



Summary Report on the 11th Meeting of the World Flora Online Council

Organized by the Nezahat Gökyiğit Botanik Bahçesi (NGBB), Istanbul, Turkey

25th – 26th April 2019

These meetings were preceded by meetings of the WFO Working Groups on Tuesday 23rd and Wednesday 24th April. The Council meetings were held on Thursday 25th and Friday 26th April in the same location. Over the four days, 18 individuals participated, representing 13 institutions, organizations or projects.

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

Peter Wyse Jackson (Co-chair) started by thanking Adil Güner and his team for hosting the 11th Meeting of the WFO Council at the Nezahat Gökyiğit Botanik Bahçesi. Then all participants introduced themselves and apologies were noted. A list of attendees is attached at the end of this document.

The report from the previous Council Meeting in Dublin, Ireland in December 2018 and the proposed agenda for this meeting with a correction were accepted.

MEMBERSHIP

Peter Wyse Jackson (Co-chair) reported that no new members were included, but there were a couple of expressions of interest to follow up.

BOTALISTA UPDATE

Pierre-André Loizeau (Co-chair) reported that the Botalista project (aspects related to the WFO) had been delayed since the Colombia meeting. However, Phase 1 is due to be completed by September 2019 and Phase 2 will start in November 2019. Launch of Botalista – WFO module is planned for May 2020. Development will follow an Agile Software Development approach. A group of beta-users is wanted: Murat, Marianne, Lauren, Walter and the new TEN Manager will be on this group.

Report and Update from the Communications Working Group

We will want to use the members' Communication teams to work between now and the next meeting to review what each member could bring at a global announcement. Council members are to talk to their communication teams and find out what could be done at their own country. Towards the end of 2020 we will launch the WFO in a formal way, indicating success in achieving the GSPC Target 1. That is when

the post 2020 Global Biodiversity Framework will also be agreed. Some form of announcement or launch will be done in November 2020 in Kunming, China. Maïté asked if it would be of interest to have some WFO information for the IUCN Conference in 11-19th June, 2020 in Marseilles; they are opening calls for Workshops. The Council discussed that the launch has to be one, and we need more time. Maïté will keep an eye on how this could develop and what would be our strategy. Maybe we can have WFO as part of one event with IUCN. Also mentioned was the AETFAT meeting in March 2020 in Zambia and SBSSTA on 25th-29th November. The co-chairs will send a message to the Council about a potential launch in 2020 in China when the time is right for that and provide a link to their communications people. Maïté recommended producing an information document for WFO that would be available to the Parties to the Convention on Biological Diversity (CBD). The forthcoming Taxon paper could be an attachment to this.

RECOMMENDATIONS ACCEPTED

The following recommendations were considered by the WFO Council:

TECHNICAL WORKING GROUP RECOMMENDATIONS

Chuck Miller presented the Technical Working Group recommendations.

1. Change background of statistics counts on home page to white, eliminate “Explore” and change all characters to blue. – Adopted.
2. Deprecate use of namePublishedInID. – Adopted.
3. Implement use of nameAccordingToID – Adopted.
 - Modify code as needed.
 - Add Taxonomic Status Reference box above Bibliography.
 - Display bibliographic Citation for nameAccordingTo.
4. Implement “exclude” field in Backbone input file. – Adopted.
 - Used to tag names as “Do Not Process”.
5. Change Content Contributor Guidelines to add how to add Authors, Editors, or other attributions to Descriptive Data. – Adopted.
 - Embed in Source reference Bibliographic Citation
6. Assess if order of Descriptions can be prioritized (for display). - Adopted
7. Assess how to provide page hit statistics by data provider. - Adopted
8. Add Google Analytics to next meeting report - Adopted

TAXONOMIC WORKING GROUP RECOMMENDATIONS

1. Council approved Taxonomic Expert Networks (TENs) for Styracaceae, Gesneriaceae, Conifers and Brassicaceae
2. Council endorsed the contacts listed to pursue the development of TENs for the identified groups (Sp2000 GSDs, Species Plantarum Project, eMonocot contributors)
3. Council approved the list of content providers presented for 2019, recognizing that they are within the WFO member institutions

4. Council approved the recommendation to include 'ex authors' in the author citation of scientific names
5. Council approved the provision of a list of online floristic information as a download from the WFO About pages
6. Council approved to only include one current version of the IUCN Red List (latest)
7. Council approved to assess adding the BGCI Threat Search database as this includes national level and non-standard conservation assessments (https://www.bgci.org/threat_search.php)
8. Council approved in the Taxon Page to change 'Preferred Names' to 'Nationally Preferred Names', and 'Local Names' to 'Other Local Names'
9. Council approved the addition of information on the TPL Home Page, based on the draft text, to point users to the WFO

TAXONOMIC WORKING GROUP ACTIVITIES

Mark Watson presented the Taxonomic Working Group Report.

RBGE TEN Manager Update

- Recruitment of a TEN Manager at RBGE is underway, expect to be in post by June

Catalogue of Life Collaboration

- Plans for a joint WFO/IPNI/COL+ workshop to establish future plans for WFO being the sole provider of plant names covered by WFO – Marc S.
- Explore links with COL GSDs as potential WFO TENS – TEN Manager with Yuri Roskov
- Explore links with Michael Hassler and using his fern dataset as a TEN for ferns - Walter B.

Taxonomic Backbone

- Revising supra generic classification, APG IV, etc.
Tech team to do some more testing of dependencies and report back.
TEN Manager to complete this work by August.
- Kew WCSP/IPNI Update Project
IPNI is being updated to include new names and data from WCSP.
This project will be completed by September

IPNI-WFO Name Matching

- Re-run IPNI-WFO Name Matching after the WCSP/IPNI Update to improve the number of matching names from 68% and an analysis of the results is undertaken:
Resolve why there are 500,000 IPNI Names missing from WFO.
- Update Protologue information for matched names using IPNI data

World Checklist of Selected Plant Families (WCSP) Update

- WCSP to be used to update non TEN groups, to reduce 250K Unchecked Names.

De-Duplication of Scientific Names

- Taxonomic WG to advise on the de-duplication of 7 remaining duplicate names with descriptive data.
- Revisit 4.9K highly probable duplicate names with additional 765 (“No Drop”) duplicate names with dependencies after the WCSP/IPNI update is completed.

Electronic Floras Listing

- Council approved the provision of a list of online floristic information as a download from the WFO About pages.
Add a note indicating WFO is not necessarily endorsing the sources.

Endemics

- Updates from Content Providers of scientific name information of endemic taxa already in WFO.
 - Nomenclatural information for endemic plants not covered by a TEN to be accepted in the backbone after confirmation by approved providers (as if they were a ‘Regional TEN’).
 - Classification information also to be accepted but only for endemic genera or above.
 - For taxa covered by a TEN and TEN data has already been included in WFO
WFO Backbone data not changed, information passed to TEN
 - For taxa covered by a TEN but no data from TEN yet included in WFO
Author citation and publication updated for all taxa
Status only updated for members of endemic genera/families
Information passed to TEN
 - For taxa not covered by a TEN
Author citation and publication updated for all taxa
Status only updated for members of endemic genera/families

CONTENT ACQUISITION

New Content

- Illustrated Fl. Turkey (descriptions in Turkish) – Adil Güner [completed]
- Flora of Colombia – [partial]
- Fl. Zambesiaca (K) [completed]
- Fl. West Tropical Africa (Kew) [completed]
- Fl. East Tropical Africa (Kew) [completed]

Additionally

- Solanaceae – V.2 [in process]
- Flora Neotropica [in process]

- Catalogue of the Plants of Madagascar [in process]
- Flora d’Afrique Central [in process]
- Flora Australia [in process]
- Zingiberaceae [in process]

Prioritized

- Fl. Nepal – Mark Watson (E)
- Fl. Helvetica (descriptions in French and German) – Pierre-André Loizeau (G)
- eMonocot descriptions - Alan Paton (K)
- Endemic Flora of Chile – Martin Gardner (E)
- Fl. Pakistan - James Miller (MO)
- Illustrated Treatments for Korea: Cyperaceae, Poaceae, Pteridophyta, Coniferae (descriptions in Korean) – Kaesun Chang, Korea National Arboretum
- Moss Flora of China - James Miller (MO)
- Moss Flora of Central America - James Miller (MO)

Potentially

- Fl. Malesiana Walter B to explore using EDIT Platform data
- Russia No contact identified
- India No contact identified
- Euro+Med Thomas Borsch to follow up
- Digital Flora Philippines Peter Fritch to follow up
- Fl. Somalia Mats Thulin, agreed
- Fl. Marquesas Warren Wagner (SI) – Jim Miller to follow up
- Fl. Gabon Naturalis – Eric Smets
- Fl. of the Guianas Naturalis – Eric Smets
- Fl. Hawaii Bishop Museum – Jim Miller to follow up on offer
- Fl Iberica Agreed – Jim Miller

Future

Co-Chairs to send a general request to organisations of the Consortium

Specific target areas:

- New Zealand Peter WJ to follow up
- Argentina Peter WJ to follow up
- Singapore Peter WJ to follow up
- Mexico Mark W to follow up with Victoria Sosa

Global Tree Assessment data

- Habit is now shown in the WFO for taxa treated in the GTA.
- Taxonomic WG will review the quality of other data types in GTA and report to Council before inclusion in WFO.

Display of Vernacular Name data

- Recommend change 'Preferred Names' to 'Nationally Preferred Names', and 'Local Names' to 'Other Local Names' - Approved

Descriptive information on Taxon Page

- Change section title 'General Description' to 'General Information' as this gives a better distinction from 'Morphology' - Approved.
- Morphology data should be provided in a single text block by Content Providers, not in atomised descriptionlets.
- Find out if there's a way to sequence ordering of descriptions appearing. - Approved
- TEN Manager to check Content Providers are using these categories correctly.
- Tech WG to advise on display options to have descriptive data on the Taxon Page with alternate views: order by content provider vs by data type.
- The menu bar on Taxon Page does not contain all the elements
- Taxon Pages are getting long so navigation is an issue. Can the elements be listed in expandable boxes which all fit on the main screen? Could we add collapsible sections?
- Can we have 2 views of descriptions: one of all from each Provider in a box and another view by Description Type (as it is now)? Could expandable boxes help there?

Accreditation on Taxon Page

- Embedding taxonomic info and author info in the Description block should be discouraged (is there a way to trim these off the FI Meso and FI Nicaragua content?)
- 'Source' should be used to provide authors of individual accounts, giving the full bibliographic citation "X & Y (date). In A & B (eds), Flora of xx: p. 34-55." and hyperlink to online account if we have it.
- 'Name accepted by xxx' should be moved to under the protologue citation. - Approved
- For TPL data think about how to provide the deep link back to TPL. Would changing Provider name to 'TPL Annonaceae' help improve understanding?
- Citation of a Taxon Page – include [This taxon page should be cited as 'http://worldfloraonline.org/taxon/wfo-0001031908, 25 April 2019'] near the top of the Taxon Page, e.g. where current 'Name accepted by...' is placed, above first description. - Approved

Display of Synonym data

- Displaying three kinds of synonyms (Heterotypic, Homotypic, Synonym) in the Search Page filter options is confusing/not necessary – combine together under a single 'Synonym' checkbox - Approved
- Separating the three kinds of synonym displayed on the Taxon Page is confusing when data are mixed (e.g. *Solanum tuberosum*) and is too much technical detail for most of the intended users – do not separate in the general view, provide option for users to have more details displayed. - Approved

Home Page Statistics Strap Line Recommendations

- Check display effects when resizing browser window
- Don't use green text, only blue - Approved
- Delete 'Explore' at start and '.' at end - Approved
- Delete 'Identification Keys' as none in there - Approved
- Add 'Accepted species' number - Approved
- Taxonomic WG to review the portal interface prior to and discuss at next Council meeting

About Us - Consortium Member Table

- TEN Manager to review that the data and links are current

About Us - Geographical Coverage Map

- Keep simple for now, need to consider target audience for this and its purpose
- Consider using an equal area map projection

The Plant List – Additional text for the TPL Home Page

Council approved the addition of information on the TPL Home Page, based on the draft text, to point users to the WFO

- Insert the following two paragraphs in a bordered box above "**The Plant List** is a working list of all known plant species. It aims to be..."

The Plant List (TPL) was a working list of all known plant species produced by the botanical community in response to Target 1 of the 2002-2010 Global Strategy for Plant Conservation (GSPC). TPL has been static since 2013, but was used as the starting point for the Taxonomic Backbone of the World Flora Online (WFO), and updated information can be found at www.worldfloraonline.org.

WFO is being developed by a consortium of leading botanical institutions worldwide in response to the 2011-2020 GSPC's updated Target 1: to achieve an online Flora of all known plants by 2020. WFO welcomes feedback from users for improvements to its Taxonomic Backbone which is curated by a growing community of WFO Taxonomic Expert Networks (TENS).

TAXON PAPER

Thomas Borsch reported that work on the draft paper is under control, but he needs updates on the status of TENS and Content Providers to update the tables and examples. Thomas Borsch will complete and submit the manuscript.

GLOBAL ANNOUNCEMENTS

In each country/team, we should have a communication strategy for the next global meetings:

- Flora Malesiana, this year, 30 June to 5 July 2019.
- IUCN meeting in Marseilles. Closing dates for abstracts 11-19 June 2020.
- 22nd AETFAT in Zambia, 23-27 March 2020

CATALOGUE OF LIFE COLLABORATION

Nothing new to report. We have covered everything we wanted and have a clear way forward.

PRESENTATION BY NYE HUGHES

Nye Hughes is a web designer in Edinburgh who owns a private company specialized in botanical gardens. He has been designing easy-to-use interfaces for online botanical data and stressed that the presentation of information is important. He started at the RBGE Education department where he helped design The Living Collection by David Rae and a Field Guide to Congo Trees. He also showed the Endemic Plants of Chile website— particularly interesting were the legends and font used for habit. His work started in 2011, and went live in 2018. It includes 2113 accepted names, 6459 names and places of publication. He has also worked closely with Mark Watson doing an interpretation of Chile and Nepal, displaying them in an appealing way.

Nye considers responsiveness to be key these days. Responsiveness modifies and resizes for a particular view (for example, iPad). For our case he suggested bringing some of the About page information into the WFO home page, so the user is not only looking at the data, but how the data is created. Dry information could have an element of fun in the website. An interactive animated figure adds value and is more fun. He is a supporter of the unified field or form field where data is hidden behind the search interface. The current trend these days is to have a lot of white space.

During a question and answer period, Nye offered several suggestions:

- Get a designer's eye: look-and-feel, consistent typography, better use of whitespace, etc.
- Remove redundant theme embellishments, drop shadows, pixelated icons
- Bring all the elements to the same look, unify the About page.
- Create a Responsive design
- URL scheme could be improved, for example use the family name
- Some lists are too long, use tabulated areas.
- Expose more of the data by graphics and info graphics, to introduce the breadth of the content.
- Be playful, thoughtful, fun provoking!
- UI changes may require detailed technical knowledge of the current software
- Backend changes may break the front end
- System is tightly coupled. Recommend to decouple the frontend and the backend and communicate through an API (like GraphQL).
- Decoupling allows for a different front end, making changes easier. Disadvantages: may introduce performance bottlenecks and would require quite a lot of work.
- Google Analytics may work but it's not installed. Test using a JSON answer from a database and use React, for example.
- Nye's strategy to engage with WFO: Start with a basic cleanup – a few weeks, costing in lower thousands of dollars

For further information, Website: www.dalrymple.eu, Twitter: @nyehughes, Instagram: nyehughes

UPDATE ON POST-2020 PLANS FOR GSPC

Peter Wyse Jackson presented and updated the Council on the post-2020 plans for GSPC. He pointed out that GSPC reports by Parties to the CBD are voluntary and so many countries have not yet reported. A Plant Conservation Report on the achievement of the GSPC to date is being planned. The report will probably be patchy, compiled from information on the Parties and the Global Partnership for Plant Conservation (GPPC) and from individual botanical Institutions. WFO is a member of GPPC and GPPC is interfacing with CBD on this. So what can be expected from GSPC after 2020? Negotiations on a post-2020 global biodiversity framework are underway and it is hoped that a new GSPC after 2020 will be included in that. However, that is by no means a certainty. We are closely following the consultation process by CBD for the new framework. It is possible that the post-2020 Framework may be based on updated Aichi Targets. There does seem to be considerable support for having new Aichi targets that are SMART, measurable.

Maité indicated that at the last COP, with the support of Africa and Mexico, GSPC had two mentions in Decisions: one about the importance of the GPPC and another one for the GPPC to produce a Plant Conservation Report to input in the GBO5.

Peter Wyse Jackson said that the mandate for a new GSPC proposal comes from the conclusions of a GSPC Liaison Group meeting of national representatives and representatives of members of the GPPC that was held in South Africa in 2018 who asked to develop a model for the future to inform the Convention.

A plant conservation strategy developed for Europe, Planta Europa, is being revived through the support of a few members, based in Paris, to host the conference next year. The objective is to produce a European SPC. Data from Europe could be strategic for this.

Mark pointed out that Flora Iberica is coming in.

Marianne asked about Flora Europaea, but it is not databased. Walter updated the situation and now it is databased, but some of the information is outdated.

RESOURCE MOBILIZATION AND UPDATE ON FUND RAISING

Peter Wyse Jackson reiterated that we do need more funding for programming support. Adil Güner is pursuing possible opportunities for some of this funding in Istanbul. Mobilization is always a source of hope and expectation. Our greatest strength and greatest weakness is that our expectations are realistic and ambitious. The Council is grateful to Edinburgh, Mark and Colin, for contributions from that institution and for appointing a TEN Manager. All the assistance from the members of the Consortium, including in-kind contributions are worth millions. But we need more money for programming support. A decision from Pretoria, was that the WFO 2020 would be an ongoing project. After 2020, when we have launched the Portal, then we could also approach new donors and potential funders.

Recommendations from the Technical WG and Taxonomical WG were revised and approved as given earlier in the report.

REVIEW OF ACTION ITEMS

The following action items from the Dublin meeting were reviewed and updated.

#	TASKS	WHO?	WHEN?	COMMENTS
1.	<p>Presentations on WFO. Take advantage of the meetings we attend to promote the WFO.</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>TDWG Meeting in Biodiversity Next, Netherlands</i> <p><i>Please 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>		<p><i>As new members join.</i></p>	<p><i>- All current signatories were updated in the Website.</i></p>
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>Richelle would update FB, send photographs to her.</p>	<p><i>Refer to Communications WG. for Communications Strategy.</i></p> <p><i>Any member may suggest a volunteer to Co-Chairs.</i></p>
5.	<p>Videos. <i>It was recommended that we include the links to videos of institutions on Website.</i></p>		<p><i>Continuously</i></p>	<p><i>- Anyone with videos in their institution relevant to WFO, please provide.</i></p>
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</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>

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			<p><i>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>	<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>
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 use case gaps, including severity of the gap, difficulty to remediate, resources to mediate and a prioritization.</p>	Mark, Chuck	In Progress	<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>

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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	<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.	TEN Manager	<i>In Progress</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.	Tax. WG	<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>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 backbone and/or assess the quality of the treatment in the current WFO backbone.	TEN Manager	<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</i>	<i>Underway.</i> <i>List of 9 TENS approved by the Council at Colombia:</i> <ol style="list-style-type: none">1. Begoniaceae - M. Hughes (E)2. Cordiaceae - J. Miller (MO)3. Caryophyllales - T. Borsch (B)4. Dipterocarpaceae - M. Newman (E)5. Hypericum - S. Crockett (Graz); N. Robson (BM)6. Picramniaceae - W. Thomas (NY)7. Sapotaceae - P. Wilkie (E)

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			<i>Group during the meeting in Dublin.</i>	<p>8. <i>Solanaceae - S. Knapp (BM)</i> 9. <i>Zingiberaceae - M. Newman (E)</i></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	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</i>	<i>Walter, William</i>	<p><i>All guidelines updated, posted to OwnCloud, pending Council approval.</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 finalized them, a new 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	Develop markup Tools for a Toolkit. Consolidate the Markup	<i>Technical WG</i>	Ongoing	<i>No current update, not priority for 2018, but continue for future</i>

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	<p>Tools being used; develop them to integrate them into a toolkit.</p> <p>- SANBI has developed Markup tools and are available for others to use. Available from GitHub: github.com/rudivs/SpeciesMarkupAddIn</p>			
16	<p>Communicate document on web strategy based on CBD CHM work.</p> <p>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>- Communications Committee will define Communication plan as a bigger topic.</p> <p>- Put someone in charge of the Social Media</p> <p>- Separate production of content from the website administration, tailor-make the strategy for each group in order to facilitate the prioritization.</p> <p>- Launch of our communications strategy to raise awareness when we have a portal that people could use. Communicate key advances and specific strategy.</p> <p>- Demonstrate a joint Consortium web site to promote fundraising.</p> <p>-For a Strategy define Who they are? What to tell them? How to tell</p>	<p>Comm. WG. (Eduardo Dalcin, Barbara Thiers, John Parnell)</p>	<p>In Work</p> <p>Draft Web Strategy created.</p> <p>ResearchGate WFO project was set up. Done.</p> <p>FAQs have been added to About portal. Done.</p> <p>– 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.</p>	<p>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.</p> <p>- Install a Content Management System (CMS) on Google Cloud (WordPress). Defer to Dublin the recommendation to adopt a CMS for the About page.</p> <p>- Make the About web page (currently in HTML) easier to update by multiple partners (migrating to a CMS).</p> <p>- Reassess About page content. Put together some guidelines about an Acknowledgements section and submit them to the Council for acceptance in principle.</p> <p>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</p>

#	TASKS	WHO?	WHEN?	COMMENTS
	<i>them? Who's going to tell them? And when are they going to be told?</i>			<i>specialists who could collaborate on a Communication Plan, once we know what we want to communicate.</i>
17	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>	<i>Taxonomic Working Group</i>	<i>Finalized and open for comments to both Tech and Tax lists soon.</i> <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>	<i>Underway, excellent progress. Close to being able to submit as discussed in the Taxonomic Working Group report.</i>
18	Save the Dates. Save the dates for the 12 th & 13 th meetings	<i>Peter Wyse Jackson</i>	12 th Meeting – St. Louis, MO 13 th Meeting – Meise, The Netherlands.	<i>Post the report of the previous Council Meeting on the WFO website</i>
19	Create a list of institutions relevant to promote WFO and interact with.	<i>Barbara will compile</i> <i>All: Send suggestions and contacts to Barbara</i>	<i>Some work done on this already.</i>	<i>Create a list of who we should approach to make the point of the importance of WFO and market our initiative.</i> <i>- Handle in context of the Communications Strategy.</i>
28	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.	<i>William</i>	Done.	<i>To achieve with limited resources (High Priority).</i>
29	DOIs for datasets and downloads. Evaluate using GBIF-generated DOIs	<i>Technical Working Group</i>	<i>Pending code change</i>	<i>Creation of metadata for downloads for DOI.</i>

#	TASKS	WHO?	WHEN?	COMMENTS
	for WFO contributed datasets and downloads			<i>Evaluate the adding DOIs to uploaded datasets and downloaded reports.</i>
30	<p>WFO Darwin Core extensions.</p> <p>WFO Terms not included in Darwin Core standard:</p> <ol style="list-style-type: none"> localID: Record identifier used by the data contributor. E.g. Tropicos ID, Flora of S Africa ID, EDIT ID Alternate Taxon/Name IDs: E. g. Catalogue of Life ID taxonomicStatusReference: Accepted or Synonym status by/according to publication. E.g. Accepted according to GrassBase sourceCitation (of the name record): Not namePublishedIn or bibliographicCitation. E.g. Solanaceae Source is source of the Backbone name record. VerbatimSpecimenList: Currently using Specimens extension. VerbatimDistribution: Using "Distribution" Description Type in Descriptions.txt file Protologue: Using Description Type of Original Publication in Descriptions.txt file nomenclaturalNote 	<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
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 for taxonomic and descriptive data.</i></p>
33	<p>Resolve insufficient resources to support:</p> <ol style="list-style-type: none"> Software development staffing. Fund TEN Manager position Institution to maintain OwnCloud 	<i>WFO Council</i>	<i>Defer to next meeting in Istanbul</i>	<ol style="list-style-type: none"> <i>Missouri is committed to providing William's role, but we have an issue with software development staffing</i> <i>Acknowledge support from RBGE. - Done</i>

#	TASKS	WHO?	WHEN?	COMMENTS
				<i>c) Defer decision to St. Louis.</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>	<ul style="list-style-type: none"> - Harvest distribution data into the Portal - Upload habit from BGCI Global Trees Assessment - Done - Trial harvesting identification keys into the Portal
35	Implement the following tasks (not high-priority): <ol style="list-style-type: none"> 1. <i>Reveal hidden fields (e.g. Basionym)</i> 2. <i>Enable alternate classifications</i> 	<i>William</i>	<i>When possible. Requires code change.</i>	<p><i>To achieve with limited resources, whenever possible</i></p> <ol style="list-style-type: none"> 1. <i>Pending</i> 2. <i>Pending</i>
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>	<p>Use the taxonomic backbone of the <i>Catalogue of the Plants of Madagascar</i> project as a test case.</p> <p><i>(Endemics from Madagascar and African Plants Database)</i></p>
38	Formalize relation with IAPT	<i>WFO Council</i>	<i>Defer to next meeting in Istanbul.</i>	<p>- IAPT is now a Member of the Council.</p> <p>Patrick S. Herendeen, new IAPT chair, was interested, according to Michelle Price and collaboration was examined during their last meeting in October.</p>
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	<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>

#	TASKS	WHO?	WHEN?	COMMENTS
			develop a technical partnership. To be addressed in St. Louis.	
40	Authorization and Registration Process.	<i>Taxonomic Working Group</i>	Done	<ul style="list-style-type: none"> - 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.
42	<p>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.</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>Technical Working Group</i>	<p>The Technical WG suggests we need to be deferred due to limitations of eMonocot ingestion process</p> <p>Deferred to next meeting in St. Louis</p>	<ul style="list-style-type: none"> - 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 incorporate into their own system.
44	Duplicates. There are 17.7k name duplications in the Taxonomic Backbone (TPL artifacts)	<i>Taxonomic Working Group</i>	<p>In progress</p> <p>Significantly reduced.</p>	<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.

#	TASKS	WHO?	WHEN?	COMMENTS
47	Registration.	<i>Mark Watson, Jim Miller and Pierre-André</i>		<i>The subcommittee will be in charge to express an interest of WFO to become a Registration Centre to the Nomenclatural Registration Committee.</i>
48	Make modifications to the Portal 1. Add Acknowledgements section to About page – Defer to St. Louis 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. 6. Add TPL's "Major Plant Groups" to supra-family hierarchy 14. Add responsive GUI (size auto adjustable, upgrade to Bootstrap 4) (code change) low priority	<i>Technical Working Group</i>		
49	Add WFO Backbone text to home page of TPL. <i>Text to be drafted and approved by Council by email</i>	<i>Technical Working Group</i>	Done	<i>Text approved by Council.</i>
50	Add complete data download to TPL with data quality warning in webpage and metadata.	<i>Technical Working Group</i>	Ongoing.	Put warning: This has not been revised.
51	MO & G take lead for a Nomenclator for Bryophytes.	<i>MO G</i>	Ongoing	MBG has names list for the mosses. Formation of a TEN.
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 After Istanbul Meeting.	

#	TASKS	WHO?	WHEN?	COMMENTS
53	Compile a list of WCSP Reviewers for potential TENS, and report to St. Louis meeting.	<i>TEN Manager</i>	St. Louis meeting	

ELECTION OF CHAIRS

The chairs of the Council and Working Groups were all unanimously reelected.

- 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

- The 2nd WFO Council meeting in 2019 will be held in St. Louis, MO on 18-22 November, 2019.
- Marc Sosef offered to organize the 1st meeting in 2020, so it will be held at the Meise Botanic Garden, Belgium 25-29 May, 2020. Marc Sosef will look for funding.
- For the 2nd Council meeting in 2020, Sue Fyfe has offered to organize it in the second half of 2020 when celebrating the 50th anniversary of the Australian National Botanic Garden (ANB) in Canberra. She will ask for firm ideas to put to the Council at the next meeting. Australia 2021 will also be the site of the Global Botanic Gardens Conference (Melbourne).
- The Council also decided against having a meeting in China since the CBD COP will be held there and WFO launch or side-event can be incorporated in the COP.

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THANKS TO THE HOST

Peter Wyse Jackson and Pierre-André Loizeau acknowledged all the co-Chairs coordination and hard work. They also thanked William Ulate and his team and thanked everyone for their continued support. But particularly, thanks were given to Adil Güner, Murat Aydinkal and their team at the Nezahat Gökyiğit Botanik Bahçesi (NGBB) for hosting this Council meeting here in Istanbul, Turkey. Thank you also Nye for coming.

Finally, Adil Güner officially closed the World Flora Online meeting by saying:

“I’m quite pleased to host you here and as we say in Turkish, if we had some mistakes, please forgive us but if we did good, please tell others”.

LIST OF ATTENDEES

(as self-introduced during the meeting)

1. Peter Wyse Jackson, Missouri Botanical Garden, Council co-Chair
2. Pierre-André Loizeau, Conservatory and Botanical Garden of Geneva, co-chair WFO Council
3. Chuck Miller, Missouri Botanical Garden (MBG), co-Chair Technical Working Group
4. Adil Güner, Editor of Illustrated Flora of Turkey
5. Mark Watson, Royal Botanic Garden Edinburgh, co-Chair Taxonomical Working Group
6. Peter Fritsch, Director of Research, Botanical Research Institute of Texas (BRIT)
7. John Parnell, Trinity College, Dublin.
8. Lauren Raz, Universidad Nacional de Colombia, Bogotá.
9. Marc Sosef, Meise Botanical Garden in Belgium
10. Murat Aydinkal, Illustrated Flora of Turkey
11. Maïté Delmas, Natural History Museum in Paris (MNHN)
12. Visotheary Ung Natural History Museum in Paris (MNHN),
13. Walter Berendsohn, Berlin Botanic Garden and Botanical Museum (BGBM)
14. Alan Paton, Royal Botanic Gardens, Kew
15. Colin Pendry, Royal Botanic Garden Edinburgh
16. Marianne Le Roux, SANBI, South Africa.
17. Jim Miller, Head of Research and Conservation, Missouri Botanical Garden (MBG)
18. Nye Huges, Dalrymple, Edinburgh.
19. William Ulate, Missouri Botanical Garden (MBG), WFO Project

Apologies:

Apologies were received from several Council members that were not able to attend for various reasons: Thomas Borsch (Berlin), **Barbara Thiers** (NYBG), **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), **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), **Erick Smets** (Naturalis Biodiversity Center, Leiden), **Anne Fuchs** (Australian Biology Food Resources, ABRS), **Wayt Thomas** (New York Botanical Garden, NYBG)

ACTION ITEMS CARRIED FORWARD TO NEXT MEETING IN ST. LOUIS, USA

#	TASKS	WHO?	WHEN?	COMMENTS
1.	<p>Presentations on WFO. Take advantage of the meetings we attend to promote the WFO.</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>Biodiversity Next Meeting in Netherlands, October</i> <p><i>Please 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>	Dr Wyse Jackson	<i>As new members join.</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	Richelle will update FB, send photographs to her.	<p><i>Refer to Communications WG. for Communications Strategy.</i></p> <p><i>Any member may suggest a volunteer to Co-Chairs.</i></p>
5.	<p>Videos. <i>It was recommended that we include the links to videos of institutions on Website.</i></p>	All	<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>	William	<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 Taxonomic WG in order to increase the diversity</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>

#	TASKS	WHO?	WHEN?	COMMENTS
			<p><i>of content and geographic coverage.</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</i></p>	<ul style="list-style-type: none"> - <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>
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>	William	Ongoing task	<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>	<i>Conduct simple survey with generic questions about usability, functionality, user experience (e.g. alternate classifications)</i>
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	June 2020	<p><i>Project delayed.</i></p> <p><i>Raoul would test the ingestion to Botalista of the full version of the taxonomical backbone.</i></p>
11.	<p>Make a Survey of existing global taxonomic networks. Make a Survey of existing global taxonomic</p>	TEN Manager	<i>In Progress</i>	<i>Continuing as we build the list of actual and potential list of TENS</i>

#	TASKS	WHO?	WHEN?	COMMENTS
	networks and the systems used and ask if they are willing to be responsible to match names to treatments.			
12	Provide standards for genus and species of angiosperms and gymnosperms. Address suprafamily classification.	<i>Taxonomic WG</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>Botalista</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 backbone and/or assess the quality of the treatment in the current WFO backbone.	<i>TEN Manager</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 next meeting.</i>	<i>List of 9 TENs approved by the Council at Colombia:</i> <ol style="list-style-type: none">1. <i>Begoniaceae</i> - M. Hughes (E)2. <i>Cordiaceae</i> - J. Miller (MO)3. <i>Caryophyllales</i> - T. Borsch (B)4. <i>Dipterocarpaceae</i> - M. Newman (E)5. <i>Hypericum</i> - S. Crockett (Graz); N. Robson (BM)6. <i>Picramniaceae</i> - W. Thomas (NY)7. <i>Sapotaceae</i> - P. Wilkie (E)8. <i>Solanaceae</i> - S. Knapp (BM)9. <i>Zingiberaceae</i> - M. Newman (E) <i>Set up a dedicated email address for WFO TENs Manager at RBGE, Aaron Elliott.</i> <i>Mark Watson, Wayt Thomas and Jim Miller will include potential contacts/institutions into the shortlist of 60 large to medium size</i>

#	TASKS	WHO?	WHEN?	COMMENTS
				<i>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>Updates to the three guidelines are completed, posted on OwnCloud, and awaiting final approval by Council.</i>
15	Develop markup Tools for a Toolkit. Consolidate the Markup Tools being used; develop them to integrate them into a toolkit. <i>- SANBI has developed Markup tools and are available for others to use. Available from GitHub: github.com/rudivs/SpeciesMarkupAddIn</i>	<i>Technical WG</i>	<i>Ongoing</i>	<i>No current update, not priority for 2019, but continue for future</i>
16	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. <i>- Communications Committee will define Communication plan as a bigger topic.</i> <i>- Put someone in charge of the Social Media</i>	<i>Comm. WG.</i> <i>(Eduardo Dalcin, Barbara Thiers, John Parnell)</i>	<i>In Work</i> <i>Draft Web Strategy created.</i> <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>	<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> <i>- Install a Content Management System (CMS) on Google Cloud (WordPress). Defer to next meeting the recommendation to adopt a CMS for the About page.</i> <i>- Make the About web page (currently in HTML) easier to</i>

#	TASKS	WHO?	WHEN?	COMMENTS
	<p>- Separate production of content from the website administration, tailor-make the strategy for each group in order to facilitate the prioritization.</p> <p>- Launch of our communications strategy to raise awareness when we have a portal that people could use. Communicate key advances and specific strategy.</p> <p>- Demonstrate a joint Consortium web site to promote fundraising.</p> <p>-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>			<p>update by multiple partners (migrating to a CMS).</p> <p>- Reassess About page content. Put together some guidelines about an Acknowledgements section and submit them to the Council for acceptance in principle.</p> <p>For the Communication Strategy, define what WFO is 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.</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>	Taxonomic Working Group	<p>Finalized and open for comments to both Tech and Tax lists soon.</p> <p>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.</p>	<p>Underway, excellent progress. Close to being able to submit.as discussed in the Taxonomic Working Group report.</p>
18	<p>Save the Dates. Save the dates for the 12th & 13th meetings</p>	Dr Wyse Jackson	<p>12th Meeting – St. Louis, MO, USA Nov 18-22, 2019</p> <p>13th Meeting – Meise, The Netherlands May 25-29, 2020.</p>	<p>Post the report of the previous Council Meeting on the WFO website</p>

#	TASKS	WHO?	WHEN?	COMMENTS
			14 th Meeting – Canberra, Australia, late 2020	
19	Create a list of institutions relevant to promote WFO and interact with.	<i>Barbara will compile</i> <i>All: Send suggestions and contacts to Barbara</i>	<i>Some work done on this already.</i>	<i>Create a list of who we should approach to make the point of the importance of WFO and market our initiative.</i> <i>- Handle in context of the Communications Strategy.</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: 9. localID: Record identifier used by the data contributor. E.g. Tropicos ID, Flora of S Africa ID, EDIT ID 10. Alternate Taxon/Name IDs: E.g. Catalogue of Life ID 11. taxonomicStatusReference: Accepted or Synonym status by/according to publication. E.g. Accepted according to GrassBase 12. sourceCitation (of the name record): Not namePublishedIn or bibliographicCitation. E.g. Solanaceae Source is source of the Backbone name record. 13. VerbatimSpecimenList: Currently using Specimens extension. 14. VerbatimDistribution: Using “Distribution” Description Type in Descriptions.txt file	<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

#	TASKS	WHO?	WHEN?	COMMENTS
	<p>15. Protologue: Using Description Type of Original Publication in Descriptions.txt file</p> <p>16. nomenclaturalNote</p>			
31	<p>Send formal request to GBIF for WFO-tailored versions of IPT and DwCA Validator, involving SANBI and Flora do Brasil</p>	<p><i>Technical Working Group</i></p>	<p><i>Ongoing</i></p>	<p><i>Botalista replaces tailored version of DwCA Validator.</i></p> <p><i>Tailored IPT still needed for taxonomic and descriptive data.</i></p>
33	<p>Resolve insufficient resources to support:</p> <p>a) Software development staffing. b) Institution to maintain OwnCloud</p>	<p><i>WFO Council</i></p>	<p><i>Defer to next meeting in Istanbul</i></p>	<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)- Defer decision to St. Louis.</i></p>
34	<p>Test Harvester with new Data Types as advised by the Council during the Nov. meeting in Paris.</p>	<p><i>William</i></p>	<p><i>Ongoing.</i> <i>Distribution data needs more work.</i></p>	<p><i>- Harvest distribution data into the Portal</i></p> <p><i>- Trial harvesting identification keys into the Portal</i></p>
35	<p>Implement the following tasks (not high-priority):</p> <ol style="list-style-type: none"> 1. <i>Reveal hidden fields (e.g. Basionym)</i> 2. <i>Enable alternate classifications</i> 	<p><i>William</i></p>	<p><i>When possible. Requires code change.</i></p>	<p><i>To achieve with limited resources, whenever possible</i></p> <ol style="list-style-type: none"> 1. <i>Pending</i> 2. <i>Pending</i>
36	<p>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.</p> <p>Prior to engaging Taxonomic Expert Networks (TENs) for a taxon-by-taxon review of the backbone information.</p>	<p><i>William</i> <i>Pete Lowry</i></p>	<p><i>Ongoing</i></p>	<p>Use the taxonomic backbone of the <i>Catalogue of the Plants of Madagascar</i> project as a test case.</p> <p><i>(Endemics from Madagascar and African Plants Database)</i></p>

#	TASKS	WHO?	WHEN?	COMMENTS
38	Formalize relation with IAPT	WFO <i>Council</i>	Defer to next meeting.	- IAPT is now a Member of the Council. Patrick S. Herendeen, new IAPT chair, was interested, according to Michelle Price and collaboration was examined during their last meeting in October.
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 St. Louis.	<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>
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 for 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 St. Louis	- 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 incorporate into their own system.
44	Duplicates. There are 17.7k name duplications in the Taxonomic Backbone (TPL artifacts)	<i>Taxonomic Working Group</i>	In progress Significantly reduced.	- William will provide the list of 17.7k name duplicates for assessment including the taxonomic status

#	TASKS	WHO?	WHEN?	COMMENTS
				- Wayt Thomas will work with Chuck and William to review the spreadsheets of duplicate names, dividing the task between Consortium members.
47	Nomenclatural Registration.	Mark Watson, Jim Miller and Pierre-André	Ongoing.	The subcommittee will be in charge to express an interest of WFO to become a Registration Centre to the Nomenclatural Registration Committee.
48	Make modifications to the Portal <ol style="list-style-type: none"> 1. Add Acknowledgements section to About page – Defer to St. Louis 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. 6. Add TPL’s “Major Plant Groups” to supra-family hierarchy. 14. Add responsive GUI (size auto adjustable, upgrade to Bootstrap 4) (code change) low priority 15. Change background of statistics counts on home page to white, eliminate “Explore” and change all characters to blue. 16. Assess if order of Descriptions can be prioritized (for display). 17. Assess how to provide page hit statistics by data provider. 18. Add a list of online floristic information as a download from the WFO About pages. Add a note indicating WFO is not necessarily endorsing the sources. 19. On the Taxon Page change ‘Preferred Names’ to 	Technical Working Group	Ongoing	<ol style="list-style-type: none"> 1. Ongoing 4. Ongoing 6. Ongoing 14. Ongoing 15. Done 16. Ongoing 17. Ongoing 18. Ongoing 19. Done 20. Done 21. Ongoing 22. Ongoing 23. Ongoing 24. Ongoing 25. Ongoing 26. Ongoing

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	<p>‘Nationally Preferred Names’, and ‘Local Names’ to ‘Other Local Names’</p> <p>20. Change section title ‘General Description’ to ‘General Information’ as this gives a better distinction from ‘Morphology’</p> <p>21. ‘Name accepted by xxx’ should be moved to under the protologue citation.</p> <p>22. Include [This taxon page should be cited as ‘http://worldfloraonline.org/taxon/wfo-0001031908, 25 April 2019’] near the top of the Taxon Page, e.g. where current ‘Name accepted by...’ is placed, above first description.</p> <p>23. Combine 3 kinds of synonyms together under a single ‘Synonym’ checkbox. Displaying three kinds of synonyms (Heterotypic, Homotypic, Synonym) in the Search Page filter options is confusing/not necessary</p> <p>24. Provide option for users to have more synonym details displayed. Do not separate heterotypic/homotypic/synonym in the general view.</p> <p>25. Delete ‘Identification Keys’ in statistics bar as none in there</p> <p>26. Add ‘Accepted species’ number to statistics bar</p>			
49	<p>Add WFO Backbone text to home page of TPL. <i>Text to be drafted and approved by Council by email</i></p>	<p><i>Technical Working Group</i></p>	<p>Done.</p>	

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50	Add complete data download to TPL with data quality warning in webpage and metadata.	<i>Technical Working Group</i>	Ongoing. Put warning: This has not been revised.	
51	MO & G take lead for a Nomenclator for Bryophytes.	<i>MO & G</i>	Ongoing.	MBG has names list for the mosses. Formation of a TEN.
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 After Istanbul Meeting.	
53	Compile a list of WCSP Reviewers for potential TENs , and report to St. Louis meeting.	<i>TEN Manager</i>		
54	Data Ingestion: <ol style="list-style-type: none"> 1. Deprecate use of namePublishedInID. 2. Implement use of nameAccordingToID. <ul style="list-style-type: none"> • Modify code as needed. • Add Taxonomic Status Reference box above Bibliography. • Display bibliographicCitation for nameAccordingTo. 3. Implement "exclude" field in Backbone input file. <ul style="list-style-type: none"> • Used to tag names as "Do Not Process". 4. Include 'ex authors' in the author citation of scientific names 5. 'Source' should be used to provide authors of individual accounts, giving the full bibliographic citation "X & Y (date). In A & B (eds), Flora of xx: p. 34-55." and hyperlink to online account if we have it. 	<i>William</i>		<ol style="list-style-type: none"> 1. <i>Ongoing</i> 2. <i>Ongoing</i> 3. <i>Ongoing</i> 4. <i>Ongoing</i> 5. <i>Ongoing</i>

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55	<p>Change Content Contributor Guidelines to add how to add Authors, Editors, or other attributions to Descriptive Data.</p> <ul style="list-style-type: none"> Embed in Source reference Bibliographic Citation 	<i>Walter, William, Chuck</i>		
56	Explore links with COL GSDs as potential WFO TENS	<i>TEN Manager with Yuri Roskov</i>		
57	Explore links with Michael Hassler and using his fern dataset as a TEN for ferns	Walter B.		
58	Assess adding the BGCi Threat Search database as this includes national level and non-standard conservation assessments	<i>William</i>		
59	<p>Re-run IPNI-WFO Name Matching after the WCSP/IPNI Update to improve the number of matching names from 68% and analyse the results.</p> <p>Update Protologue information for matched names using IPNI data</p>	<i>William</i>		
60	Advise on the de-duplication of 7 remaining duplicate names with descriptive data.	<i>Taxonomic Working Group</i>	Done	<i>All duplicates with descriptive data resolved.</i>
61	Review the quality of other data types in GTA and report to Council before inclusion in WFO	<i>Taxonomic Working Group</i>		
62	Advise on display options to have descriptive data on the Taxon Page with alternate views: order by	<i>Technical Working Group</i>		

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	content provider vs by description type.			
63	Review the portal interface prior to and discuss at next Council meeting	<i>Taxonomic Working Group</i>		
64	Consider using an equal area map projection for Geographical Coverage on About page.	<i>Technical Working Group</i>		