lycophytes of the Cardonal municipality, Hidalgo, Mexico. Revista Mexicana de Biodiversidad 86(3): 573-581. [diversity, floristics, new records; Spanish]
237. Hackney, C. T. & Avery, G. B. 2015. Tidal wetland community response to varying levels of flooding by saline water. Wetlands 35(2): 227-236. [North America, North Carolina, *Osmunda cinnamomea*, plant communities, salinity, swamps, USA, wetlands, *Woodwardia areolata*]
238. Halamski, A. T. & Kvacek, J. 2015. The Late Cretaceous (Coniacian) leaf and cone flora from the Sudetes. Palaeontographica Abteilung B Palaeophytologie 292(4-6): 95-171. [fossils, paleobiology, Poland]
239. Halldorsdottir, E. S., Kowal, N. M. & Olafsdottir, E. S. 2015. The genus *Diphasiastrum* and its *Lycopodium* alkaloids. Planta Medica 81(12-13): 995-1002. [ethnobotany, medicinal plants, pharmacognosy]
240. Hao, Z., Fan, C., Cheng, T., Su, Y., Wei, Q. L. & Li, G. 2015. Genome-wide identification, characterization and evolutionary analysis of long intergenic noncoding RNAs in cucumber. PLoS One 10(3): e0121800. [evolution, genetics, genomes, lincRNA, phylogenetics, *Selaginella moellendorffii*, transcriptomes]
241. Harabis, F., Dolny, A., Helebrandova, J. & Ruskova, T. 2015. Do egg parasitoids increase the tendency of *Lestes sponsa* (Odonata: Lestidae) to oviposit underwater? European Journal of Entomology 112(1): 63-68. [*Equisetum*, host plants, insects, plant-insect interactions]
242. Hardardottir, I., Olafsdottir, E. S. & Freysdottir, J. 2015. Dendritic cells matured in the presence of the *Lycopodium* alkaloid Annotine direct T cell responses toward a Th2/Treg phenotype. Phytomedicine 22(2): 277-282. [alkaloids, biochemistry, Iceland, immunology, *Lycopodium annotinum*, medicinal plants]
243. Harris, R. M. B., McQuillan, P. & Hughes, L. 2015. The effectiveness of common thermo-regulatory behaviours in a cool temperate grasshopper. Journal of Thermal Biology 52: 75-83. [Australia, microhabitat, *Pteridium esculentum*, Tasmania]
244. Hashemi-Yazdi, F., Sajjadi, F. & Dehbozorgi, A. 2015. A new lycophyte miospore species from the middle Jurassic of Iran. Revista Brasileira de Paleontologia 18(2): 251-260. [fossils, Lycopodiaceae, paleobiology, *Retriletes polygonatus*]
245. Haworth, M., Killi, D., Materassi, A. & Raschi, A. 2015. Coordination of stomatal physiological behavior and morphology with carbon dioxide determines stomatal control. American Journal of Botany 102(5): 677-688. [*Cyathea cooperi*, *Cyrtomium fortunei*, *Dicksonia antarctica*, ecology, *Matteuccia orientalis*, photobiology, physiology, stomatal control]
246. Hayes, V. 2015. HFF Affiliate Garden Report, Lotusland. Hardy Fern Foundation Quarterly 25(3): 55. [horticulture]
247. Hayman, M. 2015. Woodland Garden, Whitehall House and Garden. Hardy Fern Foundation Quarterly 25(4): 68-69. [horticulture]
248. He, R. L., Chen, Y. M., Deng, C. C., Yan, W. Q., Zhang, J. & Liu, Y. 2015. Litter decomposition and soil faunal diversity of two understory plant debris in the alpine timberline ecotone of western Sichuan in a snow cover season. Chinese Journal of Applied Ecology 26(3): 723-731. [*Cystopteris montana*, China, insects, litter decomposition, soil biota; Chinese]
249. Hense, A., Herman, E., Oldemeyer, S. & Kottke, T. 2015. Proton transfer to flavin stabilizes the signaling state of the blue light receptor plant cryptochrome. Journal of Biological Chemistry 290(3): 1743-1751. [blue light response, circadian rythm, morphogenesis, photobiology, signaling metabolites]

250. Hernandez, M. A., Andrada, A. R., Paez, V. d. l. A. & Martinez, O. G. 2015. Ploidy level and obligate apogamy in two populations of *Argyrochosma nivea* var. *tenera* (Pteridaceae). Hoehnea 42(2): 233-237. [Argentina, chromosomes, meiosis, polyploidy, spores]
251. Herpigny, B. & Gosselin, F. 2015. Analyzing plant cover class data quantitatively: Customized zero-inflated cumulative beta distributions show promising results. Ecological Informatics 26(3): 18-26. [Bayesian models, cover class data, *Dryopteris filix-mas*, ecology, methods, statistics]
252. Higa, T. & Wada, M. 2015. Clues to the signals for chloroplast photo-relocation from the lifetimes of accumulation and avoidance responses. Journal of Integrative Plant Biology 57(1): 120-126. [*Adiantum capillus-veneris*, chloroplast movement, gametophytes, physiology]
253. Hildebrandt, S., Mueller, S., Kalugin, I. A., Dar'in, A. V., Wagner, M., Rogozin, D. Y. & Tarasov, P. E. 2015. Tracing the North Atlantic decadal-scale climate variability in a late Holocene pollen record from southern Siberia. Palaeogeography Palaeoclimatology Palaeoecology 426: 75-84. [fossils, lakes, spores]
254. Hill, J. M., Jones, R. W., Hill, M. P. & Weyl, O. L. F. 2015. Comparisons of isotopic niche widths of some invasive and indigenous fauna in a South African river. Freshwater Biology 60(5): 893-902. [*Azolla filiculoides*, invasive species, isotopes, limnology, niche breadth, plant-animal interactions, South Africa]
255. Hirakawa, Y. & Bowman, J. L. 2015. A role of TDIF peptide signaling in vascular cell differentiation is conserved among Euphyllophytes. Frontiers in Plant Science 6: e1048. [*Adiantum aethiopicum*, cell biology, developmental biology, genetics, hormones, peptide signals, plant growth, *Selaginella kraussiana*]
256. Hofmann, N. R. 2015. A transcriptomic approach to evolutionary genetics of giant horsetail. Plant Cell 27(6): 1566. [*Equisetum giganteum*, fossils, genetics, transcriptomes]
257. Homes, A. M., Cieraad, E., Lee, D. E., Lindqvist, J. K., Raine, J. I., Kennedy, E. M. & Conran, J. G. 2015. A diverse fern flora including macrofossils with in situ spores from the late Eocene of southern New Zealand. Review of Palaeobotany & Palynology 220: 16-28. [fossils, paleobiology, Tertiary]
258. Hori, K., Ebihara, A., Nakato, N. & Murakami, N. 2015. *Dryopteris protobissetiana* (Dryopteridaceae), a new diploid sexual species of the *Dryopteris varia* complex (subg. Erythrovariae, sect. Variae) from Yakushima, Kagoshima, Japan. APG Acta Phytotaxonomica et Geobotanica 66(1): 47-57. [new species, taxonomy]
259. Hori, K., Matsumoto, M., Ebihara, A., Nakato, N. & Murakami, N. 2015. Geographical distribution of sexual and apogamous types of *Dryopteris chinensis* (Dryopteridaceae) in Japan. APG Acta Phytotaxonomica et Geobotanica 66(1): 35-45. [apogamy, biogeography, reproductive biology]
260. Horn, K. & Welss, W. 2015. Additions to the bibliography for the pteridophyte flora of Macaronesia (2). Vieraea 43: 309-315.
261. Horrocks, J. R. 2015. *Blechnum nipponicum*, Japanese deer fern. Hardy Fern Foundation Quarterly 25(4): 67-68. [horticulture]
262. Horrocks, J. R. 2015. *Polystichum* x *dycei* – *Polystichum proliferum* X *P. braunii*. Hardy Fern Foundation Quarterly 25(3): 61-62. [horticulture]
263. Horrocks, J. R. 2015. *Thelypteris kunthii*. Hardy Fern Foundation Quarterly 25(2): 32-33. [horticulture]
264. Horrocks, J. R. 2015. Trifid holly fern, winged holly fern. Hardy Fern Foundation Quarterly 25(1): 3-4. [horticulture]

265. Horrocks, M., Baisden, W. T., Harper, M. A., Marra, M., Flenley, J., Feek, D. & Haoa-Cardinali, S. 2015. A plant microfossil record of Late Quaternary environments and human activity from Rano Aroi and surroundings, Easter Island. Journal of Paleolimnology 54(4): 279-303. [Lycopodiaceae, paleobiology, palynology, spores]

266. Hovenkamp, P. H. 2015. Two new *Diplazium* (Woodsiaceae) species from East Malesia. Fern Gazette 20(2): 49-54. [*Diplazium murkele*, *Diplazium walkeri*, Malaysia, new species]

267. Hovenkamp, P. H., Hetterscheid, W., Roos, M. & Uffelen, G. V. 2015. "Prof. Dr. Bert Hennipman." British Pteridological Society Bulletin 8(1): 94-95. [obituary]

268. Hrsak, V., Segota, V., Iric-Sironja, S. & Sedlar, Z. 2015. Spontaneous and ornamental flora of the park of Luznica Manor near Zapresic (Northwestern Croatia). Natura Croatica 24(1): 37-57. [Europe, floristics, ornamental plants]

269. Hu, J., Song, Y., Li, H., Mao, X., Zhao, Y. & Shi, X. 2015. Antimicrobial and cytotoxic isopimarane diterpenoid glycosides from *Microlepia pilosissima* Ching. Fitoterapia 101: 27-33. [antibiotics, biochemistry, medicinal plants]

270. Hu, S., Wang, R., Cui, W., Zhang, Z., Mak, S., Xu, D., Choi, C., Tsim, K. W., Carlier, P. R., Lee, M. & Han, Y. 2015. Inhibiting beta-amyloid-associated Alzheimer's pathogenesis in vitro and in vivo by a multifunctional dimeric Bis(12)-Hupyridone derived from its natural analogue. Journal of Molecular Neuroscience 55(4): 1014-1021. [Alzheimer's disease, *Huperzia serrata*, medicinal plants]

271. Huang, J., Jiang, L., Jiang, L. H., Huan, C. & Yu, Z. 2015. Proteome changes of *Pteridium aquilinum* during postharvest storage. Plant Omics 8(1): 47-54. [edible plants, proteomics]

272. Huang, L. & Schiefelbein, J. 2015. Conserved gene expression programs in developing roots from diverse plants. Plant Cell 27(8): 2119-2132. [developmental biology, genomes, *Selaginella moellendorffii*]

273. Huang, M. D. & Huang, A. H. C. 2015. Bioinformatics reveal five lineages of oleosins and the mechanism of lineage evolution related to structure/function from green algae to seed plants. Plant Physiology 169(1): 453-470. [evolution, phylogenetics, proteins]

274. Huang, Y. M., Amoroso, V. B., Coritico, F. P., Ko, C. W., Kao, T. T., Rey Callado, J. & Chiou, W. L. 2015. Reproductive biology of *Aglaomorpha cornucopia* (Copel.) M.C. Roos, a rare and endemic fern from the Philippines. American Fern Journal 105(1): 31-44. [conservation, cultivation, endemism, gametophytes, germination, reproductive biology]

275. Huang, Y., Wang, X., Ge, S. & Rao, G. Y. 2015. Divergence and adaptive evolution of the gibberellin oxidase genes in plants. BMC Evolutionary Biology 15: e207. [enzymes, evolution, genetics, hormones, phylogenetics]

276. Huang, Z., Tang, J., Duan, W., Wang, Z., Song, X. & Hou, X. 2015. Molecular evolution, characterization, and expression analysis of SnRK2 gene family in Pak-choi (*Brassica rapa* ssp. *chinensis*). Frontiers in Plant Science 6: e879. [abscisic acid, evolution, genetics, hormones, *Selaginella moellendorffii*, stress]

277. Huiet, L., Lenz, M., Nelson, J. K., Pryer, K. M. & Smith, A. R. 2015. *Adiantum shastense*, a new species of maidenhair fern from California. PhytoKeys 53: 73-81. [*Adiantum shastense*, taxonomy]

278. Humaira, A., Ahmad, M. F., Majeed, G. A., Mohiuddin, R. I. & Ahmad, S. F. 2015. Effect of replacement of mustard oil cake with *Azolla* (*Azolla pinnata*) meal on growth performance of broilers and economics of feeding under temperate conditions. Indian Journal of Animal Nutrition 32(3): 325-328. [chicken diet]

279. Hung, T. M., Lee, J. S., Chuong, N. N., Kim, J. A., Oh, S. H., Woo, M. H., Choi, J. S. & Min, B. S. 2015. Kinetics and molecular docking studies of cholinesterase inhibitors derived from water layer of *Lycopodiella cernua* (L.) Pic. Serm. (II). Chemico-Biological Interactions 240: 74-82. [medicinal plants, pharmacognosy]

280. Hussain, F., Shah, S. M., Badshah, L. & Durrani, M. J. 2015. Diversity and ecological characteristics of Flora of Mastuj Valley, District Chitral, Hindukush Range, Pakistan. Pakistan Journal of Botany 47(2): 495-510. [diversity, floristics, life forms]

281. Hutchinson, J. T. & Langeland, K. A. 2015. Response of Old World climbing fern and native vegetation to repeated ground herbicide treatments. Journal of Aquatic Plant Management 53: 14-21. [Florida, herbicides, invasive species, *Lygodium microphyllum*, North America, USA, weed control]

282. Ibrahim, N. & Japri, N. A. B. 2015. Fungal endophytes variety of *Asplenium nidus*. Malaysian Applied Biology 44(1): 147-153. [fungi, Malaysia; Malay]

283. Iha, D. S. & Bianchini Jr., I. 2015. Phytoremediation of Cd, Ni, Pb and Zn by *Salvinia minima*. International Journal of Phytoremediation 17(10): 929-935. [aquatic plants, cadmium, lead, nickel, *Salvinia minima*, zinc]

284. Inamine, S., Onaga, S., Ohnuma, T., Fukamizo, T. & Taira, T. 2015. Purification, cDNA cloning, and characterization of LysM-containing plant chitinase from horsetail (*Equisetum arvense*). Bioscience Biotechnology and Biochemistry 79(8): 1296-1304. [biochemistry, chitinase, enzymes, genetics, proteins]

285. Iriel, A., Dundas, G., Fernandez Cirelli, A., & Lagorio, M. G. 2015. Effect of arsenic on reflectance spectra and chlorophyll fluorescence of aquatic plants. Chemosphere 119: 697-703. [aquatic plants, *Azolla filiculoides*]

286. Isaka, Y. & Sato, T. 2015. Species richness of sawfly-host plant associations at higher taxonomic levels. Entomological Research 45(6): 294-304. [diversity, evolution, insects, plant-insect interactions, sawflies]

287. Isaka, Y. & Sato, T. 2015. Was species diversification in Tenthredinoidea (Hymenoptera: Symphyta) related to the origin and diversification of angiosperms? Canadian Entomologist 147(4): 443-458. [Blasticotomidae, host plants, Hymenoptera, insects, plant-insect interactions, Tenthredinoidea]

288. Ishida, H., Kimura, S., Kogure, N., Kitajima, M. & Takayama, H. 2015. Total synthesis of (+/-)-lycoposerramine-R, a novel skeletal type of *Lycopodium* alkaloid. Tetrahedron 71(1): 51-56. [chemistry, medicinal plants]

289. Jaishankar, A., Wee, M., Matia-Merino, L., Goh, K. K. T. & McKinley, G. H. 2015. Probing hydrogen bond interactions in a shear thickening polysaccharide using nonlinear shear and extensional rheology. Carbohydrate Polymers 123: 136-145. [biochemistry, carbohydrates, *Cyathea*, Mamaku gum, medicinal plants, New Zealand, tree ferns]

290. James, T. K. & Dowsett, C. A. 2015. Herbicide responses of mat-forming weeds of forest remnants in New Zealand. New Zealand Plant Protection 68: 1-6. [forest fragments, herbicides, *Selaginella kraussiana*, weed control]

291. Janakiraman, N. & Johnson, M. 2015. Proteomic analysis of selected *Cyathea* species from Western Ghats, South India. Indian Fern Journal 32(1-2): 173-182. [proteomics]

292. Janbaz, K. H., Hassan, W., Mehmood, M. H. & Gilani, A. H. 2015. Antidiarrheal and antispasmodic activities of *Adiantum capillus-veneris* are predominantly mediated through ATP-

dependent K+ channels activation. Bangladesh Journal of Pharmacology 10(1): 222-229. [ethnobotany, medicinal plants]

293. Jarzynka, A. & Pacyna, G. 2015. Fossil flora of Middle Jurassic Grojec clays (southern Poland). Raciborski's original material reinvestigated and supplemented. I. Sphenophytes. Acta Palaeobotanica 55(2): 149-170. [*Equisetum*, Europe, fossils, paleobiology]
294. Jazwa, M. & Piątek, K. 2015. New localities of rare vascular plants in Pogórze Ciężkowickie, Pogórze Strzyżowskie and Doly Jasielsko-Sanockie (Western Carpathians). Fragmenta Floristica et Geobotanica Polonica 22(1): 100-103. [*Asplenium ruta-muraria, Ophioglossum vulgatum, Thelypteris palustris*; Polish]
295. Jeanmonod, D. 2015. Notes on Corsican flora, XXV. Candollea 70(1): 109-140. [*Azolla filiculoides*, diversity, Europe, floristics, France; French]
296. Jeong, S., Moon, H. S. & Nam, K. 2015. Increased ecological risk due to the hyperaccumulation of As in *Pteris cretica* during the phytoremediation of an As-contaminated site. Chemosphere 122: 1-7. [arsenic, contamination, ecology, food chain]
297. Jha, N. & Aggarwal, N. 2015. Peat-forming environment of coal-bearing Permian sediments in Kachinapalli area of Godavari Graben, India. Revista Brasileira de Paleontologia 18(2): 239-250. [fossils, palynology, peatland, spores]
298. Ji, L., Zhang, M. & Song, Z. 2015. The palynological record from Coniacian to lower Campanian continental sequences in the Songliao Basin, northeastern China and its implications for palaeoclimate. Cretaceous Research 56: 226-236. [fossils, paleoclimate, palynology, spores]
299. Jiang, Y., Chen, H., Chen, X., Koellner, T. G., Jia, Q., Wymore, T. W., Wang, F. & Chen, F. 2015. Volatile squalene from a nonseed plant *Selaginella moellendorffii*: Emission and biosynthesis. Plant Physiology and Biochemistry 96: 1-8. [defense, genetics, stress, terpenoids, volatile compounds]
300. Jiang, Z. W., Liu, B. D., Cheng, X. & Li, X. D. 2015. The embryonic development study on *Isoetes yunguiensis*, an endangered and relict Pteridophyta. Plant Diversity and Resources 37(5): 531-536. [conservation, China, developmental biology, reproductive biology, Yunnan; Chinese]
301. Jiang, Z., Ding, Y., Song, D. & Yin, Z. 2015. Analyses on composition, structure and diversity of plant community of Hengshan Mountain in Anhui Province. Journal of Plant Resources and Environment 24(3): 99-106. [Anhui, China, ecology, floristics, plant communities; Chinese]
302. Johnson, M. 2015. Inter-specific variation studies on three South Indian species of *Arachniodes* using SDS-PAGE. Indian Fern Journal 32(1-2): 23-30. [biochemistry, proteins, taxonomy]
303. Johnson, M., Revathy, I., Shibila, T. & Janakiraman, N. 2015. Effect of auxins on vegetative propagation of *Elaphoglossum stigmatolepis* (Fee) T. Moore and *Lepisorus nudus* (Hook.) Ching. Indian Fern Journal 32(1-2): 11-16. [auxin, ornamental plants, plant growth, reproductive biology, roots, vegetative reproduction]
304. Jones, D. 2015. Birmingham Botanical Garden. Hardy Fern Foundation Quarterly 25(2): 34-37, 40. [horticulture]
305. Jones, R. L., Jimenez-Saa, H. & Risk, A. C. 2015. A survey of the woody and climbing plants of the refugio de aves Dr. Alexander Skutch, "Los Cusingos," Perez Zeledon Canton, Costa Rica. Journal of the Botanical Research Institute of Texas 9(1): 149-165. [climbing ferns, diversity, floristics]
306. Jongkind, C. & de Winter, W. 2015. *Blotiella confusa* Jongkind & W. de Winter, sp. nov. (Dennstaedtiaceae), a new species from lowland tropical West Africa, and its distinction from B. *reducta* (C.Chr) R. M. Tryon. Adansonia 37(1): 7-12. [*Blotiella reducta*]

307. Jorgenson, J. C., Raynolds, M. K., Reynolds, J. H. & Benson, A. M. 2015. Twenty-five year record of changes in plant cover on tundra of northeastern Alaska. Arctic Antarctic and Alpine Research 47(4): 785-806. [climate change, *Equisetum*, North America, plant communities, USA]
308. Joshi, N., Siwakoti, M. & Kehlenbeck, K. 2015. Wild vegetable species in Makawanpur district, central Nepal: developing a priority setting approach for domestication to improve food security. Economic Botany 69(2): 161-170. [*Diplazium esculentum*, edible plants, ethnobotany]
309. Junghans, T. 2015. Brief notes on the distribution of Wall Rue (*Asplenium ruta-muraria*) on Borkum (East Frisian Islands). Drosera 2012(1-2): 121-122. [biogeography, Germany, new records; German]
310. Junkuszew, A., Milerski, M., Bojar, W., Szczepaniak, K., Le Scouarnec, J., Tomczuk, K., Dudko, P., Studzinska, M. B., Demkowska-Kutrzepa, M. & Bracik, K. 2015. Effect of various antiparasitic treatments on lamb growth and mortality. Small Ruminant Research 123(2-3): 306-313. [*Dryopteris filix-mas*, medicinal plants]
311. Kamachi, H., Kitamura, N., Sakatoku, A., Tanaka, D. & Nakamura, S. 2015. Barium accumulation in the metalliferous fern *Athyrium yokoscense*. Theoretical and Experimental Plant Physiology 27(2): 99-107. [cadmium, *Ceratopteris richardii*, heavy metals]
312. Kanteh, S. M. & Norman, J. E. 2015. Diversity of plants with pesticidal and medicinal properties in southern Sierra Leone. Biological Agriculture & Horticulture 31(1): 18-27. [Africa, ethnobotany, medicinal plants, *Selaginella*]
313. Kanther, R. P. & Gena, D. 2015. The ferns and fern-allies of Todgarh Raoli Wild Life Sanctuary Rajasthan, India. Indian Fern Journal 32(1-2): 85-91. [diversity, floristics]
314. Kao, T. T., Pryer, K. M., Turner, M. D., White, R. A. & Korall, P. 2015. Origins of the endemic scaly tree ferns on the Galapagos and Cocos Islands. International Journal of Plant Sciences 176(9): 869-879. [biogeography, *Cyathea*, phylogenetics]
315. Karger, D. N., Tuomisto, H., Amoroso, V. B., Darnaedi, D., Hidayat, A., Abrahamczyk, S., Kluge, J., Lehnert, M. & Kessler, M. 2015. The importance of species pool size for community composition. Ecography 38(12): 1243-1253. [competition, diversity, ecological niche, Malaysia, plant communities, species turnover]
316. Kato-Noguchi, H., Saito, Y., Ohno, O. & Suenaga, K. 2015. A phytotoxic active substance in the decomposing litter of the fern *Gleichenia japonica*. Journal of Plant Physiology 176: 55-60. [allelopathy, *Gleichenia japonica*, litter decomposition, physiology]
317. Kaur, H., Dhawan, A. & Ansal, M. D. 2015. Harvesting management for protein rich biomass production from *Azolla* (*Azolla caroliniana*). Indian Journal of Animal Nutrition 32(3): 320-324. [harvest, nutrients, productivity, proteins, Punjab, water quality]
318. Kavya, K., Prabhu, T. M., Gloridoss, R. G., Singh, K. C. & Gowda, N. K. S. 2015. Evaluation of *Azolla* (*Azolla pinnata*) and its supplementary effect on in vitro digestibility and metabolizability of crop residues. Indian Journal of Animal Nutrition 32(1): 52-56. [fertilizer, litter decomposition, nutrients]
319. Keller, H. A. & Prance, G. T. 2015. The ethnobotany of ferns and lycophytes. Fern Gazette 20(1): 1-13.
320. Kessler, M., Connor, E. & Lehnert, M. 2015. Volatile organic compounds in the strongly fragrant fern genus *Melpomene* (Polypodiaceae). Plant Biology 17(2): 430-436. [biochemistry, fragrance]
321. Khandare, R. V. & Govindwar, S. P. 2015. Phytoremediation of textile dyes and effluents: current scenario and future prospects. Biotechnology Advances 33(8): 1697-1714.

322. Khrapko, O. V. & Tsarenko, N. A. 2015. Adaptive strategies of two species from the family Onocleaceae. Contemporary Problems of Ecology 8(2): 148-154. [ecology, *Matteuccia struthiopteris*, *Onoclea sensibilis*, seasonality]
323. Kim, J. H. & Tsukaya, H. 2015. Regulation of plant growth and development by the GROWTH-REGULATING FACTOR and GRF-INTERACTING FACTOR duo. Journal of Experimental Botany 66(20): 6093-6107. [developmental biology, genetics, growth regulators, micro RNA, *Selaginella moellendorffii*, transcription factors]
324. Kirschner, R. & Wang, H. 2015. New species and records of mycosphaerellaceous fungi from living fern leaves in East Asia. Mycological Progress 14(8): e65. [China, *Microlepia*, new records, plant-fungi interactions, *Pseudocercospora*, Taiwan, *Tectaria harlandii*]
325. Kitaoku, Y., Umemoto, N., Ohnuma, T., Numata, T., Taira, T., Sakuda, S. & Fukamizo, T. 2015. A class III chitinase without disulfide bonds from the fern, *Pteris ryukyuensis*: crystal structure and ligand-binding studies. Planta 242(4): 895-907. [enzymes, physiology]
326. Knie, N., Fischer, S., Grewe, F., Polsakiewicz, M. & Knoop, V. 2015. Horsetails are the sister group to all other monilophytes and Marattiales are sister to leptosporangiate ferns. Molecular Phylogenetics and Evolution 90: 140-149. [Equisetales, evolution, phylogenetics]
327. Knie, N., Polsakiewicz, M., & Knoop, V. 2015. Horizontal gene transfer of Chlamydial-like tRNA genes into early vascular plant mitochondria. Molecular Biology and Evolution 32(3): 629-634. [bacteria, evolution, *Huperzia squarrosa*, mDNA, *Selaginella moellendorffii*]
328. Koecke, V. & Uhl, D. 2015. The leaf assemblage from the Early - Middle Miocene locality Sulzigtobel near Werthenstein (Canton Lucerne, Switzerland). Phytologia Balcanica 21(2): 99-109. [fossils, *Lygodium*, paleobiology, Tertiary]
329. Koncki, N. G. & Aronson, M. F. J. 2015. Invasion risk in a warmer world: modeling range expansion and habitat preferences of three nonnative aquatic invasive plants. Invasive Plant Science and Management 8(4): 436-450. [distribution modelling, invasive species, Maxent model, North America, *Salvinia molesta*, USA]
330. Konlechner, T. M., Hilton, M. J. & Lord, J. M. 2015. Plant community response following the removal of the invasive *Lupinus arboreus* in a coastal dune system. Restoration Ecology 23(5): 607-614. [invasive species, New Zealand, plant communities, *Pteridium esculentum*, restoration]
331. Konstantinov, F. V. & Knyshov, A. A. 2015. The tribe Bryocorini (Insecta: Heteroptera: Miridae: Bryocorinae): phylogeny, description of a new genus, and adaptive radiation on ferns. Zoological Journal of the Linnean Society 175(3): 441-472. [evolution, insects, phylogenetics, plant-insect interactions]
332. Kostina, E. I., Herman, A. B. & Kodrul, T. M. 2015. Early Middle Jurassic (possibly Aalenian) Tsagan-Ovoo Flora of Central Mongolia. Review of Palaeobotany & Palynology 220: 44-68. [China, fossils, paleobiology]
333. Koutika, L. S. & Rainey, H. J. 2015. A review of the invasive, biological and beneficial characteristics of aquatic species *Eichhornia crassipes* and *Salvinia molesta*. Applied Ecology and Environmental Research 13(1): 263-275. [aquatic plants, invasive species]
334. Kroemer, T., Carvajal-Hernández, C. I., Acebey, A. R. & Smith, A. R. 2015. A decade of new pteridophyte records for the state of Veracruz, Mexico. American Fern Journal 105(3): 162-175. [new records, taxonomy]
335. Kruk, J., Sliwinska, E., Grabowska-Joachimiak, A., Kromer, K. & Szymanska, R. 2015. *Woodsia pulchella* in the Western Carpathians: a relict species at the northern limit of its distribution. Annales Botanici Fennici 52(3-4): 193-201. [Austria, biogeography, dolomite, Europe]

336. Kubicka, K., Samecka-Cymerman, A., Kolon, K., Kosiba, P. & Kempers, A. J. 2015. Chromium and nickel in *Pteridium aquilinum* from environments with various levels of these metals. Environmental Science and Pollution Research International 22(1): 527-534. [bioindicators, Europe, heavy metals, Poland, pollution, serpentine ferns]

337. Kubota, Y., Shiono, T. & Kusumoto, B. 2015. Role of climate and geohistorical factors in driving plant richness patterns and endemicity on the East Asian continental islands. Ecography 38(6): 639-648. [biogeography, diversity, endemism, island biogeography, isolation, modelling]

338. Kumar, P. S. 2015. Endophytes of invasive weeds: pertinence to classical biological control in India. Journal of Biological Control 29(3): 115-120. [endophyte-enemy release, fungi, plant-fungi interactions, *Salvinia molesta*, weed control]

339. Kumari, A. & Lal, B. 2015. Management of metal loaded fly ash by pteridophytes: an overview, Bharatiya Vaigyanik evam Audhyogik Anusandhan Patrika 23(2): 108-113. [Hindi]

340. Kunjiappan, S., Bhattacharjee, C. & Chowdhury, R. 2015. In vitro antioxidant and hepatoprotective potential of *Azolla microphylla* phytochemically synthesized gold nanoparticles on acetaminophen - induced hepatocyte damage in *Cyprinus carpio* L. In Vitro Cellular & Developmental Biology Animal 51(6): 630-643. [antioxidants, enzymes, medicinal plants, pharmacognosy]

341. Kupryjanowicz, M., Drzymulska, D. & Filoc, M. 2015. Eemian and early Weichselian Lobelia lakes in northeastern Poland. Review of Palaeobotany & Palynology 219: 28-38. [Europe, fossils, *Isoetes lacustris*, palynology, Pleistocene, spores]

342. Kusabs, I. A., Hicks, B. J., Quinn, J. M. & Hamilton, D. P. 2015. Sustainable management of freshwater crayfish (koura, *Paranephrops planifrons*) in Te Arawa (Rotorua) lakes, North Island, New Zealand. Fisheries Research 168: 35-46. [ethnobotany, fishing, Maori, *Pteridium esculentum*]

343. Kustatscher, E., Dona, H. & Krings, M. 2015. Sporophyll organization in the Triassic isoetalean lycopsid *Lepacyclotes* (formerly Annalepis) *zeilleri* from Germany. Palaeontologische Zeitschrift 89(3): 303-311. [Europe, fossils, lycophytes, paleobiology, sporophyll, strobilus]

344. Kvacek, J., Halamski, A. T., Svobodova, M. & Durska, E. 2015. Coniacian flora of the Sudetes (south-western Poland): Palaeoecological and palaeoclimatic interpretations. Palaeogeography Palaeoclimatology Palaeoecology 436: 178-187. [Cretaceous, Europe, fossils, paleobiology, paleoclimate]

345. Labiak, P. H., Mickel, J. T. & Hanks, J. G. 2015. Molecular phylogeny and character evolution of Anemiaceae (Schizaeales). Taxon 64(6): 1141-1158. [phylogenetics]

346. Labiak, P. H., Sundue, M. A., Rouhan, G. & Moran, R. C. 2015. New combinations in *Lastreopsis* and *Parapolystichum* (Dryopteridaceae). Brittonia 67(1): 79-86. [taxonomy]

347. Labiak, P. H., Sundue, M. A., Rouhan, G. & Moran, R. C. 2015. *Rhopalotricha*, a new subgenus of the fern genus *Lastreopsis* (Dryopteridaceae). American Fern Journal 105(1): 20-30. [taxonomy]

348. Labiak, P. H., Sundue, M. A., Rouhan, G. & Moran, R. C. 2015. Validation of a new combination in the genus *Alsophila* (Cyatheaceae-Polypodiopsida). Systematic Botany 40(2): 386. [nomenclature]

349. Lake, E. C., Gates, M. W., Smith, M. C., Witkus, G. L. & Pratt, P. D. 2015. First report of an egg parasitoid reared from *Neomusotima conspurcatalis* (Lepidoptera: Crambidae), a biological control agent of *Lygodium microphyllum* (Schizaeales: Lygodiaceae). Florida Entomologist 98(4): 1244-1246. [fern-animal interactions, parasitoids, *Trichogramma*]

350. Lal, B. & Kumari, A. 2015. Report on National Conference modern approaches to pteridophytes: biology, biodiversity, and bioresource, organized at CSIR-IHBT Palampur. Indian Fern Journal 32: 1-10. [conferences]
351. Lamichhane, R., Kim, S. G., Poudel, A., Sharma, D., Lee, K. H., Poudel, P., Pandeya, P. R. & Jung, H. J. 2015. Identification of flavonoids from *Cheilanthes albomarginata* Clarke and their simultaneous determination and quantification by UPLC/DAD method. Journal of Liquid Chromatography & Related Technologies 38(19): 1713-1721. [medicinal plants]
352. Lampis, S., Santi, C., Ciurli, A., Andreolli, M. & Vallini, G. 2015. Promotion of arsenic phytoextraction efficiency in the fern *Pteris vittata* by the inoculation of As-resistant bacteria: a soil bioremediation perspective. Frontiers in Plant Science 6: e80. [arsenic, phytoremediation]
353. Lanzen, A., Epelde, L., Garbisu, C., Anza, M., Martin-Sanchez, I., Blanco, F. & Mijangos, I. 2015. The community structures of prokaryotes and fungi in mountain pasture soils are highly correlated and primarily influenced by pH. Frontiers in Microbiology 6: e1321. [ecology, Europe, land management, soil biota, soil pH, Spain]
354. Laskowski, J. 2015. Vignettes. Hardy Fern Foundation Quarterly 25(1): 10-11.
355. Laskowski, J. 2015. What got you hooked? Hardy Fern Foundation Quarterly 25(1): 23-24.
356. Lau, A. & Frohlich, D. 2015. New plant records for the Hawaiian Islands 2014. Bishop Museum Occasional Papers 116: 35-40. [*Adiantum macrophyllum*, floristics, *Hawaii*, new records]
357. Lautert, M., Temponi, L. G., Viveros, R. S. & Salino, A. 2015. Lycophytes and ferns composition of Atlantic Forest conservation units in western Parana with comparisons to other areas in southern Brazil. Acta Botanica Brasilica 29(4): 499-508. [floristics, forest fragments, plant communities]
358. Leao da Silva, V. & Schmitt, J. L. 2015. The effects of fragmentation on *Araucaria* forest: analysis of the fern and lycophyte communities at sites subject to different edge conditions. Acta Botanica Brasilica 29(2): 223-230. [diversity, edge effects, forest fragments, plant communities]
359. Lee, A. P., Upchurch, G., Murchie, E. H. & Lomax, B. H. 2015. Leaf energy balance modelling as a tool to infer habitat preference in the early angiosperms. Proceedings of the Royal Society Biological Sciences Series B 282(1803): e20143052. [ecological niche, leaf traits, microhabitat, understory]
360. Lehtonen, S., Jones, M. M., Zuquim, G., Prado, J. & Tuomisto, H. 2015. Phylogenetic relatedness within Neotropical fern communities increases with soil fertility. Global Ecology and Biogeography 24(6): 695-705. [ecology, phylogenetics, plant-soil interactions, soil nutrients]
361. Lei, Y., Yang, L., Ye, C. Y., Qin, M. Y., Yang, H. Y., Jiang, H. L., Tang, X. C. & Zhang, H. Y. 2015. Involvement of intracellular and mitochondrial a beta in the ameliorative effects of Huperzine A against oligomeric a beta(42)-induced injury in primary rat neurons. PLoS One 10(5): e0128366. [Alzheimer's disease, *Huperzia serrata*, medicinal plants]
362. Leon-de la Luz, J. L., Medel-Narvaez, A. & Dominguez-Cadena, R. 2015. Floristic diversity and notes on the vegetation of Bahia Magdalena area, Baja California Sur, Mexico. Botanical Sciences 93(3): 579-600. [diversity, floristics]
363. Leroux, O., Sorensen, I., Marcus, S. E., Viane, R. L. L., Willats, W. G. T. & Knox, J. P. 2015. Antibody-based screening of cell wall matrix glycans in ferns reveals taxon, tissue and cell-type specific distribution patterns. BMC Plant Biology 15: e56. [antibodies, *Equisetum*, evolution, genetics, immunology]
364. Lessl, J. T., Guan, D. X., Sessa, E. B., Rathinasabapathi, B. & Ma, L. Q. 2015. Transfer of arsenic and phosphorus from soils to the fronds and spores of arsenic hyperaccumulator *Pteris vittata* and

three non-hyperaccumulators. Plant and Soil 390(1-2): 49-60. [biochemistry, nutrient absorption, soil nutrients]

365. Li, B., Ni, Y., Zhu, L. J., Wu, F. B., Yan, F., Zhang, X. & Yao, X. S. 2015. Flavonoids from *Matteuccia struthiopteris* and their anti-influenza Virus (H1N1) activity. Journal of Natural Products 78(5): 987-995. [glycosides]
366. Li, C. & Feng, L. 2015. New records of species of *Dryopteris* Adanson distributed in Jiangsu Province. Journal of Plant Resources and Environment 24(1): 119-120. [China, floristics, taxonomy; Chinese]
367. Li, C. S., Ding, Y., Yang, B. J., Miklossy, G., Yin, H. Q., Walker, L. A., Turkson, J. & Cao, S. 2015. A new metabolite with a unique 4-pyranone-gamma-lactam-1,4-thiazine moiety from a Hawaiian-plant associated fungus. Organic Letters 17(14): 3556-3559. [biochemistry, endophytes, fungi, *Lycopodiella cernua*, North America, plant-fungi interactions, USA]
368. Li, C., Yang, B., Fenstemacher, R., Turkson, J. & Cao, S. 2015. Lycopodiellactone, an unusual delta-lactone-isochromanone from a Hawaiian plant-associated fungus *Paraphaeosphaeria neglecta* FT462. Tetrahedron Letters 56(13): 1724-1727. [endophytes, fungi, lactones, *Lycopodiella cernua*, North America, pharmacognosy, plant-fungi interactions, USA]
369. Li, F. W., Melkonian, M., Rothfels, C. J., Villareal, J. C., Stevenson, D. W., Graham, S. W., Wong, G. K. S., Pryer, K. M. & Mathews, S. 2015. Phytochrome diversity in green plants and the origin of canonical plant phytochromes. Nature Communications 6: e7852. [biochemistry, genetic diversity, phylogenetics, physiology, transcriptomes]
370. Li, F. W., Rothfels, C. J., Melkonian, M., Villareal, J. C., Stevenson, D. W., Graham, S. W., Wong, G. K. S., Mathews, S. & Pryer, K. M. 2015. The origin and evolution of phototropins. Frontiers in Plant Science 6: e637. [biochemistry, photobiology, phylogenetics]
371. Li, J.,Peng, J. & Batten, D. J. 2015. Palynomorph assemblages from the Fenghuoshan Group, southern Qinghai, China: their age and palaeoenvironmental significance. Science Bulletin 60(4): 470-476. [Cretaceous, fossils, paleobiology, palynology, Qinghai, spores]
372. Li, M., Xu, Q., Zhang, S., Li, Y., Ding, W. & Li, J. 2015. Indicator pollen taxa of human-induced and natural vegetation in Northern China. Holocene 25(4): 686-701. [Holocene, indicator species, palynology, *Selaginella sinensis*, spores, weedy plants]
373. Li, N., Xu, Y. Z., Han, X. Z., He, H. B., Zhang, X. D. & Zhang, B. 2015. Fungi contribute more than bacteria to soil organic matter through necromass accumulation under different agricultural practices during the early pedogenesis of a Mollisol. European Journal of Soil Biology 67: 51-58. [agriculture, carbon stocks, decomposition, *Equisetum*, fungi, soil nutrients]
374. Li, P., Huang, W., Zhuo, J., Guo, Z., Cao, W., Xu, L., Ma, L., Chen, Z. E., Kennelly, E. J., Wu, S. B. & Long, C. 2015. Seven new *Lycopodium* alkaloids from the aerial parts of *Phlegmariurus squarrosus*. Tetrahedron 71(33): 5308-5314. [biochemistry, medicinal plants]
375. Li, S. S., Li, Y., Sun, L. L., Hu, B. Z. & Chang, Y. 2015. Identification and expression analysis of 4-Coumarate: Coenzyme A ligase gene family in *Dryopteris fragrans*. Cellular and Molecular Biology 61(4): 25-33. [biochemistry, enzymes, flavonoids, genetics, lignin]
376. Li, X., Fang, Y. H., Han, J. D., Bai, S. N. & Rao, G. Y. 2015. Isolation and characterization of a novel somatic embryogenesis receptor kinase gene expressed in the fern *Adiantum capillus-veneris* during shoot regeneration in vitro. Plant Molecular Biology Reporter 33(3): 638-647. [developmental biology, enzymes, genetics, tissue culture]

377. Li, X., Yang, X., Wang, N. & Xie, Y. 2015. Potential of *Pteris vittata* to remove Tetracycline antibiotics from aquatic media. International Journal of Phytoremediation 17(9): 895-899. [pollution, water quality]
378. Li, Y. & Shi, L. 2015. Effect of maturity level and desiccation process on liquid nitrogen storage of green spores of *Osmunda japonica*. Plant Cell Tissue and Organ Culture 120(2): 531-538. [cryopreservation, germination, spore storage, tissue culture]
379. Li, Y., Sun, L., Wang, H., Gao, R., Zhang, J., Hu, B. & Chang, Y. 2015. Cloning and expression analysis of phenylalanine ammonia-lyase (PAL) gene family and cinnamate 4-hydroxylase (C4H) from *Dryopteris fragrans*. Biologia 70(5): 606-614. [bioactive compounds, enzymes, genetics, signaling metabolites]
380. Li, Z., Baniaga, A., Sessa, E. B., Scascitelli, M., Graham, S. W., Rieseberg, L. H. & Barker, M. S. 2015. Early genome duplications in conifers and other seed plants. Science Advances 1(10): e1501084. [genomes]
381. Liang, J. Y. & Chien, Y. H. 2015. Effects of photosynthetic photon flux density and photoperiod on water quality and crop production in a loach (*Misgurnus anguillicandatus*) - nest fern (*Asplenium nidus*) raft aquaponics system. International Biodeterioration & Biodegradation 102(SI): 214-222. [fish, photobiology]
382. Lima, P. B., Lima, L. F., Santos, B. A., Tabarelli, M. & Zickel, C. S. 2015. Altered herb assemblages in fragments of the Brazilian Atlantic forest. Biological Conservation 191: 588-595. [conservation, disturbance, diversity, ecology, forest fragments, plant communities, understory]
383. Lin, K. W., Ananthan, B., Tseng, S. F. & Yan, T. H. 2015. Exceedingly concise and elegant synthesis of (+)-Paniculatine, (-)-Magellanine, and (+)-Magellaninone. Organic Letters 17(15): 3938-3940. [alkaloids, chemistry, *Lycopodium*, medicinal plants, pharmacognosy]
384. Lin, L. Y., Yan, X. L., Liao, X. Y., Zhang, Y. X. & Ma, X. 2015. Arsenic accumulation in *Panax notoginseng* monoculture and intercropping with *Pteris vittata*. Water Air and Soil Pollution 226(4): e113. [Ginseng, phytoremediation, pollution]
385. Liu, L., Wang, D., Xue, J. & Meng, M. 2015. An anatomically preserved lycopsid from the Upper Devonian of South China. Historical Biology 27(3-4): 308-315. [fossils, *Lobodendron*, lycophytes, paleobiology, Zhejiang]
386. Liu, Q. X., Yan, X. L., Lia, X. Y., Lin, L. Y. & Yang, J. 2015. Effects of soil moisture on phytoremediation of As-contaminated soils using As-hyperaccumulator *Pteris vittata* L. Chinese Journal of Environmental Science 36(8): 3056-3061. [arsenic, contamination, heavy metals; Chinese]
387. Liu, X., Chen, C., Wang, W., Hughes, J. M. & Lewis, T. 2015. Response of soil denitrifying communities to long-term prescribed burning in two Australian sclerophyll forests. Geomicrobiology Journal 32(7): 577-584. [Australia, fire ecology, land management, *Pteridium esculentum*, Queensland, soil chemistry, soil nutrients]
388. Liu, X., Yang, G. M., Guan, D. X., Ghosh, P. & Ma, L. Q. 2015. Catecholate-siderophore produced by As-resistant bacterium effectively dissolved FeAsO4 and promoted *Pteris vittata* growth. Environmental Pollution 206: 376-381. [arsenic, biochemistry, iron, pollution]
389. Liu, Z., Li, L. & Wang Y. 2015. Late Triassic spore-pollen assemblage from Xuanhan of Sichuan, China. Acta Micropalaeontologica Sinica 32(1): 43-62. [fossils, paleobiology, spores; Chinese]

390. Lobo Marsi, S. & Gulimane, K. 2015. Nutritional analysis of rhizome and physicochemical characteristics of starch extracted from the mangrove fern *Acrostichum aureum* L. Starch 67(7-8): 716-719. [amylose, mangroves, nutrients, proteins]

391. Long, H. P., Zou, H., Li, F. S., Li, J., Luo, P., Zou, Z. X., Hu, C. P., Xu, K. P. & Tan, G. S. 2015. Involvenflavones A-F, six new flavonoids with 3 '-aryl substituent from *Selaginella involvens*. Fitoterapia 105: 254-259. [biochemistry, medicinal plants]

392. Lopez Tirado, J., Sanchez Almendro, A. J., Carrasco Antelo, J. M. & Hidalgo Fernandez, P. J. 2015. New chorologic contributions to the endangered *Isoetes durieui* Bory (Isoetaceae, Pteridophyta) in the province of Huelva (Andalusia, Spain). Acta Botanica Malacitana 40: 274-276. [biogeography, conservation]

393. Lu, H. Z., Liu, W. Y., Yu, F. H., Song, L., Xu, X. L., Wu, C. S., Zheng, Y. L., Li, Y. P., Gong, H. D., Chen, K., Li, S., Chen, X., Qi, J. H. & Lu, S. G. 2015. Higher clonal integration in the facultative epiphytic fern *Selliguea griffithiana* growing in the forest canopy compared with the forest understorey. Annals of Botany 116(1): 113-122. [clonal growth, China, epiphytes, understory, Yunnan]

394. Lu, J. M., Zhang, N., Du, X. Y., Wen, J. & Li, D. Z. 2015. Chloroplast phylogenomics resolves key relationships in ferns. Journal of Systematics and Evolution 53(5): 448-457. [*Cyrtomium devexiscapulae*, chloroplast genome, *Equisetum*, phylogenetics, *Woodwardia unigemmata*]

395. Lujan Luna, M., Ramos Giacosa, J. P., Giudice, G. E., Fernandez, P. V., Ciancia, M. & Saparrat, M. C. N. 2015. Structure and chemistry of the xylem of arborescent species of *Blechnum* from South America. IAWA Journal 36(1): 3-21. [biochemistry]

396. Luong, T. T., Hovenkamp, P. H. & Sosef, M. S. M. 2015. Revision of the fern genus *Orthiopteris* (Saccolomataceae) in Malesia and adjacent regions. PhytoKeys 53: 39-71. [Malaysia, taxonomy]

397. Lupia, R. 2015. Mid-Cretaceous megaspore floras from Maryland, USA. Journal of Paleontology 89(3): 494-521. [fossils, North America, paleobiology, palynology, spores]

398. Lyver, P. O' B., Wilmshurst, J. M., Wood, J. R., Jones, C. J., Fromont, M., Bellingham, P. J., Stone, C., Sheehan, M. & Moller, H. 2015. Looking back for the future: local knowledge and palaeoecology inform biocultural restoration of coastal ecosystems in New Zealand. Human Ecology 43(5): 681-695. [human ecology, Maori, *Pteridium esculentum*]

399. Ma, L., Hatlen, A., Kelly, L. J., Becher, H., Wang, W., Kovarik, A., Leitch, I. J. & Leitch, A. R. 2015. Angiosperms are unique among land plant lineages in the occurrence of key genes in the RNA-directed DNA methylation (RdDM) pathway. Genome Biology and Evolution 7(9): 2648-2662. [databases, evolution, genomics, OrthoMCL database, OrthoMCL Viridiplantae database, proteomics]

400. Ma, X. D., He, C. M., Wang, F. G., Wang, A. H. & Xing, F. W. 2015. Structural characteristics of leaf epidermis and their systematic significance in Davalliaceae. Plant Science Journal 33(4): 438-447. [morphology, phylogenetics, systematics; Chinese]

401. Ma, Y., Wang, J., Zhong, Y., Cramer, G. R. & Cheng, Z. M. 2015. Genome-wide analysis of the cation/proton antiporter (CPA) super family genes in grapevine (*Vitis vinifera* L.). Plant Omics 8(4): 300-311. [genomics, ion channels, salinity, *Selaginella moellendorffii*, stress]

402. Maharaj, P. P., Prasad, S., Devi, R. & Gopalan, R. 2015. Folate content and retention in commonly consumed vegetables in the South Pacific. Food Chemistry 182: 327-332. [*Athyrium esculentum*, edible plants, Fiji]

403. Maia, V. C. & Santos, M. G. 2015. Record of insects in two fern species of the genus *Microgramma* (Polypodiaceae) in the Atlantic Rain Forest, Rio de Janeiro state, Brazil. Brazilian Journal of Biology 75(4, Suppl.): S253-S254. [plant-insect interactions, rainforests]

404. Maideen, H. & Damanhuri, A. 2015. Contribution to the Pteridophyte Flora of Langkawi Archipelago, Peninsular Malaysia. Tropical Life Sciences Research 26(2): 111-119. [diversity, floristics]

405. Makai, S., Li, X., Hussain, J., Cui, C., Wang, Y., Chen, M., Yang, Z., Ma, C., Guo, A. Y., Zhou, Y., Chang, J., Yang, G. & He, G. 2015. A census of nuclear cyanobacterial recruits in the plant kingdom. PLoS One 10(3): e0120527. [chloroplast, endosymbiotic transformation, evolution, gene transfer, genetics, mitochondria, *Selaginella moellendorffii*]

406. Makowski, D., Rybczynski, J. J. & Mikula, A. 2015. A simple way to overcome the recalcitrance of the water fern *Ceratopteris thalictroides* (L.) Brongn. to cryopreservation. Acta Societatis Botanicorum Poloniae 84(3): 385-388. [methods, stress]

407. Malinowska, E. & Jankowski, K. 2015. Pesticide residues in some herbs growing in agricultural areas in Poland. Environmental Monitoring and Assessment 187(12): e775. [contamination, ecology, *Equisetum arvense*]

408. Manzatu, C., Nagy, B., Ceccarini, A., Iannelli, R., Giannarelli, S. & Majdik, C. 2015. Laboratory tests for the phytoextraction of heavy metals from polluted harbor sediments using aquatic plants. Marine Pollution Bulletin 101(2): 605-611. [phytoremediation, *Salvinia natans*]

409. Marchetti, L., Forte, G., Bernardi, M., Wappler, T., Hartkopf-Froder, C., Krainer, K. & Kustatscher, E. 2015. Reconstruction of a Late Cisuralian (Early Permian) floodplain lake environment: Palaeontology and sedimentology of the Tregiovo Basin (Trentino-Alto Adige, Northern Italy). Palaeogeography Palaeoclimatology Palaeoecology 440: 180-200. [fossils, paleobiology, palynology]

410. Marciulioniene, D., Luksiene, B. & Jefanova, O. 2015. Accumulation and translocation peculiarities of Cs-137 and K-40 in the soil - plant system. Journal of Environmental Radioactivity 150: 86-92. [caesium, Lithuania, plant-soil interactions, *Pteridium aquilinum*, radionuclides]

411. Marquez, G. J. & Morbelli, M. A. 2015. Substructural components in the sporoderm of the family Cyatheaceae. Palynology 39(2): 248-257. [morphology, tree ferns, ultrastructure]

412. Martinez, L. C. A. & Olivo, M. S. 2015. *Tempskya* in the Valanginian of South America (Mulichinco Formation, Neuquen Basin, Argentina) - systematics, palaeoclimatology and palaeoecology. Review of Palaeobotany & Palynology 219: 116-131. [Cretaceous, fossils, paleobiology, spores]

413. Martinez, O. G. 2015. A new species of *Alsophila* (Cyatheaceae) from the Tucuman-Bolivian forest. Brittonia 67(1): 48-55. [*Alsophila elata*, Argentina, Bolivia, South America, taxonomy]

414. Martinez-Cabanas, M., Carro, L., Lopez-Garcia, M., Herrero, R., Barriada, J. L. & Sastre de Vicente, M. E. 2015. Achieving sub-10 ppb arsenic levels with iron based biomass-silica gel composites. Chemical Engineering Journal 279: 1-8. [biochemistry, biosorption, cadmium, *Pteridium aquilinum*]

415. Martinez-De La Cruz, I., Vibrans, H., Lozada-Perez, L., Romero-Manzanares, A., Aguilera-Gomez, L. I. & Rivas-Manzano, I. V. 2015. Ruderal plants of the urban area of Malinalco, State of Mexico, Mexico. Botanical Sciences 93(4): 907-919. [*Adiantum concinnum*, diversity, floristics, urban ecology; Spanish]

416. Mastrolonardo, G., Rumpel, C., Forte, C., Doerr, S. H. & Certini, G. 2015. Abundance and composition of free and aggregate-occluded carbohydrates and lignin in two forest soils as affected by wildfires of different severity. Geoderma 245: 40-51. [Australia, carbon stocks, Europe, fire ecology, Italy, lignin, *Pteridium aquilinum*, soils, Tuscany, Victoria]
417. Matos, F. B. & Vasco, A. 2015. *Elaphoglossum fendleri* (Dryopteridaceae), a new species of *Elaphoglossum* sect. Lepidoglossa from Venezuela, and the identity of *Elaphoglossum ornatum*. Brittonia 67(2): 144-149. [taxonomy]
418. Matos, F. B., Prado, J. & Moran, R. C. 2015. Proposal to modify Article 9 Note 1 and the Glossary of the Melbourne Code. Taxon 64(3): 649. [*Acrostichum crinitum*, nomenclature]
419. Matsuda, J. T., Martens, K. & Higuti, J. 2015. Diversity of ostracod communities (Crustacea, Ostracoda) across hierarchical spatial levels in a tropical floodplain. Hydrobiologia 762(1): 113-126. [Brazil, limnology, plant communities, *Salvinia*]
420. Matsui, T., Sawada, K., Takita, E. & Kato, K. 2015. Compatibility of translational enhancers with various plant species. Plant Biotechnology 32(4): 309-316. [*Equisetum arvense*, gene transfer, genetics]
421. Matsumura, W. M. K., Iannuzzi, R. & Bosetti, E. P. 2015. Middle Devonian herbaceous lycopsid *Haplostigma* from the Parana Basin, Brazil: taxonomy, biostratigraphy, and phytogeography. Geobios 48(5): 397-415. [lycophytes, paleobiology]
422. Maya-Elizarraras, E. & Schondube, J. E. 2015. Birds, cattle, and bracken ferns: bird community responses to a neotropical landscape shaped by cattle grazing activities. Biotropica 47(2): 236-245. [land management, plant-animal interactions, *Pteridium aquilinum*]
423. Mays, C. 2015. A Late Cretaceous (Cenomanian-Turonian) south polar palynoflora from the Chatham Islands, New Zealand. Memoir of the Association of Australasian Paleontologists: Canberra, Australia, pp. 1-92. [fossils, paleobiology, palynology, spores]
424. Mazumdar, J. 2015. Confirmation of *Loxogramme lankokiensis* (Polypodiaceae) in India. Fern Gazette 20(2): 95-97. [floristics]
425. Mazumdar, J. 2015. Lectotypification of *Hemionitis pothifolia* (Polypodiaceae). Acta Botanica Gallica 162(2): 125-126. [nomenclature, taxonomy]
426. Mazumdar, J. 2015. New distributional records of *Arthromeris elegans* Ching in India and Bhutan and lectotypification of *A. himalayensis* (Hook.) Ching (Polypodiaceae). Telopea 18: 159-163. [*Arthromeris himalayensis*, nomenclature, taxonomy]
427. Mazumdar, J. 2015. Nomenclatural note on *Hemionitis arifolia* (Pteridaceae). Fern Gazette 20(2): 91-94. [nomenclature, taxonomy]
428. Mazumdar, J. 2015. Note on the rediscovered type specimen of *Angiopteris indica* Desv. (Marattiaceae). Fern Gazette 20(1): 15-18. [herbaria, India, nomenclature, taxonomy, type specimens]
429. Mazumdar, J. 2015. Typifications of some Lycopodiaceae from India. Webbia 70(2): 289-291. [nomenclature, taxonomy, type specimens]
430. McAdam, S. A. M. & Brodribb, T. J. 2015. Hormonal dynamics contributes to divergence in seasonal stomatal behaviour in a monsoonal plant community. Plant Cell and Environment 38(3): 423-432. [abscisic acid, ecology, hormones, physiology, seasonality, stomata]
431. McLoughlin, S., Drinnan, A. N., Slater, B. J. & Hilton, J. 2015. *Paurodendron stellatum*: A new Permian permineralized herbaceous lycopsid from the Prince Charles Mountains, Antarctica. Review of Palaeobotany & Palynology 220: 1-15. [Antarctic, fossils, lycophytes, paleobiology]

432. Medeiros, G. R., Rodrigues-Filho, J. L., Matsmura-Tundisi, T., Tundisi, J. E. M., Abe, D. S., Oliveira, H. A., Degani, R. M., Blanco, F. P., Faria, C. R. L., Campanelli, L., Soares, F. S., Sidagis-Galli, C. V., Teixeira-Silva, V., Gatti-Junior, P. & Tundisi, J. G. 2015. Occurrence of macrophytes species in the lower basin of the Xingu river. Brazilian Journal of Biology 75(3, Suppl.): S65-S69. [floristics, *Salvinia auriculata*]

433. Mehl, I. K. & Hjelle, K. L. 2015. From pollen percentage to regional vegetation cover - a new insight into cultural landscape development in western Norway. Review of Palaeobotany & Palynology 217: 45-60. [Europe, fossils, *Lycopodium clavatum*, modelling, spores, vegetation dynamics]

434. Mehmood, A., Khan, S. M., Shah, A. H., Shah, A. H. & Ahmad, H. 2015. First floristic exploration of the district Torghar, Khyber Pakhtunkhwa, Pakistan. Pakistan Journal of Botany 47(SI): 57-70. [diversity, floristics]

435. Mendes, L. A. S., Pires, E. F., Meneses, M. E. N. S. & Behling, H. 2015. Vegetational changes during the last millennium inferred from a palynological record from the Bananal Island, Tocantins, Brazil. Acta Amazonica 45(2): 215-229. [fossils, *Lycopodium clavatum*, spores, vegetation dynamics]

436. Meng, M. C., Wang, D. M. & Yao, J. X. 2015. Vegetative characters, growth habit and microsporangiate strobilus of lycopsid *Minostrobus chaohuensis*. PLoS One 10(3): e0122167. [Devonian, fossils, lycophytes, paleobiology]

437. Merckx, V. S. F. T., Hendricks, K. P., Beentjes, K. K., Mennes, C. B., Becking, L. E., Peijnenburg, K. T. C. A., Afendy, A., Arumugam, N., de Boer, H., Biun, A., Buang, M. M., Chen, P. P., Chung, A. Y. C., Dow, R., Feijen, F. A. A., Feijen, H., v. Soest, C. F., Gemi, J., Geurts, R., Gravendeel, B., Hovenkamp, P., Imbun, P., Ipor, I., Janssens, S. B., Jocque, M., Kappes, H., Khoo, E., Koomen, P., Lens, F., Majapun, R. J., Morgado, L. N., Neupane, S., Nieser, N., Pereira, J. T., Rahman, H., Sabran, S., Sawang, A., Schwallier, R. M., Shim, P. S., Smit, H., Sol, N., Spait, M., Stech, M., Stokvis, F., Sugau, J. B., Suleiman, M., Sumail, S., Thomas, D. C., van Tol, J., Tuh, F. Y. Y., Yahya, B. E., Nais, J., Repin, R., Lakim, M. & Schilthuizen, M. 2015. Evolution of endemism on a young tropical mountain. Nature 524: 347-350. [endemism, evolution, Mt. Kinabalu]

438. Meza-Torres, E. I., Cerne, B., Ulke, A. G. & Morbelli, M. A. 2015. Distribution of *Ophioglossum reticulatum* L. in South America. A case of long-distance jump dispersal? International Journal of Biometeorology 59(2): 137-150. [biogeography, dispersal, long distance dispersal, modelling]

439. Meza-Torres, E. I. 2015. Nomenclatural notes in *Ophioglossum* (Ophioglossaceae). Boletin de la Sociedad Argentina de Botanica 50(4): 627-630. [nomenclature, *Ophioglossum ellipticum*, *Ophioglossum macrorrhizum*, taxonomy; Spanish]

440. Meza-Torres, E. I., Macluf, C. C., Morbelli, M. A. & Ferrucci, M. S. 2015. The circumscription of problematic species of *Ophioglossum* (Ophioglossaceae) from Southern South America: a palynological approach. Phytotaxa 205(3): 145-156. [nomenclature, palynology, spores, taxonomy]

441. Miao, Y., Jin, H., Liu, B., Herrmann, M., Sun, Z. & Wang, Y. 2015. Holocene climate change on the northeastern Tibetan Plateau inferred from mountain-slope pollen and non-pollen palynomorphs. Review of Palaeobotany & Palynology 221: 22-31. [paleoclimate, palynology, sediments, spores]

442. Michell, K. & Michell, R. G. 2015. Use of radio-telemetry and recapture to determine the success of head-started Wood Turtles (*Glyptemys insculpta*) in New York. Herpetological Conservation and Biology 10(1): 525-534. [*Dennstaedtia punctilobula*, habitat, North America, USA]

443. Mikula, A., Pozoga, M., Grzyb, M. & Rybczynski, J. J. 2015. An unique system of somatic embryogenesis in the tree fern *Cyathea delgadii* Sternb.: the importance of explant type, and physical and chemical factors. Plant Cell Tissue and Organ Culture 123(3): 467-478. [photobiology, plant age, tissue culture]

444. Mikula, A., Pozoga, M., Tomiczak, K. & Rybczynski, J. J. 2015. Somatic embryogenesis in ferns: a new experimental system. Plant Cell Reports 34(5): 783-794. [*Cyathea delgadii*, hormone-free medium, methods, tissue culture, tree ferns]

445. Mikula, A., Tomiczak, K., Makowski, D., Niedzielski, M. & Rybczynski, J. J. 2015. The effect of moisture content and temperature on spore aging in *Osmunda regalis*. Acta Physiologiae Plantarum 37(11): e229. [germination, spore storage]

446. Mizuno, T., Momohara, A. & Okitsu, S. 2015. The effects of bryophyte communities on the establishment and survival of an epiphytic fern. Folia Geobotanica 50(4): 331-337. [desiccation tolerance, epiphytes, gametophytes, *Lepisorus thunbergianus*, mosses, succession]

447. Mochalova, O. A., Bobrov, A. A. & Brunton, D. F. 2015. *Isoetes* in Kamchatka (Northern Russian Far East), with the description of a new hybrid *I.* x *paratunica* (*I. asiatica* x *I. maritima*) (vol 105, pg 101, 2015). American Fern Journal 105(3): 262. [erratum]

448. Mochalova, O. A., Bobrov, A. A. & Brunton, D. F. 2015. *Isoetes* in Kamchatka (Northern Russian Far East), with the description of a new hybrid *I.* x *paratunica* (*I. asiatica* x *I. maritima*). American Fern Journal 105(2): 101-112. [*Isoetes* x *paratunica*, Russia, taxonomy]

449. Mohr, B. A. R., Bernardes-de-Oliveira, M. E. C., Loveridge, R., Pons, D., Sucerquia, P. A. & Castro-Fernandes, M. C. 2015. *Ruffordia goeppertii* (Schizaeales, Anemiaceae) - a common fern from the Lower Cretaceous Crato Formation of northeast Brazil. Cretaceous Research 54: 17-26. [fossils, paleobiology, South America]

450. Monga, P., Kumar, M., Prasad, V. & Joshi, Y. 2015. Palynostratigraphy, palynofacies and depositional environment of a lignite-bearing succession at Surkha Mine, Cambay Basin, north-western India. Acta Palaeobotanica 55(2): 183-198. [fossils, Gujarat,paleobiology, palynology, spores, Tertiary]

451. Montelongo-Landeros, M., Alba-Avila, J. A., Romero-Mendez, U. & Garcia-de la Pena, C. 2015. Pteridophytes from El Sarnoso and Mapimi mountains in Durango, Mexico. Revista Mexicana de Biodiversidad 86(2): 448-456. [diversity, floristics, Mexico; Spanish]

452. Montesinos-Tubee, D. B., Cleef, A. M. & Sykora, K. V. 2015. The Puna vegetation of Moquegua, South Peru: chasmophytes, grasslands and *Puya raimondii* stands. Phytocoenologia 45(4): 365-397. [diversity, floristics, plant communities]

453. Montesinos-Tubee, D. B., Pinto, A. C., Beltran, D. F. & Galiano, W. 2015. Vegetation of a *Polylepis incarum* forest (Rosaceae) in Lampa district, Puno, Peru. Revista Peruana de Biologia 22(1): 87-96. [floristics, plant communities, *Polylepis* forests, Pteridaceae; Spanish]

454. Montesinos-Tubee, D. B., Sykora, K. V., Quipuscoa-Silvestre, V. & Cleef, A. M. 2015. Species composition and phytosociology of xerophytic plant communities after extreme rainfall in South Peru. Phytocoenologia 45(3): 203-250. [Andes, floristics, xeric ferns]

455. Morajkar, S., Sajeev, S. & Hegde, S. 2015. A DNA barcode for *Stenochlaena palustris*: an edible medicinal fern. Indian Fern Journal 32(1-2): 124-131. [DNA barcode, edible plants, medicinal plants]

456. Moran, R. C. & Labiak, P. H. 2015. Phylogeny of the polybotryoid fern clade (Dryopteridaceae). International Journal of Plant Sciences 176(9): 880-891. [anatomy, leaf dimorphism, phylogenetics, *Polybotrya*]

457. Moran, R. C. 2015. Oliver Sacks (1933-2015), a remembrance. Fiddlehead Forum 42(2): 5-7. [obituary]

458. Moreno Saiz, J. C., Pataro, L. & Pajarón Sotomayor, S. 2015. Atlas of the pteridophytes of the Iberian Peninsula and the Balearic Islands. Acta Botanica Malacitana 40: 5-55. [Baleares, biogeography, diversity, floristics, Spain; Spanish]

459. Moreno-Dominguez, R., Diez, J. B., Jacques, F. M. B. & Ferrer, J. 2015. First macroflora data from La Val (Late Oligocene/Early Miocene), Estadilla (Huesca, Spain). Historical Biology 27(3-4): 469-489. [*Acrostichum*, Equisetales, Europe, fossils, paleobiology, Tertiary]

460. Morero, R. E., Chiarini, F. E., Urdampilleta, J., Barboza, G. E. & Barrington, D. S. 2015. Cytological study of *Polystichum* (Dryopteridaceae) species from southern South America. Australian Journal of Botany 63(5): 403-414. [cytology, Chile, Juan-Fernández Islands, polyploidy]

461. Morero, R., Giorgis, M. A., Condack, J. P. , Vidoz, F. F. & Barboza, G. E. 2015. Two new records of *Polystichum* (Dryopteridaceae) for the Argentine Flora. Boletin de la Sociedad Argentina de Botanica 50(4): 631-637. [Argentina, floristics, *Polystichum platylepis*, *Polystichum subintegerrimum*; Spanish]

462. Morimoto, T., Akagi, T. & Tao, R. 2015. Evolutionary analysis of genes for S-RNase-based self-incompatibility reveals S locus duplications in the ancestral Rosaceae. Horticulture Journal 84(3): 233-242. [evolution, genomes, *Selaginella moellendorffii*]

463. Morozov, S. Y., Milyutina, I. A., Bobrova, V. K., Ryazantsev, D. Y., Erokhina, T. N., Zavriev, S. K., Agranovsky, A. A., Solovyev, A. G. & Troitsky, A. V. 2015. Structural evolution of the 4/1 genes and proteins in non-vascular and lower vascular plants. Biochimie 119: 125-136. [biochemistry, evolution, genetics]

464. Morse, D. H. & Chapman, G. H. 2015. Growth, development, and behaviour of the parasitised and unparasitised larvae of a shelter-building moth and consequences for the resulting koinobiont parasitoid. Entomologia Experimentalis et Applicata 154(3): 179-187. [*Alabagrus texanus*, *Herpetogramma theseusalis*, insects, *Onoclea sensibilis*, parasitoids, plant-insect interactions, seasonality]

465. Mozer, A., Pecskay, Z. & Krajewski, K. P. 2015. Eocene age of the Baranowski Glacier Group at Red Hill, King George Island, West Antarctica. Polish Polar Research 36(4): 307-324. [Antarctic, fossils, paleobiology, Tertiary]

466. Muir, R. A., Bordy, E. M. & Prevec, R. 2015. Lower Cretaceous deposit reveals first evidence of a post-wildfire debris flow in the Kirkwood Formation, Algoa Basin, Eastern Cape, South Africa. Cretaceous Research 56: 161-179. [fire ecology, fossils, paleobiology, tree ferns]

467. Murbach, T. S., Beres, E., Vertesi, A., Glavits, R., Hirka, G., Endres, J. R., Clewel, A. E. & Szakonyine, I. P. 2015. A comprehensive toxicological safety assessment of an aqueous extract of *Polypodium leucotomos* (Fernblock ®). Food and Chemical Toxicology 86: 328-341. [medicinal plants]

468. Mysore, K. S. & Senthil-Kumar, M. (eds.) 2015. Plant gene silencing: methods and protocols. Humana Press: Totowa, NJ, USA, pp. 307. [gametophytes, genetics]

469. Na, Y., Manchester, S. R., Sun, C. & Zhang, S. 2015. The Middle Jurassic palynology of the Daohugou area, Inner Mongolia, China, and its implications for palaeobiology and palaeogeography. Palynology 39(2): 270-287. [fossils, spores]
470. Nagalingum, N. S. & Cantrill, D. J. 2015. The Albian fern flora of Alexander Island, Antarctica. Cretaceous Research 55: 303-330. [Antarctic]
471. Nagalingum, N. S., Knerr, N., Laffan, S. W., Gonzalez-Orozco, C. E., Thomhill, A. H., Miller, J. T. & Mishler, B. D. 2015. Continental scale patterns and predictors of fern richness and phylogenetic diversity. Frontiers in Genetics 6: e132. [Australia, biogeography, diversity, ecology, herbaria, modelling, phylogenetics]
472. Naidu, M. T., Kumar, O. A. & Venkaiah, M. 2015. Vascular plant diversity in the sacred grove of Modapalli in Viskhapatnam district of Andhra Pradesh, India. Journal of Threatened Taxa 7(10): 7683-7690. [conservation, floristics]
473. Naqinezhad, A., Zare-Maivan, H. & Gholizadeh, H. 2015. A floristic survey of the Hyrcanian forests in Northern Iran, using two lowland-mountain transects. Journal of Forestry Research 26(1): 187-199. [diversity, elevational gradients, floristics]
474. Naugolnykh, S. V. & Pronin, A. P. 2015. A new matoniaceous fern from the Upper Triassic of the Caspian Depression in the context of florogenetic processes of transition from the Paleozoic to Mesozoic. Paleontological Journal 49(3): 326-336. [fossils, new species, paleobiology, *Phlebopteris hazarensis*, Russia]
475. Naugolnykh, S. V. 2015. Fossil flora from the Kazanian (Middle Permian) Iva-Gora locality, Soyana river, Arkhangelsk region, Russia. Paleontological Journal 49(11): 1193-1205. [fossils, paleobiology]
476. Naugolnykh, S. V. 2015. Sphenophylls from the Permian deposits of the Pechora Cis-Urals (Russia). Wulfenia 22: 95-112. [fossils, paleobiology, *Sphenophyllum*]
477. Nautiyal, S., Bashkar, K. & Khan, Y. D. I. 2015. Status of biodiversity as per IUCN, IWPA, and CITES in studied semiarid region, Karnataka, India. In: Nautiyal, S., Bashkar, K. & Khan, Y. D. I. (ed.). Biodiversity of Semiarid Landscape: Baseline Study for Understanding the Impact of Human Development on Ecosystems. Springer: New York, NY, USA, pp. 353-376. [conservation, *Marsilea quadrifolia*]
478. Nayak, N., Padhy, R. N. & Singh, P. K. 2015. Evaluation of antibacterial and antioxidant efficacy of the fern *Azolla caroliniana* symbiotic with the cyanobacterium *Anabaena azollae*. Proceedings of the Indian National Science Academy Part B Biological Sciences 85(2): 555-569. [antibiotics, antioxidants, medicinal plants]
479. Neregato, R., Roessler, R., Rohn, R. & Noll, R. 2015. New petrified Calamitaleans from the Permian of the Parnaiba Basin, Central-North Brazil. Part I. Review of Palaeobotany & Palynology 215: 23-45. [*Arthropitys*, Calamitales, *Equisetum*, fossils]
480. Nguyen, P. H., Ji, D. J., Han, Y. R., Choi, J. S., Rhyu, D. Y., Min, B. S. & Woo, M. H. 2015. Selaginellin and biflavonoids as protein tyrosine phosphatase 1B inhibitors from *Selaginella tamariscina* and their glucose uptake stimulatory effects. Bioorganic & Medicinal Chemistry 23(13): 3730-3737. [antidiabetic, bioassays, medicinal plants, pharmacognosy]
481. Nguyen, P. H., Zhao, B. T., Ali, M. Y., Choi, J. S., Rhyu, D. Y, Min, B. S. & Woo, M. H. 2015. Insulin-mimetic selaginellins from *Selaginella tamariscina* with protein tyrosine phosphatase 1B (PTP1B) inhibitory activity. Journal of Natural Products 78(1): 34-42. [antidiabetic, medicinal plants]

482. Nguyen, V. T., To, D. C., Tran, M. H., Oh, S. H., Kim, J. A., Ali, M. Y., Woo, M. H., Choi, J. S. & Min, B. S. 2015. Isolation of cholinesterase and beta-secretase 1 inhibiting compounds from *Lycopodiella cernua*. Bioorganic & Medicinal Chemistry 23(13): 3126-3134. [biochemistry, medicinal plants, terpenoids]

483. Ni Dhuill, E., Smyth, N., Waldren, S. & Lynn, D. 2015. Monitoring methods for the threatened Killarney Fern (*Trichomanes speciosum* Willd.) in Ireland. Natl Parks & Wildlife Service: Dublin, Ireland, pp. 77. [conservation]

484. Niklas, K. J. 2015. Measuring the tempo of plant death and birth. New Phytologist 207(2): 254-256. [plant age, plant longevity]

485. Nikonorova, N., Vu, L. D., Czyzewicz, N., Gevaert, K. & de Smet, I. 2015. A phylogenetic approach to study the origin and evolution of the CRINKLY4 family. Frontiers in Plant Science 6: e880. [genetics, peptide signals, phylogenetics, *Selaginella moellendorffii*]

486. Nishida, K., Kodama, N., Yonemura, S. & Hanba, Y. T. 2015. Rapid response of leaf photosynthesis in two fern species *Pteridium aquilinum* and *Thelypteris dentata* to changes in CO_2 measured by tunable diode laser absorption spectroscopy. Journal of Plant Research 128(5): 777-789. [carbon dioxide, isotopes, mesophyll conductance, photobiology, physiology, stomatal conductance]

487. Nowak, A., Nowak, S., Nobis, M. & Nobis, A. 2015. Fern-dominated rock plant communities of Tajikistan (Middle Asia). American Fern Journal 105(3): 176-198. [ecology, petrophytes, phytosociology, rock barrens]

488. Nuer, M. T., Zhang, X. F. & Zhang, W. 2015. Flora and geographical compositions in the natural conservation area of *Juglans cathayensis* in Xinjiang, China. Chinese Journal of Ecology 34(7): 1838-1846. [diversity, ecology, floristics; Chinese]

489. Nurhayati, A.Y., Hariadi, Y. C. & Lestari, P. 2015. Early detection of lead stress on *Marsilea crenata* using biolectricity measurement. In: Trihartono, A. & McLellan, B. (ed.). 5th Sustainable Future for Human Security (SustaiN 2014). Elsevier: Amsterdam, Netherlands, pp. 57-66. [bioelectricity, Indonesia]

490. Obeysekara, P. T., Knutson, A., Mukherjee, A. & Heinz, K. M. 2015. Repeated cold exposure effects on mortality and feeding activity of the Salvinia weevil, *Cyrtobagous salviniae* (Coleoptera: Curculionidae). Environmental Entomology 44(6): 1590-1598. [biological control, ecology, North America, *Salvinia molesta*, Texas]

491. Ogorodnikova, A. V., Mukhitova, F. K. & Grechkin, A. N. 2015. Oxylipins in the spikemoss *Selaginella martensii*: Detection of divinyl ethers, 12-oxophytodienoic acid and related cyclopentenones. Phytochemistry 118: 42-50. [biochemistry, fatty acid metabolism, oxylipins, physiology]

492. Okazaki, Y., Nishizawa, T., Takano, K., Ohnishi, M., Mimura, T. & Saito, K. 2015. Induced accumulation of glucuronosyldiacylglycerol in tomato and soybean under phosphorus deprivation. Physiologia Plantarum 155(1): 33-42. [glycolipids, lipids, physiology, *Selaginella moellendorffii*, stress]

493. Olariaga, I., Laskibar, X. & Holec, J. 2015. Molecular data reveal cryptic speciation within *Tricholomopsis rutilans*: description of *T. pteridicola sp. nov*. associated with *Pteridium aquilinum*. Mycological Progress 14(4): e21. [basidiomycetes, Europe, fungi, plant-fungi interactions, Spain, taxonomy]

494. Olejnik, N. & Celka, Z. 2015. The growth pattern of Ophioglossoid ferns: a case study of *Botrychium lunaria* (L.) Sw. American Fern Journal 105(3): 199-210. [fertility, nutrients, Ophioglossaceae, plant growth, plant-soil interactions, Poland]

495. Olsen, S. 2015. Book review, *Polypodium*, Tüpfelfarne: Arten, Sorten, Kultur. Hardy Fern Foundation Quarterly 25(4): 88. [horticulture]

496. Olsson, K. A. & Wigermo, C. 2015. Pillwort in Skane. Botaniska Notiser 148(4): 19-21. [ecology, Europe, *Pilularia*, Sweden; Swedish]

497. Ordynets, A., Larsson, K. H. & Langer, E. 2015. Two new *Trechispora* species from La Reunion Island. Mycological Progress 14(11): e113. [basidiomycetes, *Cyathea glauca*, fungi, plant-fungi interactions, *Trechispora cyatheae*]

498. Orlova, O. A., Mamontov, D. A. & Snigirevsky, S. M. 2015. Late Visean (Mississippian) vegetation of the north-western part of Russia according to palaeobotanical and palynological data. Historical Biology 27(3-4): 325-344. [Carboniferous, Europe, fossils, paleobiology, palynology, spores]

499. Pajarón, S., Pangua, E., Quintanilla, L. G. & Jiménez, A. 2015. Influence of water availability on gender determination of gametophytes in a diploid-polyploid complex of a xerophytic fern genus. Aob Plants 7: plv047. [*Cheilanthes*, desiccation tolerance, ecology, epigenetics, sex determination, xeric ferns]

500. Palomino, O. M. 2015. Current knowledge in *Polypodium leucotomos* effect on skin protection. Archives of Dermatological Research 307(3): 199-209. [antioxidants, medicinal plants, photoprotection, ultraviolet light]

501. Pan, K., Xia, X., Guo, W. H. & Kong, L. Y. 2015. Suppressive effects of total alkaloids of *Lycopodiastrum casuarinoides* on adjuvant-induced arthritis in rats. Journal of Ethnopharmacology 159: 17-22. [anti-inflammatory, *Lycopodium*, medicinal plants]

502. Pan, X., Peng, F. Y. & Weselake, R. J. 2015. Genome-wide analysis of phospholipid: diacylglycerol acyltransferase (PDAT) genes in plants reveals the eudicot-wide PDAT gene expansion and altered selective pressures acting on the core eudicot PDAT paralogs. Plant Physiology 167(3): 887-904. [enzymes, evolution, genomes, phylogenetics, physiology, *Selaginella moellendorffii*]

503. Panagiotakopulu, E. & Buchan, A. L. 2015. Present and Norse Greenlandic hayfields - Insect assemblages and human impact in southern Greenland. Holocene 25(6): 921-931. [*Equisetum arvense*, fossils, insects]

504. Paranamana, N., Radampola, K. & Bulugahapitiya, V. P. 2015. Nutritional and anti-nutritional contents of alternative plant feed ingredients for fish feed formulation. Indian Journal of Animal Sciences 85(2): 212-215. [fish food, nutrients, *Salvinia molesta*]

505. Parra, M. J., Acuna, K. I., Sierra-Almeida, A., Sanfuentes, C., Saldana, A., Corcuera, L. J. & Bravo, L. A. 2015. Photosynthetic light responses may explain vertical distribution of Hymenophyllaceae species in a temperate rainforest of Southern Chile. PLoS One 10(12): e0145475. [ecology, epiphytes, *Hymenoglossum cruentum*, *Hymenophyllum dentatum*, photobiology, physiology]

506. Parra, M. J., Rodriguez, R., Cavieres, L., Munoz-Tapia, L. & Atala, C. 2015. Latitudinal patterns in Pteridophyte distribution of continental Chile. Gayana Botanica 72(1): 58-69. [biogeography, diversity, latitudinal gradients, South America]

507. Parris, B. S. 2015. *Acrosorus nudicarpus* transferred to *Xiphopterella*. Fern Gazette 20(1): 47. [taxonomy, *Xiphopterella nudicarpa*]

508. Parris, B. S. 2015. *Plagiogyria minuta* is distinct from *P. egenolfioides* var. *egenolfioides*. Fern Gazette 20(1): 46. [*Plagiogyria egenolfioides*, taxonomy]

509. Parris, B. S. 2015. Three new combinations in *Ctenopterella* (Polypodiaceae). Fern Gazette 20(2): 98. [taxonomy]

510. Parris, B., Chen, C. W., Hsu, T. C., Lu, T. N., Nguyen, Q. D. & Luu, H. T. 2015. New species and records of grammitid ferns (Polypodiaceae) for Vietnam. Phytotaxa 226(1): 39-50. [*Calymmodon concinnus*, *Oreogrammitis parvula*, taxonomy, *Xiphopterella parva*]

511. Parys, K. A., Tewari, S. & Johnson, S. J. 2015. Adults of the waterfern weevil, *Stenopelmus rufinasus* Gyllenhal (Coleoptera: Curculionidae), feed on a non-host plant, *Salvinia minima* Baker, in Louisiana. Coleopterists Bulletin 69(2): 316-318. [biological control, ecological niche, North America, plant-insect interactions, USA]

512. Passalia, M. G., Llorens, M. & Paez, M. 2015. First megafloristic record for the Chubut Group at Somuncura-Canadon Asfalto Basin: An angiosperm dominated flora from the Upper Cretaceous Puesto Manuel Arce Formation, Patagonia Argentina. Cretaceous Research 56: 200-225. [angiosperm dominance, fossils, paleobiology, plant communities]

513. Patino, J., Solymos, P., Carine, M., Weigelt, P., Kreft, H. & Vanderpoorten, A. 2015. Island floras are not necessarily more species poor than continental ones. Journal of Biogeography 42(1): 8-10. [diversity, island biogeography, New Guinea]

514. Paula-Bueno, M. C. & Fonseca-Gessner, A. A. 2015. Coleoptera associated with macrophytes of the genus *Salvinia* in four oxbow lakes in two river basins in southeast Brazil. Brazilian Journal of Biology 75(4, Suppl. S): S108-S118. [insects, plant-insect interactions]

515. Pazos, P. J., Gutierrez, C., Fernandez, D. E., Heredia, A. M. & Comerio, M. 2015. The unusual record of *Nereites*, wrinkle marks and undermat mining trace fossils from the late Silurian-earliest Devonian of central-western margin of Gondwana (Argentina). Palaeogeography Palaeoclimatology Palaeoecology 439(SI): 4-16. [fossils, paleobiology, Paleozoic]

516. Pence, V. C. 2015. Propagation and cryopreservation of *Asplenium scolopendrium* var. *americanum*, the American Hart's-Tongue Fern. American Fern Journal 105(3): 211-225. [conservation, North America, propagation, spores, USA]

517. Pereira, A. L., Bessa, L. J., Leao, P. N., Vasconcelos, V. & Costa, P. M. 2015. Bioactivity of *Azolla* aqueous and organic extracts against bacteria and fungi. Symbiosis 65(1): 17-21. [bioactive compounds, medicinal plants]

518. Pereira, A. L., Monteiro, B., Azevedo, J., Campos, A., Osorio, H. & Vasconcelos, V. 2015. Effects of the naturally-occurring contaminant microcystins on the *Azolla filiculoides-Anabaena azollae* symbiosis. Ecotoxicology and Environmental Safety 118: 11-20. [contamination]

519. Pereira, J. B., Mittelbach, M. & Labiak, P. H. 2015. Studies on chromosome numbers and spore size in Brazilian Isoetes. American Fern Journal 105(3): 226-237. [chromosomes, hybrids, morphology, polyploidy, South America, spore size]

520. Perez-Atilano, Y., Sanchez-Gonzalez, A. & Tejero-Diez, J. D. 2015. Species richness, distribution, and morphological variation of lycophytes and monilophytes in a semi-arid region of Mexico. American Fern Journal 105(3): 238-256. [diversity, Hidalgo, morphology]

521. Perez-Vasquez, N. D. S., Arias-Rios, J. A. & Quiros-Rodriguez, J. 2015. Space-time variation of aquatic vascular plants in complex low swampy Sinu, Cordoba, Colombia. Acta Biologica Colombiana 20(3): 155-165. [aquatic plants, competition, ecology, plant communities, *Salvinia auriculata*, succession; Spanish]

522. Peric, R. & Panjkovic, B. 2015. *Oreopteris limbosperma* (Bellardi ex All.) J. Holub, rediscovered for the flora of Serbia. Botanica Serbica 39(1): 31-34. [Europe, floristics]
523. Perico, G. 2015. Research projects underway in the province of Bergamo sponsored by the Flora Alpina Bergamasca (FAB) group. Natura 105(2): 107-110. [floristics, Italy, *Lycopodiella inundata*; Italian]
524. Perlatti, F., Ferreira, T. O., da Costa Roberto, F. A., Romero, R. E., Sartor, L. R. & Otero, X. L. 2015. Trace metal/metalloid concentrations in waste rock, soils and spontaneous plants in the surroundings of an abandoned mine in semi-arid NE-Brazil. Environmental Earth Sciences 74(6): 5427-5441. [contamination, heavy metals, mining, *Pityrogramma calomelanos*, South America]
525. Perlatti, F., Ferreira, T. O., Romero, R. E., Gomes Costa, M. C. & Otero, X. L. 2015. Copper accumulation and changes in soil physical-chemical properties promoted by native plants in an abandoned mine site in northeastern Brazil: Implications for restoration of mine sites. Ecological Engineering 82: 103-111. [mining, *Pityrogramma calomelanos*, soil chemistry, South America]
526. Perrie, L. R. & Brownsey, P. J. 2015. Taxonomic notes on the New Zealand flora: lectotypes in the fern family Gleicheniaceae. New Zealand Journal of Botany 53(4): 183-191. [taxonomy]
527. Perrie, L. R., Shepherd, L. D. & Brownsey, P. J. 2015. An expanded phylogeny of the Dennstaedtiaceae ferns: *Oenotrichia* falls within a non-monophyletic *Dennstaedtia*, and *Saccoloma* is polyphyletic. Australian Systematic Botany 28(4): 256-264. [chloroplast DNA, phylogenetics]
528. Peruzzi, L., Pierini, B., Magrini, S., Andreucci, A., Marchetti, D. & Viane, R. 2015. Three new hybrids of *Ophioglossum* (Ophioglossaceae) from Monte Pisano, Tuscany (Central Italy). Plant Biosystems 149(4): 737-746. [Europe, morphology, polyploidy, spore size, taxonomy]
529. Petanovic, R. U., Amrine Jr., J. W., Chetverikov, P. E. & Cvrkovic, T. K. 2015. *Eriocaenus* (Acari: Trombidiformes: Eriophyoidea), a new genus from *Equisetum* spp. (Equisetaceae): morphological and molecular delimitation of two morphologically similar species. Zootaxa 4013(1): 51-66. [aphids, biological control, invasive species, New Zealand, plant-insect interactions, Serbia]
530. Pittermann, J., Watkins, J. E., Cary, K. L., Schuettpelz, E., Brodersen, C., Smith, A. R. & Baer, A. 2015. The structure and function of xylem in seed-free vascular plants: an evolutionary perspective. In: Hacke, U. G. (ed.). Functional and ecological xylem anatomy. Springer International Publishing, Cham, Switzerland, pp. 1-37. [ecology, physiology]
531. Plackett, A. R. G., Di Stilio, V. S. & Langdale, J. A. 2015. Ferns: the missing link in shoot evolution and development. Frontiers in Plant Science 6: e972. [*Ceratopteris richardii*, developmental biology, gene regulation, genetics, shoot development]
532. Plackett, A. R. G., Rabbinowitsch, E. H. & Langdale, J. A. 2015. Protocol: genetic transformation of the fern *Ceratopteris richardii* through microparticle bombardment. Plant Methods 11: e37. [gametophytes, gene transformation, methods, tissue culture]
533. Plociennik, M., Kruk, A., Forysiak, J., Pawlowski, D., Mianowicz, K., Elias, S., Borowka, R. K., Kloss, M., Obremska, M., Coope, R., Krapiec, M., Kittel, P. & Zurek, S. 2015. Fen ecosystem responses to water-level fluctuations during the early and middle Holocene in central Europe: a case study from Wilczkow, Poland. Boreas 44(4): 721-740. [ecology, *Thelypteris palustris*]
534. Ponce, S. C., Prado, C., Pagano, E., Prado, F. E. & Rosa, M. 2015. Effect of solution pH on the dynamic of biosorption of Cr(VI) by living plants of *Salvinia minima*. Ecological Engineering 74: 33-41. [chromium, heavy metals, nutrient absorption, soil pH]

535. Ponnusamy, Y., Chear, N. J. Y., Ramanathan, S. & Lai, C. 2015. Polyphenols rich fraction of *Dicranopteris linearis* promotes fibroblast cell migration and proliferation in vitro. Journal of Ethnopharmacology 168: 305-314. [tissue culture, wound healing]
536. Poppinga, S., Haushahn, T., Warnke, M., Masselter, T. & Speck, T. 2015. Sporangium exposure and spore release in the Peruvian Maidenhair fern (*Adiantum peruvianum*, Pteridaceae). PLoS One 10(10): e0138495. [biogeography, physiology, spore dispersal]
537. Powling, A., Phillips, A., Pritchett, R., Segar, S. T., Wheeler, R. & Mardiastuti, A. 2015. The vegetation of Lambusango Forest, Buton, Indonesia. Reinwardtia 14(2): 265-286. [diversity, floristics, rainforests]
538. Prado, C., Prado, F. E., Pagano, E. & Rosa, M. 2015. Differential effects of Cr(VI) on the ultrastructure of chloroplast and plasma membrane of *Salvinia minima* growing in summer and winter. Relationships with lipid peroxidation, electrolyte leakage, photosynthetic pigments, and carbohydrates. Water Air and Soil Pollution 226(2): e8. [chloroplast, chromium, seasonality]
539. Prado, J., Hirai, R. Y. & Moran, R. C. 2015. Proposals concerning inadvertent lectotypifications (and neotypifications). Taxon 64: 651. [nomenclature]
540. Prado, J., Sylvestre, L. S., Labiak, P. H., Windisch, P. G., Salino, A., Barros, I. C. L., Hirai, R. Y., Almeida, T., Santiago, A. C., Kieling-Rubio, M. A., Pereira, A. F. N., Ollgaard, B., Ramos, C. G., Mickel, J. T., Dittrich, V. A. O., Mynssen, C., Schwartsburd, P. B., Condack, J. P., Pereira, J. B. & Matos, F. B. 2015. Diversity of ferns and lycophytes in Brazil. Rodriguesia 66(4): 1-11. [floristics]
541. Prasad, S. M., Singh, A. & Singh, P. 2015. Physiological, biochemical and growth responses of *Azolla pinnata* to chlorpyrifos and cypermethrin pesticides exposure: a comparative study. Chemistry and Ecology 31(3): 285-298. [aquatic plants, biochemistry, physiology, plant growth]
542. Priya, R. & Siva, R. 2015. Analysis of phylogenetic and functional diverge in plant nine-cis epoxycarotenoid dioxygenase gene family. Journal of Plant Research 128(4): 519-534. [abscisic acid, enzymes, evolution, genetics, signaling metabolites, stress]
543. Puebla, G. G., Pramparo, M. B. & Gandolfo, M. A. 2015. Aquatic ferns from the Upper Cretaceous Loncoche Formation, Mendoza, central-western, Argentina. Plant Systematics and Evolution 301(2): 577-588. [aquatic plants, fossils, Marsileaceae, paleobiology, Salviniaceae, South America]
544. Pulvirenti, S., Indriolo, M. M., Pavone, P. & Costa, R. M. S. 2015. Study of a pre-Linnaean herbarium attributed to Francesco Cupani (1657-1710). Candollea 70(1): 67-99. [collections, Europe, herbaria, Italy]
545. Pyner, T., Riehl, P. & Yansura, D. 2015. Japan trip continued. Hardy Fern Foundation Quarterly 25(3): 58-61. [field trips]
546. Qi, Y., Xu, W., Xing, T., Zhao, M., Li, N., Yan, L., Xia, G. & Wang, M. 2015. Synonymous codon usage bias in the plastid genome is unrelated to gene structure and shows evolutionary heterogeneity. Evolutionary Bioinformatics 11: 65-77. [chloroplast DNA, evolution, genomes, phylogenetics]
547. Quamar, M. F. & Bera, S. K. 2015. Modern pollen-vegetation relationship in the tropical mixed deciduous forest of the Koriya District in Chhattisgarh, India. Grana 54(1): 45-52. [palynology, plant communities, spores]
548. Quinney, A., Mays, C., Stilwell, J. D., Zelenitsky, D. K. & Therrien, F. 2015. The range of bioinclusions and pseudoinclusions preserved in a new Turonian (similar to 90 Ma) amber

occurrence from Southern Australia. PLoS One 10(5): e0121307. [Cretaceous, *Cyathidites minor*, fossils, paleobiology, palynology, spores]

549. Quintero-Vallejo, E., Klomberg, Y., Bongers, F., Poorter, L., Toledo, M. & Pena-Claros, M. 2015. Amazonian dark earth shapes the understory plant community in a Bolivian forest. Biotropica 47(2): 152-161. [nutrients, plant communities, soil pH, South America]
550. Rabert, C., Hoedar, M., Bravo, L., Quiroz, A. & Urzua, A. 2015. A rapid preparative-TLC/GC-MS methodology for discriminating between two filmy ferns (Hymenophyllaceae) native from the temperate rain forest of Southern Chile based on their soluble carbohydrates. Boletin Latinoamericano y del Caribe de Plantas Medicinales y Aromaticas 14(5): 364-373. [carbohydrates, desiccation tolerance, *Hymenophyllum cruentum*, *Hymenophyllum dentatum*]
551. Rafsanjani, A., Brule, V., Western, T. L. & Pasini, D. 2015. Hydro-responsive curling of the resurrection plant *Selaginella lepidophylla*. Scientific Reports 5: e8064. [biophysics, desiccation, physiology]
552. Rahman, F., Mumtaz, A. S. & Shah, S. A. 2015. *Psilotum nudum*: a new pteridophyte record for the cryptogamic flora of Pakistan. Pakistan Journal of Botany 47(2): 493-494. [floristics, new records]
553. Rahman, M. S., Hossain, G. M., Khan, S. A. & Uddin, S. N. 2015. An annotated checklist of the vascular plants of Sundarban mangrove forest of Bangladesh. Bangladesh Journal of Plant Taxonomy 22(1): 17-41. [diversity, floristics, mangroves]
554. Rahul, J. & Jain, M. K. 2015. Floristic assessment of the important least concern plant species with taxonomic descriptions along the National Highway. Brazilian Journal of Botany 38(4): 851-864. [diversity, floristics, India, ruderal plants]
555. Raj, A. & Singh, N. 2015. Phytoremediation of arsenic contaminated soil by arsenic accumulators: a three year study. Bulletin of Environmental Contamination and Toxicology 94(3): 308-313. [*Adiantum capillus-veneris*, *Christella dentata*, *Pteris vittata*]
556. Raj, A., Jamil, S., Srivastava, P. K., Tripathi, R. D., Sharma, Y. K. & Singh, N. 2015. Feasibility study of *Phragmites karka* and *Christella dentata* grown in West Bengal as arsenic accumulator. International Journal of Phytoremediation 17(9): 869-878. [India, West Bengal]
557. Rakotondrainibe, F. & Jouy, A. 2015. Novelties in the genus *Huperzia* Bernh. (Lycophytes, Lycopodiaceae) from Madagascar. Candollea 70(1): 49-56. [*Huperzia ambrensis*, *Huperzia teretirigida*, new species, taxonomy; Spanish]
558. Ramirez-Barahona, S. & Eguiarte, L. E. 2015. Spatial genetic analyses reveal strong genetic structure in two populations of the outcrossing tree fern *Alsophila firma* (Cyatheaceae). Botanical Journal of the Linnean Society 177(3): 439-449. [breeding systems, genetics, Mexico, population genetics, reproductive biology]
559. Ramirez-Barahona, S. & Luna-Vega, I. 2015. Geographic differentiation of tree ferns (Cyatheales) in tropical America. American Fern Journal 105(2): 73-85. [biogeography, Central America, evolution, South America, tree ferns]
560. Ramos Giacosa, J. P., Morbelli, M. A. & Giudice, G. E. 2015. Morphology and ultrastructure of *Schizaea fistulosa* (Schizaeaceae) spores from Chile. Boletin de la Sociedad Argentina de Botanica 50(1): 17-22. [morphology, South America]
561. Ramos Giacosa, J. P., Morbelli, M. A., Giudice, G. E. & Gorrer, D. A. 2015. Spore morphology and wall ultrastructure of Lycopodiaceae from northwest Argentina. Review of Palaeobotany & Palynology 225: 84-94. [South America, spores]

562. Rani, R. H. G., Beneragama, C. K., Pushpakumara, D. K. N. G. & Wijesundara, D. S. A. 2015. Ornamental pteridophytes: an underexploited opportunity for the Sri Lankan floriculture industry. Journal of the National Science Foundation of Sri Lanka 43(4): 293-301. [horticulture, ornamental plants]

563. Ranker, T. A. & Sundue, M. A. 2015. Why are there so few species of ferns? Trends in Plant Science 20: 402-403. [diversity, evolution]

564. Rasmussen, L. H., Donnelly, E., Strobel, B. W., Holm, P. E. & Hansen, H. C. B. 2015. Land management of bracken needs to account for bracken carcinogens - A case study from Britain. Journal of Environmental Management 151: 258-266. [ptaquiloside, *Pteridium aquilinum*, UK]

565. Rezaei, A., Farzadfard, A., Amirahmadi, A., Alemi, M. & Khademi, M. 2015. *Diabetes mellitus* and its management with medicinal plants: a perspective based on Iranian research. Journal of Ethnopharmacology 175: 567-616. [*Equisetum arvense*, ethnobotany, medicinal plants]

566. Riano Ospina, K., Briones, O. & Perez-Garcia, B. 2015. Spore germination of three tree fern species in response to light, water potential, and canopy openness. American Fern Journal 105(2): 59-72. [*Alsophila firma*, canopy openness, *Cyathea divergens*, light gradient, *Lophosoria quadripinnata*, Mexico, spore germination, tree ferns, Veracruz]

567. Riano, K. & Briones, O. 2015. Sensitivity of three tree ferns during their first phase of life to the variation of solar radiation and water availability in a Mexican cloud forest. American Journal of Botany 102(9): 1472-1481. [desiccation tolerance, ecological niche, gametophytes, light gradient, Mexico, physiology]

568. Rich, F. J., Vance, R. K. & Rucker, C. R. 2015. The palynology of Upper Pleistocene and Holocene sediments from the eastern shoreline and Central Depression of St. Catherines Island, Georgia, USA. Palynology 39(2): 234-247. [fossils, North America, paleobiology, palynology, spores, USA, *Woodwardia*]

569. Richiano, S. 2015. Environmental factors affecting the development of the Zoophycos ichnofacies in the Lower Cretaceous Rio Mayer Formation (Austral Basin, Patagonia). Palaeogeography Palaeoclimatology Palaeoecology 439(SI): 17-26. [Argentina, fossils, paleobiology]

570. Riefner, R. & Smith, A. R. 2015. *Nephrolepis cordifolia* (Nephrolepidaceae) naturalized in southern California (USA): with notes on unintended consequences of escaped garden plants. Journal of the Botanical Research Institute of Texas 9(1): 201-212. [cliff ferns, invasibility, naturalized species, North America, USA]

571. Riegel, W., Lenz, O. K. & Wilde, V. 2015. From open estuary to meandering river in a greenhouse world: an ecological case study from the Middle Eocene of Helmstedt, Northern Germany. Palaios 30(4): 304-326. [fossils, paleobiology]

572. Rimgaile-Voicik, R., Naujalis, J. R. & Voicikas, A. 2015. Organization of club moss gametophytes and juvenile sporophyte populations in pine forests. Polish Journal of Ecology 63(4): 467-480. [*Diphasiastrum*, ecology, Europe, Lithuania, *Lycopodium*]

573. Rimgaile-Voicik, R. & Naujalis, J. R. 2015. First findings of subterranean gametophytes of the genus *Diphasiastrum* in Lithuania. Botanica Lithuanica 21(2): 133-135.

574. Rimington, W. R., Pressel, S., Duckett, J. G. & Bidartondo, M. I. 2015. Fungal associations of basal vascular plants: reopening a closed book? New Phytologist 205(4): 1394-1398. [fungi, plant-fungi interactions]

575. Riveron-Giro, F. B. & Sanchez, C. 2015. Two new species of *Tectaria* (Tectariaceae) from Cuba. Willdenowia 45(2): 189-196. [taxonomy, *Tectaria caluffii*, *Tectaria squamosa*]

576. Robledo, J. M., Sarzetti, L. C. & Anzotegui, L. M. 2015. Phytophagy on fossil ferns from Argentina (Palo Pintado formation, Late Miocene): a review of their fossil record and ichnotaxonomy. Revista Brasileira de Paleontologia 18(2): 225-238. [*Blechnum serrulatiformis*, fossils, insects, paleobiology, plant-insect interactions, Salta, South America, *Thelypteris interrupta*]

577. Rodriguez Rios, R. 2015. Taxonomic notes on Chilean pteridophytes. Gayana Botanica 72(1): 94-100. [taxonomy; Spanish]

578. Rogers, D. C. & Thorp, J. H. 2015. Collecting, preserving, and culturing invertebrates. In: Thorp, J. H. & Rogers, D. C. (eds.). Ecology and general biology, Vol I: Thorp and Covich's freshwater invertebrates, 4th Edition. Academic Press: London, UK, pp. 57-62. [*Azolla*, insects, *Salvinia*]

579. Rojas Florez, C. B. & Sanchez Montano, L. R. 2015. Spatial structure of vascular epiphytes in two High-Andean forest locations, Pamplona, Colombia. Caldasia 37(1): 15-30. [Andes, floristics, host plants, South America, tree ferns; Spanish]

580. Rolli, E., Brunoni, F., Marieschi, M., Torelli, A. & Ricci, A. 2015. In vitro micropropagation of the aquatic fern *Marsilea quadrifolia* L. and genetic stability assessment by RAPD markers. Plant Biosystems 149(1): 7-14. [cytokinins, genetic stability, hormone-free medium, tissue culture]

581. Rosales, E., Ferreira, L., Sanroman, M. A., Tavares, T. & Pazos, M. 2015. Enhanced selective metal adsorption on optimised agroforestry waste mixtures. Bioresource Technology 182: 41-49. [heavy metals, phytoremediation, *Pteridium*]

582. Rose, N. H., Halitschke, R. & Morse, D. H. 2015. Tri-trophic effects of seasonally variable induced plant defenses vary across the development of a shelter building moth larva and its parasitoid. PLoS One 10(3): e0120769. [*Alabagrus texanus*, food chain, *Herpetogramma theseusalis*, insects, multitrophic effects, *Onoclea sensibilis*, plant-insect interactions, seasonality, *Thelypteris palustris*]

583. Rothfels, C. J., Johnson, A. K., Hovenkamp, P. H., Swofford, D. L., Roskam, H. C., Fraser-Jenkins, C. R., Windham, M. D. & Pryer, K. M. 2015. Natural hybridization between genera that diverged from each other approximately 60 million years ago. American Naturalist 185(3): 433-442. [*Cystocarpium roskamianum*, hybrids, incompatibility, phylogenetics, reproductive biology]

584. Rothfels, C. J., Li, F. W., Sigel, E. M., Huiet, L., Larsson, A., Burge, D. O., Ruhsam, M., Deyholos, M., Soltis, D., Stewart, N., Shaw, S., Pokorny, L. M., Chen, T., dePamphilis, C., DeGironimo, L., Stevenson, D. W., Graham, S. W., Wong, G. K. S. & Pryer, K. M. 2015. The evolutionary history of ferns inferred from 25 low-copy nuclear genes. American Journal of Botany 102: 1089-1107. [genetics, phylogenetics]

585. Rothwell, G. W. & Ash, S. 2015. Internal anatomy of the Late Triassic *Equisetocaulis* gen. nov., and the evolution of modern horsetails. Journal of the Torrey Botanical Society 142(1): 27-37. [fossils, paleobiology]

586. Roy, M., Giri, A. K., Dutta, S. & Mukherjee, P. 2015. Integrated phytobial remediation for sustainable management of arsenic in soil and water. Environment International 75: 180-198. [phytoremediation, *Pteris vittata*, water quality]

587. Roy, S. & Chaudhuri, T. K. 2015. Assessment of Th1 and Th2 cytokine modulatory activity of an edible fern, *Diplazium esculentum*. Food and Agricultural Immunology 26(5): 690-702. [cell signaling, cytokines, edible plants, immunosuppression, proteins]

588. Roy, S., Dutta, S. & Chaudhuri, T. K. 2015. In vitro assessment of anticholinesterase and NADH oxidase inhibitory activities of an edible fern, *Diplazium esculentum*. Journal of Basic and Clinical Physiology and Pharmacology 26(4): 395-401. [edible plants, pharmacognosy]

589. Rueda, M., Moreno Saiz, J. C., Morales-Castilla, I., Albuquerque, F. S., Ferrero, M. & Rodriguez, M. A. 2015. Detecting fragmentation extinction thresholds for forest understory plant species in Peninsular Spain. PLoS One 10(5): e0126424. [conservation, ecology, extinction, forest fragments, understory]

590. Ruiz Vega, R., Esquivel Berrio, C., Salgado Cruz, A. & Saab Ramos, H. 2015. Catalogue of vascular epiphytic sector Silencio (Natural National Park Paramillo) and buffer zone, Cordoba, Colombia. Acta Biologica Colombiana 20(3): 167-179. [diversity, epiphytes, floristics, new records; Spanish]

591. Saand, M. A., Xu, Y. P., Munyampundu, J. P., Li, W., Zhang, X. R. & Cai, X. Z. 2015. Phylogeny and evolution of plant cyclic nucleotide-gated ion channel (CNGC) gene family and functional analyses of tomato CNGCs. DNA Research 22(6): 471-483. [calcium, evolution, genetics, ion channels, *Selaginella moellendorffii*]

592. Sadori, L., Giardini, M., Gliozzi, E., Mazzini, I., Sulpizio, R., van Welden, A. & Zanchetta, G. 2015. Vegetation, climate and environmental history of the last 4500 years at Lake Shkodra (Albania/Montenegro). Holocene 25(3): 435-444. [fossils, *Lycopodium*, palynology, spores]

593. Sagor, G. H. M., Inoue, M., Kim, D. W., Kojima, S., Niitsu, M., Berberich, T. & Kusano, T. 2015. The polyamine oxidase from lycophyte *Selaginella lepidophylla* (SelPAO5), unlike that of angiosperms, back-converts thermospermine to norspermidine. FEBS Letters 589(20, B): 3071-3078. [biochemistry, enzymes, physiology]

594. Saha, J., Sengupta, A., Gupta, K. & Gupta, B. 2015. Molecular phylogenetic study and expression analysis of ATP-binding cassette transporter gene family in *Oryza sativa* in response to salt stress. Computational Biology and Chemistry 54: 18-32. [genetics, phylogenetics, salinity, *Selaginella moellendorffii*]

595. Sajeev, S., Raj, P., Adarsh, D. B. & Hegde, S. 2015. Phytoconstituents of *Nephrolepis hirsutula* and *Pityrogramma calomelanos*, two medicinal ferns of the Western Ghats. Indian Fern Journal 32(1-2): 244-256. [medicinal plants]

596. Salazar, L., Homeier, J., Kessler, M., Abrahamczyk, S., Lehnert, M., Kroemer, T. & Kluge, J. 2015. Diversity patterns of ferns along elevational gradients in Andean tropical forests. Plant Ecology & Diversity 8(1): 13-24. [Andes, ecology]

597. Salino, A., Almeida, T. & Smith, A. R. 2015. New combinations in neotropical Thelypteridaceae. PhytoKeys 57: 11-50. [nomenclature, taxonomy]

598. Salvato, F., Balbuena, T. S., Nelson, W., Rao, R. S. P., He, R., Soderlund, C. A., Gang, D. R. & Thelen, J. J. 2015. Comparative proteomic analysis of developing rhizomes of the ancient vascular plant *Equisetum hyemale* and different monocot species. Journal of Proteome Research 14(4): 1779-1791. [proteomics]

599. Sana, N., Javaid, A., Shoaib, A. & Bajwa, R. 2015. Effect of weeds and soil amendments on N, P and K contents of rice. Pakistan Journal of Botany 47(SI): 251-254. [fertilizer, *Marsilea minuta*, weedy plants]

600. Sanchez, C. 2015. A new combination and lectotypification for a Cuban *Polystichopsis* (Dryopteridaceae). Brittonia 67(3): 272. [new combinations, nomenclature, taxonomy]

601. Sanchez-Lopez, A. S., Gonzalez-Chavez, M. A., Carrillo-Gonzalez, R., Vangronsveld, J. & Diaz-Garduno, M. 2015. Wild flora of mine tailings: perspectives for use in phytoremediation of potentially toxic elements in a semi-arid region in Mexico. International Journal of Phytoremediation 17(5): 476-484. [cadmium, copper, heavy metals, lead, mining, nickel, *Pteridium*, zinc]

602. Sanchez-Monge, A., Flores, L., Salazar, L., Hockland, S. & Bert, W. 2015. An updated list of the plants associated with plant-parasitic *Aphelenchoides* (Nematoda: Aphelenchoididae) and its implications for plant-parasitism within this genus. Zootaxa 4013(2): 207-224. [nematodes, parasitism, phylogenetics, plant-animal interactions]
603. Sanin, D. 2015. *Serpocaulon tayronae* (Polypodiaceae), a new species from the Sierra Nevada de Santa Marta, Colombia. Phytotaxa 213(3): 243-252. [South America, taxonomy]
604. Sanko, G. 2015. HFF affiliate garden report, Georgia Perimeter College Native Botanical Garden. Hardy Fern Foundation Quarterly 25(3): 51-54. [horticulture]
605. Santos, C., Azevedo, J., Campos, A., Vasconcelos, V. & Pereira, A. L. 2015. Biochemical and growth performance of the aquatic macrophyte *Azolla filiculoides* to sub-chronic exposure to cylindrospermopsin. Ecotoxicology 24(9): 1848-1857. [biochemistry, cyanobacteria, phytoremediation, plant growth, toxic plants]
606. Sargin, S. A., Selvi, S. & Buyukcengiz, M. 2015. Ethnomedicinal plants of Aydincik District of Mersin, Turkey. Journal of Ethnopharmacology 174: 200-216. [ethnobotany, pharmacology]
607. Saslis-Lagoudakis, C. H., Bruun-Lund, S., Iwanycki, N.E., Seberg, O., Petersen, G., Jager, A. K. & Ronsted, N. 2015. Identification of common horsetail (*Equisetum arvense* L..; Equisetaceae) using thin layer chromatography versus DNA barcoding. Scientific Reports 5: e11942. [DNA barcode, medicinal plants, methods]
608. Scanu, G. G., Kustatscher, E. & Pittau, P. 2015. The Jurassic flora of Sardinia - a new piece in the palaeobiogeographic puzzle of the Middle Jurassic. Review of Palaeobotany & Palynology 218(SI): 80-105. [Europe, fossils, Italy, Mediterranean, paleobiology]
609. Schachat, S. R., Labandeira, C. C. & Chaney, D. S. 2015. Insect herbivory from early Permian Mitchell Creek Flats of north-central Texas: Opportunism in a balanced component community. Palaeogeography Palaeoclimatology Palaeoecology 440: 830-847. [fossils, herbivory, insects, North America, paleobiology, *Taeniopteris*]
610. Schneider, H., Liu, H., Clark, J., Hidalgo, O., Pellicer, J., Zhang, S., Kelly, L. J., Fay, M. F. & Leitch, I. J. 2015. Are the genomes of royal ferns really frozen in time? Evidence for coinciding genome stability and limited evolvability in the royal ferns. New Phytologist 207(1): 10-13. [evolution, genomes, *Osmunda*, phylogenetics]
611. Schneider, H., Schmidt, A. R., Nascimbene, P. C. & Heinrichs, J. 2015. A new Dominican amber fossil of the derived fern genus *Pleopeltis* confirms generic stasis in the epiphytic fern diversity of the West Indies. Organisms Diversity & Evolution 15(2): 277-283. [amber fossils, epiphytes]
612. Schoelch, A. 2015. Sporophyll and sorus development in *Osmunda regalis* L. Indian Fern Journal 32(1-2): 221-243. [developmental biology, ontogeny, reproductive biology]
613. Scholes, D. R. & Paige, K. N. 2015. Plasticity in ploidy: a generalized response to stress. Trends in Plant Science 20(3): 165-175. [endopolyploidy, evolution, genetics, stress]
614. Schrank, E. 2015. Variability and morphology of some pteridophytic spores from the Early Cretaceous (Albian) of the Negev, Israel. Botanica Pacifica 4(2): 109-116. [fossils, palynology]
615. Schuettpelz, E., Pryer, K. M. & Windham, M. D. 2015. A unified approach to taxonomic delimitation in the fern genus *Pentagramma* (Pteridaceae). Systematic Botany 40(3): 629-644. [flavonoids, North America, spores, taxonomy, USA]
616. Schwartsburd, P. B. & Prado, J. 2015. A taxonomic revision of the South American species of *Hypolepis* (Dennstaedtiaceae), part I. American Fern Journal 105(4): 263-313. [taxonomy]
617. Schwartsburd, P. B. & Prado, J. 2015. Retypification of *Cheilanthes incisa* (Pteridaceae). American Fern Journal 105(3): 257-261. [taxonomy]

618. Schwartsburd, P. B., Becari-Viana, I., Lopes, L. R. & Lehnert, M. 2015. A new hybrid and further taxonomic notes on Brazilian tree ferns (Cyatheaceae). Phytotaxa 231(1): 42-52. [*Cyathea corcovadensis*, *Cyathea* x *stella-matutina*, taxonomy]
619. Scriver, M., Marinich, A., Wilson, C. & Freeland, J. 2015. Development of species-specific environmental DNA (eDNA) markers for invasive aquatic plants. Aquatic Botany 122: 27-31. [eDNA, genetics, invasive species, methods, *Salvinia*]
620. Sen, K. & Mukhopadhyay, R. 2015. An enumeration of sclereids and fibres of Indian cheilanthoid ferns. Indian Fern Journal 32(1-2): 193-201. [anatomy, *Cheilanthes*, morphology, xeric ferns]
621. Sender, L. M., Villanueva-Amadoz, U., Pons, D., Diez, J. B. & Ferrer, J. 2015. Singular taphonomic record of a wildfire event from middle Albian deposits of Escucha Formation in northeastern of Spain. Historical Biology 27(3-4): 442-452. [Cretaceous, fire ecology, fossils, paleobiology, *Phlebopteris dunkeri*, *Weichselia reticulata*, wildfires]
622. Sender, L. M., Villanueva-Amadoz, U., Pons, D., Diez, J. B., Garcia-Avila, M. & Ferrer, J. 2015. New reconstruction of *Weichselia reticulata* (Stokes et Webb) Fontaine in Ward emend. Alvin, 1971 based on fertile remains from the middle Albian of Spain. Historical Biology 27(3-4): 460-468. [Cretaceous, Europe, fossils, tree ferns]
623. Sennikov, A., Welker, C. A. D., Barkworth, M. & Prado, J. 2015. Proposals to add a new interpretative paragraph with new examples to Article 36, dealing with certain designations published without explicit acceptance. Taxon 64: 653-655. [nomenclature]
624. Sessa, E. B., Zhang, L. B., Vare, H. & Juslen, A. 2015. What we do (and don't) know about ferns: *Dryopteris* (Dryopteridaceae) as a case study. Systematic Botany 40(2): 387-399. [phylogenetics, taxonomy]
625. Shah, M. D., Gnanaraj, C., Haque, A. T. & Iqbal, M. 2015. Antioxidative and chemopreventive effects of *Nephrolepis biserrata* against carbon tetrachloride (CCl4)-induced oxidative stress and hepatic dysfunction in rats. Pharmaceutical Biology 53(1): 31-39. [antioxidants, ethnobotany, medicinal plants]
626. Shang, H., Ma, Q. X. & Yan, Y. H. 2015. *Dryopteris shiakeana* (Dryopteridaceae): A new fern from Danxiashan in Guangdong, China. Phytotaxa 218(2): 156-162. [new species, taxonomy]
627. Shang, H., Wang, Y. & Yan, Y. H. 2015. Development and characterization of microsatellite loci in the pantropical fern *Hypolepis punctata* (Dennstaedtiaceae). Applications in Plant Sciences 3(9): e1500047. [microsatellites, population genetics, reproductive biology]
628. Shao, W. 2015. Study on the rapid propagation of ornamental fern *Onychium japonicum*. Beifangyuanyi 2015 (2): 72-73. [Chinese]
629. Shao, Y., Wei, R., Zhang, X. & Xiang, Q. 2015. Molecular phylogeny of the cliff ferns (Woodsiaceae: Polypodiales) with a proposed infrageneric classification. PLoS One 10(9): e0136318. [phylogenetics, systematics, taxonomy]
630. Sharma, A. 2015. Electron micrographs of five fern species from Mt. Karol (Dist. Solan) Himachal Pradesh. Indian Fern Journal 32(1-2): 186-192. [morphology, spores]
631. Sharma, B. D. & Bohra, D. R. 2015. Studies on fossil plants of the Rhynie Chert (Lower Devonian) Scotland. Indian Fern Journal 32(1-2): 80-84. [Devonian, Europe, fossils, Scotland]
632. Sharma, B. D., Bohra, D. R., Suthar, O. P. & Harsh, R. 2015. Mesozoic pteridophytes of the Rajmahal Hills Jharkhand and associated flora - a palaeo-eological study. Indian Fern Journal 32(1-2): 92-103. [Cretaceous, fossils, Jurassic, paleobiology]

633. Sharma, B. D., Suthar, O. P. & Harsh, R. 2015. Variations in morphology of spores of *Equisetum ramosissimum* Desf. collected from Rajasthan, India. Indian Fern Journal 32(1-2): 17-22.

634. Sharma, P. & Bhardwaj, N. 2015. Studies on *Marsilea coromandelina* complex population from Borawas village of Kota, Rajasthan (India). Indian Fern Journal 32(1-2): 154-165. [conservation, *Marsilea minuta*]

635. Sharma, P., Chatterjee, A., Prasad, Y., Ghosh, M. K. & Shukla, B. 2015. Comparision of nutrient profile of *Azolla microphylla* with other proteinaceous feedstuffs. Indian Journal of Animal Nutrition 32(3): 285-289. [animal feed, nutrients]

636. Sharma, P., Kumari, A. & Lal, B. 2015. Fern: a neglected plant group. Bharatiya Vaigyanik evam Audhyogik Anusandhan Patricka 23(2): 119-127. [Hindi]

637. Shelton, G. W. K., Stockey, R. A., Rothwell, G. W. & Tomescu, A. M. F. 2015. Exploring the fossil history of pleurocarpous mosses: Tricostaceae fam. nov. from the Cretaceous of Vancouver Island, Canada. American Journal of Botany 102: 1883-1900. [fossils, gametophytes, life cycle]

638. Shen, X. L., Liu, J. & Jiang, R. H. 2015. *Polystichum mulunense* (Dryopteridaceae), a new species from karst caves in Guangxi, China. Plant Diversity and Resources 37(6): 737-740. [taxonomy]

639. Sheue, C. R., Liu, J. W., Ho, J. F., Yao, A. W., Wu, Y. H., Das, S., Tsai, C. C., Chu, H. A., Ku, M. S. B. & Chesson, P. 2015. A variation on chloroplast development: the bizonoplast and photosynthetic efficiency in the deep-shade plant *Selaginella erythropus*. American Journal of Botany 102(4): 500-511. [chlorophyll fluorescence, developmental biology, photobiology, understory]

640. Shibila, T. & Johnson, M. 2015. Effect of plant growth regulators on vegetative propagation of *Pteris multiaurita* J. Agardh. Indian Fern Journal 32(1-2): 31-35. [auxin, conservation, hormones, vegetative reproduction]

641. Shrestha, N. & Zhang, X. C. 2015. On the presence of North American clubmoss *Huperzia lucidula* (Lycopodiaceae) in China: An intercontinental disjunction or misidentification. Phytotaxa 219(3): 243-252. [taxonomy]

642. Shrestha, N. & Zhang, X. C. 2015. Recircumscription of *Huperzia serrata* complex in China using morphological and climatic data. Journal of Systematics and Evolution 53(1): 88-103. [*Huperzia serrata*, taxonomy]

643. Sildever, S., Andersen, T. J., Ribeiro, S. & Ellegaard, M. 2015. Influence of surface salinity gradient on dinoflagellate cyst community structure, abundance and morphology in the Baltic Sea, Kattegat and Skagerrak. Estuarine Coastal and Shelf Science 155: 1-7. [exotic marker, *Lycopodium*, methods, spores]

644. Simmons, T. J., Mohler, K. E., Holland, C., Goubet, F., Franková, L., Houston, D. R., Hudson, A. D., Meulewaeter, F. & Fry, S. C. 2015. Hetero-trans-glucanase, an enzyme unique to *Equisetum* plants, functionalizes cellulose. Plant Journal 83(5): 753-769. [biochemistry, cellulose, enzymes]

645. Singh, A. & Sinku, U. 2015. Pteridophytic flora of Rancht district, Jharkhand. Indian Fern Journal 32(1-2): 166-172. [diversity, floristics]

646. Singh, B. & Borthakur, S. K. 2015. Phenology and geographic extension of lycophyta and fern flora in Nokrek Biosphere Reserve of Eastern Himalaya. Proceedings of the Indian National Science Academy Part B Biological Sciences 85(1): 291-301. [floristics]

647. Singh, K. J. & Saxena, A. 2015. End Permian (Lopingian) floral diversity in the Singrauli Coalfield: evidences from the Jhingurdah Colliery, Sonmahanadi basin, India. Journal of the Palaeontological Society of India 60(1): 97-112. [Equisetales, fossils, paleobiology]

648. Singh, K. L., Sudhakar, G., Swaminathan, S. K. & Rao, C. M. 2015. Identification of elite native plants species for phytoaccumulation and remediation of major contaminants in uranium tailing ponds and its affected area. Environment Development and Sustainability 17(1): 57-81. [contamination, heavy metals, mining, phytoremediation, *Pteris vittata*]

649. Singh, R., Singh, S., Parihar, P., Singh, V. P. & Prasad, S. M. 2015. Arsenic contamination, consequences and remediation techniques: a review. Ecotoxicology and Environmental Safety 112: 247-270. [phytoremediation, *Pteris vittata*]

650. Singh, S. K., Rajkumar, D., Srivastava, S. K. & Gautam, R. P. 2015. Ferns of Uttar Pradesh - Dudhwa National Park-1. Indian Fern Journal 32(1-2): 104-123. [diversity, floristics]

651. Singh, S., Shrivastava, A., Barla, A. & Bose, S. 2015. Isolation of arsenic-resistant bacteria from Bengal delta sediments and their efficacy in arsenic removal from soil in association with *Pteris vittata*. Geomicrobiology Journal 32(8): 712-723. [phytoremediation]

652. Skog, J. E., Roberts, R. P. & Miller, J. T. 2015. Information about NSF programs, policies and proposals: What, Where, Why, How. Plant Science Bulletin 61(4): 131-138. [funding]

653. Slater, S. M. & Wellman, C. H. 2015. A quantitative comparison of dispersed spore/pollen and plant megafossil assemblages from a Middle Jurassic plant bed from Yorkshire, UK. Paleobiology 41(4): 640-660. [Europe, fossils, paleobiology, spores]

654. Smart, S. M., Jarvis, S., Walker, K. J., Henrys, P. A., Pescott, O. L., & Marrs, R. H. 2015. Common plants as indicators of habitat suitability for rare plants; quantifying the strength of the association between threatened plants and their neighbours. New Journal of Botany 5(2): 72-88. [conservation, ecological niche, habitat, indicator species, *Polystichum lonchitis*, rare plants, UK]

655. Smeekens, S. 2015. From leaf to kernel: Trehalose-6-Phosphate signaling moves carbon in the field. Plant Physiology 169(2): 912-913. [enzymes, physiology, *Selaginella lepidophylla*, signaling metabolites]

656. Smith, M. A., Rothwell, G. W. & Stockey, R. A. 2015. Mesozoic diversity of Osmundaceae: *Osmundacaulis whittlesii* sp. nov. in the early Cretaceous of western Canada. International Journal of Plant Sciences 176(3): 245-258. [new species, paleobiology]

657. Snehunsu, A., Ghosal, C., Kandwal, M., Yadav, P. K., Nayak, B. S., Rao, K. R., Kamath, S. U., Sahoo, P., Srinivasan, K. K., Narayanan, S. N., Kumar, S. & Joseph, A. 2015. 1-Triacontanol cerotate, isolated from *Marsilea quadrifolia* Linn. ameliorates reactive oxidative damage in the frontal cortex and hippocampus of chronic epileptic rats. Journal of Ethnopharmacology 172: 80-84. [antiepileptic, medicinal plants]

658. Sofiyanti, N., Iriani, D., Fitmawati, D. & Roza, A. A. 2015. *Stenochlaena riauensis* (Blechnaceae), a new fern species from Riau, Indonesia. Bangladesh Journal of Plant Taxonomy 22(2): 137-141. [new species, taxonomy]

659. Soltani, N., McNaughton, K. & Sikkema, P. H. 2015. Field horsetail (*Equisetum arvense* L.) control in corn. Canadian Journal of Plant Science 95(5): 983-986. [agriculture, herbicides, Ontario, weed control]

660. Song, Y. B., Chen, L. Y., Xiong, W., Dai, W. H., Li, W. B. & Dong, M. 2015. Variation of functional clonal traits along elevation in two fern species. Pakistan Journal of Botany 47(1): 247-253. [clonal growth, China, *Dicranopteris dichotoma*, *Diplopterygium glaucum*, ecology, elevational gradients, functional traits, ramet]

661. Songnuan, W., Bunnag, C., Soontrapa, K., Pacharn, P., Wangthan, U., Siriwattanakul, U. & Malainual, N. 2015. Airborne pollen survey in Bangkok, Thailand: A 35-year update. Asian

Pacific Journal of Allergy and Immunology 33(3): 253-262. [dispersal, immunology, palynology, spores]

662. Soti, P. G., Jayachandran, K., Koptur, S. & Volin, J. C. 2015. Effect of soil pH on growth, nutrient uptake, and mycorrhizal colonization in exotic invasive *Lygodium microphyllum*. Plant Ecology 216(7): 989-998. [Florida, invasive species, North America, nutrients, plant growth, soil pH, USA]
663. Soto-Medina, E., Londono-Lemos, V. & Diaz-Escandon, D. 2015. Epiphytes from a forest type transition zone in the Choco biogeographic region, Valle del Cauca, Colombia. Revista de Biologia Tropical 63(4): 925-936. [habitat, plant communities, South America]
664. Sousa, A., Garcia-Barron, L., Garcia-Murillo, P., Vetter, M. & Morales, J. 2015. The use of changes in small coastal Atlantic brooks in southwestern Europe as indicators of anthropogenic and climatic impacts over the last 400 years. Journal of Paleolimnology 53(1): 73-88. [anthropogenic impacts, disturbance, fossils, *Osmunda regalis*, Portugal, Spain, *Thelypteris palustris*]
665. Stachowicz-Rybka, R. 2015. Vegetation of the Ferdynandovian interglacial (MIS 13-15) based on plant macrofossils from a new profile of the stratotype site. Acta Palaeobotanica 55(2): 233-251. [fossils, *Pilularia borysthenica*, Pleistocene, Poland]
666. Steffen, R. 2015. Grand Tour 2013 – US Fernists to UK – Part II. Hardy Fern Foundation Quarterly 25(1): 5-10. [fern trips]
667. Stesevic, D. & Berg, C. 2015. *Botrychium matricariifolium*, a new fern species for the flora of Montenegro. Acta Botanica Croatica 74(1): 181-186. [Europe, floristics, new records]
668. Stevens, S. M. & Emery, N. C. 2015. Dispersal limitation and population differentiation in performance beyond a northern range limit in an asexually reproducing fern. Diversity and Distributions 21(10): 1242-1253. [biogeography, dispersal, gametophytes, transplants, *Vittaria appalachiana*]
669. Stofberg, S., Klimkowska, A., Paulissen, M. P. C. P., Witte, J. P. M., van der Zee, S. E. A. T. M. 2015. Effects of salinity on growth of plant species from terrestrializing fens. Aquatic Botany 121: 83-90. [ecology, fens, plant growth, *Thelypteris palustris*]
670. Stoyanov, P., Dimitrova-Dyulgerova, I., Teneva, I., Todorov, K. & Mladenov, R. 2015. Inventory of pteridophytes on the territory of "Bulgarka" Nature Park. Ecologia Balkanica 7(2): 29-34. [Bulgaria, conservation, floristics]
671. Stringer, C. E., Trettin, C. C., Zarnoch, S. J. & Tang, W. 2015. Carbon stocks of mangroves within the Zambezi River Delta, Mozambique. Forest Ecology and Management 354: 139-148. [*Acrostichum aureum*, Africa]
672. Stutz, R. S., Banks, P. B., Dexter, N. & McArthur, C. 2015. Associational refuge in practice: can existing vegetation facilitate woodland restoration? Oikos 124(5): 571-580. [Australia, browsing, herbivory, plant-animal interactions, *Pteridium esculentum*, wallabies]
673. Stutz, R. S., Banks, P. B., Dexter, N. & McArthur, C. 2015. Herbivore search behaviour drives associational plant refuge. Acta Oecologica 67: 1-7. [Australia, ecology, herbivory, *Pteridium esculentum*, wallabies]
674. Su, B. & Chang, Y. F. 2015. The exploitation and utilization of lycophyte and fern resources in Xishuangbanna, Yunnan. Plant Diversity and Resources 37(6): 856-860. [useful plants; Chinese]
675. Su, Y. M. & Lin, C. H. 2015. Removal of indoor carbon dioxide and formaldehyde using green walls by bird nest fern. Horticulture Journal 84(1): 69-76. [*Asplenium nidus*, horticulture]

676. Suazo-Ortuno, I., Lopez-Toledo, L., Alvarado-Diaz, J. & Martinez-Ramos, M. 2015. Land-use change dynamics, soil type and species forming mono-dominant patches: the case of *Pteridium aquilinum* in a neotropical rain forest region. Biotropica 47(1): 18-26. [land use changes, Mexico, mono-dominance, plant-soil interactions]

677. Sudova, R., Sykorova, Z., Rydlova, J., Ctvrtlikova, M. & Oehl, F. 2015. *Rhizoglomus melanum*, a new arbuscular mycorrhizal fungal species associated with submerged plants in freshwater lake Avsjoen in Norway. Mycological Progress 14(3): e9. [aquatic plants, fungi, *Isoetes lacustris*, plant-fungi interactions]

678. Suhaini, S., Liew, S. Z., Norhaniza, J., Lee, P. C., Jualang, C., Embi, N. & Hasidah, M. S. 2015. Anti-malarial and anti-inflammatory effects of *Gleichenia truncata* mediated through inhibition of GSK3 beta. Tropical Biomedicine 32(3): 419-433. [enzymes, medicinal plants]

679. Sujarwo, W., Keim, A. P., Savo, V., Guarrera, P. M. & Caneva, G. 2015. Ethnobotanical study of Loloh: traditional herbal drinks from Bali (Indonesia). Journal of Ethnopharmacology 169: 34-48. [ethnobotany, medicinal plants, *Pneumatopteris callosa*]

680. Sun, Q. W., Zhao, J. H. & Zhang, L. B. 2015. *Selaginella daozhenensis* (Selaginellaceae), a new lycophyte from a limestone cave in northern Guizhou, China. Phytotaxa 207(2): 187-192. [cave ferns, new species, taxonomy]

681. Sundue, M. A., Testo, W. L. & Ranker, T. A. 2015. Morphological innovation, ecological opportunity, and the radiation of a major vascular epiphyte lineage. Evolution 69(9): 2482-2495. [diversity, epiphytes, evolution, gametophytes, morphology, Polypodiaceae]

682. Sundue, M., Sylvester, S. P., Kessler, M., Lyons, B., Ranker, T. A. & Morden, C. W. 2015. A new species of *Moranopteris* (Polypodiaceae) from inaccessible ledges in the high Andes of Peru. Systematic Botany 40(3): 652-657. [*Moranopteris inaccessa*, taxonomy]

683. Suo, J., Zhao, Q., Zhang, Z., Chen, S., Cao, J., Liu, G., Wei, X., Wang, T., Yang, C. & Dai, S. 2015. Cytological and proteomic analyses of *Osmunda cinnamomea* germinating spores reveal characteristics of fern spore germination and rhizoid tip growth. Molecular & Cellular Proteomics 14(9): 2510-2534. [cytology, germination, proteomics]

684. Suominen, L., Ruokolainen, K., Pitkanen, T., & Tuomisto, H. 2015. Similar understorey structure in spite of edaphic and floristic dissimilarity in Amazonian forests. Acta Amazonica 45(4): 393-403. [floristics, Peru, plant communities, plant-soil interactions, rainforests, South America, understory]

685. Szczesniak, E., Jedrzejczyk, I., Gola, E. M., Pielech, R., Reczynska, K. & Swierkosz, K. 2015. *Polypodium interjectum* and *P. x mantoniae* (Polypodiaceae) in the Polish Sudetes. Polish Botanical Journal 60(2): 163-172. [hybrids, Poland, polyploidy, *Polypodium x mantoniae*]

686. Takahashi, N., Kami, C., Ota, I., Morita, N. & Imaichi, R. 2015. Developmental morphology of the typical cordate gametophyte of a homosporous leptosporangiate fern, *Lygodium japonicum* (Lygodiaceae), focusing on the initial cell behavior of two distince meristems. American Journal of Botany 102(2): 197-207. [developmental biology, gametophytes, physiology, plant growth]

687. Tanaka, T. & Sato, T. 2015. Taxonomic, phylogenetic and functional diversities of ferns and lycophytes along an elevational gradient depend on taxonomic scales. Plant Ecology 216(12): 1597-1609. [diversity, elevational gradients, functional diversity, Japan]

688. Tank, D. C., Eastman, J. M., Pennell, M. W., Soltis, P. S., Soltis, D. E., Hinchliff, C. E., Brown, J. W., Sessa, E. B. & Harmon, L. J. 2015. Nested radiations and the pulse of angiosperm diversification: increased diversification rates often follow whole genome duplication. New Phytologist 207: 454-467. [evolution, genomes]

689. Taylor, A. & Burns, K. 2015. Plant composition patterns inside an endemic birds' nest fern (*Asplenium goudeyi*) on Lord Howe Island: effects of fern size, fern isolation and plant dispersal abilities. Journal of Tropical Ecology 31(5): 413-421. [cliff ferns, ecological niche, epiphytes, plant communities, succession]

690. Telagari, M. & Hullatti, K. 2015. In-vitro alpha-amylase and alpha-glucosidase inhibitory activity of *Adiantum caudatum* Linn. and *Celosia argentea* Linn. extracts and fractions. Indian Journal of Pharmacology 47(4): 425-429. [enzymes, medicinal plants, pharmacognosy]

691. Testo, W. L., Watkins Jr., J. E. & Barrington, D. S. 2015. Dynamics of asymmetrical hybridization in North American wood ferns: reconciling patterns of inheritance with gametophyte reproductive biology. New Phytologist 206(2): 785-795. [gametophytes, hybrids, *Polystichum*]

692. Testo, W. L., Watkins, J. E., Pittermann, J. & Momin, R. 2015. *Pteris* x *caridadiae* (Pteridaceae), a new hybrid fern from Costa Rica. Brittonia 67(2): 138-143. [Central America, taxonomy]

693. Thomas, B. A. & Cleal, C. J. 2015. Cyclones and the formation of plant beds in late Carboniferous tropical swamps. Palaeobiodiversity Palaeoenvironments 95(4): 531-536. [fossils, paleobiology, swamps]

694. Thomas, B. A. & Seyfullah, L. J. 2015. A new look at *Lepidodendron ophiurus* Bronginart and the recognition of *L.wingfieldense sp. nov*. (Flemingitaceae, Lepidodendrales) from the Langsettian (Bashkirian) of Derbyshire, East Midlands, UK. Palaeontographica Abteilung B Palaeophytologie 292(1-3): 23-32. [Carboniferous, Europe, fossils, Lepidodendrales, lycophytes, paleobiology]

695. Thomas, S. C., Martin, A. R. & Mycroft, E. E. 2015. Tropical trees in a wind-exposed island ecosystem: height-diameter allometry and size at onset of maturity. Journal of Ecology 103(3): 594-605. [allometry, Dominica, ecology, island ecosystems, reproductive biology, tree ferns, wind exposure]

696. Thompson, B., Ball, O. J. P. & Fitzgerald, B. M. 2015. Niche partitioning in two coexisting species of Pahoroides (Araneae: Synotaxidae). New Zealand Journal of Zoology 42(1): 17-26. [*Blechnum discolor*, ecological niche, plant-animal interactions, spiders]

697. Tian, Y., Zeng, Y., Zhang, J., Yang, C., Yan, L., Wang, X., Shi, C., Xie, J., Dai, T., Peng, L., Zeng, H. Y., Xu, A., Huang, Y., Zhang, J., Ma, X., Dong, Y., Hao, S. & Sheng, J. 2015. High quality reference genome of drumstick tree (*Moringa oleifera* Lam.), a potential perennial crop. Science China-Life Sciences 58(7): 627-638. [genomes, *Selaginella moellendorffii*]

698. Tisarum, R., Chen, Y., Dong, X., Lessl, J. T. & Ma, L. Q. 2015. Uptake of antimonite and antimonate by arsenic hyperaccumulator *Pteris vittata*: Effects of chemical analogs and transporter inhibitor. Environmental Pollution 206: 49-55. [antimony absorption, biochemistry, physiology, pollution]

699. Tisarum, R., Ren, J. H., Dong, X., Chen, H., Lessl, J. T. & Ma, L. Q. 2015. A new method for antimony speciation in plant biomass and nutrient media using anion exchange cartridge. Talanta 144: 1171-1175. [biochemistry, methods, *Pteris vittata*]

700. Toeroek, A., Gulyas, Z., Szalai, G., Kocsy, G. & Majdik, C. 2015. Phytoremediation capacity of aquatic plants is associated with the degree of phytochelatin polymerization. Journal of Hazardous Materials 299: 371-378. [heavy metals, phytochelatins, *Salvinia natans*]

701. Tokuoka, Y. & Hashigoe, K. 2015. Effects of stone-walled terracing and historical forest disturbances on revegetation processes after the abandonment of mountain slope uses on the Yura

Peninsula, southwestern Japan. Journal of Forest Research 20(1): 24-34. [biogeography, ecological niche, land use changes, stone walls]

702. Trembath-Reichert, E., Wilson, J. P., McGlynn, S. E. & Fischer, W. W. 2015. Four hundred million years of silica biomineralization in land plants. Proceedings of the National Academy of Sciences of the United States of America 112(17): 5449-5454. [evolution, nutrient absorption]
703. Troia, A. & Greuter, W. 2015. A conspectus of and key to Greek *Isoetes* (Isoetaceae), based on a reassessment of Haussknecht's gatherings of 1885. Willdenowia 45(3): 391-403. [Greece, nomenclature, taxonomy]
704. Troia, A. & Greuter, W. 2015. A critical conspectus of Italian Lycopodiaceae. Plant Biosystems 149(4): 678-694. [Europe, Italy, nomenclature, taxonomy]
705. Troia, A. & Greuter, W. 2015. Conspectus of Italian *Selaginella* (Selaginellaceae), with some typifications. Plant Biosystems 149(4): 695-702. [Europe, Italy, nomenclature, taxonomy]
706. Troia, A., Raimondo, F. M. & Greuter, W. 2015. Lycopodiidae for the "Flora Critica d'Italia": material and methods. Biodiversity Journal 6(1): 215-218. [Europe, Italy, lycophytes, nomenclature, taxonomy]
707. Tsang, S. W., Zhang, H. J., Chen, Y. G., Auyeung, K. K. W., & Bian, Z. X. 2015. Eruberin A, a natural flavanol glycoside, exerts anti-fibrotic action on pancreatic stellate cells. Cellular Physiology and Biochemistry 36(6): 2433-2446. [biochemistry, cancer, ethnobotany, glycosides, medicinal plants, *Pronephrium penangianum*]
708. Ueda, M. U., Tokuchi, N. & Hiura, T. 2015. Soil nitrogen pools and plant uptake at sub-zero soil temperature in a cool temperate forest soil: a field experiment using N-15 labeling. Plant and Soil 392(1-2): 205-214. [*Dryopteris crassirhizoma*, isotopes, nitrogen, nutrient absorption, plant-soil interactions, soil nutrients, sub-zero temperatures]
709. Valdespino, I. A. 2015. Lectotypification of *Selaginella tenuissima* and *S. papagaiensis* (Selaginellaceae) with the description of *S. monticola*. Phytotaxa 233(2): 153-165. [Brazil, nomenclature, *Selaginella monticola*, *Selaginella papagaiensis*, South America, taxonomy]
710. Valdespino, I. A. 2015. *Selaginella boomii* (Selaginellaceae - Lycopodiophyta): a new and widely distributed spikemoss from South America. Brittonia 67(4): 328-335. [conservation, new species, South America, taxonomy]
711. Valdespino, I. A. 2015. Two new species and a new record of *Selaginella* (Selaginellaceae) from Bolivia. Novon 24(1): 96-105. [new records, *Selaginella angustifolia*, *Selaginella solomonii*, South America, taxonomy]
712. Valdespino, I. A., Heringer, G., Salino, A., Goes-Neto, L. A. D. & Ceballos, J. 2015. Seven new species of *Selaginella* subg. Stachygynandrum (Selaginellaceae) from Brazil and new synonyms for the genus. PhytoKeys 50: 61-99. [South America, taxonomy]
713. Vanegas, D. C., Clark, G., Cannon, A. E., Roux, S., Chaturvedi, P. & McLamore, E. S. 2015. A self-referencing biosensor for real-time monitoring of physiological ATP transport in plant systems. Biosensors & Bioelectronics 74: 37-44. [cell biology, *Ceratopteris richardii*, spores]
714. Vangjeli, J. 2015. Excursion Flora of Albania. Koeltz: Koenigstein, Germany, pp. 661. [diversity, floristics]
715. Vanneste, K., Sterck, L., Myburg, A. A., Van de Peer, Y. & Mizrachi, E. 2015. Horsetails are ancient polyploids: evidence from *Equisetum giganteum*. Plant Cell 27(6): 1567-1578. [Cretaceous, polyploidy]
716. Varzaru, I., Untea, A. E. & Van, I. 2015. Determination of bioactive compounds with benefic potential on health in several medicinal plants. Romanian Biotechnological Letters 20(5): 10773-

10783. [anti-inflammatory, *Equisetum arvense*, lutein, medicinal plants, vitamin E, zeaxanthin, zinc]

717. Vasco, A., Loriga, J., Rouhan, G., Ambrose, B. A. & Moran, R. C. 2015. Divided leaves in the genus *Elaphoglossum* (Dryopteridaceae): a phylogeny of *Elaphoglossum* section Squamipedia. Systematic Botany 40(1): 46-55. [developmental biology, evolution, phylogenetics]
718. Veldkamp, J. F. & Wardani, W. 2015. *Asplenium tenerum* var. *pallidum* is the correct name for *A. thunbergii* var. *belangeri* (Aspleniaceae). Reinwardtia 14(2): 303-306. [*Asplenium thunbergii*, taxonomy]
719. Venegas-Barrera, C. S., Correa-Sandoval, A., Mora-Olivo, A. & Horta-Vega, J. V. 2015. Geographical and environmental representativeness of records of gastropods, pteridophytes and aquatic plants in the state of Tamaulipas, Mexico. Revista Mexicana de Biodiversidad 86(3): 719-729. [biogeography, diversity, new records; Spanish]
720. Venkatesh, J. & Park, S. W. 2015. Genome-wide analysis and expression profiling of DNA-binding with one zinc finger (Dof) transcription factor family in potato. Plant Physiology and Biochemistry 94: 73-85. [developmental biology, genomes, *Selaginella moellendorffii*, transcription factors]
721. Vera, E. I. 2015. Further evidence supporting high diversity of cyathealean tree ferns in the Early Cretaceous of Antarctica. Cretaceous Research 56: 141-154. [Antarctic, fossils, paleobiology]
722. Verma, S. C., Sharma, B. D., Singh, N. & Saggoo, M. I. S. 2015. Professor Dr. Sarmukh Singh Bir (August 28, 1929-August 26, 2015) Obituary. Indian Fern Journal 32(1-2): 271-276. [obituary]
723. Vigil-Stenman, T., Larsson, J., Nylander, J. A. A. & Bergman, B. 2015. Local hopping mobile DNA implicated in pseudogene formation and reductive evolution in an obligate cyanobacteria-plant symbiosis. BMC Genomics 16: e193. [*Azolla*, genomes, host plants, *Nostoc azollae*, pseudogenes]
724. Villalba-Breva, S., Marmi, J., Gomez, B., Daviero-Gomez, V., Martin-Closas, C. & Fernandez-Marron, M. T. 2015. Plant taphonomy and palaeoenvironment from the Upper Cretaceous of Isona, Tremp Basin, southern Pyrenees, Catalonia, Spain. Cretaceous Research 54: 34-49. [fossils, paleobiology, palynology, spores]
725. Villanueva-Amadoz, U., Sender, L. M., Alcala, L., Pons, D., Royo-Torres, R. & Diez, J. B. 2015. Paleoenvironmental reconstruction of an Albian plant community from the Arino bonebed layer (Iberian Chain, NE Spain). Historical Biology 27(3-4): 430-441. [Cretaceous, fossils, paleobiology, spores, *Weichselia reticulata*]
726. Virgilio, A., Sinisi, A., Russo, V., Gerardo, S., Santoro, A., Galeone, A., Taglialatela-Scafati, O. & Roperto, F. 2015. Ptaquiloside, the major carcinogen of bracken fern, in the pooled raw milk of healthy sheep and goats: an underestimated, global concern of food safety. Journal of Agricultural and Food Chemistry 63(19): 4886-4892. [cancer, food safety, *Pteridium aquilinum*, toxicology]
727. Viveros, R. S. & Salino, A. 2015. Two new species of *Ctenitis* (Dryopteridaceae) from South America and taxonomic notes on similar species. Phytotaxa 239(1): 1-16. [Brazil, *Ctenitis christensenii*, *Ctenitis glandulosa*, Guyana, South America, taxonomy]
728. Wada, M. & Tsuboi, H. 2015. Gene silencing by DNA interference in fern gametophytes. In: Mysore, K. S. & Senthil-Kumar, M. (ed.). Plant gene silencing: methods and protocols. Humana Press: Totowa, NJ, USA, pp. 119-127. [gametophytes, genetics]
729. Wagner, R. H. & Alvarez-Vazquez, C. 2015. A coastal forest swamp dominated by *Omphalophloios* C. D. White, in the Autunian (uppermost Stephanian) of Puertollano, south-

central Spain. Palaeontographica Abteilung B Palaeophytologie 292(1-3): 33-77. [Europe, fossils, paleobiology, Permian]

730. Wakuta, S., Mineta, K., Amano, T., Toyoda, A., Fujiwara, T., Naito, S. & Takano, J. 2015. Evolutionary divergence of plant borate exporters and critical amino acid residues for the polar localization and boron-dependent vacuolar sorting of AtBOR1. Plant and Cell Physiology 56(5): 852-862. [Boron, genomes, physiology, *Selaginella moellendorffii*]
731. Wan, D., Jiang, C., Hua, X., Wang, T. & Chai, Y. 2015. Cell cycle arrest and apoptosis induced by aspidin PB through the p53/p21 and mitochondria-dependent pathways in human osteosarcoma cells. Anti-Cancer Drugs 26(9): 931-941. [cancer, *Dryopteris fragrans*, medicinal plants]
732. Wan, X. M., Lei, M., Chen, T. B., Yang, J. X., Liu, H. T. & Chen, Y. 2015. Role of transpiration in arsenic accumulation of hyperaccumulator *Pteris vittata* L. Environmental Science and Pollution Research International 22(21): 16631-16639. [ecotypes, heavy metals, physiology]
733. Wan, X. M., Lei, M., Chen, T. B., Yang, J., Zhou, X. Y. & Zhou, G. D. 2015. Impact of waterlogging on the uptake of arsenic by hyperaccumulator and tolerant plant. Chemistry and Ecology 31(1): 53-63. [China, Guangxi, habitat, physiology, phytoremediation, *Pteris vittata*]
734. Wang, A. H., Sun, Y., Schneider, H., Zhai, J. W., Liu, D. M., Zhou, J. S., Xing, F. W., Chen, H. F. & Wang, F. G. 2015. Identification of the relationship between Chinese *Adiantum reniforme* var. *sinense* and Canary *Adiantum reniforme*. BMC Plant Biology 15: e36. [phylogenetics, taxonomy]
735. Wang, B., Su, Y. & Wang, T. 2015. Molecular cloning of rbcs genes in *Selaginella* and the evolution of the rbcs gene family. Archives of Biological Sciences 67(2): 373-383. [genetics]
736. Wang, D. M., Xu, H. H., Xue, J. Z., Wang, Q. & Liu, L. 2015. Leaf evolution in early-diverging ferns: insights from a new fern-like plant from the Late Devonian of China. Annals of Botany 115(7): 1133-1148. [fossils]
737. Wang, F. G., Liu, H. M., He, C. M., Yang, D. M. & Xing, F. W. 2015. Taxonomic and evolutionary implications of spore ornamentation in Davalliaceae. Journal of Systematics and Evolution 53(1): 72-81. [taxonomy]
738. Wang, L., Jia, Y., Zhang, X. & Qin, H. 2015. Overview of higher plant diversity in China. Biodiversity Science 23(2): 217-224. [Chinese]
739. Wang, M., Sun, M., Hao, H. & Lu, C. 2015. Avertoxins A-D, prenyl asteltoxin derivatives from *Aspergillus versicolor* Y10, an endophytic fungus of *Huperzia serrata*. Journal of Natural Products 78(12): 3067-3070. [chemistry, endophytes]
740. Wang, Q., Xia, L., Xu, X., Fu, J., An, S. & Wang, B. 2015. Changes of phytoplankton and water quality under the regulation of filter-feeding fishes and submerged aquatic plants in a large-scale experiment. CLEAN-Soil Air Water 43(12): 1598-1608. [lakes, limnology, *Salvinia natans*]
741. Wang, R. X., Shao, W., Liu, L., Liu, J., Deng, X. C. & Lu, S. G. 2015. A systematic study of the fern genus *Mesopteris* Ching (Thelypteridaceae). American Fern Journal 105(1): 11-19. [systematics, taxonomy]
742. Wang, W., Yang, W., Mao, X., Zhao, R., Dou, P. & Zhang, G. 2015. The phylogenetic affinities of *Pellaea connectens*, a rare endemic Chinese fern. Phytotaxa 220(1): 30-42. [*Argyrochosma*, China, phylogenetics, taxonomy]
743. Wang, X. C., Liu, C., Huang, L., Bengtsson-Palme, J., Chen, H., Zhang, J. H., Cai, D. & Li, J. Q. 2015. ITS1: a DNA barcode better than ITS2 in eukaryotes? Molecular Ecology Resources 15(3): 573-586. [genetics, ITS region, methods, species identification]

744. Wang, X. J., Liu, G. Q. & Cassis, G. 2015. Revision of *Panaetius* Stal (Hemiptera: Heteroptera: Acanthosomatidae) from Australia, including the description of two new species and phylogenetic analysis. Austral Entomology 54(4): 445-464. [Australia, insects, *Panaetius eliasi*, plant-insect interactions]

745. Wang, X. L., Yang, F., Wei, C. Y., Tu S. X. & Liu J. X. 2015. Effects of single- and co-treatment of arsenic and antimony on the accumulation and transformation of the two elements in Boston fern. Chinese Journal of Ecology 34(11): 3198-3204. [heavy metals, *Nephrolepis exaltata*; Chinese]

746. Wang, Y., Li, L., Guignard, G., Dilcher, D. L., Xie, X., Tian, N., Zhou, N. & Wang, Y. 2015. Fertile structures with in situ spores of a dipterid fern from the Triassic in southern China. Journal of Plant Research 128(3): 445-457. [*Clathropteris*, Dipteridaceae, fossils, paleobiology]

747. Wang, Y., Shang, H., Zhou, X. L., Zhao, G. H., Dai, X. L. & Yan, Y. H. 2015. *Adiantum* x *ailaoshanense* (Pteridaceae), a new natural hybrid from Yunnan, China. Phytotaxa 236(3): 266-272. [hybrids, taxonomy]

748. Wang, Z., Bao, W. & Yan, X. 2015. Non-structural carbohydrate levels of three co-occurring understory plants and their responses to forest thinning by gap creation in a dense pine plantation. Journal of Forestry Research 26(2): 391-396. [China, ecological niche, forest management, fructose, glucose, *Parathelypteris nipponica*, pine forests, starch, sucrose]

749. Wang, Z., Ma, Z., Wang, L., Tang, C., Hu, Z., Chou, G. & Li, W. 2015. Active anti-acetylcholinesterase component of secondary metabolites produced by the endophytic fungi of *Huperzia serrata*. Electronic Journal of Biotechnology 18(6): 399-405. [endophytes, enzymes, medicinal plants, physiology]

750. Wappler, T., Kustatscher, E. & Dellantonio, E. 2015. Plant-insect interactions from Middle Triassic (late Ladinian) of Monte Agnello (Dolomites, N-Italy)-initial pattern and response to abiotic environmental pertubations. PeerJ 3: e921. [Europe, fossils]

751. Waters, M. T., Scaffidi, A., Moulin, S. L. Y., Sun, Y. K., Flematti, G. R. & Smith, S. M. 2015. A *Selaginella moellendorffii* ortholog of KARRIKIN INSENSITIVE2 functions in *Arabidopsis* development but cannot mediate responses to karrikins or strigolactones. Plant Cell 27(7): 1925-1944. [developmental biology, enzymes, genetics, morphogenesis, plant growth]

752. Wee, M. S. M., Matia-Merino, L. & Goh, K. K. T. 2015. The cation-controlled and hydrogen bond-mediated shear-thickening behaviour of a tree-fern isolated polysaccharide. Carbohydrate Polymers 130: 57-68. [gum, mucilage, New Zealand, polysaccharides, tree ferns]

753. Wei, C., Ge, Z., Chu, W. & Feng, R. 2015. Speciation of antimony and arsenic in the soils and plants in an old antimony mine. Environmental and Experimental Botany 109: 31-39. [China, *Dryopteris erythrosora*, mining, plant-soil interactions, *Pteris vittata*]

754. Wei, R. X., Xiang, Q., Schneider, H., Sundue, M. A., Kessler, M., Kamau, P. W., Hidayat, A. & Zhang, X. 2015. Eurasian origin, boreotropical migration and transoceanic dispersal in the pantropical fern genus *Diplazium* (Athyriaceae). Journal of Biogeography 42(10): 1809-1819. [biogeography, dispersal, evolution, long distance dispersal, phylogenetics]

755. Weigelt, P., Kissling, W. D., Kisel, Y., Fritz, S. A., Karger, D. N., Kessler, M., Lehtonen, S., Svenning, J. C. & Kreft, H. 2015. Global patterns and drivers of phylogenetic structure in island floras. Scientific Reports 5: e12213. [diversity, ecology, island biogeography, phylogenetics]

756. Wellman, C. H. 2015. Spore assemblages from the Lower Devonian 'Lower Old Red Sandstone' deposits of the Northern Highlands of Scotland: the Berriedale Outlier. Earth and Environmental

Science Transactions of the Royal Society of Edinburgh 105(3): 227-238. [Europe, fossils, paleobiology, *Psilophyton*, spores]

757. Werth, M., Mehltreter, K., Briones, O. & Kazda, M. 2015. Stable carbon and nitrogen isotope compositions change with leaf age in two mangrove ferns. Flora 210: 80-86. [*Acrostichum aureum*, *Acrostichum danaeifolium*, ecology, isotopes, mangroves, Mexico, nutrient absorption, physiology]
758. White, J. D., Li, Y., Kim, J. & Terinek, M. 2015. Cyclobutane synthesis and fragmentation. A cascade route to the *Lycopodium* alkaloid (-)-Huperzine A. Journal of Organic Chemistry 80(23): 11806-11817. [alkaloids, chemistry, *Huperzia serrata*, medicinal plants]
759. Whittier, D. P. 2015. Delayed growth in mycoheterotrophic gametophytes of seedless vascular plants. American Fern Journal 105(1): 1-10. [gametophytes, germination, Lycopodiaceae, Ophioglossaceae, plant growth, symbiosis]
760. Widen, C. J., Fraser-Jenkins, C. R. & Roux, J. P. 2015. A survey of phenolic compounds in *Dryopteris* and related fern genera. Part IV. Phloroglucinol derivatives and morphology in the section Marginatae (Pteridophyta, Dryopteridaceae). Annales Botanici Fennici 52(1-2): 53-83. [phenols, rhizomes]
761. Wiersema, J. E. H., McNeill, J., Turland, N. J., Barrie, F. R., Buck, W. R., Demoulin, V., Greuter, W., Hawksworth, D., Herendeen, P. S., Knapp, S., Marhold, K., Prado, J., Prud'homme van Reine, W. F. & Smith, G. F. 2015. International code of nomenclature for algae, fungi, and plants (Melbourne Code) adopted by the Eighteenth International Botanical Congress Melbourne, Australia, July 2011 Appendices II-VIII. Regnum Vegetabile 157: 1-492.
762. Williams, E. W. & Waller, D. M. 2015. Tracking morphological change and demographic dynamics in ephemeral *Botrychium* s.s. (Ophioglossaceae) populations. Journal of the Torrey Botanical Society 142(2): 152-165. [conservation, demography, ecology, Michigan, morphology, USA]
763. Wittry, J., Glasspool, I. J., Bethoux, O., Koll, R. & Cleal, C. J. 2015. A revision of the Pennsylvanian Marattialean fern *Lobatopteris vestita* auct. and related species. Journal of Systematic Palaeontology 13(8): 615-643. [Carboniferous, Mississippi, North America, taxonomy, USA]
764. Wolf, P. G., Rowe, C. A., Der, J. P., Schilling, M. P., Visger, C. J. & Thomson, J. 2015. Origins and diversity of a cosmopolitan fern genus on an island archipelago. Aob Plants 7(SI): eplv118. [biogeography, island biogeography, phylogenetics, *Pteridium*]
765. Wolf, P. G., Sessa, E. B., Marchant, D. B., Li, F. W., Rothfels, C. J., Sigel, E. M., Gitzendanner, M. A., Visger, C. J., Banks, J. A., Soltis, D. E., Soltis, P. S., Pryer, K. M. & Der, J. P. 2015. An exploration into fern genome space. Genome Biology and Evolution 7(9): 2533-2544. [evolution, genomics, phylogenetics]
766. Wolniak, S. M., Boothby, T. C. & van der Weele, C. M. 2015. Posttranscriptional control over rapid development and ciliogenesis in *Marsilea*. In: Basto, R. & Marshall, W. F. (ed.). Methods in cilia & flagella. Elsevier Academic Press: San Diego, CA, USA, pp. 403-444. [developmental biology, genetics, *Marsilea vestita*, reproductive biology, spermatozoid, spore dormancy]
767. Woods, C. L., Cardelus, C. L. & DeWalt, S. J. 2015. Microhabitat associations of vascular epiphytes in a wet tropical forest canopy. Journal of Ecology 103(2): 421-430. [Central America, Costa Rica]
768. Wu, D., Zhou, A., Chen, X., Yu, J., Zhang, J. & Sun, H. 2015. Hydrological and ecosystem response to abrupt changes in the Indian monsoon during the last glacial, as recorded by

sediments from Xingyun Lake, Yunnan, China. Palaeogeography Palaeoclimatology Palaeoecology 421: 15-23. [bioindicators, fossils, lakes, monsoon, paleobiology, paleoclimate]

769. Wu, F., Deng, D., Wu, S., Lin, X. & Wong, M. H. 2015. Arsenic tolerance, uptake, and accumulation by nonmetallicolous and metallicolous populations of *Pteris vittata* L. Environmental Science and Pollution Research International 22(12): 8911-8918. [intraspecific variation]
770. Wu, F., Wu, S., Deng, D. & Wong, M. H. 2015. Effects of phosphate on arsenate uptake and translocation in nonmetallicolous and metallicolous populations of *Pteris vittata* L. under solution culture. International Journal of Phytoremediation 17(9): 841-846.
771. Xiang, J. Y., Wen, J. & Peng, H. 2015. Evolution of the eastern Asian-North American biogeographic disjunctions in ferns and lycophytes. Journal of Systematics and Evolution 53(1): 2-32. [biogeography, long distance dispersal, phylogenetics, vicariance]
772. Xie, Y., Zheng, Y., Dai, X., Wang, Q., Cao, J. & Xiao, J. 2015. Seasonal dynamics of total flavonoid contents and antioxidant activity of *Dryopteris erythrosora*. Food Chemistry 186(SI): 113-118. [antioxidants, flavonoids, medicinal plants, phytochemistry, seasonality]
773. Xiong, Z. Q., Yang, Y. Y., Liu, Q. X., Sun, C. C., Jin, Y. & Wang, Y. 2015. Endophytes in the plant *Huperzia serrata*: fungal diversity and discovery of a new pentapeptide. Archives of Microbiology 197(3): 411-418. [biochemistry, fungi, plant-fungi interactions, proteins]
774. Xu, J. H., Liu, Q., Hu, W., Wang, T., Xue, Q. & Messing, J. 2015. Dynamics of chloroplast genomes in green plants. Genomics 106(4): 221-231. [evolution, genetics]
775. Xu, W., Xing, T., Zhao, M., Yin, X., Xia, G. & Wang, M. 2015. Synonymous codon usage bias in plant mitochondrial genes is associated with intron number and mirrors species evolution. PLoS One 10(6): e0131508. [genomics]
776. Xu, Y. M., Mafezoli, J., Oliveira, M. C. F., U'Ren, J. M., Arnold, A. E. & Gunatilaka, A. A. L. 2015. Anteaglonialides A-F and palrnarumycins CE1-CE3 from *Anteaglonium* sp FL0768, a fungal endophyte of the spikemoss *Selaginella arenicola*. Journal of Natural Products 78(11): 2738-2747. [endophytes, fungi, pharmacognosy]
777. Yadav, B. B., Singh, S. K., Dubey, N. K., Shukla, S. K. & Srivastava, G. K. 2015. Hydrochemical characterization of some stands of *Isoetes dixitei* in India. Taiwania 60(2): 63-70. [aquatic plants, biochemistry, ecological niche, India, nutrient absorption, physiology, soil pH]
778. Yadav, B. L. & Hussain, S. 2015. Impact of habitat conditions on photosynthetic pigments in some pteridophytic species from Kumbhalgarh Wildlife Sanctuary of Rajasthan, India. Indian Fern Journal 32(1-2): 147-153. [*Aleuritopteris*, habitat, *Hypodematium*, photobiology]
779. Yadav, B. L. & Meena, K. 2015. Effect of hyperthermia on cell membrane permeability of some Indian species of *Selaginella* Beauv. from Rajasthan. Indian Fern Journal 32(1-2): 202-206. [cell biology]
780. Yadav, J. S., Chinnam, V. V., Krishna, B. B. M., Rao, K. L. S. & Das, S. 2015. Stereoselective synthesis of vittarilide-A. Tetrahedron Letters 56(13): 1661-1663. [chemistry, *Vittaria anguste-elongata*]
781. Yamada, Y., Koibuchi, M., Miyamoto, K., Ueda, J. & Uheda, E. 2015. Breakdown of middle lamella pectin by (o) OH during rapid abscission in *Azolla*. Plant Cell and Environment 38(8): 1555-1564. [biochemistry, cell biology, middle lamella, pectin, stress]
782. Yamauchi, K., Mitsunaga, T., Inagaki, M. & Suzuki, T. 2015. Quercetin derivatives regulate melanosome transportation via EPI64 inhibition and elongate the cell shape of B16 melanoma

cells. Biomedicine & Pharmacotherapy 70: 206-212. [biochemistry, cancer, *Helminthostachys zeylanica*, medicinal plants, pharmacognosy]

783. Yamauchi, K., Mitsunaga, T., Itakura, Y. & Batubara, I. 2015. Extracellular melanogenesis inhibitory activity and the structure-activity relationships of ugonins from *Helminthostachys zeylanica* roots. Fitoterapia 104: 69-74. [biochemistry, cancer, medicinal plants, pharmacognosy]
784. Yang H. S., Wang, Q., Guo, Y., Xiong, Y. Q., Xu, M. M. & Dai, Y. J. 2015. Correlation analysis between arbuscular mycorrhizal fungal community and host plant phylogeny. Chinese Journal of Plant Ecology 39(4): 383-387. [ecology, phylogenetics, plant-fungi interactions; Chinese]
785. Yang, J. & Ye, Z. 2015. Antioxidant enzymes and proteins of wetland plants: Their relation to Pb tolerance and accumulation. Environmental Science and Pollution Research International 22(3): 1931-1939. [antioxidants, *Ceratopteris thalictroides*, contamination, heavy metals, lead, phytoremediation]
786. Yang, S., Liu, M., Zhao, Q., Zhao, H., Xue, W. & Yang, S. 2015. Antiproliferative and apoptosis inducing effect of essential oil extracted from *Cyrtomium fortunei* (J.) Smith leaves. Medicinal Chemistry Research 24(4): 1644-1652. [medicinal plants]
787. Yang, T. & Liu, X. 2015. Comparing photosynthetic characteristics of *Isoetes sinensis* Palmer under submerged and terrestrial conditions. Scientific Reports 5: e17783. [CAM, ecology, enzymes, genetics, photobiology, physiology, transcriptomes]
788. Yang, X., Yao, W., Li, Q., Liu, H., Shi, H., Gao, Y. & Xu, L. 2015. Mechanism of Tang Luo Ning effect on attenuating of oxidative stress in sciatic nerve of STZ-induced diabetic rats. Journal of Ethnopharmacology 174: 1-10. [*Cibotium barometz*, medicinal plants]
789. Yang, Z. Y., Kuboyama, T., Kazuma, K., Konno, K. & Tohda, C. 2015. Active constituents from *Drynaria fortunei* rhizomes on the attenuation of A beta(25-35)-induced axonal atrophy. Journal of Natural Products 78(9): 2297-2300. [Alzheimer's disease, medicinal plants]
790. Yashiro, K. 2015. A new hybrid of *Arachniodes* (Dryopteridaceae) from Chiba Prefecture, Honshu, Central Japan. Journal of Japanese Botany 90(1): 34-38. [taxonomy]
791. Yasumura, Y., Pierik, R., Kelly, S., Sakuta, M., Voesenek, L. A. C. J. & Harberd, N. P. 2015. An ancestral role for CONSTITUTIVE TRIPLE RESPONSE1 proteins in both ethylene and abscisic acid signaling. Plant Physiology 169(1): 283-298. [evolution, genetics, hormones, *Selaginella moellendorffii*, signaling metabolites]
792. Yatskievych, G. 2015. Book review, The ferns and lycophytes of Texas. Hardy Fern Foundation Quarterly 25(2): 43-44. [floristics]
793. Yee, W. 2015. Feasibility of various carbon sources and plant materials in enhancing the growth and biomass productivity of the freshwater microalgae *Monoraphidium griffithii* NS16. Bioresource Technology 196: 1-8. [algae, culture media, *Dryopteris*]
794. Yesilyurt, J. C., Barbara, T., Schneider, H., Russell, S., Culham, A. & Gibby, M. 2015. Identifying the generic limits of the Cheilanthoid genus *Doryopteris*. Phytotaxa 221(2): 101-122. [systematics, taxonomy]
795. Yorifuji, E., Ishikawa, N., Okada, H. & Tsukaya, H. 2015. *Arundina graminifolia* var. *revoluta* (Arethuseae, Orchidaceae) has fern-type rheophyte characteristics in the leaves. Journal of Plant Research 128(2): 239-247. [adaptive strategies, morphology, orchids, rheophytes]
796. You, Y. H., Park, J. M., Park, J. H. & Kim, J. G. 2015. Diversity of endophytic fungi associated with the roots of four aquatic plants inhabiting two wetlands in Korea. Mycobiology 43(3): 231-238. [diversity, endophytes, plant-fungi interactions, *Salvinia natans*]

797. Yousefzadeh, S., Modarres Sanavy , S. A. M., Govahi, M. & Oskooie, O. S. K. 2015. Effect of organic and chemical fertilizer on soil characteristics and essential oil yield in dragonhead. Journal of Plant Nutrition 38(12): 1862-1876. [*Azolla*, compost, nutrients]

798. Yu, X., Wang, J., Zhang, J., Wang, L., Wang, Z. & Xiong, F. 2015. Physicochemical properties of starch isolated from bracken (*Pteridium aquilinim*) rhizome. Journal of Food Science 80(12): C2717-C2724. [edible plants, rhizomes]

799. Yuan, M., Alameddine, A., Coupe, M., Navasiolava, N. M., Li, Y., Gauquelin-Koch, G., Bai, Y., Jiang, S., Wan, Y., Wang, J., Li, Y. & Custaud, M. A. 2015. Effect of Chinese herbal medicine on vascular functions during 60-day head-down bed rest. European Journal of Applied Physiology 115(9): 1975-1983. [*Drynaria fortunei*, ethnobotany, medicinal plants]

800. Zeng, C., Zhao, J. & Zhao, G. 2015. Enantioselective divergent total syntheses of fawcettimine-type *Lycopodium* alkaloids. Tetrahedron 71(1): 64-69. [chemistry, medicinal plants]

801. Zhang, C., Ren, B., Lin, Z., Tong, L., Wang, H. & Chen, S. 2015. An analysis method for simultaneous screening of deoxyribonucleic acid-binding active compounds and investigating their mechanisms by ultra-fast liquid chromatography tandem mass spectrometry coupled with fluorescence detection technology. Journal of Chromatography A 1381: 160-172. [DNA-binding compounds, methods, *Pyrrosia lingua*]

802. Zhang, F. F., Wang, M. Z., Zheng, Y. X., Liu, H. Y., Zhang, X. Q. & Wu, S. S. 2015. Isolation and characterzation of endophytic Huperzine A-producing fungi from *Phlegmariurus phlegmaria*. Microbiology 84(5): 701-709. [biochemistry, *Ceriporia lacerata*, endophytes, fungi, *Hypoxylon investiens*]

803. Zhang, G., Wang, W., Zhang, X., Xia, Q., Zhao, X., Ahn, Y., Ahmed, N., Cosoveanu, A., Wang, M., Wang, J. & Shu, S. 2015. De novo RNA sequencing and transcriptome analysis of *Colletotrichum gloeosporioides* ES026 reveal genes related to biosynthesis of huperzine A. PLoS One 10(3): e0120809. [Deuteromycetes, endophytes, fungi, *Huperzia serrata*, plant-fungi interactions]

804. Zhang, H., Zhang, Y., Kong, Z., Yang, Z., Li, Y. & Tarasov, P. E. 2015. Late Holocene climate change and anthropogenic activities in north Xinjiang: Evidence from a peatland archive, the Caotanhu wetland. Holocene 25(2): 323-332. [China, fossils, paleobiology, palynology, spores, *Thelypteris*, wetlands]

805. Zhang, L. B. & Zhang, L. 2015. Didymochlaenaceae: A new fern family of eupolypods I (Polypodiales). Taxon 64(1): 27-38. [new family, phylogenetics, taxonomy]

806. Zhang, L. Y., Wang, T. H., Ren, L. Z., Wan, M. Z., Wu, H. F., Mei, Q. X. & Gao, Y. H. 2015. A new triterpenoid and other constituents from *Lepidogrammitis drymoglossoides*. Biochemical Systematics and Ecology 59: 155-158. [China, medicinal plants, terpenoids]

807. Zhang, L., Ngan T. L. & Zhang, L. B. 2015. *Leptochilus oblongus* (Polypodiaceae), a new fern species from northern Vietnam. Phytotaxa 234(2): 195-198. [new species, taxonomy]

808. Zhang, L., Ngan T. L. & Zhang, L. B. 2015. *Pteris langsonensis* (Pteridaceae), a new brake fern species from Lang Son Province, northern Vietnam. Phytotaxa 238(3): 283-287. [new species, taxonomy]

809. Zhang, L., Rothfels, C. J., Ebihara, A., Schuettpelz, E., Le Péchon, T., Kamau, P., He, H., Zhou, X. M., Prado, J., Field, A., Yatskievych, G., Gao, X. F. & Zhang, L. B. 2015. A global plastid phylogeny of the brake fern genus *Pteris* (Pteridaceae) and related genera in the Pteridoideae. Cladistics 31(4): 406-423. [chloroplast DNA, phylogenetics, taxonomy]

810. Zhang, M., Ji, L., Du, B., Dai, S. & Hou, X. 2015. Palynology of the Early Cretaceous Hanxia Section in the Jiuquan Basin, Northwest China: The discovery of diverse early angiosperm pollen and paleoclimatic significance. Palaeogeography Palaeoclimatology Palaeoecology 440: 297-306. [*Equisetum*, fossils, paleobiology, palynology, spores]

811. Zhang, X. C. 2015. *Gymnosphaera austroyunnanensis* (S. G. Lu) S. G. Lu & Chun X. Li : a new record tree fern from North Vietnam. Indian Fern Journal 32(1-2): 132-134. [floristics, new records, taxonomy]

812. Zhang, Y. J., Cao, K. F., Sack, L., Li, N., Wei, X. M. & Goldstein, G. 2015. Extending the generality of leaf economic design principles in the cycads, an ancient lineage. New Phytologist 206(2): 817-829. [leaf traits, nutrients, photobiology, physiology]

813. Zhang, Y. J., Wang, W., Yang, H. L., Li, Y., Kang, X. Y., Wang, X. R. & Yang, Z. L. 2015. Molecular properties and functional divergence of the dehydroascorbate reductase gene family in lower and higher plants. PLoS One 10(12): e0145038. [cell biology, enzymes, evolution, genetics, physiology, *Selaginella moellendorffii*]

814. Zhao, C., Xie, H., Xu, J., Xu, X., Zhang, J., Hu, Z., Liu, C., Liang, S., Wang, Q. & Wang, J. 2015. Bacterial community variation and microbial mechanism of triclosan (TCS) removal by constructed wetlands with different types of plants. Science of the Total Environment 505: 633-639. [phytoremediation, *Salvinia natans*]

815. Zhao, D., Li, H. B., Xu, J. Y., Luo, J. & Ma, L. Q. 2015. Arsenic extraction and speciation in plants: method comparison and development. Science of the Total Environment 523: 138-145. [arsenate, *Pteris vittata*]

816. Zhao, H. G. & Dong, S. Y. 2015. The true identity of *Tectaria nesiotica* Holttum (Tectariaceae), with comments on the species identification in *Pleocnemia* (Dryopteridaceae). Phytotaxa 202(1): 45-50. [nomenclature, taxonomy]

817. Zhao, J., Guo, H., Ma, J. & Shen, Z. 2015. Effect of fluoride on arsenic uptake from arsenic-contaminated groundwater using *Pteris vittata* l. International Journal of Phytoremediation 17(4): 355-362. [physiology]

818. Zhao, L., Li, T., Yu, H., Chen, G., Zhang, X., Zheng, Z. & Li, J. 2015. Changes in chemical forms, subcellular distribution, and thiol compounds involved in Pb accumulation and detoxification in *Athyrium wardii* (Hook.). Environmental Science and Pollution Research International 22(16): 12676-12688. [cell biology, China, detoxification, heavy metals, lead, mining, Sichuan]

819. Zhao, Q., Gao, J., Suo, J., Chen, S., Wang, T. & Dai, S. 2015. Cytological and proteomic analyses of horsetail (*Equisetum arvense* L.) spore germination. Frontiers in Plant Science 6: e441. [cytology, proteomics, spores]

820. Zhao, T., Zhang, H., Zhang, X., Zhao, T., Lan, H., Liang, Q., Luo, G. & Li, P. 2015. Metabolomic and lipidomic study of the protective effect of Chaihuang-Yishen formula on rats with diabetic nephropathy. Journal of Ethnopharmacology 166: 31-41. [ethnobotany, lipidomics, medicinal plants, metabolomics, *Pyrrosia petiolosa*]

821. Zhao, X., Li, J., Huang, Y., Lu, K., Xiao, C. & Xiao, Y. 2015. Spatial pattern and influencing factors of mercury levels in leaves of plants surrounding a solid waste incinerator in the Pearl River Delta. Asian Journal of Ecotoxicology 10(4): 105-114. [China, *Dicranopteris dichotoma*, heavy metals, plant-soil interactions, toxicology; Chinese]

822. Zheng, S. H., Ren, W. G., Wang, Z. H. & Huang, L. F. 2015. Use of chloroplast DNA barcodes to identify *Osmunda japonica* and its adulterants. Plant Systematics and Evolution 301(7): 1843-1850. [medicinal plants]

823. Zheng, W. J. & Wang, M. Y. 2015. Influence of uranium in *Pteris vittata* L. inoculated by arbuscular mycorrhizal fungus. Chinese Journal of Environmental Science 36(8): 3004-3010. [heavy metals, plant-fungi interactions; Chinese]

824. Zhou, T., Chen, B. M., Liu, G., Huang, F. F., Liu, J. G., Liao, W. B., Wang, Y. Y., Ren, S. J., Chen, C. Q. & Peng, S. L. 2015. Biodiversity of Jinggangshan mountain: the importance of topography and geographical location in supporting higher biodiversity. PLoS One 10(3): e0120208. [China, hotspots]

825. Zhou, X. M. & Zhang, L. B. 2015. A classification of *Selaginella* (Selaginellaceae) based on molecular (chloroplast and nuclear), macromorphological, and spore features. Taxon 64(6): 1117-1140. [morphology, spores, taxonomy]

826. Zhou, X. M., He, Z. R., Zhang, L. & Zhang, L. B. 2015. *Selaginella chuweimingii* (Selaginellaceae) sp. nov. from Yunnan, China. Phytotaxa 231(3): 283-288. [China, new species]

827. Zhou, X. M., Jiang, L. J., Zhang, L., Gao, X. F., He, Z. R. & Zhang, L. B. 2015. Spore morphology of *Selaginella* (Selaginellaceae) from China and its systematic significance. Phytotaxa 237(1): 001-067. [spores, systematics]

828. Zhu, H., Ku W. P., Rong J. T. & Xiang J. E. 2015. Species diversity and floristic characteristics of vascular plants in Nanji Island, Zhejiang province. Plant Diversity and Resources 37(6): 713-720. [China, floristics; Chinese]

829. Zidorn, C. 2015. Isoetin and its derivatives: analytics, chemosystematics, and bioactivities. Biochemical Systematics and Ecology 61: 402-412. [biochemistry, chemotaxonomy, flavonoids, *Isoetes*]

830. Zier, J., Belanger, B., Trahan, G. & Watkins, J. E. 2015. Ecophysiology of four co-occurring lycophyte species: an investigation of functional convergence. Aob Plants 7: plv137. [ecology, ecophysiology, functional traits, lycophytes, nutrients, photobiology, physiology, stomata]

831. Zizka, A., Thiombiano, A., Dressler, S., Nacoulma, B. M. I., Ouedraogo, A., Ouedraogo, I., Ouedraogo, O., Zizka, G., Hahn, K. & Schmidt, M. 2015. The vascular plant diversity of Burkina Faso (West Africa) - a quantitative analysis and implications for conservation. Candollea 70(1): 9-20. [conservation, floristics, *Isoetes jaegeri*]

832. Zona, S. & Christenhusz, M. J. M. 2015. Litter-trapping plants: filter feeders of the plant kingdom. Botanical Journal of the Linnean Society 179: 554-586. [epiphytes, nutrients]

833. Zuo, Z. X., Wang, Y. J., Liu, L., Wang, Y., Mei, S. H., Feng, Z. H., Wang, M. & Li, X. Y. 2015. Huperzine A alleviates mechanical allodynia but not spontaneous pain via muscarinic acetylcholine receptors in mice. Neural Plasticity: e453170. [ethnopharmacology, *Huperzia serrata*, medicinal plants]

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Acock, Patrick J.	Phylogeny of *Asplenium* and most aspects of *Equisetum* research
Aguraiuja, Ruth	Population biology and restoration ecology of endangered fern species
Amoroso, Victor B.	Botany; Economic ferns; Histochemical studies (medicinal ferns); Philippine *Cycas*; Morphology and taxonomy
Ando, Sayuri	Fern sporophyte development
Antony, Raju	Systematic studies of *Selaginella*; Ferns and conservation of ferns
Arcand, Naomi	Ecology and biogeography of tree ferns
Archer, Ralph C.	Fern horticulture
Arens, Nan C.	Ecology of tree ferns
Bandyopadhyay, Monanjali	Phyto-geography; Ecology; Fern lore; Ethnobotany
Baksh-Comeau, Yasmin S.	Vascular flora of Trinidad and Tobago
Barcelona, Julie F.	Philippine ferns/floristics; Ecology and conservation; *Odontosoria* systematics; Philippine *Rafflesia*
Bennert, Wilfried H.	Ferns and lycopods
Bera, Subir	Animal interaction with pteridophytes and its co-evolutionary significance
Bhakuni, Kamlesh	Biodiversity, taxonomy and morphology of Central Himalayan ferns
Bercu, Rodica	Histo-anatomy of ferns
Boudrie, Michel	Pteridophytes of France and of the Guianas (systematics, taxonomy, ecology, distribution)
Breckle, Siegmar W.	Ecosystems of the Earth; Ecology of halophytes; Tropical ecology; Desert ecology
Buck, William R.	Systematic bryology
Bujnoch, Walter	Ferns of Central Europe, especially *Dryopteris affinis*
Caluff, Manuel G.	Selaginellaceae; Lycopodiaceae; Polypodiaceae (including Grammitidaceae); Fern culture; Ecology
Cao, Jian Guo	Sexual reproduction and development of fern gametophytes
Caponetti, James D.	Propagation of ferns by tissue culture
Carrapico, Francisco	*Azolla* (general biology and taxonomy)

Chakraborti, Kalyan	Phyto-geography; Ecology; Fern lore; Ethnobotany
Chiou, Wen-Liang	Gametophyte morphology and development; Reproductive biology; Antheridiogen; Phenology of sporophytes; Fern systematics
Christenhusz, Maarten	Fern floras; Island biogeography; Phytotaxa (journal)
Colli, Aurea M.T.	Ecology and physiology
de Boer, Marten W.	Pteridophytes of Bolivia and East Africa; Herbarium specimen collection
Der, Joshua	*Pteridium* biogeography; Fern genomics and transcriptomics; RNA editing; Life cycle evolution
Dong, Shi-Yong	*Tectaria*; *Asplenium nidus* group; Taxonomy of Asian tropical ferns; Pteridophyte flora of Southern China
Dunkel, Franz G.	Rare ferns; Ecology and population biology
Dyer, Adrian F.	The biology of soil spore banks and their potential in fern conservation; Ecology of fern gametophytes; Reproductive biology of *Woodsia ilvensis*
Ebihara, Atsushi	Speciation; Gametophytes; Hymenophyllaceae
Evans, Murray	Pteridophytes of the eastern United States; Taxonomy; Ecology; Natural history
Farnsworth, Elizabeth	Ecology; Northeastern ferns; Illustration
Farrar, Donald R.	Fern reproduction; *Botrychium* systematics
Flinn, Kathryn	Ecology
Frank, Harald C.	Tropical ferns in general; *Platycerium*; Ant ferns; *Huperzia*
Fraser-Jenkins, Christopher R.	Taxonomy; Floristics; Himalayan and all Asian ferns; *Asplenium*, *Athyrium*, *Cheilanthes*, *Diplazium*, *Dryopteris*, *Polystichum*, *Pteris*; Nepal; Sri Lanka; Assam; Flora of Pakistan; Bangladesh; China; Myanman; Tibet; Bhutan
Fry, Stephen C.	Cell wall polysaccharides and enzymes
Gibby, Mary	Evolution and speciation in ferns; Fern conservation
Gilman, Arthur V.	Lycopodiaceae; Ophioglossaceae; Systematics of temperate ferns and allies
Goswami, Hit Kishore	Population cytogenetics of *Isoetes* and *Ophioglossum*; Pteridophytes as medicinal plants

Greer, Gary K.	Phenotypic plasticity; Polyploidy; Reproductive Ecology; Community assembly; Antheridiogen; Allelopathy
Gureyeva, Irina I.	Taxonomy; Morphology; Biology of ferns of Siberia and Russia, especially taxonomy of *Pteridium* and morphology of the fern spores
Haufler, Christopher H.	Patterns and processes of fern evolution; Application of chromosomal, isozymic and DNA data bases in characterizing fern species; Understanding speciation mechanisms and phylogenetic relationships; The significance of polyploidy in pteridophyte evolution
Hemp, Andreas	Vegetation ecology
Hernandez, Renier Morejon	Taxonomy and conservation of Cuban ferns
Hooper, Elisabeth A.	Fern systematics; *Aleuritopteris*
Horn, Karsten	Biosystematics, ecology, population biology and distribution of *Diphasiastrum* and *Botrychium* species in Europe; Bibliography of Macaronesian pteridophytes; Conservation strategies for endangered German pteridophytes; Monograph of the genus *Diphasiastrum*
Hovenkamp, Peter H.	Polypodiaceae; Nephrolepidaceae; Oleandraceae; Woodsiaceae; Saccolomataceae; Ferns of Sulawesi; Flora Malesiana; Flora of China
Ibars, Ana M.	Conservation; Fern spore bank; Germination
Imaichi, Ryoko	Apical meristem structure; Evolutionary morphology; Origin of stems, leaves, and roots
Imperato, Filippo	Chemistry of flavonoids and other phenolics of ferns
Iwatsuki, Kunio	Flora of East and Southeast Asia; Hymenophyllaceae; Conservation
Jones, Mirkka	Determinants of plant community composition and diversity; Ecology of neotropical ferns
Kato, Masahiro	Tropical fern flora; Morphological evolution of vascular plants; Speciation and adaptation of rheophytes; Evolution of apogamous ferns
Kessler, Michael	Biodiversity and biogeography of tropical montane forests, including pteridophytes; Flora of Bolivian pteridophytes
van Konijnenburg-van Cittert, Johanna H.A.	Evolution of fossil fern families, especially Dipteridaceae
Khullar, S. P.	Fern floristics; Taxonomy; Cytology and morphology
Krippel, Yves	Distribution of pteridophytes in Luxembourg
Kumar, Rakesh	*Azolla*/*Anabaena* physiology

Kurita, Siro	Speciation; Karyotype evolution; Systematics
Lal, Brij	Inventory, conservation, and documentation of pteridophyte-associated traditional knowledge of Indian Himalayan region in particular
Landi, Marco	Population ecology
Lehnert, Marcus	Taxonomy, phylogeny, ecology and biogeography of pteridophytes; Special expertise in tree ferns
Leitch, Ilia J.	Evolution of genome size and karyotype diversity in plants
León, Blanca	Taxonomy of neotropical Polypodiaceae, Andes and Peruvian ferns
Lin, Bai-Ling	Development; Hormone signaling; Genomics
Lindsay, Stuart	Pteridophytes of Thailand, Laos and Cambodia; Vittariaceae of Southeast Asia; Gametophyte biology/ecology; Multi-access keys
Lorence, David H.	Pteridophytes of Polynesia, Micronesia, and Mascarenes
Lynch, Kay	Propagation and conservation of Hawaiian native ferns
Madhusoodanan, P. V.	Pteridophytes and bryophytes of South India; *Azolla* species and cyanobacteria as biofertilizers
Matos, Fernando	The flora of Bahia; The genus *Elaphoglossum* (Dryopteriaceae); The biology of ferns and lycophytes
Matsumoto, Sadamu	Cytotaxonomic study of ferns, especially *Cyrtonium*, *Asplenium*, and *Pteris*; Pteridophyte flora of Southern Pacific Islands, Bhutan, and Taiwan
McGrath, J. M.	Plant breeding; Molecular cytogenetics; Gene duplication
Mehltreter, Klaus	Fern ecology; Phenology; Herbivory; Interactions with insects; Invasive species
Mendoza Ruiz, Aniceto	Pteridophytes of Mexico; Taxonomy, floristics, cultivation and propagation of ferns
Metzgar, Jordan	*Cryptogramma*; Phylogenetics; Polyploidy; *Azolla*; Osmundaceae
Mickel, John	Pteridoflora of Mexico; Monographic studies of *Anemia* and *Elaphoglossum*
Mikolas, Vlastimil	*Polypodium*; *Asplenium trichomanes* agg.; *Dryopteris*; *Equisetum* and ferns of Oceania
Miyamoto, Futoshi	Sino-Japan and Himalayan areas

Montgomery, James D.	*Dryopteris* in North America and Mexico; Ferns of Pennsylvania and New Jersey; Ecology of *Botrychium*
Moran, Robbin C.	Taxonomy, biogeography, phylogeny and evolution of ferns and lycophytes
Mynssen, Claudine C.	*Diplazium*; Brazilian flora
Nakato, Narumi	Chromosomes; Polyploidy; Hybridization; Speciation
Niño, Maite	Selaginellaceae; Lycopodiaceae; Polypodiaceae (including Grammitidaceae); Fern culture; Ecology
Øllgaard, Benjamin	Systematics and biology of the Lycopodiaceae with special reference to neotropical Lycopodiaceae; Pteridophytes of the northern Andes, especially Ecuador; Biology; Taxonomy and diversity; Quantitiave inventories of pteridophytes in sample plots in Ecuador
Olsen, Sue	Testing ferns for hardiness and ornamental value and introducing ferns to the public
Pacheco, Leticia	Systematics of *Diplazium*
Page, Christopher	Biology and ecology of Pteridophyta; Biogeography; Distribution; Insular floras; Paleobotany; *Equisetum*; Patterns, principles, processes and dynamics in pteridophyte ecosystems and their evolution
Pajarón, Santiago	Reproductive biology; Population genetics; Systematics and evolution
Palmer, Daniel	Hawaiian ferns
Parris, Barbara	Monographic studies of Grammitidaceae; Systematics, ecology and phytogeography of Old World pteridophytes particularly in tropical and south temperate regions
Paul, Alison	Pteridophyte curation; Macaronesian and European pteridophytes
Peck, James H.	Pteridophyte flora of Arkansas
Pereira, Ana L.	Plant-cyanobacteria symbioses; Phylogeny; Cyanotoxins; Proteomic, phytoremediation, ecotoxicology of plants by cyanotoxins
Piatek, Krzysztof	Fern biogeography
Prado, Jefferson	Phylogeny, nomenclature, taxonomy, and geographical distributions of Pteridaceae; Pteridoflora in Brazil
Pryer, Kathleen	Phylogenetics of ferns and basal tracheophytes using morphological and molecular data; Systematics of basal fern families, especially Marsileaceae, Hymenophyllaceae, tree ferns, pteroid ferns, ontogeny and phylogeny; Morphometrics

Punetha, N.	Morphology, taxonomy and biodiversity of Central Himalayan ferns and lycophytes
Raj, Anshita	Phytoremediation; Arsenic; *Pteris vittata* gametophytes
Rajesh, K. P.	Ecology, taxonomy and conservation of bryophytes and pteridophytes of Western Ghats
Ranil, R.G.H.	Tree ferns
Ranker, Tom A.	Systematics, ecology and evolution of tropical ferns
Renzaglia, Karen	Morphology; Development; Reproduction; Ultrastructure
Rivera, Edgardo S.	Tropical ferns
Robinson, Roderick	Invasive species; *Pteridium*; *Lygodium*; *Azolla*
Rothwell, Gar W.	Phylogeny of land plants
Runk, Kai	Comparative biology and ecology of Estonian *Dryopteris*; Cultivation of hardy ferns in Estonia, especially *Polystichum* and *Phyllitis scolopendrium* and their cultivars; Hardy East Asian fern species
Salgado, Arthur E.	Taxonomy of Southeast Asian ferns; The genus *Asplenium* in the Philippines
Schoelch, Annette	Construction morphology; Development of the sporophyll, sporangia, and sori in ferns; Evolution and phylogeny of ferns
Schuettpelz, Eric	Evolution, diversification and systematics of leptosporangiate ferns
Schwartz, David	Cheilanthoid ferns
Sen, Kakali	Evolutionary biology of ferns and lycophytes
Shao, Wen	Fern embryology; Pteridophyte taxonomy; Polypodiaceae; *Phymatopteris*
Sharma, B. D.	Morphology, anatomy, phytochemistry and experimental studies on pteridophytes; Paleobotany of Mesozoic and tertiary plants
Sharma, O. P.	Agronomy; Carcinogenic ferns
Sharpe, Joanne M.	Tropical and temperate fern life histories; Long-term studies of demography of tropical pteridophytes; Ecology of rheophytes and New England ferns
Shaw, Shane W.	Systematics and evolution of Gleicheniaceae; Insect-fern interactions and *Isoetes* anatomy

Skog, Judith E.	Fern evolution and phylogeny, especially basal ferns - Osmundaceae, Schizaeaceae, Matonianaceae; Relationships with fossil ferns
Smalls, Tynisha	Molecular biology of ferns
Smith, Alan R.	Phylogeny of pteridophytes; Phylogeny of Polypodiaceae/Grammitidaceae; Floristics of Mexican, Venezuelan and Bolivian ferns and allies; Phytogeography of ferns
Sreenivas, V. K.	Molecular phylogeny; Taxonomy; *Pteris*
Srivastava, G. K.	*Isoetes*
Sugai, Michizo	Photocontrol of spore germination; Sex organ differentiation
Thomson, John A.	Taxonomy, evolution and secondary metabolics of *Pteridium*; Bracken fern/insect interactions
Vasco, Alejandra	Neotropical pteridophyte taxonomy; *Elaphoglossum*
Vasheka, Olena V.	Fern introduction, cultivation of temperate-zone ferns in Ukraine; Pteridophyte conservation
Verma, Satish C.	Reproductive biology, cytogenetics, genetics and cytotaxonomy of homosporous ferns
Wagner, David H.	Ferns of the Pacific Northwest; *Polystichum*; *Botrychium*; Photomicrography
Wagner, Florence S.	Cytology and hybridization in pteridophytes; Monograph of *Botrychium*; Hawaiian pteridophyte flora; Cytology and paraphyses of Hawaiian pteridophytes; Bibliography of Hawaiian pteridophytes
Watano, Yasuyuki	Speciation; Apogamy; Intragametophytic selfing
Watkins, Jr., James E.	Fern ecology; Ecophysiology; Reproductive/gametophyte biology
White, Richard A.	Vascular plant anatomy and morphology; Systematics and anatomy of the tree ferns (Dicksoniaceae and Cyatheaceae) and allies
Whittier, Dean P.	Morphology and development of fern gametophytes; Development of gametophytes of the Ophioglossaceae, Psilotaceae and Lycopodiaceae
Widén, Carl-Johan	Phloroglucinol derivatives in ferns
Wilson, Kenneth A.	Hawaiian alien ferns; Pteridophyte sporangial morphology
Windham, Michael D.	Cytology and phylogeny of ferns; Cheilanthoid ferns
Windisch, Paulo G.	Neotropical ferns

Wolf, Paul	Molecular systematics; Population genetics; Fern phylogeny; Fern genomics
Yatskievych, George	Systematics of cheilanthoid ferns; Floristics of US (especially Missouri) and Mexico; Conservation
Zhang, Xian-Chun	Ferns of the Himalayan region and Southeast Asia
Zlotnik, Aurora	Fern anatomy; Plant stomata

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