

TDWG Newsletter

Taxonomic Databases Working Group for Plant Sciences

Number 1 / September 1988 ISSN 1012-7607

Chairman's note

It gives me very great pleasure to introduce this first issue of the TDWG Newsletter. It is particularly fitting that the Newsletter should be edited at Geneva at the Conservatoire et Jardin botaniques, for it was the previous Director, Dr. Gilbert Bocquet, who made possible and hosted the first TDWG meeting in Geneva in 1985. His premature death did not permit him to see how rapidly this small organisation would develop and come to occupy an important place in the development of database standards and to a remarkable degree of co-operation and harmonization of procedures between major database projects in the plant sciences. A great deal of interest has been stimulated by the activities of TDWG and it was decided at its last meeting to publish a Newsletter as a means of communicating and exchanging information in this rapidly developing field. We are all most grateful to our Geneva colleagues for making the Newsletter possible.

Vernon H Heywood

Note des éditeurs

A New...sletter is born!

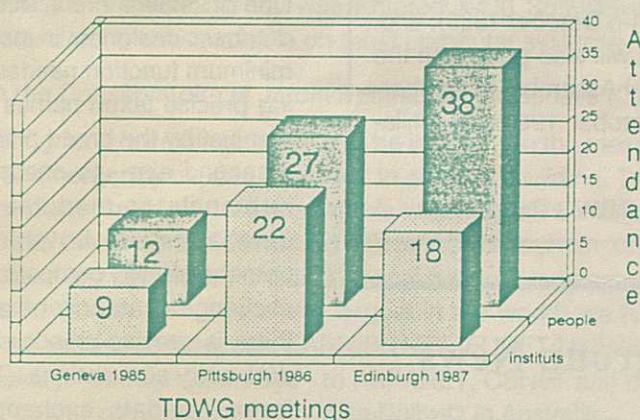
In the prospect of TDWG Meeting IV there are a few questions to raise. One among them which we feel very concerned about is certainly the scope of the audience. The participation of more and more people at the meetings seems to be positive since many different persons can give their opinion. However the TDWG calls itself an international group working on standards for the whole planet but we must stress that if the number of individuals has undoubtedly in-

creased, the number of institutes represented has not. Most members - institutes or projects - come from the USA and the UK therefore the point of view is rather "Anglo-Saxon". In this case isn't the expression "standard" - used within the group to denominate our conclusions - too highfalutin. Why not be more unpretentious and call them recommendations?

This Newsletter is the opportunity to emphasise our wish to welcome other institutes and projects to TDWG. Only wide diversity of opinions will enable us to improve the quality and the reliability of what we call "standards".

H. B., C. Z. & B. v. A.

Full growth ?



New constitution for TDWG

The Taxonomic Databases Working Group for Plant Sciences started as an ad hoc Working Group established by the major plant taxonomic institutions (e.g. Conservatoire et Jardin botaniques de Genève, the Royal Botanic Gardens Kew, Missouri Botanical Garden), several international taxonomic database projects (ESFDS, ILDIS), established database vendors (BIOSIS and CABI), and related botanical databases (e.g. IUCN-Conservation Monitoring Center). The first meeting was convened by the late Prof. Bocquet at the Conservatoire et Jardin botaniques in Geneva with Prof. Heywood's encouragement: it provided a stimulating discussion amongst a dozen or more participants, punctuated by the elegant hospitality provided by Prof. Bocquet and colleagues. At the first meeting in 1985 we did little more than catalogue the needs of a community of taxonomic databases for elements of standardisation and means for data exchange. But as the work progressed very many other individuals and organisations have joined in - both in their desire to see the difficult tasks completed, and in their desire to use TDWG as a valuable forum in its own right to find out what others are doing or to plan collaboration with others of like mind.

(continued from page 1)

In a sense TDWG has outgrown the initial cosy Working Party - the first standard has been published, an electronic mail network has been established, separate subgroups study an report back on specialist issues, indeed this excellent newsletter is now launched. These are the symptoms of an organisation that is now filling a role, indeed taking on responsibility, in the international biological community.

It is now accepted that TDWG should be formally constituted with open membership, elected officers, a secretariat for the mounting documentation and mailing, and a mechanism for reporting back formally to the international scientific community. The present officers (Prof. W.H. Heywood, Dr. F.A. Bisby, R. Kiger, M. Crosby) are working on a constitution that will give the necessary continuity and allow TDWG to affiliate as a commission of IUBS. The constitution will be available for adoption at the meeting in St. Louis (4-6 October 1988), and, if adopted, it will also go before the IUBS General Assembly in Canberra (16-22 October 1988) for affiliation to IUBS.

Frank Bisby, TDWG Rapporteur

Subgroup News

Data Dictionary

Minimum Function Nomenclator

by F.A. Bisby

A revised proposal for the minimum function nomenclator is being circulated in the September mailing prior to the TDWG meeting in October. This proposal has been revised in the light of the discussion

at the subgroup meeting last October, and to take account of a further informal discussion held at IUCN Kew on 7 June 1988 with people from Kew, IUCN, and ILDIS present. The proposal is now put forward for formal adoption by TDWG as a standard, but there will be opportunity to make minor alterations at the subgroup session during the TDWG meeting.

Please note that this standard has reverted to its earlier name! Despite the worry that non-taxonomists may be put off by the technical sounding 'nomenclator', several TDWG members viewed that as preferable and more precise than the 'minimum species checklist module' under which it was discussed at TDWG 3.

There was further discussion at the IUCN meeting as to whether the minimum function nomenclator should just lay down the broad botanical/nomenclatural principles of what fields should be included, or whether it should also specify an exact form of data presentation. One of its aims - to assist botanical database designers in including the minimum function needed for holding precise taxon names - can be met just by the broad principle. But a second aim - to ensure that the nomenclator modules of such databases are botanically and nomenclaturally compatible for data exchange - can only be achieved if there is precise standardisation of data-entry conventions. (The actual format of data exchange would anyway be the TDWG XDF exchange data format - a separate TDWG standard). The conclusion suggested at the IUCN meeting is that 'mfn' should eventually be a two-part document - the broad botanical/nomenclatural principles as presently agreed plus a precise

Type & Lectotypification Registers

Exchange Data Format

by R. Allkin

The Exchange Data Format Subgroup was formed at the TDWG meeting in Edinburgh last November to broaden discussion of the XDF data definition language proposed by Richard White, Peter Winfield and myself. It was agreed that the document tabled in Edinburgh compounded two issues: definition of the XDF language itself and definition of the ILDIS Species Checklist Transfer Format that illustrates use of XDF. I was encouraged to produce separate documents to define each of these elements separately.

The role of the subgroup was debated in Edinburgh and the consensus seemed to be that we should concentrate on the language component of the exchange format rather than on the data types used in the ILDIS Transfer Format. In practice, however, these two documents were not as easy to disentangle as I had imagined. In January 1988 I wrote to all members of the subgroup and several other interested parties to seek their opinions on this separation as well as a number of other important questions concerning the role and definition of XDF. One concern, for example, was that if the XDF is such a general data definition language then why should we, as biologists, be involved in its development at all? Do not suitable alternatives exist in other disciplines?

Very few people responded to the letter but I have seen or spoken to others since and there have been a number of positive contributions. No-one has suggested any serious alternative to XDF and all have agreed that it is worthwhile stepping back to define a more general vehicle for botanical data transfer. Unfortunately a proposed meeting of the Subgroup for March proved impossible due to commitments of members. Several UK members of the Group were present, however, at

an informal meeting in London, arranged primarily to discuss the Minimum Function Nomenclator (MFN). At that meeting the roles of both the XDF and MFN Subgroups and the boundaries between the XDF, Species Checklist Transfer Format and the MFN were usefully explored.

Since March, Richard White and I have met on several occasions to work on the detailed syntax of XDF, to consider the longer term requirements of the language and to discuss implementation of software routines to manipulate XDF data sets. Good progress has been made and I now see more clearly how we may provide the flexibility and extensibility required to allow for new uses or new datatypes while also incorporating a specifically taxonomic flavour. At the next Subgroup meeting, therefore, we should be seeking answers to more specific questions. Can we agree for example, on the default punctuation character set? or on a minimum list of 'recommended' datatypes to encapsulate the taxonomic nature of XDF?

It is now clear that three documents are needed: i) a review document outlining the aims, philosophy, overall structure and syntax of XDF for submission to the general TDWG meeting ii) an XDF manual providing the working definition of XDF for discussion by the XDF Subgroup and iii) a working manual describing the Species Checklist Data Transfer Format as used by ILDIS. The latter is a first attempt at a more general Transfer Format for Species Checklist Databases. Such a goal is beyond the scope of this Subgroup's present remit and, in any case, is dependent for its nomenclatural component on TDWG having first of all agreed upon a Minimum Function Nomenclator. By the beginning of August, my own commitments had prevented me from preparing these documents. Consequently I used a working holiday away from my desk to complete the XDF review document and a first draft of the XDF

manual. My satisfaction was shortlived. Just before my return journey, my portable computer, camera, dirty socks and the backup copies of the XDF documents were stolen. Versions of these documents therefore will inevitably be further delayed. Of all possible lessons to be learnt from this sad story, I choose to remember "never take work on holiday".

Geographic Standard

Book Titles

Nomenclatural Indexing

En attendant les RNIS (Réseaux Numériques à Intégration de Services)

Waiting for the ISDN (Integrated Services Digital Network)

TDWG has now become a very large and geographically exploded group. Communication between members needs to be developed and the outcome of the Newsletter is symptomatic.

What about other ways?

Ordinary mail is often too slow and subject to a lot of disturbances. Fax is a fast-developing communication medium. Its low cost and high transparency makes it very attractive. It primarily allows easy graphic data exchange. Electronic mail is widely used now but rarely across different systems. Electronic networks bridge the gap but remain largely incompatible to each other though some gateways do exist between them. So called public networks merely offer a medium of communication - a Packet Switched Network (PSN). Lately an international standard for electronic mail was adopted: X400. Software implementation of this standard is now available on most computer systems.

How to reach the Conservatoire et Jardin Botaniques de Genève (CJBG)?

We are waiting for a fax (linked to a PC) to be installed. In the mean time and in case of emergency we can use a fax in an other building. Two papers for TDWG Newsletter number 1 were sent this way... CJBG's mini-computers are connected to the national PSN called TELEPAC through an X25 link and might soon use X400 software. As CJBG's local network is integrated to the Geneva University's network (one of the largest in the world) we have direct access to various academic networks: EARN/BITNET, EUNET/USENET, CHADNET and indirectly - through gateways - to ARPANET, CSNET and others. We used one of those to communicate with Mike Dallwitz in Australia.

The following addresses can be used to join the CJBG:

X25	PSI%22846821109::DIDELOT
	or
	PSI%22846821109::ZELLWEGER
X400	andre@cui.unige.ch
UUCP	cui!andre@cernvax
BITNET	DIDELOT@CGEUGE51
	or
	ZELLWEGER@CGEUGE51

Those are individual mail-boxes but messages will be forwarded if necessary.

Good luck! A. Didelot

Project's corner

Réseau floristique et base de données

par B. von Arx & C. Zellweger

The swiss flora is well known but still needs to be managed and protected. Two PhD thesis projects at the University of Geneva converge on one purpose: providing tools, networking and treatment for maintaining a permanent floristic inventory.

The Swiss Floristic Network (SFN)

This project financed by the Swiss National Fund for Scientific Research (FNRS), is conducted by Dr. J.-M. Mascherpa (Centre Horticole de Lullier/Genève), Prof. R. Spichiger (Conservatoire et Jardin botaniques, Genève (CJBG)) and Dr. K. Ammann (Systematisch-Geobotanisches Institut, Universität Bern).

It has two main purposes. First to create and develop the Swiss Floristic Network (SFN) which will enable communication between the main botanical Institutes in Switzerland. A hierarchical structure will allow every "node Institut" to organize its own collecting system. The data will eventually be sent to Geneva.

The second object is to produce a computerized tool which will act both on "taxa" and "specimen" level. An implementation of automatic identification and description following the DELTA format should allow non-professional botanists to get information on specific taxa, just as specialists on difficult groups. An automated redaction of floras with determined range (geographical, taxonomical) is also foreseen connected with automatic generated keys.

On "specimen" level, automatic mapping will produce floristic distribution maps which will allow a closer monitoring of the swiss flora. An interactive mapping system, permitting reading, changing and writing information directly on the screen will be developed on a later stage.

It must be stressed that this project will work on IBM-compatible computers under MS-DOS in order to be as "open" as possible, i.e., accessible easily to everyone who would be interested in it.

A design for an integrated database

This second project is financed by CJBG and the University of Geneva and conducted by Dr D. Jeanmonod (CJBG), Dr. J.-M. Mascherpa under the responsibility of Prof. R. Spichiger. Providing a complete design for the database needed by a main botanical Institut is the aim of this project. The model is drawn under relational architecture and prototypes have been tested with various DataBase Management Systems (DBMS). At the same time a subset of the general model is being developed at CJBG. Users - botanists and herbarium technicians - provide usefull feed-back information specially on the design of a proper interface. Integration and transparency are two important features for this project. Maintaining an open system is another main concern.

The connexion between the SFN and CJBG's database will soon be activated. Data collected through the network will be transferred to Geneva then stored in the database and treated. One product is a periodical giving information about progress in swiss floristic: "Fortschritte der Schweizer Floristik". The data has to be dispatched back through the network for the ideal distributed database is not yet seen on the horizon.

Short news

Richard J. Pankhurst spent a week in Geneva working on a Vax-VMS version of his "Pankey package". Most of the programs have been adapted and are now running at CJBG.

Dernière minute: a fax is available!

Communications for the Newsletter can be sent by fax to the following number: (41) 22 59 10 77 with the endorsement "TDWG Newsletter". We would like to thank very much Dr. J.-M. Mascherpa for letting us use the fax of the "Centre horticole de Lullier" and for helping a lot in the realisation of this first number.

Many thanks to Mr. Perret for providing F&B.

Special thanks to the french & english Harrap's Shorter.



Ville de Genève

Dépt municipal des beaux-arts,
de la culture et du tourisme

Editions des Conservatoire
et Jardin botaniques

Rédacteurs:

Hervé M. BURDET

Catherine E. ZELLWEGER

Bertrand L. von ARX

Adresse:

Rédaction "TDWG Newsletter"
Conservatoire botanique
Case postale 60
CH-1292 Chambésy/GE
Suisse