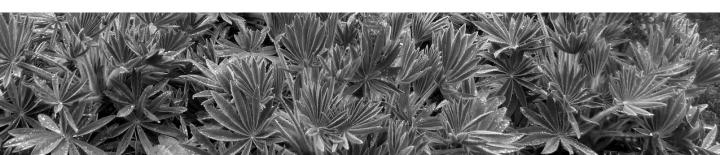


The Bean Bag

A newsletter to promote communication among research scientists concerned with the systematics of the Leguminosae/Fabaceae

Issue 65, Year 2018

CONTENT	Page
Letter from the Editor	2
Good to Know	3
Reports from the Legume World	4
A Look into 2019	7
Legume Shots of the Year	9
Legume Bibliography under the Spotlight	14
Publication News from the World of Legume Systematics	18





Letter from the Editor

Dear Bean Bag Fellow

I hope your 2019 has been wonderful so far!

Apologies for the delay in getting this issue to you. A lot has been going on, including submission of papers to the forthcoming Advances in Legume Systematics 13. As you will see, this is another long issue. And finally, now we have a new BB webpage, although it is currently undergoing a change into a new layout expected to go live very soon.

A lot has been going on in 2018 in the legume world, as it is usual for such a large and fascinating family!

This issue starts by having a look at the BB Website and issues online. Afterwards, we will look at "Reports from the legume world" with beautiful images of *Flemingia* species from India, and go back into 2018, with the International Legume Conference in Sendai, Japan, and some looks into 2019.

Several beautiful photographs of legumes from all over the world will delight you. And also those of the Australian Pilbara region with its *Vigna* species. In conclusion, as always, you'll find the traditional list of legume bibliography.

Despite the new webpage, the Bean Bag Newsletter is still sent out through the BB Google Group, which is the only purpose of this google group. For correspondence about the BB, members are invited to email the editorial email: beanbag.kew@gmail.com.

Finally, I am very grateful to Gwil Lewis and Leo Borges for their editorial assistance and to all contributors of this issue for sharing their news, insights, images and publication citations, making this probably one of the longest issues!

Thank you for your attention.

Kind regards,

Brigitte Marazzi

The Bean Bag Newsletter in the Web

The present and the most recent newsletters are made available for online download on the BB webpage, whereas issues 1-54 are found on the digital library: www.biodiversitylibrary.org/bibliography/122385#/summary

Join us on Google Group: groups.google.com/forum/?hl=en#!forum/thebeanbag Find us on Facebook: www.facebook.com/groups/1484192248560637/

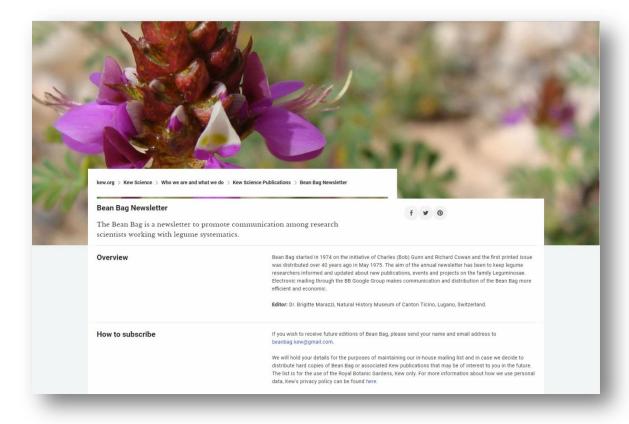
GOOD TO KNOW

NEW BEAN BAG WEBPAGE AT KEW.ORG

Communicated by Brigitte Marazzi, Editor BB Newsletter

Finally, the Bean Bag webpage is back on track, still kindly hosted on Kew's website, thus continuing the legacy! The current layout is going to be changed this coming March. Save the URL!

www.kew.org/science/who-we-are-and-what-we-do/publications/bean-bag-newsletter



Do Not Miss Historical Bean Bag Issues (1975-2007)

Issues 1-54 are found on the digital library: www.biodiversitylibrary.org/bibliography/122385#/summary



REPORTS FROM THE LEGUME WORLD

FLEMINGIA (PAPILIONOIDEAE) IN INDIA: A TAXONOMIC REVISION

Communicated by Sandip K. Gavade, Shivaji University, India

Flemingia Roxb. ex W. T. Aiton is one of the wild relatives of the pigeon pea, Cajanus cajan. There are 46 taxa, distributed in the old world tropics. In India, there are 26 species and one variety. Four species, F. gracilis Mukerjee, F. nilgheriensis (Baker) Wight ex Cooke, F. rollae (Hemadri & Billore) An. Kumar and F. tuberosa Dalzell are endemic to the southern Western Ghats.

Flemingia angustifolia Roxb. has been neglected by many researchers and has been resurrected here. A previous new combination made by other authors, i.e. F. stricta subsp. pteropus (Baker) K. K. Khanna & An. Kumar is found to be conspecific with F. stricta Roxb.

Although *F. praecox* C. B. Clarke ex Prain was previously reported to occur in Madhya Pradesh, our study suggests that this species is not found in India, but occurs only in Myanmar.

Three species complexes exist in the genus. The Macrophylla complex comprises *F. latifolia* Benth., *F. macrophylla* (Willd.) Merr., *F. nana* Roxb., *F. prostrata* Roxb. Junior ex Roxb., *F. semialata* Roxb. and *F. sootepensis* Craib. We treat all of them as distinct species.

Sandip K. Gavade is doing his doctoral dissertation on *Flemingia*, supervised by Dr. Manoj M. Lekhak at the Angiosperm Taxonomy Laboratory, Department of Botany, Shivaji University, Kolhapur- 416004, Maharashtra, India. They collaborate with L. J. G. van der Maesen from Naturalis Biodiversity Center, in Leiden, The Netherlands.



Flemingia nana from India.

Dwarf shrubs c. 1 feet tall, with a triangular stem, lanceolate stipules, trifoliolate leaves, and a long winged petiole. Fruits are turgid and 2 seeded.

Photo by Sandip Gavade

The Strobilifera complex includes *F. bracteata* (Roxb.) Wight, F. fruticulosa Wall. ex Benth., F. strobilifera (L.) R. Br. and F. tiliacea Niyomdham. We recognize all these species as distinct. Finally, the Rhynchosioides complex comprises F. gracilis, F. nilgheriensis, F. rollae and Flemingia sp. nov., which we treat as distinct species. Nomenclatural problems encountered are discussed and have been resolved for each species of Flemingia (in India).

Two species collected from Maharashtra and Jharkhand in the present study could not be identified using Indian literature. Further studies are needed to assess their taxonomic status. We have reported F. sootepensis (earlier known from Thailand) from India for the first time.

conclusion, the present work fundamental in understanding the taxonomy of the group. Genus Flemingia has great economic potential and is an important genetic resource. Some species important traits such as disease resistance and salt tolerance, which can be used in breeding programmes. It could be used in improving protein quality of Cajanus cajan.

As the present work provides a detailed inventory of Flemingia species in India, information on endemic species will be very useful for setting their conservation priorities.

Well-resolved taxonomy will form the basis of needed future studies on various aspects, like anatomy, phylogeny, and phytochemistry.



Related publications

Gavade S. K. and M. M. Lekhak (2015). Neotypification of Flemingia rollae (Leguminosae). Phytotaxa 212: 173-174.

Gavade S. K., L. J. G. van der Maesen and M. M. Lekhak. (2016). Lectotypifications in Flemingia (Leguminosae). Rheedea 26: 74-76.

Gavade S. K., L. J. G. van der Maesen and M. M. Lekhak (2017). Flemingia sootepensis (Leguminosae): its occurrence in India, notes on identity and typification. Phytotaxa 328: 283-290.

Gavade S. K., M. D. Nandikar, V. B. Shimpale and M. M. Lekhak. (2016). A new location for a rare legume Flemingia rollae (family Fabaceae) and notes on its typification. Journal of the Bombay Natural History Society 113: 48-49.

Flemingia sootepensis from India.

Tall erect shrubs c. 5-8 feet tall, with a triangular stem, lanceolate stipules, trifoliolate leaves, and a winged petiole. Fruits are turgid and 2 seeded.

Photo by Sandip Gavade

REPORTS FROM THE LEGUME WORLD

VII INTERNATIONAL LEGUME CONFERENCE, SENDAI, JAPAN (29.8–2.9.2018)

Communicated by Brigitte Marazzi, Editor BB Newsletter



Summary statistics of ILC7

- 132 participants from 27 countries
- 78 oversea participants,
 54 Japanese participants
- 11 symposia, 1 workshop,
 3 flash talk sessions
- 85 oral presentations and 33 poster presentations.





Some social moments during the conference

- 1. Opening of registration and welcome reception
- 2. The auditorium hosting the conference symposia
- 3. Delicious Japanese gastronomic experience at the conference dinner
- 4. Visit at the Tohoku
 University Botanical Garden
- Visit at the The Nikka Whisky Sendai Factory Miyagikyo Distillery



Photo credits: 1-3 Tadashi Kajita 4-5 Brigitte Marazzi

First day of the conference – Everybody seems happy!

Group photo by Tadashi Kajita and the Organizing Committee

Website: http://7ilc.info/





A LOOK INTO 2019

BUILDING A CHARACTER STATEMENTS LIST

Communicated by Leonardo Borges on behalf of the Legume Phylogeny Working Group

Following the goals of the LPWG, in 2018 we got back to the plan of developing a comprehensive character statements list for the Leguminosae. This list is based on characters used in published papers on legume phylogeny, plus updates on coding, terminology, and new additions by the systematics community. During the 7th ILC, in Sendai, Japan, a number of researchers from around the globe joined the team that is working on this task.

With their help, we believe the project will gain traction and produce a useful resource for legume research in taxonomy, systematics, and morphological evolution. Nonetheless, building such a list is a complex task. We welcome people interested in contributing to this project to get in touch with Leonardo Borges at:

<u>legume.morphology@gmail.com</u> aquitemcaqui@gmail.com



INTERNATIONAL CONFERENCE ON LEGUME GENETICS AND GENOMICS

May 12 - 17 in Dijon, France

Communicated by Brigitte Marazzi, Editor BB Newsletter

The focus appears to be on legume crops and agriculture, but the 11 sessions on the currently available program span over a wide range of topics. Our well-known legume systematist, Dr. Colin Hughes, is going to give the key note lecture that opens the Legume diversity Session, entitled *Phylogenomics And Evolutionary Diversification Of Legumes: Live Fast And Die Young*.

Session #1 - Opening and introduction

Session #2 - Genomes

Session #3 - Functional Genomics

Session #4 – Seed biology and quality

Session #5 - Legume diversity

Session #6 – Plant development and signalling

Session #7 – Genomics for agro-ecological services

Session #8 – Symbioses

Session #9 - Abiotic stress resistance

Session #10 - Genome enabled breeding

Session #11 - Biotic stress resistance

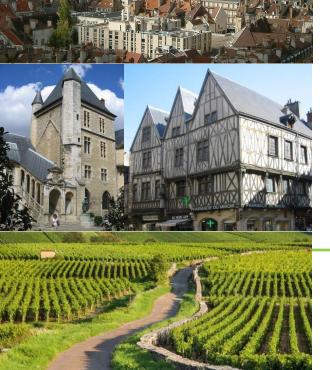


Photo credits: top - by Christophe Finot middle, left - by I, Alchemica middle, right - by Arnaud 25 bottom - by Iha Holiday ads



LEGUME SHOTS OF THE YEAR

Cenostigma pyramidale

Brazil, Bahia.
A species from one of the genera that resulted from clarifying relationships within the Caesalpinia group.

Photo by Edeline Gagnon



Hoffmannseggia sp.

Peru.

Another member of the Caesalpinia group. Here reproduced along with another three legume species from coastal lomas vegetation in full bloom, spectacular.

Photo by Gwil Lewis





Poissonia weberbaueri

Peru.

The second of a series of legumes from coastal lomas vegetation in full bloom.

Photo by Gwil Lewis

Weberbauerella brongniartioides

Peru. In coastal lomas vegetation.

> Photo by Gwil Lewis





Lupinus mollendoensis

Peru.

A rare species, here in coastal lomas vegetation.

Photo by Gwil Lewis



Lupinus luisanae

from the paramo de Oceta, eastern Cordillera of Colombia, the new species described in Contreras et al. (2018). It is one of a set of four large acaulescent fistulose inflorescence species of *Lupinus* from Colombia that were the focus of the Contreras et al. study.

Photo by Natalia Contreras





Cleobulia multiflora
Lençois, Brazil.
Photo by
Brigitte Marazzi

Pueraria montana

Sendai, Japan.
This vine has become an invasive alien species in many countries outside its natural range of distribution.

Photo by Leonardo Borges



Trifolium repens

on Prince Edward Island, Canada, in July 2018, as part of the Global Urban Ecology Project, looking at adaptation of white clover in urban vs. rural environments.

Photo by Edeline Gagnon

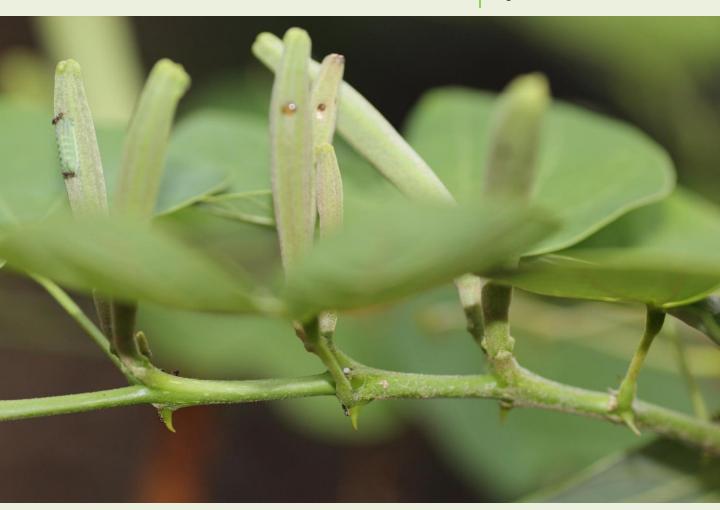
Bauhinia forficata subsp. pruinosa

Corrientes, Argentina.

Ants are visiting the nectar-secreting prickle, unique among legumes and described for the first time by

Gonzalez and Marazzi (2018).

Photo by Brigitte Marazzi



LEGUME BIBLIOGRAPHY UNDER THE SPOTLIGHT

A Special Issue Dedicated to Legume Morphology

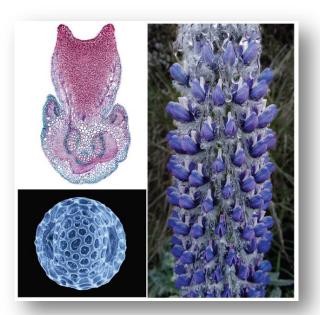
Edited by Leonardo Borges, Brigitte Marazzi, Gwilym Lewis, and Michael Fay (Editor-in-Chief)

Most of the eight papers in the selection on legume morphology presented in this issue of the Botanical Journal of the Linnean Society (volume 187) were presented in the international Legume morphology symposium and workshop held in November 2015, in Botucatu, São Paulo, Brazil. This was the second formal meeting of the Legume Morphology Working Group (LMWG), now fully integrated into the Legume Phylogeny Working Group (LPWG).

Three contributions are mainly focused on filling gaps in legume morphology: osmophores (Marinho *et al.* 2018), extrafloral nectaries (Gonzalez and Marazzi 2018), and zygomorphic detarioid flowers (Kochanovski *et al.* 2018).

The usefulness of morphology in a phylogenetic context is explored in three other papers: pollen morphology (Banks and Lewis 2018) and leaflet anatomy (Pinto *et al.* 2018, Silva *et al.* 2018).

The last two contributions included in this issue are more focused on evolutionary and ecological aspects of plant phenotypes: growth form in Andean *Lupinus* (Contreras-Ortiz *et al.* 2018) and testing division of labour in *Chamaecrista* flowers (Nogueira *et al.* 2018).





Full citations of all papers are listed in the section "Publications News from the World of Legume Systematics" on p. 18 of this BB Newsletter issue.

Overall, the studies presented in this issue cover a wide range of morphological topics and together fit well with the goals established by the former LMWG, which are still alive:

(1) to evaluate how comparative morphological studies may help to better understand species groups and poorly-resolved molecular phylogenetic relationships; (2) to identify gaps in our knowledge about legume morphology and coordinate efforts to fill these gaps and (3) to promote consistency in legume morphological terminology.

Some contributions go beyond the original goals and develop under-studied aspects of biology of Fabaceae or attempt to establish links between morphology, evolution, diversification and ecology.

LEGUME BIBLIOGRAPHY UNDER THE SPOTLIGHT

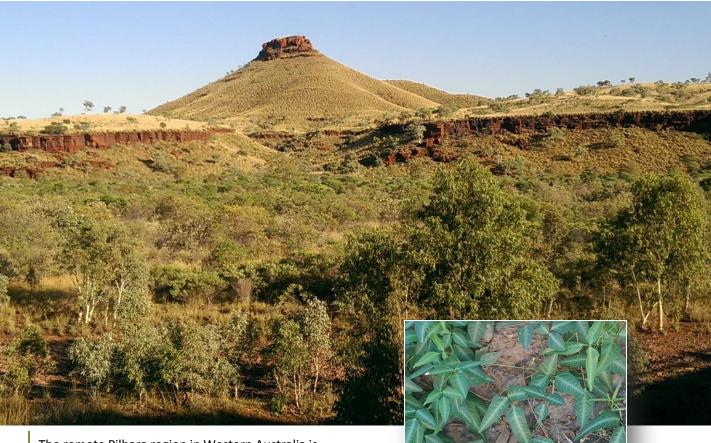
ANOTHER INSTALMENT IN THE LONG-RUNNING SERIES ON THE AUSTRALIAN VIGNA SPECIES

Communicated by Bob Lawn, CSIRO Agriculture & Food, James Cook University

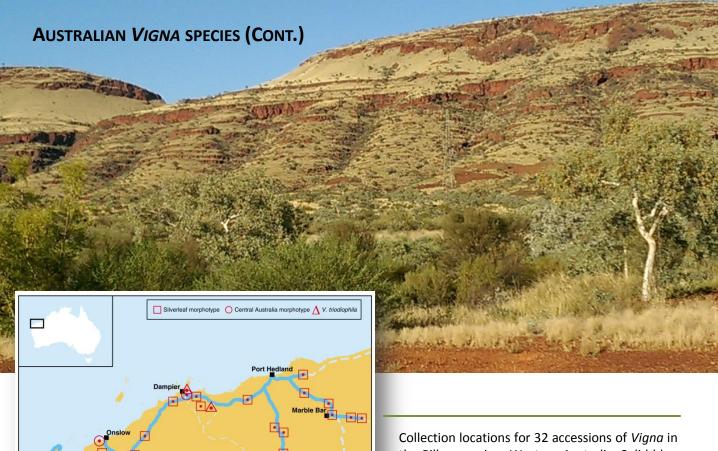
Wild relatives of crop plants help broaden the genetic diversity available for plant breeding. To fill a geographic collecting gap and sample germplasm that is naturally adapted to harsh environments, collections of the native legume *Vigna* were made from roadsides around the Pilbara. All 32 collections proved to be morphotypes of the *V. lanceolata* Benth. species complex, including a diminutive form (recently described as *V. triodiophila*) found around rockpiles near Karratha that appears to be well-adapted to grazing by rock wallabies.

It was an interesting trip. The Pilbara is well worth visiting.





The remote Pilbara region in Western Australia is characterised by a dry climate (annual rainfall 250-350 mm), extreme summer temperatures and shallow soils. Herbaceous legumes including *Vigna* are found in the run-on parts of the landscape (foreground). The box on the right shows *V. lanceolata* Silverleaf form. Photos by Bob Lawn.



Collection locations for 32 accessions of *Vigna* in the Pilbara region, Western Australia. Solid blue lines indicate the main roads traversed for collecting. Larger towns are indicated for reference. Image reproduced with permission.



Florets of *Vigna* accessions from the Pilbara. Left: *V. lanceolata* Silverleaf form; Centre: *V. triodiophila*; Right: *V. lanceolata* Central form. Photo by Bob Lawn. All 32 *Vigna* accessions collected in the Pilbara were amphicarpic, with 1- or 2-seeded geocarpic pods (white) on underground rhizomes and 4-8 seeded aerial pods (green). Photo by Bob Lawn.

Full reference: R. J. Lawn and A. Cottrell (2018) Distribution, habitat, morphological diversity and genetic interrelations of native *Vigna* in the Pilbara, Western Australia. *Crop & Pasture Science* 69: 985-998.

LEGUME BIBLIOGRAPHY UNDER THE SPOTLIGHT

Understanding Paloue (Leguminosae: Detarioideae) Revision of a Predominantly Guiana Shield Endemic.

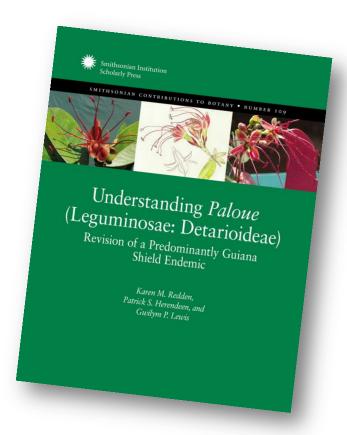
Communicated by Gwil Lewis, Royal Botanic Gardens, Kew

From the abstract: On the basis of morphological and molecular phylogenetic analyses, the genus *Paloue* is revised to include the genera *Elizabetha* and *Paloveopsis*. As newly circumscribed, *Paloue* comprises 17 species, 2 subspecies, and 2 varieties. The following 11 new combinations in *Paloue* are made, and one new hybrid is recognised:

- P. bicolor (Ducke) Redden
- P. coccinea (Schomb. ex Benth.) Redden
- P. duckei (Huber) Redden
- P. durissima (Ducke) Redden
- P. emarginata (R. S. Cowan) Redden
- P. fanshawei (R. S. Cowan) Redden
- P. leiogyne (R. S. Cowan) Redden
- P. macrostachya (Benth.) Redden
- P. paraensis (Ducke) Redden
- P. princeps (M. R. Schomb. ex Benth.) Redden
- P. speciosa (Ducke) Redden
- P. × grahamiae (R. S. Cowan) Redden.

Based on a total evidence phylogeny, the two varieties of *Paloue coccinea* are no longer recognized, and a lectotype has been designated for *Paloue guianensis* Aubl. The species of *Paloue* are small to large woody trees that are distributed in northern South America; most are endemics in the Guiana Shield.





Full reference: Redden, K.M., Herendeen P.S., Lewis G.P. (2018) Understanding *Paloue* (Leguminosae: Detarioideae) - Revision of a Predominantly Guiana Shield Endemic. *Smithsonian Contributions to Botany* 109: 1-45.

> Left: *Paloue sandwithii* inflorescence. Photo by Kenneth Wurdack. Right: *Paloue riparia* inflorescence and developing fruit. Photo by Karen Redden.



Compiled by Leonardo Borges, Universidade Federal de São Carlos, Brazil, and Brigitte Marazzi, Editor BB Newsletter

A list with the year's publication citations of studies on legume systematics is here provided. We thank authors who sent us their references. Please accept our apologies if any citation is missing. This collection of studies and the publications highlighted above provide an elegant insight into another vibrant year of research in Systematics and Biology of Leguminosae.

- Abozeid, A., et al. (2018) Taxonomic implication of embryo micromorphology in the genus *Vicia* L. (Fabaceae). Plant Systematics and Evolution 304: 33-42.
- Achimón, F., et al. (2018) Species tree phylogeny, character evolution, and biogeography of the Patagonian genus *Anarthrophyllum* Benth. (Fabaceae). Organisms Diversity & Evolution 18: 71-86.
- Adem, F.A., et al. (2018) Cytotoxic flavonoids from two *Lonchocarpus* species. Natural product research, DOI: 10.1080/14786419.2018.1462179
- Aghaahmadi, M., Hojjatollah S., and Mostafa A. (2018) *Trigonella disperma* (Fabaceae): Typification, Description and Phytogeography. Phytotaxa 348: 141-146.
- Alves, F.M., et al. (2018) A high level of outcrossing in the vulnerable species *Prosopis rubriflora* in a Chaco remnant. Australian Journal of Botany 66: 360-368.
- Alves, F.M., et al. (2018) Genetic structure of two *Prosopis* species in Chaco areas: A lack of allelic diversity diagnosis and insights into the allelic conservation of the affected species. Ecology and Evolution .
- Bandyopadhyay, S. 2018. Typification of *Bauhinia touranensis* (Leguminosae: Cercidoideae). Gardens' Bulletin Singapore 70: 405–407.
- Bandyopadhyay, S. and Lakshminarasimhan, P. 2018. Epitypification of *Bauhinia scandens* (Leguminosae: Cercidoideae). Journal of Economic and Taxonomic Botany 41: 137–138.
- Banks, H. and Lewis G.P. (2018) Phylogenetically informative pollen structures of 'caesalpinioid' pollen (Caesalpinioideae, Cercidoideae, Detarioideae, Dialioideae and Duparquetioideae: Fabaceae). Botanical Journal of the Linnean Society 187: 59–86.
- Barreto, K.P., et al. (2018) *Centrosema sericiflorum* (Leguminosae, Papilionoideae), a New Species Endemic to the Caatinga of Bahia, Brazil, and a Key to the Bahian Species of the Genus. Systematic Botany 43: 980-985.
- Bello, A., Stirton, C.H., Muasya, A.M. & Chimphango S.B.M. (2018) Morphological evidence for introgressive hybridization in the genus *Psoralea* L. (Psoraleeae, Fabaceae). South African Journal of Botany. In Press, Corrected Proof, Available online 16 March 2018.
- Bidarlord, M., Ghahremaninejad F., and Maassoumi A.A. (2018) Taxonomic diversity of *Astragalus* L. in Alpine and Sub-alpine zones in Talesh Mountains, Northwest Iran.
- Borges, L. M., Marazzi B. and Lewis G. P. (Editorial 2018) Shaping knowledge on legume morphology. Botanical Journal of the Linnean Society 187: 1–4. https://academic.oup.com/botlinnean/issue/187/1
- Cerino, M.C., et al. (2018) Functional dioecy in Gleditsia amorphoides (Fabaceae). Australian Journal of Botany 66: 85-93.
- Chaintreuil, C., Perrier, X., Martin, G., Fardoux, J., Lewis, G.P., Brottier, L., Rivallan, R., Gomez-Pacheco, M., Bourges, M., Lamy, L., Thibaud, B., Ramanakierana, H., Randriambanona, H., Vandrot, H., Mournet, P., Giraud, E. and Arrighi J.-F. (2018) Naturally occurring variations in the nod-independent model legume *Aeschynomene evenia* and relatives: a resource for nodulation genetics. BMC Plant Biology 18:54, pages 1–15. https://doi.org/10.1186/s12870-018-1260-2.
- Chen, M., ZhaoX.-Y., and Zuo X.-A. (2018) Pollinator activity and pollination success of *Medicago sativa* L. in a natural and a managed population. Ecology and Evolution 8.17: 9007-9016.
- Cheng, Y.-M., et al. (2018) Early Miocene angiosperm woods from Sihong in the Jiangsu Province, Eastern China. IAWA Journal 39.01: 125-142.
- Conti, F., et al. (2018) A new species of Oxytropis (Fabaceae) from Central Apennines (Italy). Phytotaxa 336: 69-81.
- Contreras-Ortiz, N., G. W. Atchison, C. E. Hughes and Madriñán S. (2018) Convergent evolution of high elevation plant growth forms and geographically structured variation in Andean *Lupinus* (Fabaceae). Botanical Journal of the Linnean Society 187: 118–136.
- Contreras-Ortiz, N., Jara-Muñoz, O.A. and C.E. Hughes (2018) The acaulescent rosette species of *Lupinus* L. (Fabaceae) of Colombia and Ecuador including a new species from Colombia. Phytotaxa 364: 61-70.
- Cordeiro, J.M.P., and Felix P.L. (2018) Intra-and interspecific karyotypic variations of the genus *Senna* Mill. (Fabaceae, Caesalpinioideae). Acta Botanica Brasilica 32: 128-134.
- Córdoba de León, J.A. and Gómez Acevedo S.L.2018. Reconstruction of ancestral character states in Neotropical ant-acacias. 161-192. En: A. Matheson (ed.) *Acacia: Characteristics, Distribution and Uses*. ISBN: 978-1-53614-237-2; ISBN: 978-1-53614-238-9 (E-Book).

- Dastpak, A., et al. (2018) Molecular Phylogeny of *Astragalus* sect. *Ammodendron* (Fabaceae) Inferred from Chloroplast ycf 1 Gene. Annales Botanici Fennici. Vol. 55. No. 1–3. Finnish Zoological and Botanical Publishing Board, 2018.
- de Deus Medeiros, João, and Márcia Rosana Stefani (2018) Anatomia da madeira de *Mimosa catharinensis* Burkart (Leguminosae–Mimosoideae). Biotemas 31: 11-19.
- de Freitas Cruz, P., C.B.F. Mendonça, and Gonçalves-Esteves V. (2018) Pollen morphology of selected species of tribes Ingeae and Mimoseae (Mimosoideae—Leguminosae) occurring in the Atlantic Forest of the state of Rio de Janeiro, Brazil. Brazilian Journal of Botany 41: 197-208.
- de la Estrella, M., Forest, F., Klitgård, B., Lewis, G.P., Mackinder, B.A., de Queiroz, L.P., Wieringa, J.J. and Bruneau A. (2018) A new phylogeny-based tribal classification of subfamily Detarioideae, an early branching clade of florally diverse tropical arborescent legumes. Scientific reports 8: 6884.
- de Moura, T. M., et al. (2018) A New Circumscription of *Nissolia* (Leguminosae-Papilionoideae-Dalbergieae), with *Chaetocalyx* as a New Generic Synonym. Novon: A Journal for Botanical Nomenclature 26: 193-214.
- de Moura, T. M., et al. (2018) A revision of the neotropical Mucuna species (Leguminosae—Papilionoideae). Phytotaxa 337: 1-65.
- de Moura, T. M., et al. (2018) Morphological variation in pollen grains of *Mucuna* (Leguminosae): new biogeographic and evolutionary patterns. Plant Systematics and Evolution 304: 1-9.
- Debouck, D. G., Araya-Villalobos, R., and Chaves-Barrantes N. (2018) *Phaseolus angucianae* (Leguminosae: Phaseoleae), a new bean species from Fila Cruces of southeastern Costa Rica. Journal of the Botanical Research Institute of Texas 12(2).
- Domenech, B. (2018) Systématique, biogéographie et diversification du genre *Crudia* (Leguminosae, Detarioideae). PhD Thesis: https://papyrus.bib.umontreal.ca/xmlui/bitstream/handle/1866/21167/Boris Domenech 2018 these.pdf?sequence=4
- dos Santos, K.C.M., et al. (2018) Wood anatomy of seven *Stryphnodendron* species (Mimosoid clade-Caesalpinioideae-Leguminosae). IAWA Journal 1.aop: 1-15.
- Eastwood, R.J. and Hughes, C.E. (2018) Lupinus mutabilis. Curtis's Botanical Magazine 35: 134-148. doi.org/10.1111/curt.12233
- Farruggia, F. T., Lavin, M., and Wojciechowski, M. F. (2018). Phylogenetic systematics and biogeography of the pantropical genus *Sesbania* (Leguminosae). Systematic Botany 43: 414-429.
- Fitri, R., and M. Des (2018) Pollen Morphology of *Caesalpinia pulcherrima* (L.) Swartz in Highland and Lowland West Sumatra. IOP Conference Series: Materials Science and Engineering. Vol. 335. No. 1. IOP Publishing, 2018.
- Flores, A. S., and Tozzi, A. M. G.D.A. (2018). A synopsis of the genus Crotalaria (Leguminosae) in Brazil. Phytotaxa, 346: 31-58.
- Fontana, M. L., Pérez, V. R., and Luna, C. V. (2018). Evolutive characteristics of *Prosopis* spp.: cytogenetic, genetic and hybridizations. Rodriguésia, 69(2), 409-421.
- Fortuna-Perez, A. P., et al. (2018) A Noteworthy New Species of *Eriosema* (Leguminosae, Papilionoideae, Phaseoleae) from Goiás State, Brazil, Including an Identification Key. Systematic Botany 43: 198-205.
- Funnekotter, A, V., et al. (2018) Phylogeographic analyses of *Acacia karina* (Fabaceae) support long term persistence of populations both on and off banded iron formations. Australian Journal of Botany, online early http://www.publish.csiro.au/bt/BT18045
- Gagnon, E., Ringelberg, J.J., Bruneau, A., Lewis, G.P. and Hughes, C.E. (2018) Global Succulent Biome phylogenetic conservatism across the pantropical Caesalpinia group (Leguminosae). New Phytologist. First published online: 11 December 2018, https://doi.org/10.1111/nph.15633
- Gómez Acevedo, S.L. (2018) The Geographic Mosaic Theory of Coevolution applied to the Neotropical mutualism *Acacia-Pseudomyrmex*. 213-234. In: A. Matheson (ed.) *Acacia: Characteristics, Distribution and Uses*. ISBN: 978-1-53614-237-2; ISBN: 978-1-53614-238-9 (E-Book).
- Gonzalez, A. M. and Marazzi B. (2018) Extrafloral nectaries in Fabaceae: filling gaps in structural and anatomical diversity in the family. Botanical Journal of the Linnean Society 187: 26–45.
- González, J. Gil, V. Malécot, and Gil González M.L. (2018) Notas taxonómicas y nomenclaturales a propósito de *Vicia aphylla* (Fabaceae). Collectanea Botanica 37: 002.
- Grohar, M. C., Rosenfeldt, S., and Morales, M. (2018) Venation Patterns in *Mimosa* Subseries *Dolentes* and *Brevipedes* (Leguminosae) and their Taxonomical Inferences. Systematic Botany 43: 532-543.
- Hoşgören, H., and Ertekin, A. S. (2018) A new record for the Flora of Turkey, *Hedysarum singarense* Boiss. & Hausskn.(Fabaceae). International Journal of Nature and Life Sciences 2: 10-16.
- Huamantupa-Chuquimaco, I., et al. (2018) *Tachigali amarumayu* (Leguminosae), a new species from Terra Firme forests of southwestern Amazonia. Brittonia: 1-10.
- Hurtado, I., and J. Alson (2018) Aeropollen of Mimosoideae. Aerobiology. CRC Press, 2018. 39-47.
- Hussein, S. R., Marzouk, M. M., and Kawashty, S. A. (2018) Flavonoids as chemosystematic markers of *Astragalus bombycinus* Boiss. and *Astragalus peregrinus* Vahl growing in Egypt. Egyptian Pharmaceutical Journal 17: 67.

- Jabbour, F., et al. (2018) Phylogeny, biogeography and character evolution in the tribe Desmodieae (Fabaceae: Papilionoideae), with special emphasis on the New Caledonian endemic genera. Molecular Phylogenetics and Evolution 118: 108-121.
- Jaca, T. P., and A. N. Moteetee (2018) Taxonomic notes on the *Rhynchosia densiflora* group (Phaseoleae, Fabaceae) in South Africa and its segregation from *Rhynchosia* section *Arcyphyllum*. Bothalia 48: 10.
- Jordão, L. S. B., M. P. Morim, and J. F. A. Baumgratz (2018) Toward a Census of *Mimosa* (Leguminosae) in the Atlantic Domain, Southeastern Brazil. Systematic Botany 43: 162-197.
- Juarez, P., R. Flores, and M. A. Blanco (2018) *Bauhinia proboscidea* (Fabaceae: Cercidoideae), a new species from Costa Rica and Panama, with notes on *B. beguinotii, B. gorgonae* and *B. pansamalana*. Phytotaxa 361: 25-40.
- Kochanovski, F. J., J. V. Paulino, S. P. Teixeira, A. M. G. De Azevedo Tozzi and V. D. F. Mansano (2018) Floral development of *Hymenaea verrucosa*: an ontogenetic approach to the unusual flower of Fabaceae subfamily Detarioideae. Botanical Journal of the Linnean Society 187: 46–58.
- Kovar, L., Nageswara-Rao, M., Ortega-Rodriquz, S., Dugas, D.V., Straub, S., Liston, A., Cronn, R., Strickler, S., Hughes, C.E., Hanley, K.A., Rodriguez, D. and Bailey, C.D. (2018) PacBio-based mitochondrial genome assembly of *Leucaena trichandra* (Leguminosae) and an intrageneric assessment of mitochondrial RNA editing. Genome Biology and Evolution 10: 2501-2517.
- Lahuta, L. B., et al. (2018) Diversity of the composition and content of soluble carbohydrates in seeds of the genus *Vicia* (Leguminosae). Genetic Resources and Crop Evolution 65: 541-554.
- Lavin, M., R. T. Pennington, C. E. Hughes, G. Lewis, A. Delgado-Salinas, M. F. Wojciechowski, Rodrigo Duno de Stefano, L. P. de Queiroz, D. Cardoso. (2018) DNA sequence variation among conspecific accessions of *Coursetia caribaea* (Robinieae, Fabaceae) reveal geographically localized clades here ranked as species. Systematic Botany 43: 664-675.
- Liu, W., et al. (2018) Complete chloroplast genome of *Cercis chuniana*. Chloroplast 19: 203.
- Liu, X., et al. (2018) Phytochemical and chemotaxonomic study on *Medicago sativa* L.(Leguminosae). Biochemical Systematics and Ecology 80: 55-58.
- Llamas, F., and C. Acedo (2018) Las leguminosas (Leguminosae o Fabaceae): una síntesis de las clasificaciones, taxonomía y filogenia de la familia a lo largo del tiempo. Ambiociencias 14: 5-18.
- Marinho, C. R., M. E. P. Martucci, L. Gobbo-Neto and S. P. Teixeira (2018) Chemical composition and secretion biology of the floral bouquet in legume trees (Fabaceae). Botanical Journal of the Linnean Society 187: 5–25.
- Marques, André, et al. (2018) Origin and parental genome characterization of the allotetraploid *Stylosanthes scabra* Vogel (Papilionoideae, Leguminosae), an important legume pasture crop. Annals of Botany 122: 1143-1159.
- Martínez Cuello, D. J., Ortega Soto, J. H., and Galé Mejía, L. A. (2018) Subfamilias Caesalpinioideae Y Papilionoideae (Leguminosae) en tres subregiones del Departamento De Sucre, Colombia. Thesis de grado. Sincelejo: Universidad de Sucre 2017. http://repositorio.unisucre.edu.co/handle/001/602
- Mattapha, S., Suddee, S., and Rueangruea, S. (2018) *Sophora huamotensis*, a new species of *Sophora* (Fabaceae-Papilionoideae-Sophoreae) from Thailand. Thai Forest Bulletin (Botany) 46: 4-9.
- Mattos, Cilene Mara Jordão de, et al. (2018) Flora of the canga of the Serra dos Carajás, Pará, Brazil: Leguminosae. Rodriguésia 69: 1147-1220.
- Medina-Acosta, M., et al. (2018) Comparative study of pollen morphology and exine ultrastructure in tetrads, octads and polyads of the genus *Mimosa* (Leguminosae). Palynology: 1-25.
- Metin, H., Çeter, T., and Erkul, S. K. (2018) Micromorphological characters of pollen, leaflet and seed of *Astragalus victoriae* and *Astragalus melanophrurius* endemic to Turkey. Mellifera 18: 22-29.
- Morales, M., and F. Calderón (2018) Lectotipificaciones en *Mimosa* (Leguminosae) del sur de Sudamérica. Boletín de la Sociedad Argentina de Botánica 53: 1-10.
- Morales, M., and R. H. Fortunato (2018) *Mimosa chacoënsis* (Leguminosae), new record for the flora of Argentina. Boletín de la Sociedad Argentina de Botánica 53: 77-81.
- Morales, M., et al. (2018) Cytogeography and morphological characterisation of a taxonomic, polyploid complex of *Mimosa* (Leguminosae) from subtropical South America. Australian Systematic Botany 31: 190-208.
- Murphy, B., et al. (2018) On the monophyly of *Macrolobium* Schreb., an ecologically diverse neotropical tree genus (Fabaceae-Detarioideae). International Journal of Plant Sciences 179: 75-86.
- Nawaz, M.A., et al. (2018) Soyisoflavone diversity in wild soybeans (*Glycine soja* Sieb. & Zucc.) from the main centres of diversity. Biochemical Systematics and Ecology 77: 16-21.
- Nevado, B., Contreras-Ortiz, N., Hughes, C.E. and Filatov, D. (2018) Pleistocene glacial cycles drive isolation, gene flow and speciation in the high elevation Andes. New Phytologist 219: 779-793.
- Nogueira, A., L. B. Valadão-Mendes, J. H. L. El Ottra, E. Guimarães, P. Cardoso-Gustavson, M. M. Quinalha, J. V. Paulino and J. G. Rando (2018) Relationship of floral morphology and development with the pattern of bee visitation in a species with pollen-flowers, *Chamaecrista desvauxii* (Fabaceae). Botanical Journal of the Linnean Society 187: 137–156.

- Noriega, B., Martínez Pérez A., and Yuranis L (2018) Subfamilia Mimosoideae (Leguminosae) en tres subregiones del departamento de sucre, Colombia.
- Noviany, N., et al. (2018) Sesbagrandiflorain A and B: Isolation of two new 2-arylbenzofurans from the stem bark of *Sesbania grandiflora*. Natural Product Research: 1-7.
- Ogoudje A. I., et al. (2018) Multiple disturbance patterns and population structure of a tropical tree species, *Afzelia africana* (Leguminosae–Caesalpinioideae), in two contrasting bioclimatic zones of the Republic of Benin. Southern Forests: a Journal of Forest Science 80: 95-103.
- Ohashi H. and Ohashi K. 2018. *Grona*, a genus separated from *Desmodium* (*Leguminosae* Tribe *Desmodieae*). J. Jap. Bot. 93(2): 104-120.
- Ohashi H. and Ohashi K. 2018. New combinations in the *Desmodium* group of *Leguminosae* tribe *Desmodieae*. J. Jap. Bot. 93(6): 384-388
- Ohashi H. and Ohashi K. 2018. Sohmaea, a new genus of Leguminosae tribe Desmodieae. J. Jap. Bot. 93(3): 155--164.
- Ohashi H. and Ohashi K. 2018. *Tadehagi ademae*, a new species instead of *T. auriculatum* with a revised circumscription of *T. triquetrum* (*Leguminosae* tribe *Desmodieae*). J. Jap. Bot. 92(1): 1--8.
- Ohashi K. and Ohashi H. 2018. A phylogenetic study of *Amphicarpaea* with a new genus *Afroamphica* (*Leguminosae* tribe *Phaseoleae*). J. Jap. Bot. 92(1): 9--17.
- Ohashi K., Ohashi H., Nemoto N., Abe C., Kotani H., Nata K., Ohtake H. and Yamamoto K. 2018. Phylogenetic analyses for classification of the *Desmodium* group of *Leguminosae* tribe *Desmodieae* 2. Two new genera separated from *Desmodium* and two new combinations in *Grona* and *Sohmaea*. J. Jap. Bot. 93(5): 293--306.
- Ohashi K., Ohashi H., Nemoto N., Ikeda T., Izumia H., Kobayashi H., Muragaki H., Nata K., Sato N. and Suzuki M. 2018. Phylogenetic analyses for a new classification of the *Desmodium* group of *Leguminosae* tribe *Desmodieae*. J. Jap. Bot. 93(3): 165--189.
- Oliveira, A. C. D. S., Perez, A. P. F., and Silva, J. S. (2018). The genera *Eriosema* and *Rhynchosia* (Leguminosae-Papilionoideae-Phaseoleae) in Northeastern Brazil. Rodriguésia 69: 1825-1850.
- Oshingboye, A. D., and O. T. Ogundipe (2018) Exploring the DNA barcoding potential of Nigerian arid-land Mimosoideae using a multigene tiered approach. South African Journal of Botany 117: 288-300.
- Paganucci de Queiroz, L., and D. B.O.S. Cardoso (2018) A new large-flowered species of *Rhynchosia* (Leguminosae) from the Brazilian Caatinga seasonally dry woodlands. Systematic Botany 43: 975-979.
- Pereira, L. B. S., et al. (2018) Leaf morphoanatomy of mororó (*Bauhinia* and *Schnella*, Fabaceae). Revista Brasileira de Farmacognosia 28: 383-392.
- Pinheiro, M., Brito, V. L. G. D., and Sazima, M. (2018) Pollination biology of melittophilous legume tree species in the Atlantic Forest in Southeast Brazil. Acta Botanica Brasilica 32: 410-425.
- Pinto, R. B., M. G. Lusa, V. D. F. Mansano, A. M. G. De Azevedo Tozzi and J. L. S. Mayer (2018) Morphoanatomy of the leaflets of the *Hymenaea* clade (Fabaceae: Detarioideae) reveals their potential for taxonomic and phylogenetic studies. Botanical Journal of the Linnean Society 187: 87–98.
- Potts, A.J., Rebelo, T., Barrett, R.L. and Stirton C.H. (2018) Hybridisation in the Cape and Kwongkan. South African Journal of Botany 118: 282-283.
- Rashid, N., et al. (2018) Intraspecific variation in seed morphology of tribe Vicieae (Papilionoidae) using scanning electron microscopy techniques. Microscopy Research and Technique 81: 298-307.
- Rashid, N., et al. (2018) Taxonomic significance of leaf epidermis in tribe Trifolieae L. (Leguminosae; Papilionoideae) in Pakistan. Plant Biosystems-An International Journal Dealing with all Aspects of Plant Biology 152: 1-11.
- Rather, S. A., et al. (2018) Discovery of two new species of *Crotalaria* (Leguminosae, Crotalarieae) from Western Ghats, India. PloS one 13: e0192226.
- Redden, K. M., Herendeen, P. S. and Lewis, G. P. (2018) Understanding *Paloue* (Leguminosae: Detarioideae), Revision of a predominantly Guiana Shield endemic. Smithsonian Contributions to Botany 109: i vii, & 1 44. Published online 29 November 2018.
- Ribeiro, P.G., Luckow, M., Lewis, G.P., Simon, M.F., Cardoso, D., de Souza, E.R., Silva, A.P.C., Jesus, M.C., dos Santos, F.A.R., Azevedo, V. and de Queiroz, L.P. (2018) *Lachesiodendron*, a new monospecific genus segregated from *Piptadenia* (Leguminosae: Caesalpinioideae: mimosoid clade): Evidence from morphology and molecules. Taxon 67(1): 37—54.
- Ribeiro, R. D. T. M., Queiroz, R. T. D., and Loiola, M. I. B. (2018) *Tephrosia* (Leguminosae) in the state of Ceará, Northeast of Brazil. Rodriguésia 69: 1877-1887.
- Rodrigues, P. S., et al. (2018) Karyotype diversity and 2C DNA content in species of the Caesalpinia group. BMC Genetics 19: 25.

- Romão, M. V. V., and V. F. Mansano (2018) A new combination in *Parkinsonia* (Caesalpinoideae/Fabaceae): *Parkinsonia andicola*. Phytotaxa 344: 295-296.
- Rzedowski, J., and R. Grether (2018) Two new species of the genus *Indigofera* (Papilionoideae, Leguminosae) from central Mexico. Phytotaxa 372: 256-262.
- São-Mateus, W.M.B, et al. (2018) Two new Mesoamerican species of *Harpalyce* (Leguminosae, Papilionoideae). Phytotaxa 344: 160-168.
- São-Mateus, W.M.B., et al. (2018) *Harpalyce riparia* (Leguminosae, Papilionoideae), a new species from the Campos Rupestres of the Chapada Diamantina in Bahia, Brazil. Systematic Botany 43: 206-211.
- Schley, R. J., et al. (2018) Is Amazonia a 'museum'for Neotropical trees? The evolution of the *Brownea* clade (Detarioideae, Leguminosae). Molecular Phylogenetics and Evolution 126: 279-292.
- Shi, W., et al. (2018) Using DNA data to determine the taxonomic status of *Ammopiptanthus kamelinii* in Kyrgyzstan (Thermopsideae, Leguminosae). Phytotaxa 360: 103-113.
- Silva, N. F., R. Do Carmo De Oliveira Arruda, F. M. Alves and Â. L. Bagnatori Sartori (2018) Leaflet anatomy of the Dipterygeae clade (Faboideae: Fabaceae): evolutionary implications and systematics. Botanical Journal of the Linnean Society 187: 99–117.
- Sinjushin, A. A. (2018) Floral ontogeny in *Cordyla pinnata* (A. rich.) Milne-Redh.(Leguminosae, Papilionoideae): Away from stability. Flora 241: 8-15.
- Sinjushin, A. A., et al. (2018) Floral development in *Thermopsis turcica*, an unusual multicarpellate papilionoid legume. Plant Systematics and Evolution 304: 461-471.
- Snak, C., and L. Paganucci de Queiroz (2018) A new species of *Canavalia* (Leguminosae, Papilionoideae) subgenus *Wenderothia* from the Colombian and Venezuelan Llanos. Brittonia 70: 233-240.
- Stepanova, A. V., A. A. Oskolski, and B-E. Van Wyk (2018) Wood anatomy of Australian mirbelioids and allies (Fabaceae, Papilionoideae). Australian Journal of Botany 65: 556-572.
- Stępkowski, T., et al. (2018) Phylogeny and phylogeography of rhizobial symbionts nodulating legumes of the tribe Genisteae. Genes 9: 163.
- Suleiman, M. K., et al. (2018) Species identification of *Vachellia pachyceras* from Kuwait and its relatives *Vachellia gerrardii* and *Vachellia tortilis*, based on multilocus plastid gene sequences. Edinburgh Journal of Botany 75: 73-90.
- Tanaomi, N., et al. (2018) Embryological features of *Alhagi persarum* (Fabaceae): Adapt to environmental constraints. Plant Biosystems- An International Journal Dealing with all Aspects of Plant Biology 152: 152-160.
- Tapia-Pastrana F., S. Gómez-Acevedo, P. Mercado-Ruaro (2018) Differences in karyotypes between two populations of *Crotalaria incana* from Mexico. Cytologia 83: 431-435.
- Trněný, O., et al. (2018) Molecular evidence for two domestication events in the pea crop. Genes 9: 535.
- van der Burgt, X. M., et al. (2018) *Talbotiella cheekii* (Leguminosae: Detarioideae), a new tree species from Guinea. Kew Bulletin 73: 26.
- Vargas, W. de, Fortuna-Perez, A.P., Lewis, G.P., Piva, T.C., Vatanparast, M. and Machado, S.R. (2018) Ultrastructure and secretion of glandular trichomes in species of subtribe Cajaninae Benth. (Leguminosae, Phaseoleae). Protoplasma, published online 10 September 2018, pages 1–15.
- Vargas, W. de, Machado, S.R., Lewis, G.P., Cândido, E.S., Vatanparast, M. and Fortuna-Perez, A.P. (2018) Revisiting the leaflet secretory structures of subtribe Cajaninae Benth. (Leguminosae, Phaseoleae). International Journal of Plant Sciences 179: 1–15.
- Vatanparast, M., et al. (2018) Targeting legume loci: A comparison of three methods for target enrichment bait design in Leguminosae phylogenomics. Applications in plant sciences 6: e1036.
- Verloove, F., and L. M. Borges (2018) Sobre la identidad y el estatus de *Desmanthus* (Leguminosae, clado Mimosoideae) en Macaronesia. Collectanea Botanica 37: 007.
- Villarreal-Quintanilla, J. A., J. A. Encina-Domínguez, and A. E. Estrada-Castillón (2018) La identidad de *Senegalia saltilloensis* (Fabaceae). Acta Botánica Mexicana 122: 157-163.
- Wang, Y.-H., et al. (2018) Plastid genome evolution in the early-diverging legume subfamily Cercidoideae (Fabaceae). Frontiers in Plant Science 9: 138.
- Wariss, H. M., et al. (2018) The chloroplast genome of a rare and an endangered species *Salweenia bouffordiana* (Leguminosae) in China. Conservation Genetics Resources 10: 405-407.
- Zhang, R., T.-S. Yi, and B. Pan (2018) *Pseudarthria panii* (Fabaceae: Desmodieae), a new species from Asia, 120 years after its first collection. Phytotaxa 367: 265-274.