

Doppel

Taxonomic Databases Working Group

MINUTES

of the First Meeting

at the Conservatoire et Jardin botaniques, Geneva

28-30 September 1985

Taxonomic Databases Working Group

Minutes of First meeting, Geneva, 28-30 September 1985

Present

- |                                                          |                                       |
|----------------------------------------------------------|---------------------------------------|
| 1. Colombian National Herbarium                          | Dr. E. Forero                         |
| 2. British Museum (Natural History)                      | Mr. J.F.M. Cannon                     |
| 3. IUCN (Conservation Monitoring Centre)                 | Mr. H. Synge & Mr. D.C. Mackinder     |
| 4. Royal Botanic Gardens Kew                             | Dr. D. Clayton & Dr. R.K. Brummitt    |
| 5. Missouri Botanical Garden<br>& Flora of North America | Dr. M. Crosby                         |
| 6. New York Botanical Garden                             | Dr. G.T. Prance                       |
| 7. ESF European Documentation Syst.                      | Prof. V.H. Heywood                    |
| 8. International Legume Database (ILDIS)                 | Dr. F.A. Bisby                        |
| 9. Conservatoire et Jardin botaniques,<br>Geneva         | Prof. G. Bocquet & Dr. J.M. Mascherpa |

Apologies

- |                                               |                       |
|-----------------------------------------------|-----------------------|
| 1. BIOSIS/Zoological Record                   | Mr. M.N. Dadd         |
| 2. Hunt Inst., for botanical<br>documentation | Dr. R. Kiger          |
| 3. Botanischer Garten und Bot.Mus, Berlin     | Prof. Dr. W. Greuter  |
| 4. Commonwealth Mycological Institute         | Prof. D.L. Hawksworth |

Session 1: V.H. Heywood in the chair

After introductory remarks, the Chairman invited each participant to outline very briefly his institution's database(s). Reports from these presentations are given here, but should not be regarded as definitive, as they are taken from verbatim notes by the Rapporteur.

1.1 New York Botanical Garden (G.T. Prance)

The Herbarium is not yet computerised; NYBG has applied for a grant to implement the Missouri system for herbarium specimens. Essentially this is a means of recording all new accessions to the collections through their label date. Ninety percent of the Library is on computer in a joint project with Missouri as part of a nationwide scheme.

There is also a database of forest inventory using dBASE II. Some parts of the living collection are on computer. The economic botany work is not on computer.

Dr. Prance also reported on the Programma Flora in Brazil; originally planned to cover label data for herbarium specimens in all of Brazil, it has been reduced to herbaria in Amazonia, the Northeast and Brazilia; it is a modified version of the TAXIR system.

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### 1.2 International Legume Database (ILDIS) (F.A.Bisby)

The taxonomy laboratory at Southampton University specialises in computer applications in taxonomy. The Viciae Database Project, started in 1980, is an experiment in setting up a monographic database with plant diversity information arranged taxonomically, and in operating an information service to other biologists. The laboratory is developing software packages called Alice (annotated checklist) and Baobab (taxonomist's database management system) to be distributed for use on large microcomputers.

The laboratory is setting up the coordinating centre for the International Legume Database (ILDIS). Centres in 10 countries are collaborating in the production of a database of plant diversity information eventually for all 17,000 spp. of Leguminosae, and in the establishment of an international network to operate an information service for legumes.

### 1.3 IUCN Conservation Monitoring Centre (CMC) (H. Synge and D.C.Mackinder)

The aim of the CMC is to gather, analyse and disseminate information on the conservation of nature and natural resources worldwide as a service to governments, inter-governmental organisations, the conservation and development community, industry and commerce. To do this the CMC is developing an integrated database on species, wildlife trade, protected areas, habitats and ecosystems of conservation concern. So far most of the emphasis has been put on threatened species, on wildlife trade under CITES and on protected areas, with extensive work on coral reefs. The CMC publishes Red Data Books, Directories and other types of publication, as well as preparing specialist reports on request.

The data are stored in manual files, as word-processing documents and in data-processing files. The last two are held on a Wang VS-80 minicomputer located at the Royal Botanic Gardens, Kew. The great majority of plants recorded as threatened are in the database, in a file of c.35,000 plant taxa (of which c.15,800 are listed as threatened). This gives plant name (with authority), distribution by countries/islands, and degree of threat. Upgrades planned for 1986 include the ability to record distribution by localities, to include codes for threats and habitats, and to cross-reference to CMC, small but growing bibliographic/date sources database.

The CMC is essentially a consumer of taxonomic information and has been closely involved with Kew in the development of the file of genera (see below).

### 1.4 Colombian National Herbarium (also Latin American herbaria) (E.Forero)

The label data in the National Herbarium of Colombia is now computerised and is the first application of computers in South American herbaria. The most important taxonomic database in the region is that of the Flora of Veracruz Program; this includes data on plant distributions, uses, morphology and climate. UNAM in Mexico City is starting an herbarium label database. The Chilean and Argentine herbaria are very interested in

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using computers for their collections. Of special note are the Centres for Documentation on Conservation (CDCs), developed by The Nature Conservancy (TNC), a U.S. charity, in several countries, including Peru, Colombia, Costa Rica and Puerto Rico.

#### **1.5 Royal Botanic Gardens, Kew (D.Clayton and R.K. Brummitt)**

The records for living plants were all on computer, as were the Arid Plants Economic Data developed by SEPASAT. The Kew Record, the Index Filicum and the Index Kewensis were all on magnetic tape.

Perhaps most advanced was the file of genera accepted in the Kew Herbarium. It is essentially a matrix of generic name, authority and family, following a revision of families recognised at Kew, now completed. (Assignment of the genera to family systems other than that used by Kew had been done, but is not yet on computer.) Kew hopes to publish the file in about 1 year's time in both conventional and electronic form. Although some synonyms have been added, notably for cacti and grasses, synonyms will not be included in the published version.

Dr. Brummitt suggested that the next stage was to relate each genus to one or more of the 36 geographical regions recognised at Kew. This had been done, but was not yet on computer, for about half the entries. Later on it was proposed to add names of accepted species, with distribution by "countries", the eventual aim being a checklist of the world's flora prepared on a monographic basis.

#### **1.6 Missouri Botanical Garden (M. Crosby)**

Here the emphasis was on the computer as a tool for herbarium management, e.g. for keeping records of loans and exchanges. Label production was all computerised. In addition there is the Missouri TROPICOS system list of plant names with citations and information on type specimens. It includes information from the literature on distributions, mainly for neotropical legumes and W. Indian mosses so far. They had attempted to put all legume names and all of the Index Muscorum onto computer. The schemes include ways to record synonymy. Authorities have not been standardised but BPH and TL2 have been used for journal abbreviations; they also have a file of c. 4000 plant family names. They have developed a system for morphological data, in parallel to DELTA. Garden records are also being integrated into the main file.

#### **1.7 British Museum (Natural History) (J.F.M. Cannon).**

The Museum has a heavy commitment to cryptogams and algae.

It has databases on:

- a) Type specimens (comprehensive for marine algae; freshwater algae to be done next);
- b) Palynology collection (complete)

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- c) U.K. Caryophyllaceae specimens (experimental database on c. 18,000 specimens);
- d) Diatom collections
- e) Linnaean plant typifications (just starting);
- f) Checklist of N. American marine algae (almost ready; done with University of Newfoundland);
- g) European Pteridophyta (typification and nomenclature);
- h) Several small projects on bibliographies.

The Museum Library was fully on computer. R.J. Pankhurst at the Museum had developed an experimental morphological database on the British flora, especially on Taraxacum and Rubus.

### 1.8 University of Reading (V.H. Heywood)

Their herbarium label database, now 14 years old, was one of the first and had been extended to use for writing Floras, e.g. the Flora of Tierra del Fuego. The main project in the department, however, was the ESF European Documentation system (ESFEDS) under which they have computerised the main data fields (except descriptions) for all 5 published volumes of Flora Europaea. This database was being transferred to the University mainframe (an Amdahl) to be managed on ORACLE system (as also used by BIOSIS). In a few months they hope to start Phase 2, following pilot projects completed on Pteridophyta (with C. Jermy) and orchids. New fields to be added in Phase 2 will include phytosociology - Professors Gehu (Paris) and Costa (Valencia) are leading a team devising a European phytosociology scheme - and ecological data.

Not on computer but very extensive is the Bryophyte bibliographic database prepared by Stanley Greene under NERC contract.

### 1.9 Commonwealth Mycological Institute (CMI)

In the absence of Prof. Hawksworth, V.H. Heywood outlined the main thrust of the CMI's work, as part of the Commonwealth Agricultural Bureau.

### 1.10 Biosis

In the absence of Mr. Dadd, F.A. Bisby outlined briefly the work of BIOSIS/Zoological Record and explained their long-term aim of building a taxonomic reference file to contain a checklist of species and taxa above species for all organisms. The present bibliographic database (BIOSIS Previews) is very extensive, and available online in 62 countries.

### Session 2: Dr. G.T. Prance in the chair

It was agreed in the next two sessions to consider the treatment of authors, journal titles, book titles, geography, family names, generic names, species names. The intention was to see what might be done in encouraging institutions and database projects to adopt conventions that would ease the problems of coordination or data exchange. This would be

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followed by consideration of the roles of Index Kewensis and the Gray Index.

### 2.1 Authors

Agreed: to distinguish "literature-authors" (authors of publications cited in bibliographic records) from "name-authors" (the so-called "authorities", authors of new names).

Kew had been responsible for the publication of the "Draft Index of Author abbreviations" (Meikle, 1980). This was thought to be the best list available for Angiosperm name-authors, but the abbreviations were not always acceptable. Dr. Brummitt has responsibility for updating it. Index Filicum at K (for Pteridophytes), the CMI system for fungi, and the MO system for Bryophytes fill a similar role.

There was discussion as to whether it was either feasible or desirable to use abbreviations in taxonomic databases. As time progressed, as coverage became worldwide, and as more groups were brought into a list, so the number of name-authors would rise and the length of the shortest unique abbreviation would rise as well. One argument was that abbreviations should be longer than the shortest possible abbreviation, so that redundant symbols would make the recognition of keyboard errors possible. Despite these, it was agreed that carefully drawn up lists including full name, abbreviation, name changes, floreat dates, birth, death were of immense value. It was agreed that the meeting not only support the efforts at Kew to update the Angiosperm list, but also urge Kew:

- (i) to establish a method of achieving wider external participation with a view to achieving an international consensus (perhaps by involving major institutions, perhaps by a recommendation from this body to one of the Congresses).
- (ii) to attach to the list a statement of the format adopted to help those wishing to incorporate either the list, or its elements in their databases (i.e. use of capitals, gaps, full-stops and field-length).
- (iii) to establish a continuing mechanism for incorporating additions to the list. (MO offered help here).
- (iv) to make the list available in machine-readable form for inclusion in other systems (i.e. Magnetic tape and/or IBM PC-compatible floppy discs).
- (v) to attach to the list a statement of the principles adopted, and to provide a translation of these principles into, say, 4 other languages.

The possibility of using name-author abbreviations for literature-author abbreviations, and of developing lists of literature-author abbreviations (cf. TL-2) were noted, possibly for discussion at subsequent meetings.

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### 2.2 Journal titles

There exist a number of widely used sets of abbreviations including BPH, and others at Geneva, at BM(NH), and at K. It was also noted that many journals cite journal titles in full. It was believed that a large supplement was about to be published for the BPH, bringing it nearer to being up to date. It was agreed that it would be of great value to those institutions whose databases do use journal abbreviations in literature citations if the Hunt Botanical Institute were able to continue and develop its activities. As Dr. Kiger was not able to be present, there was some uncertainty about how to approach the matter. It was agreed to invite the Hunt Botanical Institute to develop its activities with essentially the same features as those requested of K for author abbreviations:

- (i) to extend the activity to an international group with wide consultation, with possibility of recommendation to a Bot. Congress as a standard. (Geneva, MO, K, BM(NH) offered assistance).
- (ii) to attach details of the format adopted
- (iii) to establish a continuing mechanism for additions (perhaps linked to issn to catch new journals)
- (iv) to make the list available in machine-readable form
- (v) to attach the principles used, in 5 languages.

### 2.3 Book titles

It was noted that TL-2 contains short titles for all of the books listed and abbreviated titles for many, and that BPH contains principles for book title abbreviation.

Dr. Crosby (MO) agreed to make enquiries as to the relationship between the TL-2 and BPH systems and to report back to the next meeting as to whether a system for book titles should be developed.

### 2.4 Geography

Again a wide range of systems was noted including many that were deeply embedded in the management of collections, and others (such as the Dutch variant of the Kew system) that had been transferred from one institution to another. Mr. Mackinder (IUCN) outlined a number of problems. The system devised by I.S.O. (International Standards Organisation) listed political units often different to the units used by botanists (e.g. Hawaii & Alaska within U.S.A., Canaries with Spain). Conversely, island groups traditionally treated as single biogeographic entities may be dissected into a number of national administrations. IUCN itself handles data related to organisations with legislation that recognises different geographical units. Not all systems cover the whole globe, uninhabited islands providing the principal difficulty. Some systems involve a hierarchy (e.g. Continent, Nation, State/Province/County),

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which may be used to control data integrity (e.g. computer system prevents plants being entered for Peru in Africa), but some nations (e.g. Turkey, Egypt) span 2 continents.

Two levels of standardisation could be envisaged:

- (i) a hierarchy of areas on which each database could specify the particular profile adopted and
- (ii) a partition of the land areas into traditional botanical units, often just above or just below national territories in the hierarchy.

The first system would be much more widely acceptable, but less effective in promoting either collaboration or data exchange. The second would be much more contentious but, at least for those organisations able to use it, would provide both ease of data exchange, and the ability to use much traditionally recorded information in collections and in the literature.

It was agreed to ask Mr. Mackinder (IUCN) to form a working group with Mr. Brummitt (Kew) and others, to draw up proposals for discussion at the next meeting. All organisations involved were invited to contribute information on their systems to Mr. Mackinder for examination.

#### 2.5 Family names

The system of 3-letter codes for Angiosperm families (Weber, 1982) was noted. The MO TROPICOS system presently contains about 4,000 names. It was agreed that Dr. Crosby (MO) would look into the possibility of extending the Weber system for general use, and report back to the next meeting.

#### Session 3: F.A. Bisby in the chair

#### 2.6 Generic names

It was noted that ING (Index Nominum Genericorum) was held on computer at the Smithsonian, that the Kew Generic Checklist Database was now available (for Angiosperms), and that TROPICOS at MO contained all generic names for Bryophytes.

Dr. Brummitt reported that the Kew Generic Checklist Database contained the names of all Angiosperm genera recognised in the K herbarium. It thus included many genera established by experts at Kew, other genera adopted from the latest monographs by botanists elsewhere, and a small residue dictated by tradition or convenience in the herbarium. It also contained synonyms, but these were for internal use at K and publication was not envisaged. Dr. Prance stressed how very useful the system would be, and urged that synonyms be made available. It was agreed:

- (1) to support the efforts of Kew in the production and

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maintenance of a Generic Checklist Database - which was regarded as a major enterprise requiring international participation.

- (ii) to invite Kew to consider some wider degree of participation with a view to obtaining international consensus, both to make the "authority" of the list more evident, and to eliminate the possible unevenness of the treatment.
- (iii) to provide some synonymy, at least providing links to Bentham & Hooker, Engler & Prantl or Cronquist's systems.

### 2.7 Species names

Many of those present stressed that taxonomic databases would need to accommodate alternative binomials taken from alternative taxonomic treatments. (See Mackinder, 1984).

The treatment of hybrids presents a variety of problems. One of these is that not all species of hybrid origin bear hybrid names, and not all species with hybrid names are of hybrid origin. Another is that (curiously) computers do not contain multiplication symbols - the asterisk is used instead. For hybrid names in taxonomic databases the upper case (X) or lower case (x) will be appropriate. To place this as the first symbol in either a generic or epithet name field would cause the name always to be listed under x in the alphabet: a better solution is to add two one-symbol fields to accommodate an X for the generic name, or an x for the epithet.

### 2.8 Synonymy

Dr. Clayton (Kew) described his system for categorizing different kinds of synonymy and the way in which it was being implemented for the Generic Checklist Database. Dr. Bisby asked whether the Clayton system could be more widely publicised. The Alice software and the ILDIS database handled accepted names, synonymy, homonyms, spelling variants and misapplied names, but it would be useful both to categorise the synonyms and to see whether harmonisation of the other name inter-relationships was possible. Dr. Clayton (Kew) agreed to circulate a copy of his system with the minutes.

### 2.9 Name lengths

Because some database systems use fixed length fields, or need fixed field lengths on input or output screens, Mr. Synge (IUCN) pointed out that it is of interest to know the length of the longest known generic and epithet names, and to have agreed rules for what to do if they are exceeded. Truncations seem preferable to contractions. It was agreed that Mr. Synge be asked to develop his knowledge on longest name-lengths for names of grex, epithet, cultivar, generic and family names and to report to the next meeting.

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### 2.10 Index Kewensis and Gray Index

Dr. Clayton (Kew) described progress with making an IK name database. Back numbers had now been read by an optical-reader and stored on magnetic tape. There are now many man-years of editing going ahead to remove the optical-reader's errors. Current numbers are also being prepared in machine readable form. There have been staffing difficulties at IK and it is still not clear when or how the IK name database will become available.

It was unfortunately not possible to have any detailed discussion of the Gray Index. It was thought that this too was in the process of computerisation and again that funding may be proving difficult.

Discussion rather naturally moved to politically difficult areas which are nonetheless of immense worldwide importance. Now that both IK and Gray Index include infraspecific names, is there any room for collaboration or division of labour? Will there be any relationship between the two databases to be produced? Have either or both organisations evaluated the potential for international participation?

It was agreed:

- (i) to stress to the managements the very great importance attached to the development of IK and Gray Index by the Working Group.
- (ii) to recommend the setting up of an IK workshop to examine both its future development and funding options.

### 3. Any other business

#### 3.1 Blue skies design

Dr. Bisby (ILDIS) raised a suggestion that attention be given to the design of a world taxonomic information system. The present discussions implicitly recognised that the plant taxonomic profession is involved in producing such a system and (rightly) concentrated on very practical moves towards coordination. But it would be of interest to consider the theoretical "top down" design that would be generated by designing the system afresh using information technology. Would the design generated be totally impracticable for reasons of institutional tradition, traditional responsibilities etc., or could parts of it be implemented in radical moves towards a 21st century system? The suggestion was dubbed the "blue skies design" by participants who thought there was a case for devoting a separate, well-prepared meeting to this topic.

It was agreed that at its next meeting the Working Group would make plans for a separate "blue skies design" meeting to be held in 1987 or 1988.

#### 3.2 Survey of taxonomic databases worldwide

Mr. Synge (IUCN) reported that the U.S. National Park Service was considering undertaking a worldwide survey of taxonomic databases on behalf

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of the UNESCO Panel on Biosphere Reserves. Apparently the Park Service would fund this, although some anxiety had been expressed at the very large/open-ended nature of the task. It was suggested that significant public service enterprises would need to be distinguished from private or personal data sets, and the question of data reliability was important. One way of carrying out the survey would be to partition the work regionally, perhaps making use of the institutions and projects represented on the working group.

Dr. Bisby reported that the need for a database containing records on taxonomic databases had been discussed at the Linnean Society's Computer Application Group, and that BIOSIS UK had expressed an interest in compiling such a database. BIOSIS hoped to contact very many taxonomic database organisations with a view to inviting participation in the BIOSIS TRF for all organisms. No action had been taken so far.

It was agreed that Mr. Syngé should contact the US Park Service Group expressing this Working Group's support and willingness to assist, and that Dr. Bisby should contact BIOSIS with a view to suggesting some possible database or link with the survey.

### 4.0 Future meetings

Throughout the meeting participants had assumed that this was the first of a series of meetings.

### 4.1 Name

It was agreed to name the group the "Taxonomic Databases Working Group".

### 4.2 Membership

It was agreed to widen the group to the representatives of about 20 institutions and projects. The needs being to stay small enough to discuss matters informally at round-table discussions, and to attract enthusiasts, but large enough to encompass a truly international representation of major institutions and projects. The following additions were agreed:

- 1) Flora of Australia (Bureau of Flora & Fauna)
- 2) Far East (ask Dr. Raven for possible contacts)
- 3) Eastern block Academy of Sciences (Prof. Heywood to discuss with Takhtajan)
- 4) Indian Botanical Survey (Prof. Heywood to arrange)
- 5) Flora Veracruz Project (Dr. Bisby to arrange)
- 6) South Africa - Pretoria Botanical Institute (PRECIS project,)
- 7) Smithsonian
- 8) Gray Index, Harvard.

### 4.3 Organisation

It was agreed that Prof. Heywood should act as convenor and Dr. Bisby

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as rapporteur until the next meeting.

### 4.4 Next meeting

It was agreed that the next meeting should be held at Kew provisionally in late May 1986 as part of or adjacent to a large organisational meeting planned at Kew. (N.B. This plan has subsequently been modified because of the postponement of the larger meeting at Kew. Present plans are to hold the next meeting at Kew in October or November 1986.)

### 4.5 Sponsorship & Funding

The full local accommodation costs of the present meeting had most generously been borne by the Jardin et Conservatoire Botanique of Geneva, with participants' sponsoring organisations covering the cost of travel. Whether this arrangement could be repeated elsewhere was uncertain and it might well be that participants' sponsoring organisations might have to bear a larger fraction of costs in the future. However for the next meeting efforts would be made to approach various organisations for assistance.

### 5.0 Acknowledgements

Prof. Bocquet, Dr. Mascherpa and their colleagues were warmly applauded when the Chairman thanked them for the sparkle, generosity and variety of the hospitality that had been provided by the Conservatoire et Jardin botaniques of Geneva during the Working Group's meeting.

### References/Abbreviations

- BPH = Lawrence, G.H.N. et al. (eds.), 1968. *Botanico Periodicum Huntianum*. Hunt Botanical Library, Pittsburgh.
- IK = Daydon Jackson, B. 1896-1981 et. seq. *Index Kewensis* (and Supplements). Clarendon Press, Oxford.
- ING = Farr, E.R., Leussink, J.A. & Stafleu, F.A., 1979. *Index Nominum Genericorum (Plantarum)* Vols 1-3. Bohn, Scheltema & Holkema, Utrecht. 1896 pp.
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- Weber, W.A., 1982. Mnemonic three-letter acronyms for the families of vascular plants: a device for more effective herbarium curation. *Taxon* 31 (1):74-88.

F.A. Bisby,  
Rapporteur, Dec. 1985, Southampton

KEW GENERIC LIST

This is a list of all accepted Phanerogam genera ascribed to their family. It originated as a means of verifying input to the Living Plants Catalogue. It inevitably reflects the taxonomic opinion of Kew botanists, and unavoidably contains a good many arbitrary decisions. However it is conceived as a dynamic file constantly subject to updating.

It is gradually being extended to include generic synonyms. These may be entered simply as 'unspecified synonyms'; alternatively their status may be defined and chains constructed using the following relational terms:

1. Accepted genus
2. Accepted hybrid
3. Available synonym
4. Later homonym
5. Superfluous name
6. Orthographic variant
7. Invalid name
8. Name of uncertain application
9. Unexamined name (a pending file for names awaiting study).

Note: A few rare contingencies have not been separated; e.g. a rejected earlier homonym is included in the homonyms. Double status sometimes occurs; e.g. a superfluous homonym is treated as superfluous with homonym flag set.

There is an optional reliability digit, loosely defined as:

0. Taken from a source liable to error
1. Copied from a reliable source
2. Checked and believed correct

There is also an option for a generic number of the user's choice, enabling the genera to be ordered in taxonomic sequence.

Output

For a given family it provides a generic list with choice of:-  
categories to be included  
alphabetical or numerical sequence  
synonyms in sequence, or indented under accepted name

For a given genus it finds accepted name, and lists all synonyms chained to it. If the given genus is a homonym, it first asks which one is intended. It is planned to add a facility for multiple-family searches, according to the systems of Bentham & Hooker, Engler, Cronquist, Takhtajan, Thorne and Dahlgren.

Technical details.

All synonyms must be chained to an acceptable or available name (but category 6 chains to anything, 8&9 to nothing). The permitted links we determined by an internal truth table.

Homonyms are identified by a single digit flag. This is normally set at zero, but takes a positive number for later homonyms (and for invalid names, thus leaving room for a subsequent valid homonym).

Hybrids carry a flag which inserts the X sign on printout.

Availability. It is planned to publish a printout of this list in the early part of 1985.



APPENDIX 2: Letter from Mr. Synge (IUCN)

INTERNATIONAL UNION FOR CONSERVATION OF NATURE AND NATURAL RESOURCES  
UNION INTERNATIONALE POUR LA CONSERVATION DE LA NATURE ET DE SES RESSOURCES

Conservation Monitoring Centre — Centre de surveillance continue de la conservation de la nature

c/o The Herbarium, Royal Botanic Gardens,  
Kew, Richmond, Surrey, TW9 3AE, U.K.

Dr W.P. Gregg  
Office of Science and Technology  
National Park Service  
U.S. Department of the Interior  
Washington, D.C. 20240  
U.S.A.

21 October 1985

Dear Bill,

On 28-29 September, the first meeting of the Taxonomic Databases Working Group took place. It was most useful and I hope to be able to send you a copy of the minutes soon.

As requested by the Unesco Panel on Biosphere Reserves, I brought to their attention the possibility of the U.S. National Park Service funding or undertaking a survey of taxonomic databases worldwide and asked for their comments. I am now replying on their behalf.

They were most interested in this proposal but frankly a little concerned at the daunting size of the task, at least as far as plants are concerned. With the declining cost of microcomputers, recent surveys of databases in other fields of biology and environment have come up with massive lists, which it is difficult to evaluate in terms of effectiveness. This naturally points to great care being taken to ask the right questions, so as to be able to sort the wheat from the chaff.

They considered that the only practical way to carry out such a survey would be by region, with prominent institutions or scientists in each region appointed to carry out the survey for their area. They felt that the end product should not be so much a report as a database itself, which could be continually kept up-to-date as a service to the rest of the world. This would be invaluable.

They suggested in particular that BIOSIS could be very helpful to you in developing the survey. BIOSIS would be extremely interested anyway in the results and had apparently been discussing a similar inventory themselves. As you may know, they intend to develop a Taxonomic Reference File to contain a checklist of all species (and higher taxa) for all organisms, partly as an entry into their own very extensive bibliographic database. They would certainly have great experience to offer in planning and designing the survey.

The Taxonomic Databases Working Group, although an ad-hoc body without an assured life, asked me to offer such services as they can give to the U.S. National Parks Service and Unesco in this important venture. This I am very happy to do, and to add to it our own offer of help from IUCN.

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I do hope these comments will be useful. It was marvellous to work with you in Cancun and I hope to be in touch on other matters soon.

With best wishes,

Yours sincerely,



Hugh Synge  
Head  
Threatened Plants Unit

cc J. Robertson, Unesco  
A. Gomez-Pompa, Xalapa  
G. Mann, TNC

Members, Taxonomic Database Working Group (to circulate with minutes).