



Summary Report on the World Flora Online Council Meeting
Dublin, Ireland
Hosted by the University of Dublin, Trinity College

The tenth meeting of the World Flora Online Council was held at Trinity College in Dublin, Ireland from 6-7 December 2018, preceded by Taxonomic and Technical Working Group meetings from 4-5 December. Over the four days, 18 individuals participated, representing 13 institutions, organisations or projects.

The following is a summary report of the meeting and decisions adopted.

The report from the previous Council Meeting in Villa de Leyva, Colombia in June 2018 and the proposed agenda were accepted.

MEMBERSHIP

Peter Wyse Jackson (Co-chair) reported that the European Botanic Gardens Consortium was added as a member of the Consortium, bringing the total to 42. There are no pending members in process.

RECOMMENDATIONS ACCEPTED

The following recommendations were considered by the WFO Council:

TECHNICAL WORKING GROUP RECOMMENDATIONS

1. Add Acknowledgements section to About page – Defer to Istanbul
2. Modify Common Names section of taxon page. Change “Common Names” to “Vernacular Names” or “Local Names” and add "Preferred" column. – Deferred to Taxonomic Working Group for Istanbul meeting
3. Remove Sampled Red List Index on Taxon page – Accepted
4. Add URL Link to External Links higher taxon names to Angiosperm Phylogeny Website (orders and above) and explore similar link for Bryophyte higher ranks.– Accepted
5. Add URL link to Data Providers on About page – Accepted
6. Add WFO Backbone text to home page of TPL – Accepted. Text to be drafted and approved by Council by email
7. Add TPL’s “Major Plant Groups” to supra-family hierarchy – Accepted
8. Change display of taxon status of “unresolved” to “unchecked” – Accepted
9. Change coverage map title to "Geographic Coverage of Flora Data" – Accepted
10. Add list of floras under Geographic Coverage map – Accepted

11. Change Turkey partner name to "Illustrated Flora of Turkey" on About page and Contributors page – Accepted
12. Change color of statistical counts listed on home page to more readable color – Accepted.
13. Change color and size of plant name in Image window to more readable – Accepted.
14. Distinguish homotypic and heterotypic synonyms on taxon page, when recorded (code change) – Accepted
15. Add responsive GUI (size auto adjustable, upgrade to Bootstrap 4) (code change) Accepted, low priority

TAXONOMIC WORKING GROUP RECOMMENDATIONS

1. Use the informal Major Plant Groups in WFO, as was done for The Plant List. – Accepted
2. Add complete data download to TPL with data quality warning in webpage and metadata. - Accepted
3. IPNI is the WFO Standard Nomenclator for Angiosperms, Gymnosperms and Pteridophytes -. Accepted
4. WFO Council recognises need for a Nomenclator for Bryophytes and encourages MO and G to take a lead on this. - Accepted
5. Change 'unresolved' to "unchecked" – a more neutral term merely meaning that the name has not been checked by WFO – Accepted
6. Add a new taxonomic status "ambiguous" for names that have been checked and not been resolvable as either accepted or synonym – these names are unlikely to have Content attached, but need to be dealt with in the backbone. – Accepted
7. Update List of TENs Spreadsheet with APGIV orders and families, WCSP coverage, TENs and post on WFO website to encourage take up by TENs
8. Council endorse the authorisation of enlisting endemic regional TENS (Madagascar Endemics, Australian Endemics, South Africa Endemics) and Irvingaceae, Brassicaceae TENs - Accepted
9. Council endorses the contacts listed to pursue the development of TENs for the identified groups (Juncaceae, Annonaceae, Chrysobalanaceae, Lecythidaceae, ILDIS, Cyperaceae, Balsaminaceae, Bryophytes, Rubiaceae) and propose TENs for Istanbul meeting. - Accepted
10. Tax WG compile a list of WCSP Reviewers for potential TENs, and report to Istanbul meeting. – Accepted
11. Council approve the list of content providers presented for 2019, recognizing that they are within the WFO member institutions. Add these to the map of global coverage in a lighter/different color. - Accepted
12. Current taxonomic range of WFO maintained to 2020. Council reviews this in 2019 in light of future CBD/GSPC targets. - Accepted
13. General Guidelines and Taxonomic Backbone Guidelines are completed and made publicly available on WFO website by 1 February 2019. – Accepted
14. Council recommends timely posting and distribution of draft reports from meetings to keep Council members updated as soon as possible after each meeting (physical and conference calls). – Accepted

TECHNICAL WORKING GROUP ACTIVITIES

The Technical Working Group reported on its activities in the following areas:

- Coming changes to the WFO Backbone
- Additional content coming
- Progress with duplicates – reduced from 38,729 to 12,573
- Analysis of APG IV – 215 families in WFO are not in APGIV, 14 new families
- 13 floras loaded
- Summary WFO Portal statistics – 198,000 species, 219,000 total descriptions
- Reviewed prior decisions
- Discussed how Reference data is handled by Harvester
- Reviewed Content Data Contributors Guide
- Reviewed Authorization and Registration
- Code modifications made since Colombia
- Reviewed Google Cloud status – usage rate reduced, remaining funds through 2021, no extensions
- Reviewed completed action items

TECHNICAL WORKING GROUP ISSUES

- Need to specify changes needed to IPT by GBIF – Matt Blisset has offered to consider
- Supporting OwnCloud server at Google – still no volunteer
- Software development staffing – needed for major functional changes
- How to synchronize WFOIDs and IPNI IDs – work with Robert Turner at Kew
- How to provide feedback to IPNI?
- Should we load specimen images from Paris? – Council decided no.

TAXONOMIC WORKING GROUP ACTIVITIES

The Taxonomic Working Group reported on its activities in the following areas:

- Suprageneric classification revisions to APG IV, etc.
- De-duplication of WFO Taxonomic Backbone
 - 4,898 duplicates remain from original 38,279
 - 1,284 have content associated
- TPL and other feedback email
- Updating the Taxonomic Backbone with data from Nomenclators and Content Providers
- Taxonomic Expert Networks
 - 9 TENs are authorized
 - RBGE TEN Manager has been delayed. Colin and Mark will caretaker in the meantime.
 - 7 potential TENs contacted
 - 21 candidates for TENs identified
- Content acquisition status
- Mobilization of descriptive content providers and prioritized list of next providers
- Expanding the kinds of plant groups (e.g. Columbian lichens, algae, fungi)

- Documentation for Data Providers
- Improving communications with the Working Group
- Workflow and procedure for contributors to update the Taxonomic Backbone
- Criteria for TEN assessment (transparency) – Data Providers adapted from Paris
- Items deferred to Istanbul
 - Dealing with unresolved (unchecked) names
 - Versioning and citation of Taxonomic Backbone data [and Content]

TAXON PAPER

Thomas Borsch revised the draft with Mark Watson and Colin Pendry. It was further refined during the meeting. A finalized in version will be completed in the coming weeks to submit in early January.

TECHNICAL WORKING GROUP WORKPLAN FOR 2019

- Load More Content Data
- Resolve all duplicates
- Convert to APG IV, Add Supra-family ranks
- Synch WFO Backbone WFOIDs with IPNI IDs
- Add new names from IPNI
- Load More Backbone Data
- Complete Botalista - Geneva
- Evaluate consolidation of Family Authorities to one “WFO Consortium” Authority for simpler taxonomy changes – pros, cons
- Evaluate use of DOIs for uploaded datasets and downloads
- Resolve gaps in Portal function by changing code as resources allow
- Resolve insufficient software development staffing
- Fix geo server
- Update interface to IUCN to new method

TAXONOMIC WORKING GROUP WORKPLAN FOR APRIL 2019

- Update Families and their higher Classification in the Taxonomic Backbone. Lead: TEN Manager, complete by December
- Addressing remaining duplicated names in the WFO Taxonomic Backbone. Lead: TEN Manager, complete by January
- Finalize TEN documents
 - FAQ and Terms of Reference for prospective TEN. Lead: TEN Manager, complete by February
 - Assessment Criteria to be used by WFO Taxonomic WG/Council. Lead: TEN Manager, complete by February
- TEN management

- Contact additional TENS authorised by Council. Lead: TEN Manager, April.
Continue to engage with listed TENS to get agreement to participate. Lead: TEN Manager, Wayt Thomas + various
- Update Family spreadsheet with APGIV classification and publish on website. Lead: Marc Sosef, April
- Major Family Gaps – shortlist of 60 prioritized groups
 - Circulate shortlist to Consortium members for comments and to encourage contributions: Peter WJ, April
- Content
 - Follow up on prioritised content sources. Various, April
 - Test inclusion of PDF accounts and using Citizen Science approaches and report to April meeting
- Taxon Paper. Lead: Thomas Borsch, complete by January
- Communication
 - WebEx Conference Calls in Feb, ?April, organized by Mark Watson

CATALOGUE OF LIFE COLLABORATION

Olaf Banki reviewed the current status of the Catalogue of Life (COL) with 1.8 million names. COL+ is a new infrastructure in work which will include the GBIF taxonomic backbone. A new COL public portal is expected in Summer 2019. A white paper on the WFO and COL collaboration is being drafted. Marc Sosef is leading the revision of the White Paper with COL along with Thomas Borsch and Mark Watson. Olaf suggested that a technical meeting be organized with COL.

BOTALISTA UPDATE

Pierre-André Loizeau reported that the project had been delayed. Phase 1 will be completed in September 2019 and Phase 2 in December.

UPDATE ON POST-2020 PLANS FOR GSPC

Peter Wyse Jackson reported that we discussions continue on possible future development of a post-2020 Global Strategy for Plant Conservation, which is likely to be linked closely with the post-2020 global biodiversity framework currently being negotiated and may link closely to the current Aichi Targets and the Sustainable Development Goals. The Council considered that there would be a need for a revised post-2020 target for the GSPC related to the World Flora Online. Something like the following may be proposed “By 2030, all countries have access to comprehensive and authoritative expertise, online information systems and inventories of their floras and natural habitats.” But further discussion on wording related to the WFO will be required.

RESOURCE MOBILIZATION AND UPDATE ON FUND RAISING

Adil reported on a proposal submitted to a Turkish funder. Modest financial support to TENS might be put together.

REVIEW OF ACTION ITEMS

The following action items from the Colombia meeting were reviewed.

#	TASKS	WHO?	WHEN?	COMMENTS
1.	<p>Presentations on WFO. Take advantage of the meetings we attend to promote the WFO.</p> <p>-- <i>Chuck and William presented a technical talk about WFO at TDWG2018 in Dunedin, NZ</i></p>	All	<p><i>Continuously .</i></p> <p><i>Upload to WFO Presentations folder in ownCloud.</i></p>	<p><i>Next presentations:</i></p> <ul style="list-style-type: none"> - <i>May in Lisbon</i> - <i>TDWG Meeting in Netherlands</i> - <i>Caryophyllales Network Congress in Mexico City. Walter Berendsohn.</i> - <i>Caribbean Botanical Garden Network, Cuba April 2nd -5th Berlin and MBG will have representatives.</i> <p><i>Need to upload presentations to ownCloud folder</i></p>
2.	<p>Update current signatories. Update the list of Consortium members on the website.</p> <p><i>Maintain an archive of hard copies of the Agreements between Data Providers and the World Flora Online stored at the Secretariat.</i></p>		<i>As new members join.</i>	- <i>All current signatories were updated in the Website.</i>
3.	<p>Update Facebook page. Keep updating FB page with news and current information.</p> <p>- <i>Included in the Communications Strategy</i></p>	Communic. Committee		<p><i>Refer to Communications WG. for Communications Strategy.</i></p> <p><i>Any member may suggest a volunteer to Co-Chairs.</i></p>
4.	<p>Create WFO Pamphlet. Create a pamphlet for WFO, taking the one from CETAF as an example.</p> <p>- <i>Pamphlet should be something simple and brief to inform our community about the Consortium to put in our own institutions.</i></p> <p>- <i>Once pamphlet is created make sure every institution has hundreds of copies.</i></p>	Communic. Committee	Completed	<p>- <i>A pamphlet was created and available for the time of the launch at IBC.</i></p> <p>- <i>Melissa will upload to ownCloud.</i></p>

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5.	Videos. <i>It was recommended that we include the links to videos of institutions on Website.</i>		<i>Continuously</i>	<i>- Anyone with videos in their institution relevant to WFO, please provide.</i>
6.	<p>Enhance Production Portal with Descriptive Data. Production portal should be enhanced with descriptive data content as advised by the Data Content subgroup for the Nov. meeting.</p> <p><i>Send a tweet as content is loaded to Production.</i></p>	WU	<p><i>Ongoing task.</i></p> <p><i>When ready, William Ulate will touch base with the intermediary contacts of the Content providers for the next digital resources to bring into the WFO Portal, as determined by the Taxonomical WG in order to increase the diversity of content and geographic coverage.</i></p> <p><i>Chuck Miller to lead production of a map of WFO current content showing geographical coverage (for website, presentations etc.) for Dublin. - Done</i></p> <p><i>The Taxonomic Working Group will define the criteria (scientific credibility, completeness, substantial contribution, currency, etc.), similar to those used for assessing TENS, to judge the authorization of potential Content Providers during the next meeting in Dublin</i></p>	<p><i>Re-harvest flora datasets to capture descriptions for new names or newly matched names:</i></p> <ul style="list-style-type: none"> - <i>Solanaceae Source</i> - <i>eFlora of China</i> - <i>NYBG – Flora of NE US</i> - <i>Plants of the World Online -</i> - <i>POWOP data on Flora of West Tropical Africa</i> - <i>IUCN Conservation Status</i> - <i>Images from Solanaceae & Flora of China</i> <p><i>Continue to load remaining and new datasets:</i></p> <ul style="list-style-type: none"> - <i>Flora of Colombia</i> - <i>Australian Floras</i> - <i>Flora of Nepal</i> - <i>Illustrated Flora of Turkey</i> - <i>Illustrated Treatments for Korea: Cyperaceae, Poaceae, Pteridophyta, Coniferae (descriptions in Korean) – Kaesun Chang</i> - <i>Fl. Helvetica (descriptions in French and German) – Pierre-André Loizeau</i> - <i>Fl. Trop. East Africa (Kew, TBC)</i> - <i>eMonocot descriptions (Kew, TBC)</i>

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7.	<p>Create a Harvester administration/operations guide. The development of a Harvester administration/operation guide should be carried out immediately through testing and collaboration.</p>		<i>Ongoing task</i>	<i>New updates should be included.</i>
9.	<p>Complete gap analysis of the portal use cases. Complete a full analysis of the portal use case gaps, including severity of the gap, difficulty to remediate, resources to mediate and a prioritization.</p>	Mark, Chuck	<i>In Progress</i>	<p><i>Subgroup began the first pass of the process, need to continue filling out the rest.</i></p> <p><i>Conduct simple survey with generic questions about usability, functionality, user experience (e.g alternate classifications)</i></p>
10.	<p>Implement Botalista software. Work together to further develop Botalista as collaborative tool for expert networks to contribute backbone data.</p>	Pierre-André and Raoul	December 2019. Ingestion phase: <i>BOTALISTA will be able to manage the backbone, receive DwCA archives and produce the output archive to harvesting into the WFO Portal by Dec.2019</i>	<i>Raoul would test the ingestion to Botalista of the full version of the taxonomical backbone.</i>
11.	<p>Make a Survey of existing global taxonomic networks. Make a Survey of existing global taxonomic networks and the systems used and ask if they are willing to be responsible to match names to treatments.</p>	<i>Tax.WG</i>	<i>In Progress</i>	<i>Continuing as we build the list of actual and potential list of TENS</i>
12.	<p>Provide standards for genus and species of angiosperms and gymnosperms. Address suprafamily classification.</p>	<i>Tax. WG</i>	<i>- Mark Watson will lead the update of families and higher ranks, liaising with the Technical Working Group for instructions on how this can be done (within</i>	<i>Tax WG discussed at Colombia, recommended following up APG IV. Barbara has touched base with her contacts on indications on how to solve taxonomic problems for non-APG groups (ferns and bryophytes).</i>

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			<i>Botalista</i>).	- A new family classification proposed in writing to the Taxonomic Working Group should be accompanied by its higher classification.
13.	Taxonomic Expert Networks (TENs). Identify specialists to review parts of the taxonomic backbone. When no networks exist, identify specialists to review parts of the taxonomic backbone and/or assess the quality of the treatment in the current WFO backbone.	<i>Tax. WG</i>	<i>In Progress</i> <i>Created first draft on the “World Flora Online Collaboration Model and Workflow for Contributors to the WFO Taxonomic Backbone for discussion</i> <i>The list of TENs will be worked by the Taxonomic Working Group during the meeting in Dublin.</i>	<i>Underway.</i> <i>List of 9 TENs approved by the Council at Colombia:</i> <i>1. Begoniaceae - M. Hughes (E)</i> <i>2. Cordiaceae - J. Miller (MO)</i> <i>3. Caryophyllales - T. Borsch (B)</i> <i>4. Dipterocarpaceae - M. Newman (E)</i> <i>5. Hypericum - S. Crockett (Graz); N. Robson (BM)</i> <i>6. Picramniaceae - W. Thomas (NY)</i> <i>7. Sapotaceae - P. Wilkie (E)</i> <i>8. Solanaceae - S. Knapp (BM)</i> <i>9. Zingiberaceae - M. Newman (E)</i> <i>Set up a dedicated email address for WFO TENs Manager, Jim Miller will receive messages until a full-time TENs Manager is appointed.</i> <i>Mark Watson, Wayt Thomas and Jim Miller will include potential contacts/institutions into the shortlist of 60 large to medium size families not covered by WCSP to prioritize and circulate this list to the Taxonomic Working Group for comment and then distribute among the members of the Consortium.</i>
14.	Update guidelines for contributors. Guidelines for contributors available (June 2014) need to be updated.	<i>Walter, William</i>	<i>In Progress</i> <i>The reviewed Guidelines</i>	<i>Updates to the three guides are being developed:</i>

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	<i>Developed first version of Guidelines for Contribution: Backbone and Content before IBC.</i>		<i>for Contributors will be sent from the Co-Chairs to the Council in mid-July</i>	<ol style="list-style-type: none"> 1. General introduction on how to become a member. 2. Tech-minded, here's the document how to contribute to the taxonomic backbone. 3. Content provider. <p><i>The Registration process in the Guidelines is to be separated from the provision of content.</i></p> <p><i>Walter and Chuck would finalize the next version of the Guidelines this week, put them on the ownCloud and send them around in the Committees with a deadline on commentary to make progress before the next meeting.</i></p>
15.	<p>Develop markup Tools for a Toolkit. Consolidate the Markup Tools being used; develop them to integrate them into a toolkit.</p> <p><i>- SANBI has developed Markup tools and are available for others to use. Available from GitHub: github.com/rudivs/SpeciesMarkupAddIn</i></p>	<i>TechWG</i>	Ongoing	<i>No current update, not priority for 2018, but continue for future</i>
16.	<p>Communicate document on web strategy based on CBD CHM work. Create a document on web strategy for the next meeting based on the work being done by the CBD CHM. Suggest ideas on materials like meetings where WFO should present a keynote or at least a Symposium on WFO.</p> <p><i>- Communications Committee will define Communication plan as a bigger topic.</i></p> <p><i>- Put someone in charge of the Social</i></p>	<p><i>Comm. WG.</i> <i>(Eduardo Dalcin, Barbara Thiers, John Parnell)</i></p>	<p><i>In Work</i></p> <p><i>Draft Web Strategy created.</i></p> <p><i>ResearchGate WFO project was set up. Done.</i></p> <p><i>FAQs have been added to About portal. Done.</i></p> <p><i>- The Communications Working Group should work in a Communications Strategy that identifies</i></p>	<p><i>We need to have a clear strategy on how the WFO is integrated into all of the outcomes of CBD, which requires an understanding on how the CBD works and a lot of promotion of the WFO within the CBD Mechanisms.</i></p> <p><i>- Install a Content Management System (CMS) on Google Cloud (WordPress). Defer to Dublin the recommendation to adopt a CMS for the About page.</i></p> <p><i>- Make the About web page (currently in HTML) easier to</i></p>

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	<p><i>Media</i></p> <ul style="list-style-type: none"> - Separate production of content from the website administration, tailor-make the strategy for each group in order to facilitate the prioritization. - Launch of our communications strategy to raise awareness when we have a portal that people could use. Communicate key advances and specific strategy. - Demonstrate a joint Consortium web site to promote fundraising. -For a Strategy define Who they are? What to tell them? How to tell them? Who's going to tell them? And when are they going to be told? 		<p><i>the target audiences (TENs, General Public, Taxonomic Community and others) and bring as a discussion point in Dublin.</i></p>	<p><i>update by multiple partners (migrating to a CMS).</i></p> <ul style="list-style-type: none"> - Reassess About page content. Put together some guidelines about an Acknowledgements section and submit them to the Council for acceptance in principle. <p><i>For the Communication Strategy, define what is WFO doing in the next 6 months to be able to know what to communicate. We need to define what audience we want to attend first and use appropriate platforms to reach them. Peter Wyse Jackson may send a message to the Council asking for names of specialists who could collaborate on a Communication Plan, once we know what we want to communicate.</i></p>
17.	<p>Prepare short paper for TAXON. Prepare a draft explaining the WFO taxonomic backbone approach, describing the acknowledgement structure and the available technological tools (for ingestion). - Edit, polish and distribute to the group and external people who may have something to add.</p>	<i>Taxonomic Working Group</i>	<p><i>Finalized and open for comments to both Tech and Tax lists soon.</i></p> <p><i>Thomas Borsch will finalize the manuscript of the TAXON paper with Marc Sosef and Mark Watson and submit it by the end of January 2019.</i></p>	<p><i>Underway, excellent progress. Close to being able to submit.as discussed in the Taxonomic Working Group report.</i></p>
18.	<p>Save the Dates. Save the dates for the 11th & 12th meetings</p>	<i>Peter Wyse Jackson</i>	<p><i>Istanbul, Turkey. April 23 – 28, 2019</i></p> <p><i>12th Meeting – TBD</i></p>	<p><i>Post the report of the previous Council Meeting on the WFO website</i></p>
19.	<p>Create a list of institutions relevant to promote WFO and interact with.</p>	<i>Barbara will compile</i>	<p><i>Some work done on this already.</i></p>	<p><i>Create a list of who we should approach to make the point of the importance of WFO and market</i></p>

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		<i>All: Send suggestions and contacts to Barbara</i>		<i>our initiative. - Handle in context of the Communications Strategy.</i>
24.	Add Emails to the WFO List. Made list of active members' emails of people involved in WFO. Access to the ownCloud was also reviewed.		<i>Done</i>	<i>Has worked very well with lists through Rio.</i>
25.	Data Sharing Agreement. Develop further the existing Draft Sharing Agreement to share content with other Taxonomic Networks. <i>Any Data Provider Agreement should be harmonized with the Terms of Use.</i> <i>Include current version of the Terms of Use in this Meeting Draft Report and request ideas on how to update both.</i> <i>Maintain an archive of hard copies of the Agreements between Data Providers and the World Flora Online stored at the Secretariat</i>	<i>Peter Wyse Jackson</i>	<i>Peter Wyse Jackson will prepare some materials on Data Sharing Agreements for the Next Meeting in Dublin</i>	<i>This applies for data not shared under CCO. There's a need to define what / how content with restrictions will be shared. The text on how to Cite the WFO should also be developed.</i> <i>Include a leading part to the document saying that we want to encourage access to the information as open as possible.</i>
27.	How to Cite. Advise users in the website how to cite the WFO content using an indication "as of <THIS DATE>"		<i>Done</i> <i>Add a link in footer "How to Cite WFO"</i> <i>Create language for citing original publication and the WFO.</i>	<i>Add "as of <THIS DATE>, given the dynamic nature of WFO and while we lack versioning of WFO in a preharvesting system.</i> <i>We have it in the FAQs.</i> <i>Pending to add to the Webpages.</i>
28.	Ingest new Version 3 IUCN data interface. Modify eMonocot code to	<i>William</i>	<i>Ongoing</i>	<i>To achieve with limited resources</i>

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	be able to harvest IUCN data. Currently, only Version 2 is usable with eMonocot.		<i>Requires code change.</i>	<i>(High Priority).</i>
29.	DOIs for datasets and downloads. Evaluate using GBIF-generated DOIs for WFO contributed datasets and downloads	<i>Technical Working Group</i>	<i>Pending code change</i>	<i>Creation of metadata for downloads for DOI.</i> <i>Evaluate the adding DOIs to uploaded datasets and downloaded reports.</i>
30.	WFO Darwin Core extensions. WFO Terms not included in Darwin Core standard: 1. localID: Record identifier used by the data contributor. E.g. Tropicos ID, Flora of S Africa ID, EDIT ID 2. Alternate Taxon/Name IDs: E. g. Catalogue of Life ID 3. taxonomicStatusReference: Accepted or Synonym status by/according to publication. E.g. Accepted according to GrassBase 4. sourceCitation (of the name record): Not namePublishedIn or bibliographicCitation. E.g. Solanaceae Source is source of the Backbone name record. 5. VerbatimSpecimenList: Currently using Specimens extension. 6. VerbatimDistribution: Using "Distribution" Description Type in Descriptions.txt file 7. Protologue: Using Description Type of Original Publication in Descriptions.txt file 8. nomenclaturalNote	<i>Technical Working Group</i>	<i>Ongoing</i>	- Write a white paper on Darwin Core extensions needed for WFO - Formally request Darwin Core extensions from TDWG for WFO
31.	Send formal request to GBIF for WFO-tailored versions of IPT and DwCA Validator, involving SANBI and	<i>Technical Working Group</i>	<i>Ongoing</i>	<i>Botalista replaces tailored version of DwCA Validator.</i>

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	Flora do Brasil			<i>Tailored IPT still needed.</i>
33.	Resolve insufficient resources to support: a) Software development staffing. b) Fund TEN Manager position c) Institution to maintain OwnCloud	<i>WFO Council</i>	<i>Defer to next meeting in Istanbul</i>	<i>a) Missouri is committed to providing William's role, but we have an issue with software development staffing</i> <i>b)- Acknowledge support from RBGE.</i> <i>c)- Defer decision to Istanbul.</i>
34.	Test Harvester with new Data Types as advised by the Council during the Nov. meeting in Paris.	<i>William</i>	<i>Ongoing. Distribution data needs more work.</i>	- Harvest distribution data into the Portal - Upload habit from BGCI Global Trees Assessment - Trial harvesting identification keys into the Portal
35.	Implement the following tasks (not high-priority): 1. Add "How to Cite" in page footer. 2. Reveal hidden fields (e.g. Basionym) 3. Enable alternate classifications	<i>William</i>	1 is done When possible. Requires code change.	To achieve with limited resources, whenever possible 1. Done 2. Pending 3. Pending
36	Integrate authoritative information on accepted names and synonyms from a well-defined geographic area into the WFO backbone , and thereby improve the overall quality of the latter. Prior to engaging Taxonomic Expert Networks (TENs) for a taxon-by-taxon review of the backbone information.	<i>William Pete Lowry</i>	<i>Ongoing</i>	Use the taxonomic backbone of the <i>Catalogue of the Plants of Madagascar</i> project as a test case. <i>(Endemics from Madagascar and African Plants Database)</i>
37	Taxonomic Working Group follow up.	<i>Tax WG</i>	Done	<i>WebEx Conference Calls to be held in Aug, Sept, Oct/Nov.</i>
38	Formalize relation with IAPT	<i>WFO Council</i>	Defer to next meeting in Istanbul.	Patrick S. Herendeen, new IAPT chair, is interested, according to Michelle Price and collaboration will be examined during their next meeting in October. - The situation is currently positive for collaboration.

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39	Catalogue of Life	<i>Marc Sosef, Mark Watson and Thomas Borsch</i>	Marc Sosef will coordinate the task force for COL with Mark Watson and Thomas Borsch to take forward work on a white paper that will discuss collaboration between WFO and CoL, including a proper mechanism to develop a technical partnership. To be addressed in Istanbul.	<i>The Council indicated that in-depth discussions are needed on how we could possible work if there are rival taxonomic backbones in use. The task force with to take forward work on a white paper that will discuss collaboration between WFO and CoL. A proper mechanism to develop a technical partnership should be included.</i>
40	Authorization and Registration Process.	<i>Taxonomic Working Group</i>		<i>- Identify any issues to address or enhancements to add at the workflow of the process of Authorization and Registration derived from the existing Guidelines indications presented by the Technical Working Group. - Separate the Registration process in the Guidelines from the provision of content.</i>
41	Google Cloud Resources	<i>William Ulate</i>	Resources reduced. Funding through 2021.	<i>Reduce unneeded Cloud resources</i>
42	New Names. Implement a mechanism to deal with new names coming from Content Providers or IPNI and updating the Taxonomic Backbone, as recommended by the Taxonomic Working Group. <i>A 'new name' is an Effectively Published name not already in the Taxonomic Backbone. Content Providers only provide one name, their accepted name of the taxon which they are providing content</i>	<i>Technical Working Group</i>	The Technical WG suggests we need to be deferred due to limitations of eMonocot ingestion process Deferred to next meeting in Istanbul	<i>- Create a feedback mechanism as needed to alert TENS when a new name is incorporated in the pre-harvesting Taxonomic Backbone (eventually Botalista). - Make an agreement with IPNI to receive their annual updates of new names and new combinations. - Treat new names from IPNI as if coming from a non-TEN Content Provider - Export new names in the backbone in a data format appropriate for the TENS to</i>

#	TASKS	WHO?	WHEN?	COMMENTS
				incorporate into their own system.
43	GLOVAP 4 publication. Minute a formal response to GLOVAP 4 based on the proposed WFO viewpoint.	WFO Council	Done Proposed viewpoint of WFO on the GLOVAP 4 publication <i>The Council of the World Flora Online (WFO) considers the approach taken by the authors of GLOVAP 4 to be contrary to the spirit of WFO, where we have all worked hard to develop and promote a spirit of collaboration and collegiality within the WFO Consortium and taxonomic community. WFO is based on the best scientific practices and peer-reviewed consensus, and we recommend that future taxonomic changes should closely involve those undertaking the original research. Nevertheless, WFO recognises that the numerous new names that are validly published in GLOVAP 4 need to be incorporated into future versions of the Taxonomic Backbone.</i>	
44	Duplicates. There are 17.7k name duplications in the Taxonomic Backbone (TPL artifacts)	Taxonomic Working Group	In progress Significantly reduced.	<ul style="list-style-type: none"> - William will provide the list of 17.7k name duplicates for assessment including the taxonomic status - Chuck will build a spreadsheet with selection boxes for reviewers to indicate how these names should be handled, to be completed by end of July - Wayt Thomas will work with Chuck and William to review the spreadsheets of duplicate names, dividing the task between Consortium members.
45	WFO Portal ranks. Include names of obscure ranks in the Taxonomic Backbone as these are needed when basionyms of names	William Ulate	Done	<ul style="list-style-type: none"> Find out what ranks are accepted by the WFO Portal (eMonocot) - Update the Guidelines to reflect this decision to.
46	The Plant List. The Plant List was incorporated into the WFO Taxonomic Backbone. Kew announced that it would not intend to host and sustain TPL 1.1 and suggested that WFO should maintain the infrastructure of TPL. The Council approved that the management of TPL 1.1 is taken over by WFO.	Technical Working Group	Done TPL is running at Missouri.	<ul style="list-style-type: none"> -Pierre-André Loizeau and Peter Wyse Jackson will send a letter to RBG Kew addressing the decision of the WFO Council to approve the management of TPL1.1 by WFO. - Tech. WG should look for an alternate website to host TPL, make some changes that explain that it is an archived document and direct people to the WFO Portal.

#	TASKS	WHO?	WHEN?	COMMENTS
47.	Registration.	Mark Watson, Jim Miller and Pierre-André		The subcommittee will be in charge to express an interest of WFO to become a Registration Centre to the Nomenclatural Registration Committee.

ELECTION OF CHAIRS

The chairs of the Council and Working Groups were all unanimously re-elected.

- WFO Council Chairs – Peter Wyse Jackson and Pierre-André Loizeau
- Taxonomic Working Group Chairs – Mark Watson, Wayt Thomas, Thomas Borsch, and Thomas Haevermans
- Technical Working Group Chairs – Chuck Miller and Walter Berendsohn
- Communications Working Group Chairs – Barbara Thiers, Eduardo Dalcin, and John Parnell

NEXT MEETING

Adil Güner will host the next Council meeting in Istanbul, Turkey. The dates of the meeting will be April 23-26. Tours will be arranged for after the meeting. Hotels are available near the Garden. The Garden is located on a motor highway intersection.

The meeting host for the second half of 2019 is undecided. Meise Botanic Garden, Belgium has proposed to host during the first half of 2020.

THANKS TO THE HOST

Peter Wyse Jackson expressed the Council's sincere thanks to the Trinity College, and in particular, our sincere thanks to John Parnell, for the great organization and wonderful hospitality.

Thanks were given also to all the Co-Chairs for their hard work and their reports, who all deserve credit for the very positive way the meeting moved forward. The co-chairs expressed thanks to William Ulate for his continued hard work and for capturing the records of the meeting. Thanks to Trinity College for hosting our meetings.

On behalf of the co-chairs, Peter Wyse Jackson concluded giving thanks to all the participants for attending and sharing their time, expertise and enthusiasm for the World Flora Online project; indicating it's been a great meeting where considerable progress was made in clarifying many issues and setting work priorities for the coming period; he also added that clearly, we can be very proud of the work done for World Flora Online and we need to share with our colleagues and throughout the conservation community that this is a successful project. He also stated that he believed that we are well on track to

deliver an excellent product to achieve Target 1 of the GSPC by 2020 and that we look forward to our meeting in Istanbul.

Finally, John Parnell officially closed the World Flora Online meeting.

ACTION ITEMS FOR ISTANBUL

The following action items were carried forward or added:

#	TASKS	WHO?	WHEN?	COMMENTS
1.	<p>Presentations on WFO. Take advantage of the meetings we attend to promote the WFO.</p> <p>-- Chuck and William presented a technical talk about WFO at TDWG2018 in Dunedin, NZ</p>	All	<p>Continuously .</p> <p>Upload to WFO Presentations folder in ownCloud.</p> <p>Closed</p>	<p>Next presentations:</p> <ul style="list-style-type: none"> — May in Lisbon - TDWG Meeting in Netherlands — Caryophyllales Network Congress in Mexico City. Walter Berendshon. — Caribbean Botanical Garden Network, Cuba April 2nd -5th Berlin and MBG will have representatives. <p>Need to upload presentations to ownCloud folder</p>
2.	<p>Update current signatories. Update the list of Consortium members on the website.</p> <p>Maintain an archive of hard copies of the Agreements between Data Providers and the World Flora Online stored at the Secretariat.</p>		As new members join.	<ul style="list-style-type: none"> - All current signatories were updated in the Website. - No new signatories.
3.	<p>Update Facebook page. Keep updating FB page with news and current information.</p> <p>- Included in the Communications Strategy</p>	Communic. Committee	Richelle Wiehe has volunteered to assist with social media.	<p>Refer to Communications WG. for Communications Strategy.</p> <p>Any member may suggest a volunteer to Co-Chairs.</p>
5.	<p>Videos. It was recommended that we include the links to videos of institutions on Website.</p>		Continuously	- Anyone with videos in their institution relevant to WFO, please provide.
6.	<p>Enhance Production Portal with Descriptive Data. Production portal should be enhanced with descriptive data content as advised by the Data Content subgroup for the Nov.</p>	WU	<p>Ongoing task.</p> <p>When ready, William Ulate will touch base with the intermediary</p>	<p>Re-harvest flora datasets to capture descriptions for new names or newly matched names:</p> <ul style="list-style-type: none"> - Solanaceae Source - eFlora of China - NYBG – Flora of NE US

#	TASKS	WHO?	WHEN?	COMMENTS
	<p>meeting.</p> <p>Send a tweet as content is loaded to Production.</p>		<p>contacts of the Content providers for the next digital resources to bring into the WFO Portal, as determined by the Taxonomical WG in order to increase the diversity of content and geographic coverage.</p> <p>Chuck Miller to lead production of a map of WFO current content showing geographical coverage (for website, presentations etc.) for Dublin. - Done</p> <p>The Taxonomic Working Group will define the criteria (scientific credibility, completeness, substantial contribution, currency, etc.), similar to those used for assessing TENS, to judge the authorization of potential Content Providers during the next meeting in Dublin</p>	<ul style="list-style-type: none"> - Plants of the World Online - - POWOP data on Flora of West Tropical Africa - IUCN Conservation Status - Images from Solanaceae & Flora of China <p>Continue to load remaining and new datasets:</p> <ul style="list-style-type: none"> - Flora of Colombia - Australian Floras - Flora of Nepal - Illustrated Flora of Turkey - Illustrated Treatments for Korea: Cyperaceae, Poaceae, Pteridophyta, Coniferae (descriptions in Korean) – Kaesun Chang - Fl. Helvetica (descriptions in French and German) – Pierre-André Loizeau - Fl. Trop. East Africa (Kew, TBC) - eMonocot descriptions (Kew, TBC)
7.	<p>Create a Harvester administration/operations guide.</p> <p>The development of a Harvester administration/operation guide should be carried out immediately through testing and collaboration.</p>		Ongoing task	New updates should be included.
9.	<p>Complete gap analysis of the portal use cases.</p> <p>Complete a full analysis of the portal</p>	Mark, Chuck	In Progress	Subgroup began the first pass of the process, need to continue filling out the rest.

#	TASKS	WHO?	WHEN?	COMMENTS
	use case gaps, including severity of the gap, difficulty to remediate, resources to mediate and a prioritization.			<i>Conduct simple survey with generic questions about usability, functionality, user experience (e.g alternate classifications)</i>
10.	Implement Botalista software. Work together to further develop Botalista as collaborative tool for expert networks to contribute backbone data.	Pierre-André and Raoul	June 2020. Ingestion phase: <i>BOTALISTA will be able to manage the backbone, receive DwCA archives and produce the output archive to harvesting into the WFO Portal by Jun 2020.</i>	<i>Raoul would test the ingestion to Botalista of the full version of the taxonomical backbone.</i>
11.	Make a Survey of existing global taxonomic networks. Make a Survey of existing global taxonomic networks and the systems used and ask if they are willing to be responsible to match names to treatments.	<i>Tax.WG</i>	<i>In Progress</i> <i>Closed</i>	<i>Continuing as we build the list of actual and potential list of TENS</i>
12.	Provide standards for genus and species of angiosperms and gymnosperms. Address suprafamily classification.	<i>Tax. WG</i>	<i>- Mark Watson will lead the update of families and higher ranks, liaising with the Technical Working Group for instructions on how this can be done (within Botalista).</i> <i>Ongoing</i>	<i>Tax WG discussed at Colombia, recommended following up APG IV. Barbara has touched base with her contacts on indications on how to solve taxonomic problems for non-APG groups (ferns and bryophytes).</i> <i>- A new family classification proposed in writing to the Taxonomic Working Group should be accompanied by its higher classification.</i>
13.	Taxonomic Expert Networks (TENS). Identify specialists to review parts of the taxonomic backbone. When no networks exist, identify specialists to review parts of the taxonomic	<i>Tax. WG</i>	<i>In Progress</i> <i>Created first draft on the "World Flora Online Collaboration Model</i>	<i>Underway.</i> <i>List of 9 TENS approved by the Council at Colombia:</i>

#	TASKS	WHO?	WHEN?	COMMENTS
	backbone and/or assess the quality of the treatment in the current WFO backbone.		<p>and Workflow for Contributors to the WFO Taxonomic Backbone for discussion</p> <p><i>The list of TENs will be worked by the Taxonomic Working Group during the meeting in Dublin.</i></p> <p><i>Ongoing.</i></p>	<p>10. <i>Begoniaceae</i> - M. Hughes (E) 11. <i>Cordiaceae</i> - J. Miller (MO) 12. <i>Caryophyllales</i> - T. Borsch (B) 13. <i>Dipterocarpaceae</i> - M. Newman (E) 14. <i>Hypericum</i> - S. Crockett (Graz); N. Robson (BM) 15. <i>Picramniaceae</i> - W. Thomas (NY) 16. <i>Sapotaceae</i> - P. Wilkie (E) 17. <i>Solanaceae</i> - S. Knapp (BM) 18. <i>Zingiberaceae</i> - M. Newman (E)</p> <p><i>Set up a dedicated email address for WFO TENs Manager, Jim Miller will receive messages until a full-time TENs Manager is appointed.</i></p> <p><i>Mark Watson, Wayt Thomas and Jim Miller will include potential contacts/institutions into the shortlist of 60 large to medium size families not covered by WCSP to prioritize and circulate this list to the Taxonomic Working Group for comment and then distribute among the members of the Consortium.</i></p>
14.	<p>Update guidelines for contributors. Guidelines for contributors available (June 2014) need to be updated. <i>Developed first version of Guidelines for Contribution: Backbone and Content before IBC.</i></p>	Walter, William	<p><i>In Progress</i></p> <p><i>The reviewed Guidelines for Contributors will be sent from the Co-Chairs to the Council in mid-July</i></p>	<p><i>Updates to the three guides are being developed:</i></p> <ol style="list-style-type: none"> <i>1. General introduction on how to become a member.</i> <i>2. Tech-minded, here's the document how to contribute to the taxonomic backbone.</i> <i>3. Content provider.</i> <p><i>The Registration process in the Guidelines is to be separated from the provision of content.</i></p> <p><i>Walter and Chuck would finalize the next version of the Guidelines</i></p>

#	TASKS	WHO?	WHEN?	COMMENTS
				<i>this week, put them on the ownCloud and send them around in the Committees with a deadline on commentary to make progress before the next meeting.</i>
15.	<p>Develop markup Tools for a Toolkit. Consolidate the Markup Tools being used; develop them to integrate them into a toolkit.</p> <p><i>- SANBI has developed Markup tools and are available for others to use. Available from GitHub: github.com/rudivs/SpeciesMarkupAddIn</i></p>	<i>TechWG</i>	Ongoing	<i>No current update, not priority for 2018, but continue for future</i>
16.	<p>Communicate document on web strategy based on CBD CHM work. Create a document on web strategy for the next meeting based on the work being done by the CBD CHM. Suggest ideas on materials like meetings where WFO should present a keynote or at least a Symposium on WFO.</p> <p><i>- Communications Committee will define Communication plan as a bigger topic.</i></p> <p><i>- Put someone in charge of the Social Media</i></p> <p><i>- Separate production of content from the website administration, tailor-make the strategy for each group in order to facilitate the prioritization.</i></p> <p><i>- Launch of our communications strategy to raise awareness when we have a portal that people could use. Communicate key advances and</i></p>	<p><i>Comm. WG.</i></p> <p><i>(Eduardo Dalcin, Barbara Thiers, John Parnell)</i></p>	<p><i>In Work</i></p> <p><i>Draft Web Strategy created.</i></p> <p><i>ResearchGate WFO project was set up. Done.</i></p> <p><i>FAQs have been added to About portal. Done.</i></p> <p><i>- The Communications Working Group should work in a Communications Strategy that identifies the target audiences (TENS, General Public, Taxonomic Community and others) and bring as a discussion point in Dublin.</i></p> <p><i>Ongoing.</i></p>	<p><i>We need to have a clear strategy on how the WFO is integrated into all of the outcomes of CBD, which requires an understanding on how the CBD works and a lot of promotion of the WFO within the CBD Mechanisms.</i></p> <p><i>- Install a Content Management System (CMS) on Google Cloud (WordPress). Defer to Dublin the recommendation to adopt a CMS for the About page.</i></p> <p><i>- Make the About web page (currently in HTML) easier to update by multiple partners (migrating to a CMS).</i></p> <p><i>- Reassess About page content. Put together some guidelines about an Acknowledgements section and submit them to the Council for acceptance in principle.</i></p> <p><i>For the Communication Strategy, define what is WFO doing in the</i></p>

#	TASKS	WHO?	WHEN?	COMMENTS
	<p><i>specific strategy.</i></p> <p><i>- Demonstrate a joint Consortium web site to promote fundraising.</i></p> <p><i>-For a Strategy define Who they are? What to tell them? How to tell them? Who's going to tell them? And when are they going to be told?</i></p>			<p><i>next 6 months to be able to know what to communicate. We need to define what audience we want to attend first and use appropriate platforms to reach them. Peter Wyse Jackson may send a message to the Council asking for names of specialists who could collaborate on a Communication Plan, once we know what we want to communicate.</i></p>
17.	<p>Prepare short paper for TAXON. Prepare a draft explaining the WFO taxonomic backbone approach, describing the acknowledgement structure and the available technological tools (for ingestion). <i>- Edit, polish and distribute to the group and external people who may have something to add.</i></p>	<p><i>Taxonomic Working Group</i></p>	<p><i>Finalized and open for comments to both Tech and Tax lists soon.</i></p> <p><i>Thomas Borsch will finalize the manuscript of the TAXON paper with Marc Sosef and Mark Watson and submit it by the end of January 2019. Hopefully, publish by end of 2019.</i></p>	<p><i>Underway, excellent progress. Close to being able to submit as discussed in the Taxonomic Working Group report.</i></p>
18.	<p>Save the Dates. Save the dates for the 11th & 12th meetings</p>	<p><i>Peter Wyse Jackson</i></p>	<p><i>Istanbul, Turkey. April 23 – 28, 2019</i></p> <p><i>12th Meeting – TBD</i></p>	<p><i>Post the report of the previous Council Meeting on the WFO website</i></p>
19.	<p>Create a list of institutions relevant to promote WFO and interact with.</p>	<p><i>Barbara will compile</i></p> <p><i>All: Send suggestions and contacts to Barbara</i></p>	<p><i>Some work done on this already.</i></p> <p><i>Closed.</i></p>	<p><i>Create a list of who we should approach to make the point of the importance of WFO and market our initiative.</i></p> <p><i>- Handle in context of the Communications Strategy.</i></p>
25.	<p>Data Sharing Agreement. Develop further the existing Draft Sharing</p>	<p><i>Peter Wyse Jackson</i></p>	<p><i>Peter Wyse Jackson will prepare some materials</i></p>	<p><i>This applies for data not shared under CC0. There's a need to</i></p>

#	TASKS	WHO?	WHEN?	COMMENTS
	<p>Agreement to share content with other Taxonomic Networks.</p> <p><i>Any Data Provider Agreement should be harmonized with the Terms of Use.</i></p> <p><i>Include current version of the Terms of Use in this Meeting Draft Report and request ideas on how to update both.</i></p> <p><i>Maintain an archive of hard copies of the Agreements between Data Providers and the World Flora Online stored at the Secretariat</i></p>		<p><i>on Data Sharing Agreements for the Next Meeting in Dublin</i></p> <p><i>Ongoing</i></p>	<p><i>define what / how content with restrictions will be shared. The text on how to Cite the WFO should also be developed.</i></p> <p><i>Include a leading part to the document saying that we want to encourage access to the information as open as possible.</i></p>
28.	<p>Ingest new Version 3 IUCN data interface. Modify eMonocot code to be able to harvest IUCN data. Currently, only Version 2 is usable with eMonocot.</p>	<i>William</i>	<p><i>Ongoing</i></p> <p><i>Requires code change.</i></p> <p><i>Done</i></p>	<p><i>To achieve with limited resources (High Priority).</i></p>
29.	<p>DOIs for datasets and downloads. Evaluate using GBIF-generated DOIs for WFO contributed datasets and downloads</p>	<i>Technical Working Group</i>	<p><i>Pending code change</i></p> <p><i>Ongoing</i></p>	<p><i>Creation of metadata for downloads for DOI.</i></p> <p><i>Evaluate the adding DOIs to uploaded datasets and downloaded reports.</i></p>
30.	<p>WFO Darwin Core extensions.</p> <p>WFO Terms not included in Darwin Core standard:</p> <p>9. localID: Record identifier used by the data contributor. E.g. Tropicos ID, Flora of S Africa ID, EDIT ID</p> <p>10. Alternate Taxon/Name IDs: E. g. Catalogue of Life ID</p> <p>11. taxonomicStatusReference: Accepted or Synonym status by/according to publication. E.g. Accepted according to GrassBase</p> <p>12. sourceCitation (of the name record): Not namePublishedIn or</p>	<i>Technical Working Group</i>	<i>Ongoing</i>	<ul style="list-style-type: none"> - Write a white paper on Darwin Core extensions needed for WFO - Formally request Darwin Core extensions from TDWG for WFO

#	TASKS	WHO?	WHEN?	COMMENTS
	<p>bibliographicCitation. E.g. Solanaceae Source is source of the Backbone name record.</p> <p>13. VerbatimSpecimenList: Currently using Specimens extension.</p> <p>14. VerbatimDistribution: Using "Distribution" Description Type in Descriptions.txt file</p> <p>15. Protologue: Using Description Type of Original Publication in Descriptions.txt file</p> <p>16. nomenclaturalNote</p>			
31.	Send formal request to GBIF for WFO-tailored versions of IPT and DwCA Validator, involving SANBI and Flora do Brasil	<i>Technical Working Group</i>	<i>Ongoing</i>	<p><i>Botalista replaces tailored version of DwCA Validator.</i></p> <p><i>Tailored IPT still needed.</i></p>
33.	<p>Resolve insufficient resources to support:</p> <p>a) Software development staffing. b) Fund TEN Manager position c) Institution to maintain OwnCloud</p>	<i>WFO Council</i>	<i>Ongoing</i>	<p><i>a) Missouri is committed to providing William's role, but we have an issue with software development staffing</i></p> <p><i>b)- Acknowledge support from RBGE. - Done</i></p> <p><i>c)- Defer decision to Istanbul.</i></p>
34.	Test Harvester with new Data Types as advised by the Council during the Nov. meeting in Paris.	<i>William</i>	<i>Ongoing. Distribution data needs more work.</i>	<p><i>- Harvest distribution data into the Portal</i></p> <p><i>- Upload habit from BGCI Global Trees Assessment</i></p> <p><i>- Trial harvesting identification keys into the Portal</i></p>
35.	<p>Implement the following tasks (not high-priority):</p> <p>1. <i>Reveal hidden fields (e.g. Basionym)</i></p> <p>2. <i>Enable alternate classifications</i></p>	<i>William</i>	<p><i>Requires code change.</i></p> <p><i>Ongoing.</i></p>	<p><i>To achieve with limited resources, whenever possible</i></p> <p>1. <i>Pending</i></p> <p>2. <i>Pending</i></p>
36	Integrate authoritative information on accepted names and synonyms from a well-defined geographic area	<i>William</i> <i>Pete Lowry</i>	<i>Ongoing</i>	Use the taxonomic backbone of the <i>Catalogue of the Plants of Madagascar</i> project as a test case.

#	TASKS	WHO?	WHEN?	COMMENTS
	<p>into the WFO backbone, and thereby improve the overall quality of the latter.</p> <p>Prior to engaging Taxonomic Expert Networks (TENs) for a taxon-by-taxon review of the backbone information.</p>			<p><i>(Endemics from Madagascar and African Plants Database)</i></p> <p><i>Ingested new endemics from Madagascar. Working on endemics from Colombia.</i></p>
38	Formalize relation with IAPT	WFO Council	Defer to next meeting.	<p>Patrick S. Herendeen, new IAPT chair, is interested, according to Michelle Price and collaboration will be examined during their next meeting in October.</p> <p>- The situation is currently positive for collaboration.</p>
39	Catalogue of Life	Marc Sosef, Mark Watson and Thomas Borsch	<p>Marc Sosef will coordinate the task force for COL with Mark Watson and Thomas Borsch to take forward work on a white paper that will discuss collaboration between WFO and CoL, including a proper mechanism to develop a technical partnership.</p> <p>To be addressed in next meeting.</p>	<p><i>The Council indicated that in-depth discussions are needed on how we could possible work if there are rival taxonomic backbones in use. The task force with to take forward work on a white paper that will discuss collaboration between WFO and CoL. A proper mechanism to develop a technical partnership should be included.</i></p> <p><i>Chuck attended CoL Steering Committee meeting.</i></p> <p><i>Working toward workshop funded by GBIF.</i></p>
40	Authorization and Registration Process.	Taxonomic Working Group	Ongoing.	<p>- Identify any issues to address or enhancements to add at the workflow of the process of Authorization and Registration derived from the existing Guidelines indications presented by the Technical Working Group.</p> <p>- Separate the Registration process in the Guidelines from the provision of content.</p>
42	New Names. Implement a mechanism to deal with new names coming from Content Providers or IPNI and	Technical Working	The Technical WG suggests we need to be deferred due to	- Create a feedback mechanism as needed to alert TENs when a new name is incorporated in the pre-

#	TASKS	WHO?	WHEN?	COMMENTS
	<p>updating the Taxonomic Backbone, as recommended by the Taxonomic Working Group.</p> <p><i>A 'new name' is an Effectively Published name not already in the Taxonomic Backbone. Content Providers only provide one name, their accepted name of the taxon which they are providing content</i></p>	<i>Group</i>	<p>limitations of eMonocot ingestion process</p> <p>Ongoing.</p>	<p><i>harvesting Taxonomic Backbone (eventually Botalista).</i></p> <ul style="list-style-type: none"> - <i>Make an agreement with IPNI to receive their annual updates of new names and new combinations.</i> - <i>Treat new names from IPNI as if coming from a non-TEN Content Provider</i> - <i>Export new names in the backbone in a data format appropriate for the TENs to incorporate into their own system.</i>
44	<p>Duplicates. There are 17.7k name duplications in the Taxonomic Backbone (TPL artifacts)</p>	<i>Taxonomic Working Group</i>	<p>In progress</p> <p>Significantly reduced.</p> <p>Ongoing, nearly done.</p>	<ul style="list-style-type: none"> - <i>William will provide the list of 17.7k name duplicates for assessment including the taxonomic status</i> - <i>Chuck will build a spreadsheet with selection boxes for reviewers to indicate how these names should be handled, to be completed by end of July</i> - <i>Wayt Thomas will work with Chuck and William to review the spreadsheets of duplicate names, dividing the task between Consortium members.</i>
47.	<p>Registration.</p>	<i>Mark Watson, Jim Miller and Pierre-André, Alan Paton</i>	<p>Ongoing.</p> <p>Report from Pierre-Andre on progress after meeting.</p>	<p><i>The subcommittee will be in charge to express an interest of WFO to become a Registration Centre to the Nomenclatural Registration Committee.</i></p>
48.	<p>Make modifications to the Portal</p> <ol style="list-style-type: none"> 1. Add Acknowledgements section to About page – Defer to Istanbul 2. Modify Common Names section of taxon page. Change “Common Names” to “Vernacular Names” or “Local Names” and add "Preferred" column. – Deferred to Taxonomic Working Group for 	<i>Technical Working Group</i>		

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	<p>Istanbul meeting</p> <p>3. Remove Sampled Red List Index on Taxon page – Accepted</p> <p>4. Add URL Link to External Links higher taxon names to Angiosperm Phylogeny Website (orders and above) and explore similar link for Bryophyte higher ranks.– Accepted</p> <p>5. Add URL link to Data Providers on About page – Accepted</p> <p>6. Add TPL’s “Major Plant Groups” to supra-family hierarchy – Accepted</p> <p>7. Change display of taxon status of “unresolved” to “unchecked” – Accepted</p> <p>8. Change coverage map title to "Geographic Coverage of Flora Data" – Accepted</p> <p>9. Add list of floras under Geographic Coverage map – Accepted</p> <p>10. Change Turkey partner name to "Illustrated Flora of Turkey" on About page and Contributors page – Accepted</p> <p>11. Change color of statistical counts listed on home page to more readable color – Accepted.</p> <p>12. Change color and size of plant name in Image window to more readable – Accepted.</p> <p>13. Distinguish homotypic and heterotypic synonyms on taxon page, when recorded (code change) – Accepted</p> <p>14. Add responsive GUI (size auto adjustable, upgrade to Bootstrap 4) (code change) Accepted, low priority</p>			

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49.	Add WFO Backbone text to home page of TPL.	<i>William</i>	By next meeting.	<i>Text agreed by Council to be added to TPL.</i>
50.	Add complete data download to TPL with data quality warning in webpage and metadata.	<i>Technical Working Group</i>	Ongoing	
51.	MO & G take lead for a Nomenclator for Bryophytes.	<i>MO G</i>	By next meeting.	<i>Bryophyte TEN to be formed.</i>
52.	Update List of TENS Spreadsheet with APGIV orders and families, WCSP coverage, TENS and post on WFO website to encourage take up by TENS	<i>Taxonomic Working Group</i>	Ongoing.	
53.	Compile a list of WCSP Reviewers for potential TENS, and report to Istanbul meeting.	<i>Taxonomic Working Group</i>	By TEN Manager. Ongoing.	

LIST OF ATTENDEES

(as self-introduced during the meeting)

1. John Parnell, Trinity College, Dublin.
2. Peter Wyse Jackson, Missouri Botanical Garden, Co-chair, WFO Council
3. Maïté Delmas, Natural History Museum in Paris (MNHN)
4. Alan Paton, Royal Botanic Gardens, Kew
5. Erick Smets, Naturalis Biodiversity Center, Leiden
6. Mark Watson, Royal Botanic Garden Edinburgh, Co-chair Taxonomical Working Group
7. Colin Pendry, Royal Botanic Garden Edinburgh
8. Marc Sosef, Meise Botanical Garden in Belgium
9. Jim Miller, Head of Research and Conservation Program., Missouri Botanical Garden (MBG)
10. Chuck Miller, Missouri Botanical Garden (MBG), co-Chair Technical Working Group
11. Pierre-André Loizeau, Conservatory and Botanical Garden of Geneva, Co-chair WFO Council
12. William Ulate, Missouri Botanical Garden (MBG), WFO Project
13. Visotheary Ung, Paris Museum (MNHN)
14. Anne Fuchs, Australian Biological Resources Study (ABRS)
15. Wayt Thomas, New York Botanical Garden (NYBG)
16. Peter Fritsch, Director of Research, Botanical Research Institute of Texas (BRIT)
17. Adil Güner, Editor of Illustrated Flora of Turkey
18. Murat Aydinkal, Illustrated Flora of Turkey
19. Olaf Banki, Catalogue of Life (COL)
20. Thomas Borsch, Berlin-Dahlem Botanical Garden and Botanical Museum

Apologies:

Apologies were received from several Council members that were not able to attend for various reasons: **Barbara Thiers** (NYBG), **Abigail Barker** (Kew), **Marianne Le Roux** (Pretoria, South Africa), **Ilse Breitwieser** (New Zealand), **Gideon Smith** (Pretoria, South Africa), **Dmitry Geltman** (Komarov Institute), **Thomas Haevermans** (Paris), **Eduardo Dalcin** (Rio), **Rafaela Campostrini Forzza** (Rio), **Lauren Raz** (Colombia), **Melissa Tulig** (NYBG), **Nelson Zamora** (Costa Rica), **Raoul Palese** (Geneva), **Kyung Choi** and **Kae Sun Chang** (Korea), **Peter Schalk** (Naturalis, COL) and **Sue Fyfe** (Canberra).