



**Report of the World Flora Online Council Meeting  
Hosted by Muséum national d'Histoire naturelle, Paris, France  
November 16-17, 2017**

The eighth meeting of the World Flora Online Council was held at the Muséum national d'Histoire naturelle (MNHN) from 16-17 November 2017, preceded by Taxonomic and Technical Working Group meetings from 13-14 November 2017.

The following action items were carried forward:

**ACTION ITEMS**

#	TASKS	WHO?	WHEN?	COMMENTS
1.	<p><b>Presentations on WFO.</b> Take advantage of the meetings we attend to promote the WFO.</p> <ul style="list-style-type: none"> <li>- Presentations on WFO were given at the Global Botanic Gardens Congress in Geneva.</li> <li>- Chuck and William also presented a technical talk about WFO at TDWG2017 in Ottawa, Canada</li> <li>- Peter Wyse Jackson outlined the WFO during his talk as keynote speaker at IBC and a full symposium was held.</li> </ul>	All	<p><i>Ongoing.</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"> <li>- GBIF in Ireland, this year</li> <li>- Caribbean Botanical Garden Network, Cuba, April 2-5, Berlin and MBG will have representatives.</li> <li>- EuroGard Congress, May in Lisbon</li> <li>- TDWG Meeting Aug 27–31 in New Zealand</li> <li>- GPPC Conference. Aug 27-29 in Cape Town. Peter Wyse Jackson will lead.</li> <li>- Caryophyllales Network Congress in Mexico City. Walter Berendsohn.</li> <li>- 6th Monocot Congress Natal, Brazil. Oct 8-12r</li> <li>- Latin America Botanical Congress, Quito, Ecuador Oct 21-28.</li> <li>- COP, Egypt, Nov 12-22. Peter</li> </ul>

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				<i>Wyse Jackson and Mäite Delmas may attend.</i>
2.	<p><b>Update current signatories.</b> 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>	<p>- New members were welcomed from The Netherlands, Turkey, Colombia, Korea, Namibia, Brazil and the United States.</p> <p>- All current signatories were updated in the Website.</p>
3.	<p><b>Update Facebook page.</b> Keep updating FB page with news and current information.</p> <p><i>- Included in the Communications Strategy</i></p>	Communic. Committee		Social Media coordinator needed.
4.	<p><b>Create WFO Pamphlet.</b> 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		<i>- A pamphlet was created and available for the time of the launch at IBC.</i>
5.	<p><b>Videos.</b> <i>It was recommended that we include the links to videos of institutions on Website.</i></p>		<i>Continuously</i>	<i>- Anyone with videos in their institution relevant to WFO, please provide.</i>
6.	<p><b>Enhance Production Portal with Descriptive Data.</b> Production portal should be enhanced with descriptive data content as advised by the Data Content subgroup for the Nov.</p>	WU	<i>In Progress</i>	<p><i>Re-harvest flora datasets to capture descriptions for new names or newly matched names</i></p> <ul style="list-style-type: none"> <li>- <i>Solanaceae Source</i></li> <li>- <i>eFlora of China</i></li> <li>- <i>NYBG – Flora of NE US</i></li> </ul>

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	<p>meeting. <i>Get descriptive data ready to</i></p> <ul style="list-style-type: none"> <li>- NY: <i>Flora Neotropica</i></li> <li>- MO: <i>Flora Mesoamericana, Flora of Nicaragua, Flora of China, Flora of Costa Rica, Flora of Panama and Novon.</i></li> </ul> <p><i>Send a tweet as content is loaded to Production.</i></p>			<ul style="list-style-type: none"> <li>- <i>Plants of the World Online -</i></li> <li>- <i>POWOP data on Flora of West Tropical Africa</i></li> <li>- <i>IUCN Conservation Status</i></li> <li>- <i>Images from Solanaceae &amp; Flora of China</i></li> </ul> <p><i>Continue to load remaining and new datasets</i></p> <ul style="list-style-type: none"> <li>- <i>Flora of Colombia, 31 Treatment vols. with 100.000 species.</i></li> <li>- <i>Australian Floras</i></li> </ul>
7.	<p><b>Create a Harvester administration/operations guide.</b></p> <p>The development of a Harvester administration/operation guide should be carried out immediately through testing and collaboration.</p>	WU		<p><i>First version of the Harvester administration/operation guide was finalized.</i></p> <p><i>New updates should be included.</i></p>
8.	<p><b>Test backbone changes and document.</b> A Technical subgroup formed to test backbone changes, investigate author attribution storage, document DwCA elements and report at next meeting.</p>	Tech. Group	<i>Test was Finalized.</i>	<i>Observations include in the Documentation of DwCA fields list in the Taxonomical Backbone Contributors' Guide.</i>
9.	<p><b>Complete gap analysis of the portal use cases.</b></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> <p><i>- List of priority tasks:</i></p> <ul style="list-style-type: none"> <li>- <i>Modify code to change "Unplaced" name status to "Unresolved" (high priority)</i></li> <li>- <i>Add Google Analytics to track usage (high priority)</i></li> <li>- <i>Modify code to be able to ingest IUCN data Version 3 data (high priority)</i></li> </ul>	Mark, Chuck	<p><i>In Progress</i></p> <p><i>Deferred to next meeting</i></p>	<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</i></p> <p><i>- Looked at changes required to the Public Portal</i></p>

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	<ul style="list-style-type: none"> <li>- <i>Spell out reference link to full source name for Synonyms section on the Portal Page (high priority)</i></li> <li>- <i>Clean up search functionality, show current Sort By (high priority)</i></li> </ul>			
10.	<p><b>Implement Botalista software.</b> Work together to further develop Botalista as collaborative tool for expert networks to contribute backbone data.</p>	<p>Pierre-André and Raoul</p>	<p>Summer 2018</p>	<p>Worked on the requirements for a pre-ingestion system as extension to Botalista.</p> <p>The funds to develop Botalista have been approved and will be received by December.</p> <p>Current Botalista software version implemented on the WFO Google Cloud Server:  <a href="http://botalista.worldfloraonline.org">botalista.worldfloraonline.org</a>  (wfo/wfo).</p> <p>Botalista will be the system used by the Taxonomic Working Group to manage family level and above classification (1,250+ names in Orders and Families).</p> <p>Concept of new Bota-WFO workflow process accepted by Council.</p> <p>Evaluate existing workflow systems (e.g. Kurator) for validation.</p>
11.	<p><b>Make a Survey of existing global taxonomic networks.</b> 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>	<p><i>Tax.WG</i></p>	<p><i>In Progress</i></p> <p><i>The Taxonomic Working Group made good progress on the Survey.</i></p> <p><i>Contacts to be made.</i></p>	<p>List of specialists and specialist networks by Family created, but incomplete.</p> <p>Include formal to informal specialist groups.</p> <p>Include systems used to record data.</p> <p>Question of institutions and</p>

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				ongoing responsibility.
12.	<b>Provide standards for genus and species of angiosperms and gymnosperms. Address suprafamily classification.</b>	<i>Tax. WG</i>		Tax WG discussed, recommended to follow 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).
13.	<b>Taxonomic Expert Networks (TENs).</b> 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>Underway.</i>  -Melastomataceae - PalmWeb - Grassbase - Euphorbiaceae - Asteraceae - Caryophyllales - Hypericum - Cycads  <i>Set dedicated email address for WFO TENs Manager, Jim Miller will receive messages until a full-time TENs Manager is appointed.</i>
14.	<b>Update guidelines for contributors.</b> Guidelines for contributors available (June 2014) need to be updated. <i>Developed first version of Guidelines for Contribution: Backbone and Content before IBC.</i>	<i>Walter, William</i>	<i>In Progress</i>  <i>Documents will be finalized after the meeting and distributed to the Council seeking approval by email by end of January to finalized them.</i>	<i>Updates to both guides are being developed.</i>  <i>Recommendation to split the document in two parts:</i>  <ol style="list-style-type: none"><li><i>1. General introduction on how to become a member.</i></li><li><i>2. Tech-minded, here's the document how to contribute to the taxonomic backbone.</i></li><li><i>3. Content provider.</i></li></ol> <i>Walter will lead development of the first two. William input is needed to the limit on what is possible according to the software.</i>

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15.	<p><b>Develop markup Tools for a Toolkit.</b> Consolidate the Markup 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: <a href="https://github.com/rudivs/SpeciesMarkupAddIn">github.com/rudivs/SpeciesMarkupAddIn</a></p>	TechWG	<p>Ongoing</p> <p>Technical group will continue discussions as related to their work.</p>	<p>Walter mentioned an article published in TAXON with a huge schema to markup Flora Malesiana<sup>1</sup>. Walter offered to reach out to Thomas D. Hamann to see if it's possible to contract him to simplify the tools he developed that he had done to develop a simpler standard for WFO to use by any partner.</p> <p>Lauren Raz described the Colombian experience with GoldenGate.</p>
16.	<p><b>Communicate document on web strategy based on CBD CHM work.</b> 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 (e.g. IBC) 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</p>	<p>Comm. WG.  (Eduardo Dalcin, Barbara Thiers, John Parnell)</p>	<p>In Work</p> <p>Communication Working Group report was modified it to include the action points indicated.</p> <p>List for Comm. created to record discussions.</p> <p>- Repository of public documents created to be made available through website</p> <p>Have a good series of FAQs by the end of January.</p> <p>Have a Researchgate project setup by the end of January.</p>	<p>Draft Web Strategy created.</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>- Put content in a blogging platform to be reused in FB or other platforms. Have a post so we don't create false expectations.</p> <p>- Install a Content Management System (CMS) on Google Cloud (WordPress)</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</p>

<sup>1</sup> Detailed mark-up of semi-monographic legacy taxonomic works using FlorML. Thomas D. Hamann, Andreas Müller, Marinus C. Roos, Marc Sosef and Erik Smets. Taxon. Vol. 63, No. 2 (April 2014), pp. 377-393

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	<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>- Once we know what we want to communicate, set up a Conference Call from Communication professionals at MBG, Edinburgh, SANBI, NYBG, Kew, Rio and others to get some thoughts for us.</i></p>			<p><i>- Prepare and Upload a Revised FAQ to the About webpage</i></p> <p><i>How they can be involved and answer their FAQs.</i></p> <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. Dr 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><b>Prepare short paper for TAXON.</b> 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>	<i>Taxonomic Working Group</i>	<p><i>Finalized and open for comments to both Tech and Tax lists soon.</i></p> <p><i>Submit within a month.</i></p>	<i>Underway, as discussed in the Taxonomic Working Group report.</i>
18.	<p><b>Save the Dates.</b> Save the dates for the 9<sup>th</sup> meetings:</p> <p>Bogota, Colombia. June 18<sup>th</sup> – 22<sup>nd</sup>, 2018</p> <p>Dublin, Ireland. December 3<sup>rd</sup> – 7<sup>th</sup>, 2018</p>	<i>Peter Wyse Jackson</i>		<p><i>-Request Letter of Invitation to Lauren Raz if one needed.</i></p> <p><i>-Updates coming</i></p>
19.	<b>Create a list of institutions relevant</b>	<i>Barbara</i>	<i>Some work done on this</i>	<i>Create a list on who we should</i>

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	to promote WFO and interact with.	will compile  All: Send suggestions and contacts to Barbara	already.	approach to make the point of the importance of WFO and market our initiative.
20.	Hybrid formulae are not included in WFO. They are indications of parentage and not scientific names for taxa.	William	Done	Hybrid formulae were filtered from current Taxonomic Backbone.
21.	Names included in WFO will be governed by the International Code of Nomenclature for algae, fungi, and plants (ICN). Change the Nomenclatural Code from current ICBN to ICN in DB. (Currently not shown in the Portal)	William	Done.	DB shows "Botanical" harvested from ICBN default.  Change Harvester code to accept ICN.
21.	Identifiers for scientific names in WFO were changed to be 'WFO- <b>&lt;unique10-digits integer&gt;</b> '. Removed letters G, F and O, which were included in the original generation of WFO IDs for Genus, Family and Order names. Assigned 10 digit numbers according to the following structure:	William	Done	WFO Identifiers are organized like this:  wfo-999##### Dominion wfo-997##### Kingdom wfo-995##### SubKingdom wfo-993##### Division wfo-992##### SubDivision wfo-987##### SuperClass wfo-985##### Class wfo-980##### Subclass wfo-950##### SuperOrder wfo-900##### Order wfo-850##### Suborder wfo-700##### Family wfo-650##### Subfamily wfo-550##### SuperTribe wfo-500##### Tribe wfo-450##### Subtribe wfo-400##### Genus wfo-350##### SUBGENUS wfo-340##### Section wfo-300##### Subsection wfo-280##### Series wfo-270##### Subseries



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				<i>wfo-000##### Species</i> <i>Subspecies</i> <i>Variety</i> <i>Subvariety</i> <i>Form</i> <i>Subform</i> <i>InfraspecificName</i>
22.	<b>More specific accreditation should be included in the WFO Family 'Organisations'.</b> Replace the descriptions for Organisations for Families in WFO backbone with the text approved by the Council.	<i>William</i>	<i>Done</i>	<p><i>Nomenclatural and classification information used for the initial data ingestion into the World Flora Online taxonomic backbone was provided by The Plant List Version 1.1 (September 2013). The data resources used to build The Plant List were contributed by: African Plants Database (Conservatory and Botanical Gardens of the City of Geneva and South African National Biodiversity Institute); GrassBase; The Global Compositae Checklist (International Compositae Alliance); The International Legume Database and Information Service; The International Organisation for Plant Information; International Plant Names Index (Royal Botanic Gardens, Kew, Harvard University Herbaria, and Australian National Herbarium); The iPlants Project (Royal Botanic Gardens, Kew, Missouri Botanical Garden, and New York Botanical Garden); Missouri Botanical Garden (Bryophyte Checklist, Checklist of Bolivia, Flora of China Checklist, Checklist of Ecuador, Flora Mesoamericana, Checklist of Panama, Checklist of Peru); Royal Botanic Garden Edinburgh (Rosaceae), and World Checklist of Selected Plant Families. See <a href="http://www.theplantlist.org/1.1/about/#collaborators">www.theplantlist.org/1.1/about/#collaborators</a> for further details.</i></p>
23.	<b>Prepare WFO Portal for IBC.</b> Change WFO main portal (production) address to <a href="http://www.worldfloraonline.org">www.worldfloraonline.org</a> and WFO info portal address to <a href="http://about.worldfloraonline.org">about.worldfloraonline.org</a>  Change the UI according to the observations presented, eliminating unused menus and screens,	<i>Chuck</i>	<i>Done</i>  <i>Public Portal was launched at IBC.</i>  <i>Need to add links to About page.</i>	Put a link to these addresses appear in the <i>About Us</i> page
24.	<b>Add Emails to the WFO List.</b> Get the emails added to the lists of members of the 3 Working Groups and the Council	<i>Thomas Borsch,</i> <i>Wayt Thomas</i>		Made list of active members' emails of people involved in WFO including 3 observers: Abigail, Nancy Morin and Erik Smets.  Access to the ownCloud was also reviewed.
25.	<b>Data Sharing Agreement.</b> Develop further the existing Draft Sharing	<i>Peter Wyse</i>	<i>Next Meeting</i>	<i>This applies for data not shared under CC0. There's a need to</i>

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	<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>	<i>Jackson</i>		<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>
26.	<p><b>Update the list of Floras from different providers.</b></p> <p><i>Send Wayt Floras and Treatments that are recent or modern from different parts of the World that are not covered by any other Flora.</i></p>	<i>Wayt Thomas</i>		<p><i>This will help determine the priorities of what to digitize in the future.</i></p> <p>Thinking globally but starting to work locally, reviewed member diversity in terms of gender and geography, we should try to include more people from biodiverse-rich countries. The case of South America, Malasia and Singapore and Africa (north of Madagascar) were pointed out.</p>
27.	<p>Advise users in the website how to cite the WFO content using an indication "as of &lt;THIS DATE&gt;"</p>		<p><i>Not started</i></p> <p><i>Add a link in footer "How to Cite WFO"</i></p> <p><i>Create language for citing original publication and the WFO.</i></p>	<p><i>Given the dynamic nature of WFO and while we lack versioning of WFO in a preharvesting system.</i></p>
28.	<p><b>Ingest new Version 3 IUCN data interface.</b> Modify eMonocot code to be able to harvest IUCN data. Currently, only Version 2 is usable</p>	<i>William</i>		<p><i>To achieve with limited resources (High Priority).</i></p>

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

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33.	<p><b>Resolve insufficient resources to support:</b></p> <ul style="list-style-type: none"> <li>- Software development staffing.</li> <li>- Fund TEN Manager position</li> <li>- Institution to maintain OwnCloud</li> </ul>	<p>WFO Council</p>	<p><i>Defer to next meeting</i></p>	<p>-Solve low resources</p> <p>- Jim Miller volunteered as TEN Manager while a full-time person is found.</p>
34.	<p><b>Test Harvester with new Data Types.</b> The Harvester should be tested with new types of data content as advised by the Council during the Nov. meeting in Paris.</p>	<p>William</p>		<p><i>Harvest distribution data into the Portal</i> <i>Trial harvesting identification keys into the Portal</i></p>
35.	<p><b>Implement the following tasks</b> (not high-priority):</p> <ul style="list-style-type: none"> <li>- <i>Modify code to add dynamic totals for counts of objects on Home page</i></li> <li>- <i>Modify code for Search "quick link" drop down to include the terms being searched (e.g. Poa annua)</i></li> <li>- <i>Modify code to enable ingestion of Scientific Name field with authors</i></li> <li>- <i>Activation of requests for registration (e.g. downloading)</i></li> <li>- <i>Ingest scientific names with authors included (not eMonocot function)</i></li> <li>- <i>Reveal hidden fields (e.g. Basionym)</i></li> <li>- <i>Enable alternate classifications</i></li> </ul>	<p>William</p>	<p><i>When possible</i></p>	<p><i>To achieve with limited resources, whenever possible</i></p>
36	<p><b>Integrate authoritative information on accepted names and synonyms from a well-defined geographic area into the WFO backbone</b>, and thereby improve the overall quality of the latter.</p>	<p>William Pete Lowry</p>	<p>Prior to engaging Taxonomic Expert Networks (TENs) for a taxon-by-taxon review of the backbone information.</p>	<p>Use the taxonomic backbone of the <i>Catalogue of the Plants of Madagascar</i> project as a test case.</p>
37	<p><b>Taxonomic Working Group follow up.</b></p>	<p>Tax WG</p>		<p>Will have calls in January and February</p>
38	<p><b>Formalize relation with IAPT</b></p>	<p>WFO Council</p>		<p>Follow up with discussions to determine what is the best way to do this. Michelle will send the position</p>

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				paper done with Mark Watson.
39	<b>Catalogue of Life</b>	<i>Abigail Barker, Peter Wyse Jackson</i>		Peter Wyse Jackson and Abigail Barker will create a subgroup to negotiate Catalogue of Life terms