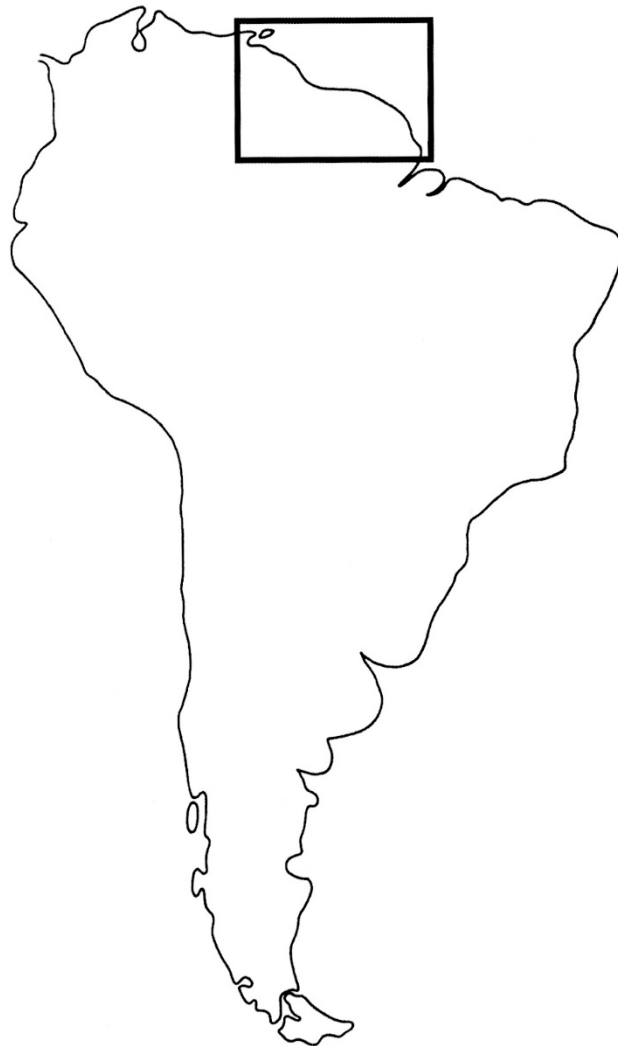


FLORA OF THE GUIANAS

NEWSLETTER N° 20
SPECIAL WORKSHOP ISSUE



New York, November 2017

FLORA OF THE GUIANAS
NEWSLETTER N° 20
SPECIAL WORKSHOP ISSUE

Flora of the Guianas (FOG) Meeting and Seminars

and

Scientific symposium “Advances in Neotropical Plant Systematics and Floristics,”

New York, 1–3 November 2017

The Flora of the Guianas is a co-operative programme of: Museu Paraense Emílio Goeldi, *Belém*; Botanischer Garten und Botanisches Museum Berlin-Dahlem, *Berlin*; Institut de Recherche pour le Développement, IRD, Centre de Cayenne, *Cayenne*; Department of Biology, University of Guyana, *Georgetown*; Herbarium, Royal Botanic Gardens, *Kew*; New York Botanical Garden, *New York*; Nationaal Herbarium Suriname, *Paramaribo*; Muséum National d'Histoire Naturelle, *Paris*; Nationaal Herbarium Nederland, Utrecht University branch, *Utrecht*, and Department of Botany, Smithsonian Institution, *Washington, D.C.*

For further information see the website:

<http://portal.cybertaxonomy.org/flora-guianas/>

Published on April 2019

Flora of the Guianas Newsletter No. 20.

Compiled and edited by B. Torke

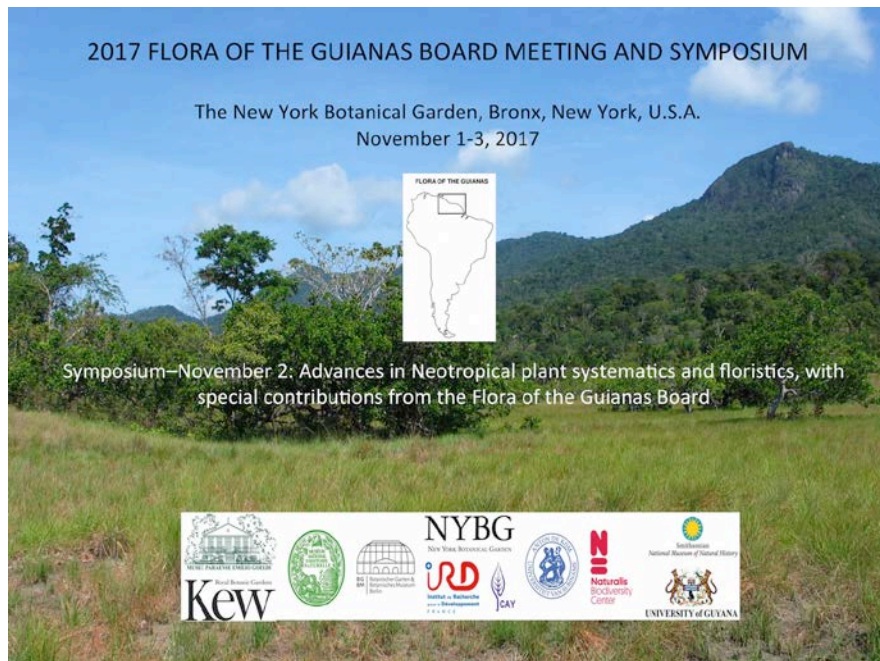
New York Botanical Garden, New York, USA

CONTENTS

1. SUMMARY.....	5
2. MEETING PROGRAM	5
3. SYMPOSIUM PROGRAM AND ABSTRACTS.....	7
4. MINUTES OF THE ADVISORY BOARD MEETING	10
4.1. Opening and members in attendance	10
4.2. The selection of a new Chairperson and Board personnel changes.....	10
4.3. Report of the Executive Editor	11
4.4. Institutional state of affairs.....	11
4.4.1. B – Botanischer Garten und Botanisches Museum Berlin-Dahlem, Berlin	11
4.4.2. BBS – National Herbarium of Suriname, Anton de Kom Universiteit van Suriname, Paramaribo.....	12
4.4.3. BRG – National Herbarium of Guyana, Georgetown University, Guyana.....	12
4.4.4. CAY – Herbar de Guyane, Institut de recherche pour le développement–IRD, Cayenne	13
4.4.5. K – Royal Botanic Gardens, Kew	17
4.4.6. L – Naturalis Biodiversity Center, Leiden	19
4.4.6. MG – Museu Paraense Emílio Goeldi, Belém	20
4.4.7. NY – New York Botanical Garden, Bronx.....	20
4.4.8. P – Museum National d'Histoire Naturelle, Paris.....	21
4.4.9. US – National Herbarium of the United States – Smithsonian National Museum of Natural History, Washington DC.....	22
4.5. Publication of the Flora	23
4.6. Funding.....	24
4.7. Modernization of the Flora.....	25
4.8. Nagoya Protocol.....	25
4.9. Plan for the next Meeting of the Advisory Board and intervening period.....	26
4.10. Status of outstanding treatment commitments and untreated families	26



Participants of the afternoon symposium session of the 2017 Flora of the Guianas meeting at the New York Botanical Garden.



Poster announcing the 2017 Flora of the Guianas Meeting.

1. SUMMARY

The 2017 Board Meeting of the Flora of the Guianas (FoG) was held at the New York Botanical Garden (NYBG) November 1-3, 2017. The meeting was coordinated by Benjamin Torke and chaired by Eve Lucas. The Flora of the Guianas (FoG) is an ongoing international collaboration and publication series that will result in a comprehensive systematic treatment of all plant and fungal species in Guyana, Suriname, and French Guiana. The Board, which comprises scientists from 10 institutions internationally (Botanischer Garten und Botanisches Museum Berlin, National Herbarium of Suriname–Anton De Kom Universiteit Van Suriname, National Herbarium of Guyana–Georgetown University, Herbier de Guyane–Institut de recherche pour le développement, Royal Botanic Gardens–Kew, Museu Paraense Emílio Goeldi, NYBG, Museum national d'Histoire naturelle–Paris, Smithsonian National Museum of Natural History and Naturalis Biodiversity Center) meets approximately every two years to strategize and plan for the vitality and sustainability of this long-term effort. The meeting at NYBG was attended by eight of the 10 Board members. Progress was made on a variety of topics, including publication and modernization of the Flora, funding, solicitation of new contributions, and the selection of a new Chair, Pedro Acevedo. The need to identify a new place of publication (Kew Publishing having decided to no longer publish the series) was a top priority of discussion, and the Board identified and prioritized several alternative possibilities for publication going forward. These will be further explored and the top options pursued after the meeting. An all-day scientific symposium on November 2, titled “Advances in Neotropical Plant Systematics and Floristics,” was presented in conjunction with the Board Meeting. The symposium comprised 12 presentations, including contributions by five FoG Board members. Diverse topics were covered in the symposium, including the systematics, evolution, and ecology of various Neotropical plant groups, the World Flora Online project, building capacity for floristic research in Amazonia, and the role of systematics in tropical forestry. The combined audience for the twelve presentations was approximately 75. In addition to highlighting the importance of the FoG project, the meeting and symposium strengthened ties among member institutions and helped to create contacts and synergies among participants.

2. MEETING PROGRAM

Wednesday, November 1

Time	Activity	Location
8:30	Refreshments and welcome address to FoG Board members	Lunch table on the fourth floor of the Library Building
9:00–12:15 (15 minute refreshment break at 10:30)	Closed meeting of the Board	Herbarium Conference Room
12:15–1:30	Pizza Lunch with NYBG staff, students, and visitors	Lunch Table on the fourth floor of the Library Building

1:30–3:15 (5 minute break at 2:30; 15 minute refreshment break at 3:15)	Closed meeting of the Board	Pfizer Lab Conference Room
3:30–4:15	Meeting with representatives of the NYBG Press (Michael Brown and Brian Boom) and the Vice President for Science Administration (Larry Kelly)	Pfizer Lab Conference Room
4:15–5:00	Meeting with representatives of the NYBG Herbarium and World Flora Online (Matthew Pace, Melissa Tulig, and Wayt Thomas)	Pfizer Lab Conference Room

Thursday, November 2

Time	Activity	Location
8:30	Refreshments	Elevator Room in the Mertz Library
8:50–12:15 (15 min. refreshment break at 10:45)	Symposium, Part I	Mertz Library Reading Room
12:15	Lunch break, informal discussion	Pine Tree Café
1:40–5:00 (15 min. refreshment break at 3:15)	Symposium, Part II	Watson Building Room 102

Friday, November 3

Time	Activity	Location
9:00–12:15 (15-minute break at 10:45)	Closed meeting of the Board	Herbarium Conference Room
12:15–	Free (additional meetings, herbarium work)	
6:00	Dinner	TBA

3. SYMPOSIUM PROGRAM AND ABSTRACTS

Symposium Title: Advances in Neotropical Plant Systematics and Floristics
With Special Contributions from the Board of the Flora of the Guianas

Venue and date: New York Botanical Garden, November 2, 2017; Morning session: Reading Room of the LuEsther T. Mertz Library, 8:50–12:15; Afternoon session: Watson Building, Room 102, 1:40–5:00

Morning Session: LuEsther T. Mertz Library, Reading Room, 8:50-12:15

Benjamin Torke	New York Botanical Garden, U.S.A.	Introduction to the morning session	8:50
Robbin Moran , Ph.D., Nathaniel Lord Britton Curator of Botany, Institute of Systematic Botany	New York Botanical Garden, U.S.A.	Floristics of Neotropical ferns and lycophytes	9:00
Thaís Almeida , Ph.D., Professor of Botany and Curator of the Herbarium	Federal University of Pará do Oeste, Brazil	Not so poor after all? The fern and lycophyte flora of the Brazilian Amazon revisited	9:30
Eve Lucas , Ph.D., Research Leader, Integrated Monography	Royal Botanic Gardens, Kew, U.K.	New classifications of Neotropical Myrtaceae	10:00
Refreshment break			10:30
Sylvia Mota de Oliveira , Ph.D., Research Fellow – Biodiversity Discovery	Naturalis Biodiversity Center, Leiden, Netherlands	Towards a dynamic list of the Amazonian tree species	10:45
Benjamin Torke , Ph.D., Associate Curator, Institute of Systematic Botany	New York Botanical Garden, U.S.A.	Increasing efficiencies in the inventory of tropical rainforest floras: A case study from the Brazilian Amazon	11:15

Leandro Giacomini , Ph.D., Professor of Botany	Federal University of Pará do Oeste, Brazil	Citizen science, floras and the nightshade family systematics: local efforts to diminish gaps of botanical knowledge in central Amazonia	11:45
---	---	--	-------

Afternoon Session: Watson Building, Room 102, 1:40–5:00

Benjamin Torke	New York Botanical Garden, U.S.A.	Introduction to afternoon session	1:40
Piero Delprete , Ph.D., Researcher	Herbier de Guyane, Institut de recherche pour le développement (IRD), French Guiana	Typification of Aublet's names	1:45
Nils Köster , Ph.D., Curator, Tropical and Subtropical Living Collections	Botanischer Garten und Botanisches Museum Berlin, Germany	Systematics and diversification of a large Neotropical genus: a time-calibrated phylogeny of <i>Philodendron</i>	2:15
Jasmijn Ruijgrok , M.Sc. Naturalis Biodiversity Center	Leiden, Netherlands	Commelinaceae in the Guianas	2:45
Refreshment break			3:15
Wayt Thomas , Ph.D., Elizabeth G. Britton Curator of Botany, Institute of Systematic Botany	New York Botanical Garden, U.S.A.	Flora Neotropica and World Flora Online: Tools for tropical taxonomy	3:30
Thiago André , Ph.D., Professor of Botany	Federal University of Pará do Oeste, Brazil	Diversity and speciation dynamics in Costaceae (Zingiberales)	4:00
Douglas Daly , Ph.D., B. A. Krukoff Curator of Amazonian Botany, Institute of Systematic Botany	New York Botanical Garden, U.S.A.	Plant systematics and timber management in the Brazilian Amazon	4:30

Abstracts (if provided):

Robbin Moran: “Floristics of Neotropical Ferns and Lycophytes.”

This talk will examine the new classification for ferns and lycophytes published last year by the Pteridophyte Phylogeny Group. It will also discuss regions of high endemism of species richness and some biogeographic patterns in the Neotropics. Finally, the need for more studies on reticulate evolution (hybridization and polyploidy) will be emphasized.

Sylvia Mota de Oliveira: “Towards a dynamic list of the Amazonian tree species.”

Lists of species are mostly derived from taxonomic work and largely used in biodiversity studies. They are dynamic in nature and the criteria used are scientifically debatable. With this view, we created an online, workable list (<http://amazoniantreeflora.myspecies.info/>), to serve as a discussion platform towards a curated and up to date species list of the Amazonian trees (ter Steege et al. 2016). The idea was a synergy between botanists with knowledge of the Amazonian flora and taxonomists with a background in specific groups. Although the initiative did not get the synergistic work that we hoped for, it stimulated Cardoso et al. (2017) to provide the first species list for the biome amalgamated by taxonomists. The great discrepancy between the two lists is justified in the latest study as the result of a number of mistakes in our list, concerning species distribution, species habit as well as typos and synonymies. After a close verification of the species list published by Cardoso et al. (2017), we came to the conclusion that while a few differences are real mistakes (such as typos or exotics), most of them are due to the criteria used to produce such a list. The low number of species listed by Cardoso et al. (2017) is, among others, a consequence of a) labeling species as “Amazonian” or “non-Amazonian” (and excluding Herbarium records based on this specialist opinion); b) not accepting the criteria of a DBH > 10 for tree habit; c) missing more detailed information of species from areas as Venezuela and French Guiana. We suggest that the way to move forward is to keep this list dynamic and open for collaboration of an even larger botanical community.

Benjamin Torke: “Increasing efficiencies in the inventory of tropical rainforest floras: A case study from the Brazilian Amazon.”

The under-documentation of tropical rainforest floras continues to inhibit research on global patterns of plant diversity and endemism and impedes efforts to assess the conservation status of numerous plant species. Carrying out floristic inventories in tropical rainforests presents many challenges, among the most notable are the relatively intensive efforts needed to reach exhaustive sampling of species in hyper-diverse rainforests, and the paucity of resources that are available to identify the plant species that occur in many tropical areas. I will discuss these challenges and some potential solutions in the context of ongoing inventories of two protected areas in the Brazilian Amazon.

4. MINUTES OF THE ADVISORY BOARD MEETING

4.1. OPENING AND MEMBERS IN ATTENDANCE

The following board members were in attendance: Pedro Acevedo (Smithsonian National Museum of Natural History), Piero Delprete (Herbier de Guyane, Institut de recherche pour le développement–IRD), Nils Köster (Botanischer Garten und Botanisches Museum Berlin), Eve Lucas (Royal Botanic Gardens, Kew), Sylvia Mota de Oliveira (Naturalis Biodiversity Center), Odile Poncy (Muséum national d'histoire naturelle, Paris), Phillip da Silva (University of Guyana), and Benjamin Torke (New York Botanical Garden). Board members Dorothy Traag (Anton de Kom Universiteit van Suriname) and Anna Luiza Ilkiu-Borges (Museu Paraense Emílio Goeldi) were not in attendance. Benjamin Torke welcomed the board members, and Eve Lucas called upon Piero Delprete who gave a brief summary about developments and outcomes of the previous meeting in Cayenne.

4.2. THE SELECTION OF A NEW CHAIRPERSON AND BOARD PERSONNEL CHANGES

Eve Lucas, who joined the FoG Advisory Board in 2003 and became Chair of the Board in 2008, confirmed that she would be stepping down as Chair. She will continue to serve as the Kew representative on the Board. The Board sincerely thanks Eve for her exemplary leadership. Pedro Acevedo was selected and agreed to become the new Chair, and arrangements were made to ensure a smooth transition of leadership following the meeting. Pedro is an expert in the systematics and floristics of Sapindaceae, the floristics of the West Indies, especially of Puerto Rico and the Virgin Islands, and the diversity and evolution of Neotropical lianas and climbing plants. He has been serving on the FoG Board since 2008 and contributed the treatment of Sapindaceae (Fascicle 29) in 2012.

Anna Luiza Ilkiu-Borges, who was unable to attend the meeting, was approved as replacement for Pedro Viana as representative of Museu Paraense Emílio Goeldi. Anna Luiza is a bryologist, botanist and taxonomist. She is a Research Associate of the Museu Goeldi Botany Department, Scientific Editor of the Goeldi Museum Bulletin, Natural Sciences, and Vice-coordinator of the Master's Course UFRA / MPEG. She graduated in Agronomy from the Federal Rural University of Amazonia (1996) with a Master's in Agronomy - Tropical Plant Biology from the Federal Rural University of Amazonia (2000) and earned a PhD in Natural Sciences - Botany from the University Georg August, Göttingen, Germany (2005). She has experience in botany, with emphasis on taxonomy and systematics of bryophytes, acting on the following topics: Lejeuneaceae; mosses; floristic diversity, ecology and molecular phylogeny of bryophytes. (Personal Data from website of the NYBG Press).

4.3. REPORT OF THE EXECUTIVE EDITOR

Several pending families, i.e., Meliaceae, Dilleniaceae and Vitaceae, are now published. The rate of publication/production slowed as Sylvia dedicated more time to European digitisation of the Flora. The scope of her position at Naturalis has changed such that it now also includes a taxonomic research element, but the ongoing future of the position continues to be uncertain. The treatment of Commelinaceae, written by Jasmijn Ruijgrok, a master's student of Sylvia and Paul Maas (with funding from the University of Leiden/Naturalis/Alberta M), has been finished, and Jasmijn gave an excellent summary about the work in the seminar at NYBG. The treatments of Ochnaceae and Quinaceae (60 spp) are almost complete, as is the treatment of Annonaceae by Paul Maas and contributors. Lycopodiaceae, also ready, needs a reviewer (Robin Moran (US) and Cremers?). A student of Marion Jansen-Jacobs showed interest in doing the treatment of Myristicaceae, but is no longer active. Sophie Gonzales from CAY has agreed to treat Eriocaulaceae. (Based on notes by Eve Lucas)

4.4. INSTITUTIONAL STATE OF AFFAIRS

4.4.1. B – Botanischer Garten und Botanisches Museum Berlin, Berlin

By Nils Köster

2015–2017

General

BGBM's taxonomic research and collecting activities in the Neotropics continue to focus on the Caribbean region (especially Cuba), Central America (especially El Salvador and México) and, more recently, Colombia. However, the FoG region is still regarded as part of the periphery of the Caribbean, justifying the commitment to the FoG project and, hopefully, future research activities in the Guianas. In general, the research department of the BGBM still has a strong emphasis on biodiversity informatics (rather than producing flora treatments). Accordingly, BGBM is a member of the World Flora Online Consortium and hosted the last WOF Council meeting on March 29-31, 2017. The EDIT platform for Cybertaxonomy has been developed further to improve the operability of the Taxonomic Editor for users (i.e. potential flora contributors). Collection expeditions have been undertaken to Bolivia, Cuba and Colombia.

Flora treatments

Cryptogams (Lichens):

- **Parmeliaceae & Thelotre mataceae** (H.J.M. Sipman): No progress since 2015, but procession of the collections of foliicolous lichens is targeted for the near future.
- Robert Lücking (herbarium curator for cryptogams since 2015) indicated interest to participate in flora treatments where possible synergies with his current research activities (especially basidiolichens and foliicolous lichens) appear.

Phanerogams:

- **Asteraceae** (H.-W. Lack): **Inuleae s.l., Tageteae and Lactuceae**. Status very preliminary, no progress since 2015. Due to many other publication projects, there is little hope that H.-W. Lack (retired since August 2014) will proceed with this treatment.
- **Menispermaceae** (P. Hiepko): Not much progress in 2016/2017. Due to a serious illness for some time past, Paul Hiepko is not sure at the moment if he will be able to finish the treatment.

Publications relevant for the Guianas – B authors in bold

Boom P. P. G. van den & **Sipman H. J. M.** 2016: Foliicolous lichens from Suriname and Guyana: new records and three new species. – *Folia Cryptog. Estonica* 53: 101 – 110. – DOI: 10.12697/fce.2016.53.12.

Valdespino Iván A. & **Zimmer B.** 2016: Typification of selected Neotropical *Selaginella* (Lycopodiophyta: Selaginellaceae) taxon names and some nomenclatural innovations. – *Taxon* 65: 1391 – 1408. – DOI: 10.12705/656.10.

4.4.2. BBS – National Herbarium of Suriname, Anton De Kom Universiteit van Suriname, Paramaribo

Written report not received.

Notes by E. Lucas from oral report given by P. Delprete on behalf of D. Traag: Juno & Dorothy: Digitising their herbarium funding unknown – Suriname & Dutch funding. Preparing to buy equipment and contracting staff and students. Juno trained in Trinidad & Tobago who are part of CARICOM. Gisla is doing a PhD on Mangroves and may not continue in aquatic plants. Two expeditions in southern Suriname - focused on plants used in shamanistic rituals with Bruce Hoffman. Herbarium in reasonable shape with six staff members. Hypothetical initiative to have a biodiversity centre. No flora writing.

4.4.3. BRG – National Herbarium of Guyana, Georgetown University, Guyana

Written report not received.

Notes by E. Lucas from oral presentation given by P. Da Silva: No floristic activity. Last field trip was a LABEXCEBA (CNRS)-funded expedition that Piero participated. Biodiversity centre (university funded) has new director – Priya Maharaj (butterflies, Missouri). Three scientific officers have been hired – one identified to focus on botany. Director will assemble a program to get back on track. Taxonomic work limited. Masters in forestry back running and produced the 3 staff members. Emphasis has been on the environment and conservation aspect. Herbarium was locked and unused and infested. Infrastructure now improved. If FoG can support a student, Dr Maharaj should make contact. Piero emphasised the importance of the collection. Green economy and new Dept. of Environment has given new energy. Lots of new staff bedding in. Memorandum of commitment with forestry department is a priority of the new director.

4.4.4. CAY – Herbarium de Guyane, Institut de Recherche pour le Développement–IRD, Cayenne

By Piero Delprete

2015–2017

General

The Herbarium of French Guiana (Herbier IRD de Guyane, CAY) is part of the Institut de Recherche pour le Développement (IRD) and specifically of the Research Group AMAP (CIRAD, CNRS, INRA, IRD and University of Montpellier). The support of the IRD for the activities and maintenance of the herbarium continues to be stable.

Delprete continues his research, with several ongoing projects, mostly on Neotropical Rubiaceae (systematics, taxonomy, and floristics), floristic study of the coastal Savannas of French Guiana, as well as several floristic projects in the Neotropics, and the coordination of a Franco-Brazilian network (GAP Network) for botanical studies in the region.

We received regular visits for field and herbarium work by J.-F. Molino, D. Sabatier and J. Angel (AMAP colleagues), who are doing field work mostly related to forest ecology and biodiversity, through permanent plots.

The herbarium staff continued with the project of producing digital images of all herbarium specimens at CAY. The herbarium contains approximately 200,000 specimens and, as of February 2017, about one third of them were imaged. The project is currently interrupted because of lack of supplementary funds. Nevertheless, the process of barcoding and inclusion of label data in the herbarium database continues. The website of the Herbier IRD de Guyane (CAY) is active (http://publish.plantnet-project.org/project/caypub_en) and regularly updated. In this site is possible to access and search the herbarium database, developed by the PI@ntNet Team (www.plantnet-project.org).

The CAY herbarium is a local reference for plant identifications, source of data about geographical and ecological distribution, and conservation status of the species occurring in the Guianas. Many visitors are frequently consulting the herbarium. In 2015 CAY received about 263 visits, in 2016 about 217 visits, and in 2017 about 194 visits, mostly by local personnel identifying specimens for environmental impact assessments in French Guiana, and specialists for FOG treatments.

Considerable funding for research and field work in the Guianas has been provided by the Labex CEBA (Centre d'Etude de la Biodiversité Amazonienne, French Government), "an "Investissement d'Avenir" through a grant managed by Agence Nationale de la Recherche. This substantial grant has recently been extended until the year 2024.

Collecting expeditions:

2015

French Guiana:

- Coastal savannas (P. Delprete).
- Mitaraka (Inselberg) – Expedition “Planete Revisitée” (S. Gonzalez, D. Sabatier)
- Trinité Mountains (S. Gonzalez, D. Sabatier)
- Reserva de l’Amana (S. Gonzalez)

- Savane Roche (Inselberg) Wayabo – FOG participants
- Auberge Chutes Voltaires (Voltaire Creek and Falls; 13–15 October) – FOG participants

2016

French Guiana:

- Coastal savannas (Delprete).

Guyana:

- Expedition to Upper Potaro River, Chenapou Village and surrounding region (12–22 June; P. Delprete).

2017

French Guiana:

- Coastal savannas and forest near Saint George de l'Oyapock (Delprete).

Flora treatments

Ferns & Lycophytes - Coord. G. Cremers (P) and M. Boudrie, 12 contributors, 9 fascicles, 630 taxa - No new fascicle has been published since the last meeting. The 6 fascicles still to be published are:

- **Fasc. 1** (Generalities, Dicksoniaceae, Marattiaceae, Ophioglossaceae). Marattiaceae: Revision of the genus *Danaea* by H. Tuomisto (TUR) still in progress. Ophioglossaceae: study in progress by M. Boudrie (CAY) and W. Hauk (DEN).
- **Fasc. 2** (Anemiaceae, Cyatheaceae, Gleicheniaceae, Lygodiaceae, Marsileaceae, Metaxiaceae, Schizaeaceae). General revisions of Anemiaceae and Metaxiaceae, recently published, will help the treatment of these families for the FOG. Other families are completed.
- **Fasc. 5** (Pteridaceae): In progress. Several new *Adiantum* species have been described by M. Boudrie and J. Prado (SP), and the revision of the genus *Adiantopsis* has been published by M. Link-Perez (AASU) with new species for the Guianas.
- **Fasc. 7** (Aspleniaceae, Blechnaceae, Elaphoglossaceae, Lomariopsidaceae): All families are almost completed (drawings in progress) by M. Boudrie and G. Cremers. Elaphoglossaceae will be included within Dryopteridaceae. Recent revision of the Neotropical Blechnaceae helps for the understanding the species of the Guianas.
- **Fasc. 8** (Grammitidaceae, Polypodiaceae): Grammitidaceae (now included within Polypodiaceae): manuscript, well advanced by C. Kelloff (US), currently being updated, drawings in progress. Polypodiaceae in progress, to be completed shortly.
- **Fasc. 9** (Azollaceae, Isoetaceae, Lycopodiaceae, Psilotaceae, Salviniaceae, Selaginellaceae): Isoetaceae: Currently under revision by M. Boudrie and W.C. Taylor (US) for the Guianas. Salviniaceae are under revision by P. Schwartsburd. The family Lycopodiaceae was submitted for publication by B. Øllgaard.
- An addendum will give the new taxa related from families already published in the previous fascicles, as well as the new classification, with correspondence with the previous one.

Other work in progress:

- Revision of the “Checklist of the Ferns & Lycophytes of the Guiana Shield” (Funk et al., 2007) by M. Boudrie and G. Cremers.
- Studies on *Isoetes* (M. Boudrie & W.C. Taylor) and *Ophioglossum* (M. Boudrie & W. Hauk).
- Revision of the *Triplophyllum* of the Guianas (M. Boudrie, R.C. Moran & J. Prado).

- Description of new *Elaphoglossum* species.

Arecaceae (21 gen. 95 ssp): J.-J. de Granville (Coordinator) has the responsibility of the treatment of *Acrocomia*, *Asterogyne*, *Bactris*, *Chamaedorea*, *Elaeis*, *Lepidocaryum*, *Mauritia*, *Mauritiella*, *Syagrus*. He will also contribute the treatment of *Astrocaryum* which F. Kahn promised to do a long time ago, but the manuscript was never received. The manuscripts of *Attalea*, *Dictyocaryum*, *Hyospathe*, *Iriartella*, *Oenocarpus*, *Socratea*, *Syagrus*, *Geonoma* and *Desmoncus* were received several years ago by different contributors but the two latter must be revised according to the recent revisions by A. Henderson. A manuscript with the checklist of the genera and species present in the Guianas was produced by Granville in 2017 and is available upon request to Delprete. Aside from this, no progress has been made during 2015-2017.

Humiriaceae: D. Sabatier. – Léa Baron finished her doctoral thesis on molecular phylogeny of the Humiriaceae, but no article was published. As for the FOG treatment, this phylogenetic study partially clarify some taxonomic problems, as, for example, the separation of the genus *Schistostemon* and the position of a new species of *Vantanea*, similar to *V. parviflora*, collected in French Guiana by Molino & Sabatier. Engel and Sabatier (2018) published a new species of *Vantanea* along with the five species of this genus occurring in French Guiana.

Hugoniaceae and **Ixonanthaceae**: D. Sabatier. – No progress.

Caryocaraceae (2 gen. 6 ssp): P.G. Delprete, D. Frame & J.-J. de Granville. – J.-J. de Granville provided a list of specimens he studied at B, BBS, BR, BRG, CAY, FDG, G, M and US. He produced keys to genera and species and provided the line drawings of 4 species. Little progress during 2015-2017.

Rubiaceae: P.G. Delprete (Coordinator & main contributor). – Starting from 2015, Delprete has been dedicating considerable time to the monographic treatment of the genera of the tribe Sipaneeae, which has its center of diversity on the Guiana Shield. In the Guianas this tribe is represented by *Chalepophyllum*, *Limnosipanea*, *Maguireothamnus*, *Neobertiera*, *Pteridocalyx*, and *Sipanea*. Several new species of this tribe have recently been described, including several species endemic to the Guianas (Delprete, 2015a, 2017, 2018). The monographic treatment of the *Alibertia* group was published in *Flora Neotropica* (Persson & Delprete, 2017), which includes several species present in the Guianas. The project Rubiaceae for FOG is arrived to the study of the last, most difficult genera: *Carapichea*, *Palicourea*, *Margaritopsis*, *Notopleura*, *Psychotria*, and *Spermacoce*. The treatment of *Palicourea sensu stricto* was completed by Delprete a few years ago. Delprete & Kirkbride (2016) recognized 79 species in *Psychotria* subgenus *Heteropsychotria* present in the Guianas, which were transferred to *Palicourea*, along with 79 lectotypifications and 60 new combinations. The species of *Palicourea* section *Potaroenses*, centered in the Guianas, which includes 8 species, has been revised in a publication by Delprete & Lachenaud (2018), and include the description of a new species endemic to French Guiana. The genus *Rudgea* is currently being revised by O. Lachenaud (Botanic Garden Meise, Belgium) and collaborators (a few manuscripts, including some new species, are being prepared). The genus *Carapichea* requires additional studies, and a manuscript is being produced in collaboration with O. Lachenaud, contemplating new records of *Carapichea adinantha* in French Guiana, the transfer of two species to this genus, and the resurrection of one species

previously treated as synonyms. In a publication based on observations of numerous populations by Delprete in French Guiana, *Spermacoce latifolia* and *S. alata* were shown to be distinct species, previously treated by numerous specialists as synonymous; the former species is an aggressive pantropical weed that has recently reported in Spain and southern USA, while the latter is endemic to the Guiana Shield, and only grows in forest undercanopy, on leaf litter (Wiersema, Delprete, Kirkbride & Franck 2017); for this publication, the authors won the 2017 Richard and Minnie Windler Prize for the best article in Systematic Botany. As of today, the FOG project detected 84 genera and about 470 species of Rubiaceae in the Guianas.

• **Index of French Guiana Collectors** - M. Hoff (Université Louis Pasteur, Strasbourg) & P.G. Delprete: Delprete has contributed a considerable amount of work during the last decade, mostly complementing the manuscript, and including numerous new collectors. In progress.

Publications (2015-2017) – CAY authors in **bold**.

- Boudrie, M. & G. Cremers.** 2016. Nomenclatural notes on the Pteridophyte Flora of the Guianas. *American Fern Journal* 106(3): 171-174.
- Boudrie, M., R.Y. Hirai & J. Prado.** 2017. Four new species of *Adiantum* (Pteridaceae) from the Guianas. *American Fern Journal* 107(2): 84-95.
- Cremers, G., G. Flament & M. Boudrie.** 2016. Lectotypification de dix taxons de ptéridophytes d'Amérique tropicale, essentiellement pour l'herbier de Paris (P). *Adansonia*, sér. 3, 38(1): 9-14.
- Delprete, P.G.** 2015a. Revision of *Neobertiera* (Rubiaceae, Sipaneeae) with observations on distyly, and three new species from the Guianas. *Phytotaxa* 206: 118-132.
- Delprete, P.G.** 2015b. Typification and etymology of Aublet's Rubiaceae names. *Taxon* 64: 595-624.
- Delprete, P.G.** 2016. Giovanni Casaretto: a short biography and his botanical collections in Brazil and Uruguay. *Phytotaxa* 253: 27-47.
- Delprete, P.G.** 2017. *Sipaneopsis* (Sipaneeae, Ixoroideae): A unique flowering process in the family Rubiaceae and its taxonomic significance. *Phytotaxa* 302: 40-48.
- Delprete, P.G.** (Editor). 2017. Flora of the Guianas (FOG) Meeting and Seminars. Celebration of the 50th Anniversary of the CAY Herbarium. « The importance of the Herbarium in Plant Sciences ». International Conference. Cayenne, 5-8 October 2015. Program and Abstracts. *Flora of the Guianas Newsletter* 19. *Special Workshop Issue*. http://portal.cybertaxonomy.org/flora-guianas/sites/flora-guianas/files/field/pdf/FoG_Newsletter19.pdf
- Delprete, P.G.** 2018. Two new species of the tribe Sipaneeae (Rubiaceae) from white-sand areas of the Brazilian and Colombian Amazon. *Phytotaxa* 382(1): 125-135.
- Delprete, P.G. & J.H. Kirkbride.** 2015. New combinations in *Eumachia* (Rubiaceae) for species occurring on the Guiana Shield. *Journal of the Botanical Research of Texas* 9: 75-79.
- Delprete, P.G. & J.H. Kirkbride.** 2016. New combinations and new names in *Palicourea* (Rubiaceae) for species of *Psychotria* subgenus *Heteropsychotria* occurring in the Guianas. *Journal of the Botanical Research of Texas* 10: 409-442.
- Delprete, P.G. & O. Lachenaud.** 2018. Conspectus of *Palicourea* section *Potaroenses* (Rubiaceae) with a new species from French Guiana and a new combination. *Plant Ecology and Evolution* 151: 119-129.

- Engel, J. & D. Sabatier. 2018. *Vantanea maculicarpa* (Humiriaceae): a new tree species from French Guiana. *Phytotaxa* 338(1): 130-134.
- Ferreira Margalho, L., G. Souza Siqueira, **P.G. Delprete** & M. Groppo. 2017. *Simira robusta* (Rubiaceae, Condamineae), a new species from the Atlantic Rainforest of south-eastern Brazil. *Phytotaxa* 299: 118–124.
- Guitet, S., R. Pélissier, O. Brunaux, G. Jaouen, & **D. Sabatier**. 2015. Geomorphological landscape features explain floristic patterns in French Guiana rainforest. *Biodiversity and Conservation* 24: 1215-1237.
- Guitet, S., O. Brunaux, J.J. de Granville, **S. Gonzalaez** & C. Richard-Hansen. 2015. Catalogue des habitats forestiers de Guyane. Cayenne, DEAL, ONF, 120 pp.
- Kirkbride, J.H. & **P.G. Delprete**. 2015. New combinations in *Hexasepalum* (Rubiaceae, Spermaceae). *Journal of the Botanical Research of Texas* 9: 103-106.
- Kirkbride, J.H., J.H. Wiersema & **P.G. Delprete**. 2018. (2588) Proposal to conserve the name *Emmeorhiza* against *Endlichera* (Rubiaceae). *Taxon* 67: 215-216.
- Persson, C.H. & **P.G. Delprete**. 2017. The *Alibertia* group (Gardenieae - Rubiaceae) - part 1 (*Agouticarpa*, *Alibertia*, *Cordia*, *Melanopsidium*, *Riodocea*, and *Stenosepala*). *Flora Neotropica Monograph* 119. New York: New York Botanical Garden Press, 241 pp.
- Steege, H. ter, [...], **J.-F. Molino**, **D. Sabatier**, [...] & L.V. Gamarra [158 authors]. 2015. Estimating the global conservation status of more than 15,000 Amazonian tree species. *Science Advances* 1(10): 6 pp.
- Wiersema, J.H., **P.G. Delprete**, J.H. Kirkbride, Jr. & A.R. Franck. 2017. A new weed in Florida, *Spermace latifolia*, and the distinction between *S. alata* and *S. latifolia* (Spermaceae, Rubiaceae). *Castanea* 82(2): 114-131.

4.4.5. K – Royal Botanic Gardens, Kew

By Eve Lucas

Flora treatments

There is very little to report from Kew. The only activity is from Maarten Christenhuz.

Euphorbiaceae: Euphorbia complete. Also *Haematostemon*, *Omphalea*, *Pera*, *Plukenetia* and *Tragia*, prepared by Lynn J. Gillespie. Maarten cannot commit to completing the family and suggests Hajo Esser to coordinate.

Caricaceae: complete and with Sylvia who suggests it may go with Passifloraceae if possible.

Marattiaceae: Completed, requires formatting.

Sapotaceae S. Edwards has finished *Pouteria* but Terry Pennington will not continue (no funding) so *Pouteria* is likely to be published elsewhere.

Myrtaceae (E. Lucas et al.) – Nothing new. Discussion with Bruce Holst but both over-committed. A multi-authored contribution would still be most likely but there is little incentive for individuals to prioritize this.

Publishing affairs

Kew Publishing (KP) is more and more focused on profit than previously and has taken the decision to stop publishing Flora of the Guianas with the exception of a final volume should the FoG board wish.

Flora Guianas sales 01/09/2013 - 02/11/2017 (unclear why from 2013)					
ISBN	Title	RRP	Published Date	Units	Net income
97818424645 95	Flora of the Guiana Series C.Bryo	£70.00	23/08/2011	6	£264.60
97819003474 40	Flora of the Guianas 10 Aristolochiaceae	£18.00	01/08/2009	4	£35.46
97819003475 94	Flora of the Guianas 123 Vochysiaceae	£16.50		3	£22.28
97819003472 11	Flora of the Guianas 129 Anacardiaceae	£18.00		6	£58.86
97818424606 96	Flora of the Guianas 22 Phytolaccaceae	£46.00	01/08/2009	4	£90.62
97818424613 10	Flora of the Guianas 23 Acanthaceae	£55.00	28/07/2011	5	£143.00
97818424618 46	Flora of the Guianas 24 Hernandiaceae	£63.00		5	£152.78
97818424621 33	Flora of the Guianas 25 Eremolepidaceae	£60.00		4	£81.00
97818424604 67	Flora of the Guianas 3 Schomburgkiaceae	£60.00		4	£117.00
97819003471 43	Flora of the Guianas 31 Cactaceae	£16.50	15/03/2010	3	£32.18
97818424643 73	Flora of the Guianas Fascicle 28 Mimosoid Legumes	£70.00	15/02/2011	10	£409.15
97818424650 73	Flora of the Guianas Fascicle 30 Gentianaceae	£60.00	29/05/2014	83	£3,223.50
97819003470 20	Flora of the Guianas Musci Iii	£32.00		5	£81.60
97818424648 09	Flora of the Guianas Series a Fascicle 29 Sapindaceae	£60.00	19/10/2012	13	£504.00
97818424639 32	Flora of the Guianas Series a Fascicle 26. Gesneriaceae	£55.00	03/08/2016	3	£104.50
97818424646 56	Flora of the Guianas Series a Fascicle 31. Meliaceae	£60.00	29/04/2016	74	£2,937.00
97818424647 93	Flora of the Guianas Series E Fascicle 3. Cladoniaceae	£60.00	31/10/2013	58	£2,287.20
97818424641 82	Flora of the Guianas: 27 Fascicle (71. Cyrillaceae, 79. Theophrastaceae, 86. Habododendraceae,	£53.00	15/09/2009	9	£327.01

	90. Proteaceae, 100. Combretaceae, 113. Dichapetalaceae, 167. Limnocharitaceae, 168. Alismataceae)				
--	--	--	--	--	--

Kew Science

The five teams established in 2014 continue:

Comparative Plant and Fungal Biology, Collections, Plant Identification & Naming, Sustainable use, Conservation

Within ‘Plant Identification and Naming’ the Americas Team (led by Bente Klitgaard and including Alex Monro (Urticaceae), Nicolas Hind (Compositae)) has a focus on Bolivia (under the TIPAS framework) but links with Brazil remain strong, particularly the Conservation team (Eimear Nic Lughada) and Comparative Plant and Fungal Biology (Eve Lucas (Myrtaceae), Gwil Lewis (Leguminosae)). Thaise Emilio (Marie Curie fellow) is currently at Kew focused on Palm Hydraulic traits. Oscar Perez (Early Career Fellow) is working on Orchid phylogeny and evolution.

Kew is also currently active in Colombia as part of a post-conflict regeneration, matched UK-Colombia (Newton/ColCiencias) funded initiative to stimulate studies on Colombian biodiversity.

Flora writing is not a current priority and no Integrated Monography researchers have a curatorial remit.

News from the Sustainable use team is that William Milliken is recovering from a stroke. He is back at work part time.

4.4.6. L – Naturalis Biodiversity Center, Leiden

By Sylvia Mota de Oliveira (on behalf of Tinde van Andel)

General

The policy of the institute towards Taxonomy and Systematics is not yet defined, which affects also the activities around the U collections. Flora treatments are not encouraged due to the limited reach in terms of impact factor and visibility. Research in the Neotropics will be focused in the Brazilian Amazon, but until now only a number of projects in ecology – of Hans ter Steege and Josèf Geml - have institutional support. There is an ongoing discussion about the importance of hiring staff to perform collection based research. Paul Maas, Hiltje Maas and Lubbert Westra are still active. The MSc student Jasmijn Ruijgrok has contributed to the finalization of the Commelinaceae treatment by Bob Faden.

Flora treatments:

Annonaceae: predicted to be ready in 2018-2019 – Paul Maas and collaborators are actively working on it.

Publications relevant for the Guianas – L authors in bold

Bhikhi C & **Maas PJM**. 2016. Timber trees of Suriname - an identification guide. LM Publishers, Volendam, The Netherlands. ISBN 978-94-6022-391-4.

Erkens RHJ, Oosterhof J, **Westra LYT**, **Maas PJM**. 2017. Revisions of Ruizodendron and Pseudephedranthus (Annonaceae) including a new species and an overview of most up-to-date revisions of Neotropical Annonaceae genera. *Phytokeys* 86: 75–96.

4.4.7. MG – Museu Paraense Emílio Goeldi, Belém

Written report not received.

4.4.8. NY – New York Botanical Garden, Bronx

By Benjamin Torke

Since the meeting in Cayenne in 2015, there have been several relevant staff changes at the New York Botanical Garden. Larry Kelly has become the new Vice President for Research and Conservation Administration, succeeding Barbara Thiers, who continues in her role as Director of the Herbarium. Larry is also the director of NYBG Graduate Studies. Bill Buck, curator of bryophytes retired but continues to be active as Curator Emeritus. Ina Vandebroek, with research in the floristics and ethnobotany of useful plants and community health in the Caribbean and New York City, became Assistant Curator in the Institute of Economic Botany and is also the Director of the Caribbean Program. Brian Boom, former Director of the Caribbean Program, is now the Vice President for Conservation Strategy and Director of the NYBG Press and Science Outreach. Barbara Ambrose has been promoted to Director of Laboratory Research. Gregory Long, President and CEO of the New York Botanical Garden since 1989, will be stepping down in July of 2018. A search for a new President is currently underway.

Floristic research in South America lead by scientists in the NYBG Institute of Systematic Botany continues to progress. Douglas Daly has been working primarily in the state of Rondônia, doing both floristic studies and training woodsmen in plant identification as part of an initiative to certify sustainably harvested timber. Torke and colleagues at the Jardim Botânico do Rio de Janeiro and the Federal University of Western Pará continue to undertake floristic research in the lower basin of the Tapajós River in Pará, with the short term goal of compiling a checklist of the vascular plants of Tapajós National Forest and Amazônia National Park; the most recent fieldtrip in the region took place in February of 2017; project data are increasingly available online at: <http://sweetgum.nybg.org/science/projects/tapajos>. Wayt Thomas continues to study floristic diversity across Atlantic Coastal Forest fragments in north-eastern Brazil. Fabián Michelangeli

has undertaken extensive recent fieldwork in a variety of South American countries, including Peru and Brazil, for his research on the systematics of Melastomataceae.

The NY herbarium continues to make substantial progress in specimen digitization and curation. This past year, 294,579 specimens were newly digitized and were added to the Garden's *Virtual Herbarium*. The database now holds 3,254,602 specimen records, of which 2,995,952 are available on the Garden's Web site. As part of the World Flora Online project, approximately 39,000 species descriptions have been preliminarily formatted for the WFO website, representing all volumes of *Flora Neotropica* that treated vascular plant groups, as well as selected volumes of the *Memoirs of The New York Botanical Garden*. The herbarium of the Brooklyn Botanical Garden has been transferred on loan to the New York Botanical Garden; it is being kept separate from the main collection but is fully accessible. A grant was received by Barbara Theirs to transform the *Index Herbariorum* website such that participants will be able to update their own information. This year we began the very long process of re-arranging the specimens in the vascular plant herbarium according to the APG (Angiosperm Phylogeny Group)-III system. This project is led by Matthew Pace, who was assisted by interns and volunteers. The re-organization of the monocots was completed this year, including re-arranging all specimens, updating folders and family numbers on sheets.

The following is a status update for ongoing FOG treatment commitments at NYBG:

- Wayt Thomas: Simaroubaceae (including Picramniaceae): Not actively working on a manuscript, but says he intends to do it.
- Douglas Daly: Burseraceae: Not actively working on a manuscript, but says he intends to do it.
- Mike Nee: Solanaceae and Cucurbitaceae: Actively working on treatments; retired from NYBG staff in 2013.

4.4.9. P – Museum National d'Histoire Naturelle, Paris

By Odile Poncy

No change at P. As nobody is willing to commit themselves in the FoG project, Odile's attending is just virtual: albeit the hierarchy said "yes, MNHN should remain a member of the project": no staff, no funding. Odile (now retired) came to NYBG at her own expense.

However, Odile thought that there might be an opportunity to have MNHN better involved in the near future, thanks to a combination of new MNHN publication policy and private funding. As she explained already at the last meeting in CAY (2015), some other Flora projects are currently being supported by MNHN. For the last 3 years the Franklinia Foundation has provided funds for field work and herbarium visits for authors. As FoG is not being published by the MNHN Publishing Services, it is not considered to be among the MNHN projects eligible for funding by the Foundation. If changes occur in the publishing process of FoG fascicles (with the Publ. Serv. MNHN being involved in co-edition partnership), she could try and include FoG treatments in the MNHN funding budget obtained from the Foundation. This would not mean having any more

contributions from P staff soon, but could encourage contributors to visit P as well as participating to field expeditions to the FoG area.

Piero has initiated closer cooperation with Brazil/Amapa-Para. RB managed the Re flora project together with P and K. Recently Rafaella Forzza visited P and made a call for joined projects of field expeditions in the unexplored Brazilian areas close to the Guianas.

Current treatments:

Ochnaceae at last got ready this year. Sylvia did a very good reviewing work and Odile “just” encouraged CS to progress with the updating and corrections up to the end.

Cyclanths are still standing by, but Eduardo Leal is still willing to help and complete the ms after he has completed his PhD (early 2018).

Apocynaceae: no hope.

Monimiaceae/Siparunaceae. Standing by. M Pignal should be asked to provide an electronic copy of the ms.

4.4.10. US – National Herbarium of the United States – Smithsonian National Museum of Natural History, Washington DC.

By Pedro Acevedo

Flora treatments:

Grammitidaceae: Carol Kelloff finished her contribution to the treatment of this family of ferns.

The manuscript is being prepared through a collaboration with Michel Boudrie, George Cremers, and the late K.U. Kramer. The manuscript is currently with Michel Boudrie for final input.

Cyperaceae: Mark T. Strong is coordinating the treatment of this family for Flora of the Guianas. There are 25 genera and 309 species recorded from the Guianas. Nine treatments have been received (marked with an asterix below) which account for 226 species. There are 83 species left to be treated in 16 genera. Eleven of these genera have 3 or less species. The larger genera (*Eleocharis*: 26 spp.) and the Mapanioid genera (*Hypolytrum* and *Mapainia*: 29 spp.) will be completed by M.T. Strong in 1-2 years.

<u>Genus</u>	<u>Contributor</u>	<u>Number of Species</u>
<i>Becquerelia</i> *	Wim Veys	3
<i>Bisboeckelera</i> *	Wim Veys	3
<i>Bolboschoenus</i>	Mark Strong	2
<i>Bulbostylis</i> *	Robert Kral	15
<i>Calyptracarya</i> *	Wim Veys	5
<i>Carex</i>	Mark Strong	2
<i>Cephalocarpus</i>	Mark Strong	2
<i>Cladium</i>	Mark Strong	2
<i>Cyperus</i> *	Gordon Tucker	62
<i>Diplacrum</i>	Mark Strong	3
<i>Diplasia</i>	Mark Strong	1
<i>Eleocharis</i>	Eric Roalson	26
<i>Everardia</i>	Mark Strong	4
<i>Fimbristylis</i> *	Robert Kral	12
<i>Fuirena</i> *	Robert Kral	3
<i>Hypolytrum</i>	David Simpson	13
<i>Lagenocarpus</i>	Mark Strong	6

<i>Machaerina</i>	Mark Strong	1
<i>Mapania</i>	David Simpson	16
<i>Microdracoides</i>	Mark Strong	1
<i>Pleurostachys</i>	Mark Strong	2
<i>Rhynchocladium</i>	Mark Strong	1
<i>Rhynchospora</i> *	Mark Strong	87
<i>Scleria</i> *	Konraed Camelbeke	36
<i>Trilepis</i>	Mark Strong	1
<hr/>		
25 total genera		309 total species

Commelinaceae: A manuscript by Bob Faden is nearly finished through the collaboration of Jasmijn Ruijgrok (a master student at Naturalis Biodiversity Center, Netherlands); only 3 new species need to be described in order to finish the treatment for this family.

Boraginaceae and **Passifloraceae:** Although Christian Feuillet has been working on this manuscript for the last few years, we do not know on the status of his treatments.

Publications (2015-2017)

Strong, M.T. 2016. Three new Cyperaceae from the Cuyuni-Mazaruni Region of Guyana (South America). *Novon* 24: 401-407.

4.5. PUBLICATION OF THE FLORA

Eve Lucas confirmed that Kew Publishing has become more focused on the economics of in-house publications and has decided to stop publishing *Flora of the Guianas*. They leave open the possibility to publish one final fascicle (Ochnaceae and Quinaceae) in the series. As such, considerable time during the closed meeting of the Board was devoted to discussing possible alternative places of publication. The Board also met with Michael Brown, production editor for the NYBG Press, Brian Boom, Director of the NYBG Press, and Larry Kelly, Associate Vice President for Science Administration, in order to have additional input from NYBG staff working in a small scientific publication press and to explore the possibility of publishing FoG through NYBG Press.

Brown and Boom mentioned that NYBG Press continues to publish floristic treatments and monographs in series such as *Memoirs of the New York Botanical Garden* and *Flora Neotropica Monographs*. However, they are increasingly under pressure to generate profits from such series and are looking to partner with for-profit publishing companies (particularly Springer Publishing) and to handoff most aspects of production and marketing to these companies. They said they would be willing to publish *Flora of the Guianas* if a business model could be identified that would give a good chance for profitability. Advantages of this option include format flexibility, rapid output, support for both paper and electronic versions, and marketing by an established publishing house, such as Springer.

Odile Poncy put forth the idea to publish FoG through MNHN “Service des Publications Scientifiques” (SPS) as part of their “Collection Faunes et Flores tropicales” co-edited by IRD. The series has a track record of publishing floras (e.g., Cunoniaceae for *Flore de Nouvelle Calédonie*, Araceae of French Guiana, *Flore de Polynésie française*, etc.). The production

strategy is to produce attractive and well-illustrated books, preferably dealing with a coherent taxon (family, order...) fitting in a reasonably thick book. Each book is produced after agreement of the general content of the manuscript by SPS, the cost is calculated for one volume at a time, budget is discussed with co-editors (IRD is the regular partner, others). Advantages of this approach are 1) the opportunity to improve the currently bland format and make the series more aesthetically attractive (thus more marketable), and 2) increased flexibility in production possibilities. The main disadvantage is that the negotiation for each book in the series would be unpredictable and may require commitments from member institutions (financial, editorial?) that could be prohibitive. Odile also mentioned recent financial support to MNHN from the Franklinia Foundation for botanical activities and that floras "officially published" by MNHN would be eligible for funding through this source.

Pedro Acevedo suggested that Smithsonian Scholarly Press would be a good possibility to publish FoG. Smithsonian has funding for 1-2 volumes per year – free on paper and pdf; 1500 copies could be distributed around the world. Under this arrangement, editorial functions would continue to be centred in Leiden. Limiting factors include a lack of support for implementing design; perhaps we would just go with the current design implemented by Kew. SI would need clarification about the transferability of copyright and perhaps an update to the current FoG Memorandum of Understanding.

Nils Köster also said that Berlin BMB Press is willing to print 1 or 2 volumes per year. Nick Turland is editor, and there is some positivity in Berlin about the idea. This would also require negotiation (copyright, editorial Board contributions, funding?).

Other possibilities that were discussed including publishing through a private (for-profit?) publishing company and/or publishing at one of the member institutions but with funding for productions and publication supplied by contributions from the FoG member institutions. Although Piero Delprete suggested at the previous meeting in Cayenne that IRD might be willing to publish the series, he conveyed that there is currently little interest.

Ultimately, the Board selected the option to publish through Smithsonian Scholarly Press as the best option, mainly because it would allow production to continue with minimal disruption and would not require additional funds for production and publication. Pedro agreed to further explore the possibility upon returning to SI. The Board also ranked the options to publish through Berlin BMB Press and through MNHN SPS highly, and Nils and Odile agreed to follow up about these possibilities at their respective institutions.

4.6. FUNDING

In addition to the funding needs mentioned in the Publication of the Flora section (4.5), the Board identified other funding challenges, including uncertainty about future funding from Naturalis for Sylvia's position as Editor, lack of funding to support research by potential contributors to the FoG series, and ongoing reluctance of the member institutions to support the Board meetings and travel to Board meetings. Most concerning, support for collections and curatorial and research personnel in Guyana and Suriname is at a low ebb. Philip da Silva said that while there is some activity in the biodiversity center, the lack of permanent staff in collections and botanical research limits activities in Guyana and the ability to recruit and train students who might prepare treatments for the FoG series. We discussed the possibility of trying to raise funds to endow a curator/professor position in Guyana, but the idea needs more work.

The Board members all agreed to investigate funding opportunities at their respective institutions. Sylvia mentioned success in securing internal funding to bring students to Leiden.

4.7. MODERNIZATION OF THE FLORA

Discussion of this topic was limited by the uncertainty about the publishing arrangement for the Flora of the Guianas going forward. Nevertheless, priorities identified included addressing the desire of authors and readers for rapid publication, open access, and having an impact factor associated with their publications (this currently unavailable for FoG). We also revisited past discussion about the trend toward fully electronic publication and noted that a number of floras and taxonomic publications are now being produced only in electronic format.

Sylvia updated us on the progress on the electronic treatments available through the FoG website. There are currently 44 family treatments available online derived from published FoG treatments. The treatments include full descriptions, distributional information, maps, synonymies, keys to genera and species, and information on wood anatomy. Species occurring in the FoG distributional area are also fully treated, with full descriptions, distribution maps, and other information available. Thanks to Sylvia for all her efforts to make this a reality.

The Board also met with Wayt Thomas, curator in the Institute of Systematic Botany at NYBG and one of the coordinators of NYBG's participation in the World Flora Online project, a collaboration between NYBG, the Missouri Botanical Garden, Royal Botanic Gardens Kew, and Royal Botanic Garden Edinburgh. The main goal of the project is to provide online access to comprehensive, taxonomic treatments for the known world's flora (350,000 species). This project currently working collaboratively with 30 other research institutions to make previously published treatments available and to help curate the treatments. We agreed that FoG would join the World Flora Online consortium since it would help to better disseminate taxonomic data from FoG treatments.

4.8. NAGOYA PROTOCOL

The Board met with Matthew Pace, assistant curator of the NY Herbarium to discuss how the Nagoya Protocol might impact FoG member herbaria. The Nagoya Protocol is a supplementary agreement to the Convention on Biological Diversity. It became effective in 2014 but has not been ratified by all countries, including the United States. It provides a legal regulatory framework for sharing benefits derived from the exchange of and study of genetic materials. It is likely to impact the international loan and shipment of herbarium specimens and other kinds of plant materials. It likely will require additional documentation of research, collecting, export, and import permits. It also emphasizes the use of Material Transfer agreements for specimen exchanges, which should be signed by both the shipping the receiving institution. It may restrict or prohibit the subsequent shipment of specimens to institutions that are not signatories of such agreements. Matthew told us that NYBG is still studying the details of Nagoya and how it might impact their current operations.

4.9. PLAN FOR THE NEXT MEETING OF THE ADVISORY BOARD AND INTERVENING PERIOD

It was noted that the current and last meeting were held in North and South America (Cayenne), respectively, and that the next meeting should thus take place at one of the European member institutions. Eve Lucas volunteered to explore the possibility of hosting the next meeting at Kew. In addition to Board member commitments discussed elsewhere, Ben agreed to compile the minutes from the current meeting, Sylvia agreed to make a document outlining and prioritizing possible places of publication for the FoG series, all Board members agreed on the need for increased participation of the full Board in editorial tasks and treatment reviews, and Piero volunteered to review nomenclature for all manuscripts.

4.10. STATUS OF OUSTANDING TREATMENT COMMITMENTS AND UNTREATED FAMILIES

At this meeting, the Board made an effort to resume the practice of going through the list of plant families that have not yet been treated for the Flora to discuss status, progress, and to identify potential authors for untreated families for which there is no current commitment. Several of the Board members agreed to contact potential authors identified during the discussion. Ben agreed to contact Rosa Ortiz (Menispermaceae), Harvey Ballard (Violaceae), Xavier Cornejo (Capparaceae), and Zach Rogers (Thymelaeaceae). Sylvia and Eve agreed to present a poster about the Flora of the Guianas at the upcoming Latin American Botanical Congress in Ecuador, including a recruitment pitch for treatment contributors.