

A *Triticeae* Website: Report of Discussion

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Abstract: Web technology is superb for sharing and disseminating information, particularly information that involves pictures and illustrations. Before designing a website for the *Triticeae* of the world, we need to know what resources it should make available, what kind of questions it should answer, and what information individuals and organizations would be willing to contribute. Those attending the Fifth International Triticeae Symposium were concerned about the financial and temporal costs of developing a site, but it was seen as worth initiating. It was recommended that a first step be to develop links to other pertinent sites, with development of a catalog of names an important next step. Other resources to include would be images, descriptions, and multi-entry keys. It was agreed that information on the site should be documented, and that it would not be a place for primary publication. Another area of unanimous agreement was that it should be designed to complement or enhance, not compete with, other global initiatives. Several individuals agreed to help develop the site.

Keywords: Web site; *Triticeae*; collaboration; nomenclature; identification

The existing website for the International Triticeae Consortium presents little more than a series of daisy-chained pages that provide seriously outdated and/or incomplete information. Participants in the Fifth International Triticeae Symposium held in Prague, 2005, strongly supported development of a new website, one that would provide easy access to information not available through other sources, and links to related sites. It was agreed that, to the maximum extent feasible, development of the site should be collaborative. Collaboration will not only distribute the work load but also encourage a sense of community among its contributors and primary users. It was emphasized that, even with a distributed work load, funding would be needed to support development of the site, including development of the infrastructure needed for participation, if the site is to become a primary and authoritative source of information about the *Triticeae*. The focus of the discussion

then turned to the information and resources to be made available.

The website as a portal

Discussants were unanimous in wanting the Consortium's new website to complement and interact with other international projects such as the International Triticeae Mapping Initiative (ITMI), GrainGenes (<http://wheat.pw.usda.gov/GG2/index.shtml>), Global Biodiversity Information Facility (GBIF; <http://www.gbif.org/>), Global Plant Checklist Project (GPCP; <http://www.biologie.uni-hamburg.de/b-online/ibc99/iopi/iopigpc1.html>), Species Plantarum Project (SPP; <http://www.biologie.uni-hamburg.de/b-online/ibc99/iopi/iopispp1.html>), International Plant Names Index (IPNI; <http://www.ipni.org/index>), and with genebank websites such as ICARDA (<http://www.icarda.org/>). Accordingly, initial development of

the website will be to design a new home page that incorporates links to such sites. This will increase the value of the site to research workers while requiring little more than creation of an appropriate home page.

New resources

New resources that would be appropriate for the Consortium to develop include a comprehensive and annotated catalogue of names that have been used for members of the tribe; illustrated identification tools, particularly tools for use in the field; synopses of chromosomal, genomic, and hybridization information; distributional data, both specimen-based and observational; and an online, searchable bibliography of published information. It was emphasized that the purpose of the website would be publicizing and providing better access to information available elsewhere; it would not be the place for publishing original information.

Because almost all information about biological entities is shared via their scientific names, development of a catalog of names must be the top priority. There is also a need for some level of agreement on the best names to use for individual taxa. This will be difficult, as there is still considerable disagreement among taxonomists at both the generic and the species levels. An initial approach would be to determine where there are disagreements and summarize their nature. Disagreements that result in the creation of unambiguous synonyms may be philosophically profound, but are of little significance to the users of names other than as impediments to the acquisition and exchange of information. Their negative impact must be minimized.

The nomenclatural catalogue will provide a foundation for linking in all other kinds of information. For instance, papers, images, chromosome counts, and voucher specimens would be linked to the pertinent names. Other links would be made among the different kinds of resources, for instance, from images and chromosome counts to voucher specimens and from genebank accession numbers to passport information and papers that cite individual accessions. The diversity of resources that are of interest requires that individuals from different disciplines be involved in its development. Several of those present at the meeting agreed to assist in this regard.

Site design

Site design is critical to the efficiency, utility, and appeal of the site. Little time was spent discussing the design during the Symposium. It was, however, agreed that the design must make providing and obtaining information simple and efficient. Figure 1 presents a preliminary overview of the various elements that might eventually be incorporated in the site. One element of the design will involve the creation of tools for developing and maintaining linkages within the site as new resources are added.

The website will be designed primarily as a research facility, one that will enable those working in the *Triticeae* to locate information more rapidly than is currently the case, and to facilitate coordination of new research activities such as the development of interactive, multi-entry identification tools. Nevertheless, it should incorporate some pages designed for a general audience, explaining why the tribe is of interest and describing the various kinds of research information available through the site. These would not require a major effort, but would increase the appeal of the site to some potential funding sources and enhance understanding of our research among a broader audience than would otherwise be the case.

Because some individuals who work with the tribe have limited access to the Internet, the site will be designed for easy transfer to compact disks or portable hard drives, and easy downloading of upgrades. The downloaded site will be accessible on a stand alone computer, with various options being provided for accessing other online sites. This will make those aspects of the site that are constant or only slowly changing (e.g., images of taxa, descriptions, interactive keys, nomenclatural information) available to those with no, slow, or expensive Internet access without detracting from the development of a highly linked and connected website.

Publication on the site

The site is not intended to be a primary publication source for research information. Rather, it will help people locate and publicize information and sources of information that have already been published. Simply bringing this information together in one place will greatly assist those seeking to find out what is already known on a given topic.

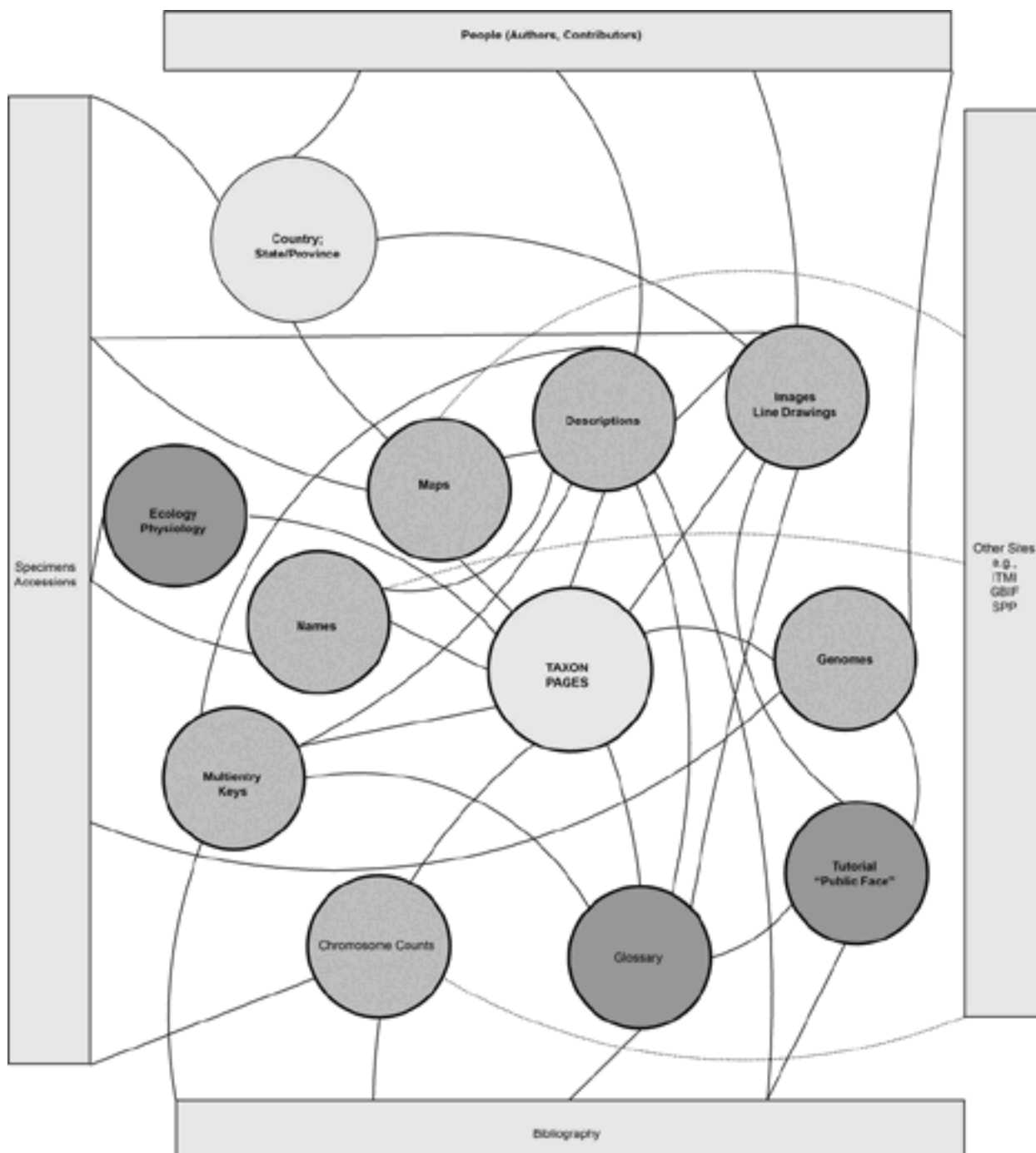


Figure 1. Overview of potential Consortium website. The circles show some of the elements that might be incorporated. The darker elements would be developed first. "Taxon pages" are pages that would present information about a particular taxon in a standard format by drawing on elements from other parts of the site

It will have the added advantage of making such papers and reports known to a wider audience than would otherwise be the case. Where possible, the site will provide access to electronic versions of such papers.

Pages and information that are developed explicitly for the website will be required to cite

sources, just as is the case in standard scientific publications, and will be accredited to their authors. Similarly, if a group of individuals assumes responsibility for some aspect, for example, locating and making available genome information, their names will be associated with that aspect of the project.

Funding sources

Barkworth and Knupfner have suggested to the Global Biodiversity Information Facility (GBIF) that the *Triticeae* would make an excellent target taxon for a demonstration project. If approved, GBIF would provide seed money for entering distribution records. Two weeks after the Symposium ended, GBIF announced that the *Triticeae* was one of the taxonomic groups that it would consider for funding if it received a competitive proposal.

The major funding source within the U.S. (Barkworth's home country) for development of resources such as the proposed website is the National Science Foundation, but the proposal would have to incorporate research. This could be of two kinds. One is research that would lead to the creation of tools for implementing a generalizable website, tools that could, for instance, also be used by individuals seeking to develop a similar site for members of the *Fabaceae* (Pea family) or *Stipeae* (another grass tribe). Alternatively, aspects of the website could

be developed as a research coordination network. In either case, demonstration of an interested community would be essential. Other funding sources undoubtedly exist. It will be necessary to form a group that is in a position to take advantage of them as they come along.

Preliminary website development committee

At the Fifth International Triticeae Symposium in Prague, Barkworth volunteered to lead development of a new website for the Consortium. She will be contacting those who volunteered to assist in the project but those reading this who are interested in helping but have not been contacted should contact her (mary@biology.usu.edu). Please indicate whether there is some area that would be of particular interest to you. Because of prior commitments, there will be no activity with respect to the Web site before September, 2005.