

TDWG Newsletter

International Working Group on Taxonomic Databases for Plant Sciences

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Note des éditeurs

The fifth TDWG meeting held in Las Palmas, 8 - 11 November 1989, was very productive and stimulating. The participants enjoyed the nice conditions of work and on behalf of TDWG we would like to thank Dr. David Bramwell, Director of the "Jardín Botánico Canario Viera y Clavijo" and the "Cabildo Insular" for making this meeting possible. Our special thanks go to Gloria de La Torre and Alfonso Luezas for their everyday graciousness and efficiency.

Many changes about TDWG structure and organisation happened or were decided during this meeting. Constitutional changes have been discussed and the Executive Committee has the responsibility to produce a new version of TDWG Constitution.

The composition of the new executive Committee will be published in the next newsletter issue.

We would like to take the opportunity here to thank Prof. Vernon Heywood for assuming the task of TDWG Chairman for almost five years and welcome Frank A. Bisby, previous Vice Chairman, as the new TDWG Chairman. An important change occurred within the organisation with the decision of having a Secretariat based in one Institution for a limited time period. From now on please send all correspondence, except the one concerning the membership fees (see enclosed page) and the newsletter (unchanged address), to:

TDWG Secretariat Missouri Botanical Garden, P.O. Box 229, St. Louis, Missouri 63166-0299 USA

Renewed determination to complete the task

Frank A. Bisby

Those who received Newsletter #4 will have been stopped short (or maybe relieved?) to see the two main articles questioning whether TDWG had the resources, organisation and willpower to complete its chosen tasks in a reasonable timespan. A certain frustration had broken out - it is after all 5 years since we started and little outcome is actually available to the taxonomic database community - leading to some good honest plain speaking. There was merry chaos at the start of the Las Palmas meeting when it emerged that some of those present had just received the newsletter and assumed that major changes were afoot, whilst others had left home before their copies arrived, unaware of what was suggested.

It was quickly realised that the criticism and the proposed organisational changes were of a very positive nature. Indeed that the authors had spoken out and then come to Las Palmas with prepared proposals says much for their commitment to our cause. TDWG has not completed its standards quickly enough at a time when they are urgently needed by a fast-growing taxonomic database community. Central to the proposals was that if only momentum could be maintained between annual meetings most of the tasks could actually be completed very much quicker. This means establishing a more effective TDWG organisation to operate actively during the year, a mechanism for this organisation to stimulate and interact with the individuals working on TDWG tasks, and a realistic understanding that a considerable work load, possibly with full time assistance, has to be undertaken against a pressing timetable.

Not all that was proposed was adopted, but it did stimulate both major changes and, to a pleasing degree, a renewed determination to complete the various tasks undertaken, particularly the standards. It was agreed that the Executive Committee should meet at least once during the year (as well as at the annual TDWG meeting), and that there should be a clear separation between the secretariat/treasurer functions and the function of other members of the committee. The committee's main function would be to stimulate progress from the subgroups involved with standards and the TDWG activities. In particular the World Geography System, XDF, POSS, and the Names in Botanical Databases standards would be brought to publication during the year. Individuals were selected for the committee posts of continental secretaries as much on the basis of their specialism and involvement with particular standards as on their geographical location. This was an interim, looking forward to proposed constitutional changes whereby the Executive Committee, or possibly 'Council' would be chosen solely on the basis of specialism with each member holding responsibilities for overseeing certain areas of activity.

We should thank Catherine Zellweger, Bertrand von Arx, Bob Allkin, Kerry Walter and Bill Loader for stimulating these changes - let us see whether they work by really making 1990 the year of action!

Subgroup News

Specimen Data Standards

The TDWG Specimen Data Subgroup has begun discussion on the standardization of botanical specimen data. The initial mission of the Subgroup is to compile a complete list of data items (or data "entities") which have been applied to botanical specimens in either computerized or non-computerized projects. A world-wide enumeration of specimen data types will be the foundation for a TDWG draft specimen data dictionary standard later this year. Interested botanists working with any type of specimen data are encouraged to contribute to the compilation by sending data item names along with brief definitions. We are especially seeking assistance from fungus and cryptogam researchers and collection managers on the types of the data elements used in their work.

Contact: J.H. Beach, Department of Botany and Plant Pathology, Michigan State University, East Lansing, MI 48824, U.S.A. Internet: jhbeach@ibm.cl.msu.edu, Bitnet: jhbeach@msu

Uses and Ethnobotany Descriptors

Contact: Mrs. F. Cook Royal Botanic Gardens Kew, Richmond, Surrey, TW9 3AB, UK

Habitats, Soil and Landscape Descriptors

Contact: Dr. J.M. Lock, Royal Botanic Gardens Kew, Richmond, Surrey, TW9 3AB, UK

General purpose descriptors

I agreed at the last TDWG meeting to organise a group to discuss general purpose descriptors. Such a descriptor may be defined as a character which is of general application to higher plants. The character of 'habit' (herb or shrub or tree) is an example. There are perhaps about 20 such characters, and they tend to be characters which figure prominently in the classification of higher plants, or in keys to families. The characters in the following list are intended to serve in order to stimulate debate.

I therefore invite readers to

- 1) comment on which characters should be added (or removed)
- 2) volunteer themselves to join the group

Aerial stem: absent or present in what form
Breeding system: in- or out-breeding
Carpels free or fused
Carpels; number per ovary
Chromosome number(s)

Class: pteridophyte, gymnosperm or angiosperm (or the characters which these imply)

Cotyledons: monocot or dicot (or the characters implied)

Flowers (suitably defined): absent or present

Fruit type

Habitat: aquatic, terrestrial, epiphytic

Indumentum: plant entirely glabrous or with indumentum of some kind

Inflorescence type

Leaves: absent or present

Life: annual, biennial, perennial

Nutrition: autotrophic, partly autotrophic, heterotrophic (and for non-autotrophic plants, whether saprophytic, parasitic etc.)

Ovary: inferior or superior

Reproduction: asexual, sexual, or both

Roots: absent or present

Sexuality: hermaphrodite, monoecious, dioecious etc.

Sympetaly: petals free or combined

Contact: R.J.Pankhurst Botany Department, Natural History Museum, Cromwell Road, London, SW7 5BD, England

Data Dictionary

The Data Dictionary will be a document that records and defines botanical data elements in such a way that technical aspects of computer storage are optimized, that intellectual information and data relationships are preserved, and that current and future data projects can be guided toward conformity in data definition, recognition and use.

The role of the data dictionary subgroup is to manage the creation and development of the dictionary by first, compiling a consolidated list of the data element fields included in current and proposed TDWG standards as well as established botanical databases, second, reconciling any differences in various attributes of the collected data elements, third, promoting improvements to the data dictionary by suggesting new projects, proposals or standards that address existing gaps in the dictionary, fourth, ensuring that newly proposed standards conform to the technical dicta of the dictionary as well as not conflict with existing definitions or related or equivalent data.

Further, it will be crucial for the data dictionary subgroup to work closely with convenors of other subgroups that are developing new standards to ensure the technical integrity of the standard.

Contact: R. Russell, NHB-166, Smithsonian Institution, Washington, DC 20560, USA

MEMBERSHIP APPLICATION

INTERNATIONAL WORKING GROUP ON TAXONOMIC DATABASES

----- FOR PLANT SCIENCES (TDWG) -----

Members may be individuals, projects or institutions. Members are invited to the annual meeting and receive the TDWG Newsletter and one copy of each published standard. Please fill out the following information completely to be certain that future correspondence is properly directed.

MEMBER INFORMATION

____ Institution (\$150 US) ____ Project (\$150 US) ____ Individual (\$50 US) (check one)
(annual dues)

____ payment enclosed ____ please send bill (check one)
(make checks payable to TDWG)

NAME: _____

NAME OF CONTACT: _____
(if institution or project)

ADDRESS: _____

COUNTRY: _____ POSTAL CODE: _____

(optional)

TEL. NUMBER: _____ FAX NUMBER: _____

E-MAIL ADDRESS: _____

Make checks payable to TDWG.

Send application to: TDWG Treasurer, Department of Botany
Smithsonian Institution
Washington, D.C. 20560 USA

Specimen Data

The TDWG Specimen Data Subgroup has begun the standardization of specimen data. The Subgroup is to produce a complete list of data items ("data items") which have botanical specimen data computerized or not computerized. A world-wide survey of specimen data is the foundation for a specimen data dictionary later this year. Interworking with any taxonomic data are encouraged in the compilation by item names along with taxonomic names. We are assisting in the standardization of specimen data.

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jhbeach@msu

Uses and Extensions Description

Contact: Mrs. J. M. Beaman
Botanic Garden
Weymouth, Surrey, TW9

Habitats, Landscapes Description

Contact: Dr. J. M. Beaman
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Weymouth, Surrey, TW9

Project's corner

FLORA OF MOUNT KINABALU PROJECT

by J.H. Beaman & J.H. Beach

The flora of Mount Kinabalu in Borneo, with over 4,000 species, is thought to be one of the richest in the world. Mount Kinabalu rises from near sea level to 4,101 m; it is the highest mountain between the Himalayas and New Guinea. Although the flora is still insufficiently known, the mountain has a long and dramatic tradition of botanical exploration. The first detailed account of the flora and its phytogeographic relationships was produced by Otto Stapf in 1894. Subsequent major collections by Lilian S. Gibbs, Joseph and Mary Strong Clemens, the Royal Society, and the Sabah Forest Department have contributed greatly to documentation of the flora.

Since 1986, in collaboration with many other botanists, we have been undertaking a modern enumeration of the Kinabalu flora. The specimen database efforts resulted in development of the LABELS3 programs (Regalado et al., 1987), which were used to build the initial database of some 4100 records. Subsequently, the database has been increased to over 20,000 records using the methodology outlined by Beaman and Regalado (1989). The first major product from the database will be a published botanical inventory in which bibliographic data, life-form, habitat, elevation range, and specimen citations will be provided for each taxon.

As part of the Kinabalu research we are digitizing map data and remote sensing images to create a botanical geographic information system. We are using ESRI's ARC/INFO software on a university DEC VAX mainframe through a Tektronix 4125 terminal emulator running on a Sun Sparcstation in the Herbarium. The Kinabalu specimen database is being copied into the INFO DBMS for creation of point coverage to be overlaid for topography, geology, hydrology, road systems, and for forest coverage and other vegetation information. An overall objective is to use the GIS system as a tool to enhance traditional manual techniques associated with the production of a flora.

References:

Beaman, J. H. and J. C. Regalado, Jr. 1989. Development and management of a microcomputer specimen-oriented database for the flora of Mount Kinabalu. *Taxon* 38: 27-42.

Regalado, J. C., Jr., R. K. Rabeler, and J. H. Beaman. 1987. LABELS3 User's Manual: Guide to development of a collection database. Beal-Darlington Herbarium, Dept. of Botany and Plant Pathology, East Lansing, Michigan. 102 pp.

Deadline

Submissions for the next issue should reach the editors before end of May 1990. Remember we are very happy to get electronic material (ASCII or MS-WORD on MS-DOS floppy disks or email on Bitnet)!

Be careful !

Please note that we have once more changed our UNIQUE teleFAX number, it is now:

41.22.738.45.97

Any other number must no more be used!

Short news

U.S. Botanists meet to discuss national standards for specimen data

On the 13th and 14th of November, the U.S. National Science Foundation convened a meeting in Washington of an advisory committee composed of 22 biologists to advise the Foundation on the most effective approaches for computerizing the collection information from all of the specimens in U.S. herbaria. The Foundation stated an intent to provide long-term funding for data entry and data management projects on a national scale for specimen information.

Several TDWG representatives were present after racing home from TDWG 5 the previous day. The committee made recommendations in three principal areas: 1) Priorities for specimen data computerization, 2) Database structure and data model standardization, and 3) Techniques for automated handling specimen locality data, particularly in the context of incorporating GIS technology into systematics research. NSF will publish the recommendations when they are finalized and it has organized a second meeting to discuss standardization on a common data model in more detail. TDWG will probably be represented at that meeting by one or more members; standardized specimen data is a concern of the TDWG Subgroup for Specimen Data.

IUBS Commission for Taxonomic Databases

in partnership with the Systematics Association, the Linnean Society and the European Cultural Center of Delphi

- INTERNATIONAL SYMPOSIUM -

DESIGNS FOR A GLOBAL PLANT SPECIES INFORMATION SYSTEM

Location: European Cultural Center of Delphi, Greece 12-16 October 1990

International symposium for the exposition of a range of designs for a global species diversity information system for plants. Such a design should enable scientists in all countries to access information on the names, classification and geographical distribution of all of the world's plants. The designs would involve technical aspects both of biological computer information systems and decision-making amongst taxonomists. Assessments of the type of demand from conservation, agroforestry, natural products research and other application level research arenas will be set in scenarios for establishing such a design.

PROGRAMME:

- Session 1: The demand for a global plant species information system
- Session 2: Botanical decision-making and data collection strategies
- Session 3: Data structures and logical designs
- Session 4: System configuration - machines and communications
- Session 5: Management, ownership and funding

Each session will involve formal presentations as well as facilitated group discussions. There will also be demonstrations and poster sessions during the symposium.

Further details from co-organizers:

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Washington, DC 20560 USA

OR

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University of Southampton
Southampton SO9 5NH UK

It's subscription time !

Enclosed in the present issue, you will find the TDWG Membership Application. Members may be individuals, projects or institutions. Members are invited to the annual meeting and receive the present TDWG Newsletter and one copy of each published standard.



Ville de Genève

Département municipal de la culture
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Editions des Conservatoire
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