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WORLD FEDERATION FOR CULTURE COLLECTIONS

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An Interdisciplinary Commission of the International Union of Biological Sciences and the International Union of Microbiological Societies

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WFCC Board 2000-2004

During ICCC9 in Brisbane, Australia, a new WFCC Board was elected. For details see page 6-7

President	*Vice-President*
Prof. Jean Swings BCCM/LMG Culture Collection K.L.Ledeganckstraat 35 GENT B9000, Belgium Tel.:+32_9_2645116, Fax: +32_9_2645092 Email: jean.swings(@)rug.ac.be	Prof. Dr. Makoto M. Watanabe National Institute for Environmental Studies 16_2 Onogawa TSUKUBA IBARAKI 305_0053, Japan 38124 Braunschweig, Germany Tel: +81_298_50_2555, Fax: +81_298_50_2577 Email: mmw@nies.go.jp
Secretary	*Treasurer*
Dr. David Smith CABI Bioscience UK Cent Bakeham Lane EGHAM, Surrey TW20 9TY, UK Tel: +44 1491 829046, Fax: +44 1491 829100 Email: d.smith@cabi.org	Dr. Alan Doyle The Wellcome Trust 183 Euston Road LONDON NW 1 2BE, UK Tel: +44 171 611 8888, Fax: +44 171 611 8545 Email: a.doyle@wellcome.ac.uk

Board Members

Dr. Vullapa Arunpairojana Director of Bangkok MIRCEN Thailand Institute of Scientific and Technological Research 196 Phahonyothin Rd., Chatuchak BANGKOK 10900, Thailand Fax: + 66 22 5614771 E_mail: mircen@tistr.or.th	Dr. Ipek Kurtboke MicroPeace Biotechnology Consulting LPO Box 2093 HAWTHORN, MELBOURNE, Victoria 3122 Australia Fax: + 61 3 9813 5660 E_mail: ikurtboke@hotmail.com
Dr. Raymond Cypess President and CEO American Type Culture Collection, ATCC 10801 University Boulevard Manassas, Virginia 20110_2209, USA Fax: + 1 703 365 2725 E_mail: lhampton@atcc.org	Prof. Erko Stackebrandt Director DSMZ_Deutsche Sammlung von Mikroorganismen und Zellkulturen GmbH Mascheroder Weg I b 38124 BRAUNSCHWEIG, Germany Fax: + 49 5312616 418 E_mail: erko@dsmz.de
Dr. Irena Ivshina Institute of Ecology and Genetics of Microorganisms Ural Branch, Russian Academy of Sciences 13 Golev Str., 614081 PERM, Russia Fax: + 7 3422 646711 E_mail: ivshina@ecology.psu.ru	Dr. Joost Stalpers Centraalbureau voor Schimmelcultures (CBS) KNAW P.O. Box 85167 3508 AD UTRECHT, The Netherlands Fax: +31 302512097 E-mail: Stalpers@cbs.knaw.nl
Ms Gina Koenig Principal Scientist Roche Molecular Systems 1145 Atlantic Ave, ALAMEDA CA 9450 1, USA Fax: +1 510 522 1285 E_mail: gina.koenig@roche.com	Dr. Ken Ichiro Suzuki Head of Culture Collection Division Japan Collection of Microorganisms, RIKEN Hirosawa, Wako, Saitama 351_0198, Japan Fax: + 81 48 462 4617 E_mail: ksuzuki@jcm.riken.go.jp

Ex officio

Dr. Vanderlei Canhos (Past-President) Tropical Culture Collection R. Latino Coelho 1301 CX. Postal 1889 13.087-010 Campinas-SP, Brasil Fax: +55 19 242 7827 E-mail: vcanhos@bdt.org.br	Dr. Hideaki Sugawara (Director WDCM) World Data Centre for Microorganisms Center for Information Biology National Institute of Genetics , Yata 111 Mishima, Shizuoka 411-8540, Japan Fax: +81 559 81 6896 E-mail: hsugawar@genes.nig.ac.jp

Editor Newsletter

Dr. Dieter Claus Chemnitzer Str. 3, 37085 Goettingen, Germany Fax: +49 551 55791; E-mail: dclaus@gmx.net	Dr. Dagmar Fritze DSMZ, Mascheroder Weg 1b, 38124 Braunschweig, Germany; Fax: +49 531 2616 418; E-mail: dfr@dsmz.de

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NEW WFCC COMMITTEES

During ICCC-9 the following WFCC Committees were confirmed or newly formed. Members wishing to cooperate in these important activities are invited to contact the respective chair persons

Committee on Biodiversity Chair: Dr. Lindsay Sly Australian Collection of Microorganisms Centre for Bacterial Diversity and Identification Department of Microbiology University of Queensland St. Lucia 4067, Brisbane, Australia Fax: +61 7 365 4620 E-mail: sly@biosci.uq.edu.au	Committee on Networking and Interoperability Chair : Dr Vanderley Canhos Tropical Culture Collection R. Latino Coelho 1301 CX. Postal 1889 13.087-010 Campinas-SP, Brasil Fax: +55 19 242 7827 E-mail: vcanhos@bdt.org.br
Committee on Education and Capacity Building Chair: Dr. Nina Gunde-Cimerman Microbiology Department, University Ljubljana Vecna pot 111 Ljubljana 1000, Slovenia Fax: + 386 61 2733390 E-mail: nina.gunde_cimerman@uni_lj.si	Committee on Standardization and Normalization Chair: Dr. Robert Hay American Type Culture Collection 10801 University Boulevard Manassas, Virgina 20110, USA Fax: +1 703 365_2701 E-mail: rhay@atcc.org

Committee on Patents and Intelectual Property Rights	Committee on Endangered Collections
Chair: Dr. Philippe Desmeth Belgian Coordinated Collections of Microorganisms Rue de la Science, Brussels B_1000, Belgium Fax: + 32 10 45.15.01 E-mail: desmeth@mbla.ucl.ac.be	Chair: Dr. Peter Green NCIMB Ltd. 23 St Machar Drive Aberdeen AB24 3RY, UK Fax: +44 1224 272461 E-mail: ncimb@abdn.ac.uk

Committee on Transport, Quarantine and Safety Regulations

Chair: Dr. Christine Rohde
DSMZ-Deutsche Sammlung von Mikroorganismen und Zellkulturen GmbH,
Mascheroder Weg 1b, 38124 Braunschweig, Germany,
Fax: +49 531 2616 418; E-mail chr@dsmz.de

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ICCC9: WFCC Reports

Message from the new President

ICCC_9 in Brisbane was a big success thanks to the tremendous efforts of the organizer Prof. L. Sly. There were intellectual stimuli, much interaction, good food and even good dancing.

From the diverse contributions it is clear more than ever that culture collections (or BRC's) are partners in a number of initiatives that are being put into practice e.g. Diversitas, Species 2000, Global Biodiversity Information Facility (GBIF).

WFCC, as a federation of all culture collections, will contribute to these initiatives through the actions of its individual members but also through the general supportive actions of the executive board and the committees.

WFCC is a democratic federation of culture collections of all over the world that adhere on a voluntary basis. Within WFCC, volunteering professional colleagues collaborate to realize common goals. In the coming 4 years it is important for WFCC to realize :

(1)Maximal participation of members to WFCC organization, committees, workshops and other activities
(2) Maximal visibility of WFCC
(3) Professionalize the WIFCC organisation

The Executive Board and the committees will be very glad to work actively with WFCC members on the topics of their expertise and interest. The achievements of WFCC depend on the involvement of the members.

Jean Swings
President WFCC

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President's Report: 1996-2000

The period since ICCC-8 in Veldhoven has been productive in many ways. The international scientific scene changed rapidly and the WFCC needed to address a number of issues during this period. Most activities have been handled by competent Committees, which will report separately.

In the 1996-2000 period the most pressing issues, as far as international affairs are concerned, has been the sustainability of the existing resources centers and the impact of the implementation of the Convention on Biological Diversity (CBD) at local and global level. Specific implications for culture collections on issues related to access to ex-situ genetic resources and benefit sharing, the economic value of ex-situ microbial genetic resources, transborder movement of microorganisms and biosafety policies in cultures collections were addressed. The WFCC has been proactive in many ways that will be outlined below.

STATUTES REVISION

For some time the Executive Board of the WFCC has been aware of the need to update and amend the Statutes and Bylaws in order to reflect the development of WFCC and its relationship with the membership and other relevant organizations. The last update of the statutes was made in 1984 and the complete revised text was published in the WFCC Newsletter 9 (July 1984). Dr. Lindsay Sly and Dr. Dagmar Fritze were asked to make the revision, and the proposed amendments were submitted and approved by the federation officers and published in the WFCC Newsletter 13 (July, 1999).
An opportunity was given to WFCC members to review and comment on the proposed changes, and a postal ballot was conducted to assess the level of support for the proposed changes. The results of the Ballot will be announced and the revised Statutes will be recommended for approval at this General Assembly.

GUIDELINES REVISION

The "Guidelines for the Establishment and Operation of Collections of Cultures of Microorganisms" first published in 1990 were revised to reflect the changes in policy and the additional demands on culture collections in terms of conservation and capacity building, placed by the implementation of the Convention on Biological Diversity (CBD).
The revision was prepared by Ms. Barbara Kirsop (Chair of WFCC Biodiversity Committee) and

Dr. Alan Doyle (WFCC Secretary), and submitted to the WFCC Executive Board and Committees for amendments and comments. The revised edition of the WFCC Guidelines were published in July 1999 (ISBN 929109043_3), and an electronic version with links to relevant documents is available online from the WFCC homepage (http://www.wfcc.nig.ac.jp/).

BIODIVERSITY

The WFCC has an observer Status at the meetings of the Convention on Biological Diversity as a Non_Governmental Organization (NGO). As such, the WFCC has attended the Conference of the Parties (COP) in Buenos Aires, Argentina (November 1996), and Bratislava, Slovakia (May 1998), with the purpose of further raising awareness of the importance of microbial diversity and the role of culture collections in the CBD implementation. In addition, WFCC has also been represented at the meetings of the Subsidiary Body for Scientific, Technical and Technological Affairs (SBSTTA) to the Convention and at the Intersessional Meeting on the Operations of the Convention (ISOC).

In order to draw the attention to the uncertainties and opportunities in the implementation of the CBD, a background document on "Access to ex_situ Microbial Genetic Resources within the Framework of the Convention on Biological Diversity" (ISBN 92_9109042_5) was published in 1996 and distributed at the COP_3 in Buenos Aires. This document was summarized by the Secretariat of the CBD, and made available as an official information document to all Governments and Parties to the CBD.

A Workshop to discuss the economic value of microbial genetic resources was organized by the Executive Board in collaboration with the Biodiversity Committee. The workshop held in Halifax , Canada, during the International Symposium on Microbial Ecology (ISME_7) was attended by more than 60 people. The event was sponsored by the European Union DG XII, the Organization of American States (OAS) and Health Canada The proceedings of the workshop containing the abstracts of the presentations and recommendations were published and distributed to the WFCC Members and partner organizations are available online from the WFCC homepage at the WDCM.

A survey on the status of the pre_CBD deposits in microbial culture collections was carried out in order to meet a request from the CBD Secretariat. A short questionnaire compiled by the Biodiversity Committee was circulated to WFCC Members through the Newsletter and the results were tabled and submitted to the CBD officers.

As a result of continued representation at CBD meetings and other WFCC activities related to biodiversity, the work of WFCC has now become well recognized.

BIOSAFETY

The POSTAL, QUARANTINE, SAFETY committee has been very active compiling the latest regulations and this information is available on the Internet through the WFCC and UKFCC websites.

INFORMATION

WORLD DATA CENTRE FOR MICROORGANISMS

The WDCM continued to be a major international resource for data on microbial diversity and culture collections. Under the leadership of Dr Hideaki Sugawara the WDCM was relocated from RIKEN to the Center for Information Biology at the National institute of Genetics (Japan) in March 97. In 1999 the WDCM in cooperation with WFCC was responsible for the organization of the symposium entitled "Microbial Resource Centers in the 21 st Century: New Paradigms".

NEWSLETTER AND PUBLICATIONS

During the current term, 7 issues of the WFCC Newsletter were published. This was possible due to the commitment and outstanding work done by the Editor Dr Dieter Claus with the support of the Vice-President Dr Dagmar Fritze. Worldwide distribution to members and partner institutions/organizations was carried out with the financial support of DSMZ.

In addition to the WFCC Newsletter the following publications were prepared and distributed to WFCC Members and relevant organizations:

"Access to ex_situ Microbial Genetic Resources within the Framework of the Convention on Biological Diversity",1996 (ISBN 92_9109042_5);

"The Economic Value of Microbial Genetic Resources". Proceedings of the Workshop held during the Eight International Symposium on Microbial Ecology (ISME_8), Halifax, Canada, August 1998 (ISBN 92_9109043_2)

"Guidelines for the Establishment and Operation of Collections of Cultures of Microorganisms",1990, (ISBN 92_9109043_3).

FUNDING

The ability to undertake significant projects depends on the availability of funding. The funds available from membership fees are only sufficient to run the organization and produce the Newsletter. To undertake the other tasks outlined above money is sought from various bodies. Unfortunately, due to the financial problems of the UN family organizations, UNEP and UNESCO have been unable to provide financial support for the WFCC activities, other than covering the costs of participation of officers at the WFCC meetings. This highlights the vulnerability faced when hosting important events and it will be in the WFCC's interest to look closely at its future financial strategies to become more financially independent. It will be necessary to expand the membership and to look to Affiliate collections and commercial companies for more support.

ICCC-9

The major event of the four-year period is the International Congress on Culture Collections, and ICCC-8 is set to be a major success. The organizing committee led by Dr Erko Stackebrandt and Dr. Lindsay Sly have done an outstanding job in putting together a first class scientific program and social events. ICCC-9 with the theme "Microbial, cellular and genetic resources for the new millennium" will cover a very interesting and topical range of fields and has

attracted many leading international speakers. We sincerely thank the scientific and local organizing committees for their hard work which 1 am sure will be rewarded this week.

FINAL COMMENTS

It has been my pleasure to serve as WFCC President and to be so ably supported by the Executive Board, Officers, and committees. There is always much more that one would like to achieve given the time and resources, but it is clear that the WFCC continues to be a vibrant organization well respected for its contribution to progress in the field of culture collections and related disciplines. I wish the incoming Executive Board every success.

Vanderlei Perez Canhos

President WFCC, 1996-2000

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Financial Report of the Treasurer

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WFCC EXECUTIVE BOARD BALLOT

The term of office of the WFCC Executive Board and Officers elected for the period 1996-2000 has ended at the ICCC9 Congress in Sidney. Of the officers and executive board members of the period 1996-2000 the following people were not eligible for re-election as they have served for two consecutive terms of office:

Dr. Vanderlei Canhos (President)

Dr. Dagmar Fritze (Vice-President)

Dr. D. van der Mei (Treasurer)

Announcement of the results of the ballot 2000:

Number of ballots received: 100
Invalid ballots: 0
Valid ballots: 100

	Nominated by	Number of votes
PRESIDENT		
Jean Swings (BCCM/LMG Culture Collection, Belgium)	NC*	100
VICE PRESIDENT		
Makoto M. Watanabe (NIES, Japan)	NC	100
EXECUTIVE BOARD MEMBERS		
Vullapa Arunpairojana (TISTR, Thailand)	NC	48
Phillipe Desmeth (BCCM)	NC	48
Alan Doyle (Wellcome Trust, UK)	NC	**81
Graciella Font de Valdez (Argentina)	NC	33
Ipek Kurtboke (MICROPEACE, Australia)	NC	42
Irena Ivshina (IEGM, Russia)	NC	48
Gina Koenig (Roche Molecular Systems, USA)	NC	**57
M. Nabil Magdoub (MIRCEN, Egypt)	NC	18
Joe Morton (INVAM, USA)	Claus/Fritze	30
David Smith (CABI, UK)	NC	**74
Erko Stackebrandt (DSMZ, Germany)	NC	**73
Joost Stalpers (CBS, The Netherlands)	NC	**71
J. L. Staphorst (South Africa)	NC	31
Ken Suzuki (JCM, Japan)	NC	**75
L. Tapay (UPLB, Philippines)	NC	29
John Young (ICPM, New Zealand)	NC	39

* NC = Nominations Committee, ** members elected

According to the WFCC statutes the following candidates are elected:

President	Jean Swings (BCCM/LMG Culture Collection, Belgium)	(100)
Vice-President	Makoto M. Watanabe (NIES, Japan)	(100)
	Alan Doyle (Wellcome Trust, UK)	(81)
	Ken Ichiro Suzuki (JCM, Japan)	(75)

Board Members		
	David Smith (CABI, UK)	(74)
	Erko Stackebrandt (DSMZ, Germany)	(73)
	Joost Stalpers (CBS, The Netherlands)	(71)
	Gina Koenig (Roche Molecular Systems, USA)	(57)

The new Executive Board elected Dr. David Smith as WFCC Secretary and Dr. Alan Doyle as Treasurer. According to Article XII of the Statutes Vullapa Arunpairojana (MIRCEN, Thailand), Raymond Cypess (ATCC, USA), Irena Ivshina (IEGM, Russia) and Ipek Kurtboke (MICROPEACE BIOTECHNOLOGY CONSULTING, Australia) and were coopted as board members.

Alan Doyle
WFCC Secretary 1996-2000

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Reports from the WFCC Committees to ICCC9

Committee on Postal, Quarantine and Safety Regulations: 1996-2000

COMMITTEE MEMBERS
D. Smith (Chair, CABI BIOSCIENCE UK Centre (Egham), UK.
C. Bizet, CIP, Institut Pasteur, 25 rue Du Docteur Roux, 75015 Paris Cedex 15, France
P. Sudharmono, University of Indonesia, Medical Faculty, Kampus Depkok, Depkok 16424, Indonesia
N. Hywel_Jones, NSTDA_NGGEB, 10400 Bangkok, Thailand
H. Kaku, The National Institute of Agrobiological Resources, MAFF, 2_1_2 Kannondai, Tsukuba, Ibaraki, 305 Japan
F. Simione, ATCC, 10801 University Blvd., Manassas, VA 20110_2209, USA
P. Packer, ECCC, PHLS CAMR, Porton Down, Salisbury, SP4 OFG.
Julio Rodrigues Nato, Instituto Biologico_S13F, Caixa Postal 70, 13001_970 Campinas SP, Brazil
Ch. Rohde, DSMZ, 38124 Braunschweig, Germany
L. Sigler, UA Microfungus Collection and Herbarium (UAMH), University of Alberta, Edmonton, Canada, T6G 2E1.
J.M. Young, International Collection of Microorganisms from Plants, Landcare Research, Private Bag 92170, Auckland, New Zealand.

Introduction
The committee has been actively seeking information on the current status of the ever

changing legislation, rules and regulations that affect the activities of culture collections. This is an enormous task and almost impossible to keep up with. We should be particularly grateful for the hard work of Christine Rohde (DSMZ, Germany) for her never relenting activity seeking and relaying information. One of the key efforts during the past four years was the publication of the paper Handling and distribution of micro_organisms and the law to disseminate information on our legal responsibilities while collecting and distributing microorganisms (Smith, D. Rohde, C. & Holmes, B. (1999). Microbiology Today 26, 14_16). A fuller version of this paper is available on the Society for General Microbiology web site, this will be periodically updated: http://www.socgenmicrobiol.org.uk.

GENERAL ISSUES
IATA Dangerous Goods Regulations

The IATA Dangerous Goods Regulations (1999) require that shippers of microorganisms of risk groups 2, 3 or 4 (Dangerous Goods class 6.2) be trained by IATA certified and approved instructors and that this training is repeated every two years. The implementation of these regulations is the responsibility of national aviation authorities and can differ from country to country. The WFCC is considering running workshops on the safe handling and shipping of infectious substances for members and other interested parties to enable them to meet their requirements where possible but at least to raise awareness. A recent awareness seminar was run by Melvyn Danvers, Central Public Health Laboratory, London at the European Culture Collection Organisation (ECCO) meeting in Sestri Levante, Italy. This was well received and imparted useful information. Currently, one day approved courses on shipping infectious substances, resulting in certification of shippers, are accepted for example by the UK and Germany, meeting the IATA Dangerous Goods Regulations requirement. Such courses are also accepted by the Joint Aviation Administration (JAA) Europe and Joint Aviation Requirements (JAR) Europe.

There are certain anomalies in the regulations that require low risk organisms to be packaged and shipped under the same rules as risk group 3 and 4 organisms. It is the considered opinion of active members of this WFCC Committee that some organisms at risk group 2 should be exempt. Only organisms at risk group 3 or higher, or those of risk group 2 presenting significant risk to handlers of packages should require the dangerous goods transport packaging. Sound and secure packaging materials must be used for all organisms as we must also consider the potential release of organisms from deficient packaging that may have severe effects on the environment. Approaches to IATA Dangerous Goods Regulations Committee have been unsuccessful in getting a satisfactory response, and as a result the UK National Culture Collection approached the UK Advisory Committee on Dangerous Pathogens (ACDP) to try and engage their support in redressing this situation. The added expense and postal restrictions can impede the supply of organisms essential for research and development.

This is a wide issue as it has been reported by Lynne Sigler that Canada has a cross border situation that indicates a worsening of transport problems. In the USA it is acceptable to send cultures that fall into risk group 2 or that may be deemed to be similar by mail. These can be sent with a label on the package stating "etiologic or infectious agent". However, items bearing that label may not be carried in Canadian mail and indeed must be treated as

dangerous goods regardless of whether or not they are actually on Canada's list of regulated organisms. IATA regulations must be followed when packages are transported by air. Lack of harmonisation between postal authorities can present problems, collections need to be aware of the different interpretation these authorities have of international regulations and how they are applied nationally.

At ISHAM in 1997, Lynne Sigler made a case that regulatory issues would have detrimental impact on culture collections (see Medical Mycology 36, SupplA, 264_265, 1998). Concern was expressed over a new list of species published by a European committee headed by Sybren de Hoog (1996) _ Risk assessment of fungi reported from humans and animals. Mycoses 39, 407_417, that had added a large number of additional taxa to those considered by most regulatory agencies as belonging to risk group 2. The fear was that agencies would take up the list and effectively restrict the transfer of all species on it except under the auspices of dangerous goods regulations. This has the potential to a) increase costs for culture collections and users to unacceptable levels and b) make it sometimes impossible to transport organisms at all. It can be difficult to find carriers to ship organisms (class 6.2) considered as Dangerous Goods whereas it is less of a problem for chemicals.

The risk from appropriately packaged materials in transport is significantly below that encountered whilst handling organisms in the laboratory. Quite often materials are transported in the freeze_dried state which again presents a different and often lower degree of risk to the handler. A system that recognises the differences in risk levels and that doesn't restrict the distribution or increase the cost of shipping of low risk organisms is needed. This might be achieved by splitting risk group 2 organisms in to separate lists for transportation. This issue now appears to be being addressed.

Miscellaneous draft amendments to the model regulations on the transport of dangerous goods: infectious substances; classification and packaging of diagnostic specimens

The sub_committee of experts on the transport of dangerous goods at their eighteenth session July 2000 considered a submission that there were difficulties for consignors, medical practioners and laboratories to classify diagnostic specimens to meet packaging requirements and conform with the normal procedures of health services. Experts from Germany, UK and WHO met on 3d September 1999 to define an appropriate definition and packaging requirements for diagnostic specimens and should:

-avoid direct reference to WHO Risk Groups which had been developed for purposes other than transport;
-avoid reference to pathogens most of which will be low hazard and low infectivity and which are present in almost all diagnostic specimens;
-limit, so far as practicable, the need for professional judgements to be made on the presence or otherwise of infectious substances;
-limit the application of requirements in transport to those commensurate with the real, rather than perceived risk;
-require easily obtainable, inexpensive packaging appropriate to the degree of hazard and conditions of transport;
-permit ready consignment using postal services, enforceable both by the competent

authority and the postal services themselves.

If the committee accepts these principles for diagnostic specimens it is not unreasonable for them to consider similar changes for other infectious substances. The two most relevant points in the definition being "avoid direct reference to WHO Risk Groups which had been developed for purposes other than transport and "limit the application of requirements in transport to those commensurate with the real, rather than perceived risk.

IATA Dangerous Goods Regulations (DGR) 2000 changes
There have been no fundamental changes since the publication of the ICAO Technical Instructions edition 1999/2000. Although DGR Chapter 2, Limitations: State Operator variations have been modified. State variations: GBG_05: Infectious substances, including diagnostic specimens and biological products, are not permitted in international mail either to or from the UK and are only permitted in domestic mail in exceptional circumstances. Operator variations: FX_09: Div. 6.2, Risk Group 4 will not be accepted by FEDEX. FX_1 1: problems have been experienced with packaging size and document fixing, further details are available from SAF_T_PAK.

Packaging
IATA Dangerous Goods Regulations (DGR) require that packaging used for the transport of risk group 2, 3 or 4 must meet defined standards, IATA packing instruction 602 (class 6.2). Packaging for risk group 1 organisms must meet EN 829 triple containment requirements. However, microorganisms that qualify as dangerous goods (class 6.2), must be sent in UN certified combination packages. These packages must be sent by airfreight and courier if the postal services of the countries through which they pass do not allow the organisms in their postal systems IATA (1999). The UPU forbids the carriage of dangerous goods in the mail except under conditions laid down in paragraph 2.4 Dangerous Goods in Air Mail. This allows the shipping, subject to the provisions of National Postal Authorities, of infectious substances and solid carbon dioxide as a refrigerant provided a 'Shipper's Declaration' accompanies the consignment.

There are additional costs above the freight charges and package costs, if the carrier does not have its own fleet as the package and documentation will require checking at the airport DGR Centre for which a fee is charged. There are currently very few private carriers that transport dangerous goods internationally. Extensive enquiries and investigations have determined that TNT is the only courier service that will transport microorganisms considered as Dangerous Goods world_wide. Such private carriers do provide assistance in completing the Shipper's Declaration forms. However, the shipper is exclusively responsible for the shipment, its correct packaging, documentation, marking and labelling. Packaging can be obtained from Air Sea Containers Ltd. (www.air_sea.co.uk) and SAF_T_Pak Inc. (www.saftpak.com) and both can provide useful information for the shipper of dangerous goods. Other suppliers include NOAX, Sweden, Fax: +46 0850029956, Care Pack, The Netherlands, Fax +31 297 345169 and Bio_ Packaging Ltd., Coventry, UK, Fax: +44 181 953 6051, Mega_Pak Ltd., Slough UK (www. megapak_uk. com).

Accord Europeen relatif au transport international des merchandises dangereuses par routes

(ADR)

In Europe when risk group 2 organisms of class 6.2 Dangerous Goods are transported by road they require to be packed according to EN 829 requirements. Transport by road is regulated by the Accord Europeen relatif au transport international des merchandises dangereuses par routes (ADR). This clearly separates class 6.2 into two subclasses, A: highly infectious material (risk groups 3 and 4) and B: other infectious material. These two groups A and B, have different packaging requirements, A require the UN specification containers for class 6.2 materials and B, EN829. The EU have made an attempt to co_ordinate Member State laws on transport of dangerous goods by road with the 'ADR-Directive' EC Council Directive 94/55/EC of 21 November 1994 on the approximation of the laws of the Member states on the transport of dangerous goods by road. Most long distance mail, even within countries, now travels by air.

Convention on Biological Diversity
The Cartagena protocol on biosafety in accordance with article 36 of the CBD was opened for signature in May and June at UN offices. A requirement of the protocol is that each party must take appropriate measures to notify affected or potentially affected States, the Biosafety Clearing House and, where appropriate, relevant international organisations, when it knows of an occurrence under its jurisdiction resulting in a release that leads, or may lead, to an unintentional transboundary movement of a living modified organism that is likely to have significant adverse effects on the conservation and sustainable use of biological diversity, taking also into account risks to human health in such States. There is also a requirement to transport, package and identify modified organisms appropriately. Details of the protocol can be found on http://www.biodiv.org/biosafe/biosafety_protocol.htm.

International Survey on Transfers of Microbiological Material
Stockholm International Peace Research Institute (SIPRI) and the Federation of American Scientists (FAS) are conducting a survey of suppliers of microbiological material under a joint research project to define the optimum balance between military security interests and the health and development needs of the global community.

News from committee members
France

Chantal Bizet reported that there are three levels of responsibility for control of distribution of pathogens in France:

First level: The Defence Ministry

> Provides the list of countries in the Australia Group that are entitled to receive dangerous organisms. Authorises the distribution of toxins or class 3 pathogenic strains.

Second level: Institut Pasteur

Authorises the distribution of strains into non_Australia Group countries.

Third Level: Collection of the Institut Pasteur

Checks and maintains lists of new clients who must provide information on: the presence of a microbiological laboratory; the name of the person in charge of the laboratory; the quality management system employed; Requests information forms concerning on class 3 and some class 2 pathogens Implements special procedures for distribution of genetically modified microorganisms (GMMs) The Institut Pasteur has its own UN certified packages.

Europe
Transport Emergency cards have been a requirement for some time under the European Road Regulations. They are copyright, TREMCARD, is the trademark of a particular series of instructions, prepared by the European Council of Chemical Manufacturers' Association (CEFIC). Each shipment going by road should have a TREMCARD in the language of the country and any other country it passes through. They are available from DDP Tremcards Tel: +44 1322 277788 or Fax: +44 1474 569627. As they are copyrighted they are not allowed to be photocopied or reproduced etc.
The Joint Aviation Requirements (JAR) for transport of dangerous goods by air are binding for member states but the JAR_OPS has not yet been implemented. JAR enables international training courses to be set up, National Civil Aviation Authorities permitting job specific training by tutors from another member state meeting ICA0/IATA requirements.

Germany
On the 27th January 1999, Germany implemented the regulation for the implementation of EU regulations for the protection of workers from risks related to exposure to biological agents at work _Biostoffverordnung (Biomaterials Regulation).
The German postal authority has extended the maximum letter dimensions definition allowing UN combination packages to travel by surface letter mail. They circulated an information sheet stating that class 6.2, group B, acc. to ADR definition, is permitted in German letter mail. This remains a difference between UK and German mail services. In Germany risk group 2 organisms can be sent in the mail by road, but only in UN packages (risk groups 3 or 4 are not permitted). NOAX containers are used by DSMZ reducing costs when compared to the EN 829 package.
DSMZ have been running one day courses for IATA certification for shippers of microorganisms using Dr Melvyn Danvers as the key tutor from the UK. Melvyn has been running these courses in the UK for some time, he is also running the course for the WCC at ICCC9.

The DSMZ_Deutsche Sammlung von Mikroorganismen und Zellkulturen GmbH continues to produce updated versions of their brochure Shipping of Infectious, Non_Infectious and Genetically Modified Biological Materials, International Regulations. The DSMZ has collected relevant guidelines for the shipping of microorganisms and updates it on a regular basis, this

is available on the DSMZ website: http://www.dsmz.de/shipping/shipping.htm. This is a valuable source of information to aid collections meet their shipping regulation responsibilities.

New Zealand
John Young has reported a new act applied to the importation of all organisms in NZ. Its presupposition is that ALL new organisms (those not already recorded in NZ) are risk organisms until they have been vetted. For instance, since there has never been a report of Acetobacter aceti for vinegar making, it is a new organism. The starting cost for importation is $750 (Pd StIng 250) IF there are no queries. This rule applies to all organisms including plasmids for research.

United Kingdom
From 1 April 1999 the UK Royal mail made changes to the Royal Mail Regulations Concerning Infectious Substances making 602 packaging mandatory.

Useful Information Sources:
Shipping of infectious, non_infectious and genetically modified biological materials, International Regulations. DSMZ_Deutsche Sammlung von Mikroorganismen und Zellkulturen GmbH brochure.
ICGEB Biosafety web site gives free access to updated scientific bibliographies and a database on biosafety and risk assessment for the environmental release of genetically modified organisms: http://www.icgeb.trieste.itibiosafety/
The sequence of risk assessment. Biotechnology and Development Monitor No. 38, June 1999, p.4

IATA Infectious Substances Shipping Guidelines
Berufsgenossenschaft der chemischen Industrie have issued an English translation of Safe Biotechnology: Classification of Biological Agents. Bacteria, Guideline B 006e, 7/99, BGI 633e.

Websites of interest for information on transport and shipping

Biosafety on the internet	
Organisation for Economic Co_operation and Development (OECD)	www.olis.oecd.org/bioprod.nsf
United Nations Industrial Development Organisation (UNIDO) Biosafety Information Network and Advisory Service (BINAS)	www.binas.unido.org/binas/home.html
International Service for National Agricultural Research (ISNAR)	www.cgiar.org/isnar/fora/biotech

International Centre for Genetic Engineering and Biotechnology (ICGEB)	www.icgeb.trieste.it/biosafety
US Animal and Plant Health Inspection Service (APHIS)	www.aphisweb.aphis.usda.gov.biotech
Biotechnology Information Centre (BIC) of the US Department of Agriculture (USDA)	www.nal.usda.gov/bic/
US Food and Drug Administration (FDA) Centre for Food Safety and Applied Nutrition (CFSAN)	www.vm.cfsan.fda.gov/
Belgian Biosafety Server	www.biosafety.ihe.be
The Dutch Genetically Modified Organism Bureau	www.rivm.nl/csr/bggo.html
UK Advisory Committee on Releases into the Environment (ACRE	www.environment.detr.gov.uk/acre/index.htm
EBIS	www.ivr.nl/ebis.html www.ccohs.ca/products/database/tdg.html
European Commission DGVII _ Transport	http://europa.en.int/en/comm/dg07/index.htm
Canadian Transport	www.rural_gc.agr.ca/e4.1_canutec.html
Harmonisation of UN documents etc.	www.hazinat.dot.gov/rule
International Air Transport Association	www.IATA.org/cargo/dg www.IATA.org/cargo/dg/links.htm
International Civil Aviation Authority	http://lhazmat.dot.gov/icao.htm www.volpe.dot.gov/ohm/icao.htm www.cam.org/~icao/menu3.html
Maritime rules	www.eat.co.uk/ncec/complian/bibliog/bysea.html www.mdnautical.com/imo/cargoes.htm www.imo.org/pubs/pubcats.htm www.info.gov.hk/mardep/notices/mdn98149.htm www.hazmathelp.com/imdg.htm
National Chemical Emergency Response UK	www.eat.co.uk/ncec/complian/bibliog/bibliog.htm
OECD _ Harmonisation Documents	
Chemical programme	http://www.oecd.org/ehs

Classification and labelling	http://www.oecd.org/class
Chemical testing	http://www.oecd.org/test
Currently available test guidelines	http://www.oecd.org/test/testlist
RID/ADR	http://hazmat.dot.gov/RIDADR.htm www.dsidat.com/products/undisk7.htm www.volpe.dot.gov/ohm/ridadr.htm
Transport	
General	www.tci_transport.fr, www.hazmathelp.com/dotlink.htm
German magazine	www.cefic.org, www.storck_verlag.com/english/gela_e.htm
United Nations meetings agenda and minutes	www.unece.org/unece/trans/danger/meetdocg.htm
UN Model Regulations	www.unece.org/unece/trans/main/dgdemo/intro.htm
UN Comittee of Experts	www.tc.ge.ca/tdgoods/consult/unlinks_e.htm
Universal Postal Union	http://ibis.ib.upu.or http://unicc/unece/tra www.de/facil/upustr.htm
USA Dept of Transport's Office of Hazardous Materials Management	http://hazmat.dot.gov
World Health Organisation	www.who.org/emc/biosafe/index.htm

David Smith

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WFCC EDUCATION AND CAPACITY BUILDING COMMITTEE REPORT: 1996 _ 2000

A core Education and Capacity Building (ECB) Committee was agreed during ICCC8 in

Veldhoven. Because many of the activities of the Education and Capacity Building committee were supposed to be carried out regionally, two representatives from each of the six worlds geographical regions were proposed as committee members. The selection of the twelve members and establishment of e_mail connections turned out to be more demanding than expected, therefore this task was completed only after several months. During the first meeting of the Education and Capacity Building Committee at Veldhoven and later on through e_mail communications with the ECB Committee members, the WFCC president, Dr. Vanderlei P. Canhos and the chair of the Biodiversity Committee, Barbara Kirsop, the following goals were emphasized:

1. Assessment of short to medium term needs for the establishment of new culture collections on a regional and global basis.

2. Assessment of the training and capacity building needs of institutionalized government and research microbial culture collections on a global and regional basis.

3. Development and continued promotion of capacity building and education programs for CCs on a global and regional basis, with the main emphasis being on taxonomy and electronic communication systems.

4. Support of WDCM activities through collection and update of information on a regional basis.

The final version of the Education and Capacity Building Committee outline and action plan were published in the July 1997 WFCC Newsletter and on_line on the following URL address: http://www.wfcc.nig.ac.jp/.

The initial effort of the ECB committee members was directed towards building an assessment on the needs for establishments of CCs, status of capacity building, education and training needs of the existing CCs in their area of representation. It was generally concluded that the data obtained from WDCM and published in the World directory of cultures of microorganism, being available as well in the CCINFO database on_line, have to be supplemented, taking advantage of the regional contacts.

For this purpose a questionnaire has been developed, in collaboration with the WFCC Committee on Biodiversity, WDCM and ECB Committee members. In the questionnaire we tried not to duplicate the information already included in the WDCM database, but to supplement the existing information mainly with data related to training and education regarding taxonomy, identification, preservation methods, management and electronic communication systems.

The questionnaire and the letter of intent were distributed together with the WFCC Newsletter, ECCO Newsletter and ASM Newsletter. Regional representatives of ECB Committee were asked for help in collecting more data in their regions.
Fifty culture collections and 4 regional representatives have sent their responses. The majority of answers came from Europe, followed by Australasia, South America, North America and Africa. After the evaluation of responses a report was written and sent to WDCM. The main

conclusions that could be obtained are the following:

1. There is a strong need for education and training courses, specially in the field of CC management, preservation methods, microbial taxonomy, patents and regulatory matters (on a global basis), data computerization and molecular methods (mainly in Eastern Europe, Australasia, Africa), karyotyping and quality control (mainly Eastern Europe and South America). No additional Proposals for training courses were mentioned.

2. Culture collections are unevenly distributed in different regions of the world, the highest concentration of CC being in North America and Europe and the lowest in Africa. From Africa very few responses were obtained and they all derived from South Africa. There is a considerable lack of available information on CCs from this region of the world

3. There is a strong need for the definition of initial support that could be given to countries where CC are not existing so far, like for example in Africa.

4. In the developed as well as in the developing countries there is a strong need to bring as many of the world s culture collections into the electronic side of the world community, by encouraging all collections to become connected by electronic mail and preferably to have more detailed information about their holdings on WWW pages.

5. In face of the loss of huge proportions of the worlds biota and strong need for taxonomic skills and expertise on a worldwide basis, WFCC should give support to electronic broadly available galleries of digital images of microbial morphological features and of their DNA sequences. Many such suggestions came from the more developed parts of the world.

Further activities of the Committee were hindered by the lack of available funds. Funding possibilities were without much success discussed with CBD secretariat, UNIDO, OAS and OPAS.

But different discussions and regional contacts helped to compile a broad project program, that needs further clarification, but could with WFCC support and funding become more realistic.

To meet worldwide needs, the existing CCs structure needs strengthening and exporting to regions where specialists' skills are absent. The establishment of new CC and education of existing ones require training, equipment and initial help from specialists in management, regulatory and patent advice, data computerization, etc. With the participation of existing CC, virtual regional centers could be established, that would help in defining special regional needs. They could also provide partnerships for initial support to newly established CC.

A general "traveling" WFCC program of training could be set up, with international participation of selected scientists. In certain cases the training program could be modified according to specific needs, with the help from regional CC, with already established training programs. Although the scheme of the traveling training course would be of special importance for the developing regions of the world, training is not only essential for capacity building in developing countries, but also to build up the shortage of systematic and

taxonomic expertise worldwide, required for the conservation and study of microbial diversity.

As an initial step a WFCC organized workshop is needed to compile basic needs and available expertise. Its final goal would be the definition of a proposal that could be submitted to international funding agencies, as well as local and regional funding bodies.

Nina Gunde - Cimerman

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WFCC BIODIVERSITY COMMITTEE REPORT: 1998_2000

[1] ACTIVITIES:

[i] Workshop on the Economic Value of Genetic Microbial Resources, held at the 8th International Symposium on Microbial Ecology, Halifax, Canada.

This workshop was attended by 66 participants, bringing together microbiologists and economists to discuss the complex issues that need to be resolved in an assessment of the economic value of microbial diversity. The workshop participants considered that this information was necessary in order to:

-support the implementation of the CBD
-establish access and benefit_sharing arrangements
-provide policy makers with evidence for the justification of provision of resources for research and conservation of microbial diversity
-support the infrastructure of ex_situ providers.

A report of the workshop was published by the WFCC: The Economic Value of Microbial Genetic resources, eds B Kirsop, V Canhos (WFCC 1998, ISBN 92 9109 0433).

[ii] Questionnaire on the status of pre_CBD deposits in microbial collections
The status of pre_CBD deposits is still under discussion among Parties to the Convention. Although they are not included in the Convention at present, a body of opinion is of the view that they should be. Accordingly, the WFCC Biodiversity Committee decided to carry out a preliminary survey among a few established service collections to assess the current situation.

The following Report resulted from the survey:
PRE_CBD DEPOSITS HELD BY EX_SITU MICROBIAL GENETIC RESOURCE CENTRES
(Compiled by the World Federation for Culture Collections Biodiversity Committee June 4th 1999)
In response to the CBD's study of pre_CBD deposits held in ex_situ collections, the World Federation for Culture Collections contacted a number of its members to establish the extent

of such holdings and the information available about them.
A short questionnaire was published in a recent WFCC Newsletter (distribution about 200) and there follows a compilation of the first responses received so far.

QUESTIONNAIRE

_ Name of Collection:
_ Country in which Collection is resident:
_ Approximate number of pre_CBD deposits (pre 1993): < 100; > 100; > 1000; other
_ Whether the following information is likely to be available on these deposits: Country of origin; Name of Depositor; Date of deposit
_ Comments: eg type of data available; manpower required to get full data; data on cards/in digital format

* Note. Total holdings were not requested, but see note below table.

COLLECTIONS THAT HAVE RESPONDED SO FAR

Note: these are major regional or international supply collections; most have been established for a considerable time.

BCCM Belgian Coordinated Collections of Microorganisms, LMG Bacterial Collection & LMBP Plasmid Collection & MUCL filamentous fungi and yeasts collection _ Belgium
CBS Centraalbureau voor Schimmelcultures _ Netherlands
CCT Colecao do Culturas Tropical _ Brazil
CECT Coleccion Espanola de Cultivos Tipo _ Spain
CCAP Culture Centre for Algae and Protozoa _ UK
DSZM Deutsche Sammlung von Mikroorganismen und Zellkulturen _ Germany
CABI Bioscience Centre (UK), formerly International Mycological Institute _ UK
NCIMB National Collection of Industrial and Marine Bacteria _ UK
PPRI National Collection of Fungi _ South Africa
SARC South African Rhizobium Collection _ South Africa

Data provided on pre-CBD deposits					
Collection acronym	Country of residence	No. Pre-CBD deposits	Total holdings*	Data in questionaire available	Data computerized
BCCM/ LMG Bacterial Collection	Belgium	13275	18500	Country 6700 Depositor 12950 Date deposit 12550	Yes
BCCM/ LMBP Plasmid Collection	Belgium	869 plasmid DNAs, equivalent to 24493 host/plasmid combinations		Country - problems with plasmids Depositor - most Date deposit - none for pre-CDB deposits	Yes. Much plasmid data available

BCCM/ MUCL Fungi/ YEAST Collection	Belgium	Approx. 13,700	Approx. 25,000	Country - 100% Depositor - 70% Date deposit - 70%	Yes, for 13,465 strains
CBS	Netherlands	21314	23185	All required data available; some data fields are empty	Yes, and much strain data is online, in addition to catalogue data; back-up data on cards generated electronically
CCAP	UK	2000		Most deposits have information on the country of origin; some have data on the name of the depositor and date	Yes, and readily retrieved
CCT	Brazil	3800	6521	Required data on pre-CBD cultures available for about 75%; for post-CBD cultures about 85 %	Yes, but more support required to customize data to meet CBD requirements
CECT	Spain	3000	7000	Info. not supplied, but as data in same format as other EU collections, it should be available	Yes
DSMZ	Germany	11100	13800	Country 3300 Depositor 8500 Other data on depositor 5200	All available data in computer; not all records complete

CABI Bioscience UK Centre (formerly IMI)	UK	17171	20864	Data in computer: Country 13,838 Depositor 4997 Date deposit 17,171 All required data in accession book	All required data in hardcopy books; much data in computer
NCIMB	UK	Approx. 7000	7500	Most data available for the majority of strains, but 'by no means all'	Some in computer; some in card index
PPRI	South Africa	4500		Some available; some lack complete records	No; need funding to complete
SARC	South Africa	600		Country 480 Depositor 180 Date deposit 90	Underway; need more funding to complete

* This figure was not requested, but has been supplied by some Collections.

Notes:

BCCM/LMG _ a number of strains deposited post_CBD were isolated pre_CBD (pre January 1994). These have not been included in the numbers above.

BCCM/LMBP _ the question of country of origin is very difficult with many plasmids. Several countries may be involved, or the origin of some sequences may not be known and cannot be traced. Pre CBD relates to June 1992.

CBS _ pre_CBD data relates to pre 1995. There is 'nearly always' data on required data. CBS produced a very interesting list on countries from which deposits had been received. There are _ 170 countries listed with numbers of deposits varying between several thousand from USA, European countries and Canada to single deposits from Afghanistan, Cameroon, Mongolia or the Seychelles, for example

DSMZ _ Pre_CBD data relates to pre Dec 1993. Data for some 100's of deposits is incomplete for a number of reasons. Geographical data is not precise (eg USA, USSR).

CABI Bioscience (IMI) have data to show that 11,000 deposits originate from CABI member countries, 3800 of which originate in the UK

SARC holds many international rhizobia and data on these may only be held by the original collections. This data could be obtained if other collections collaborate, but would take about 60 days to obtain and resources would be required.

PPRI has problems with optimum maintenance methods and some isolates may have died or exhibited strain drift. Records in card index system, pending more support to computerise.

HERBARIUM COLLECTIONS
[A potential source of DNA for biotechnology in the future]
The CABI Biosystematics Reference Collection holds 380,000 specimens representing 3000 species; data is computerised back to 1985; it is hoped to computerise all data.
The PREM collection in South Africa is a dried herbarium collection of 54,000 specimens. Much information available but in serious need of support to update information and complete computerisation.

SUMMARY
It is clear from this small sample of the world's ex_situ microbial resource centres that the majority of holdings are pre_CBD (about 50_90% at present). The amount of data listed above is variable. In some cases the complete data is available. In other cases there is missing data. Some collections (notably those in the EU that were partners in the MINE_Microbial Information Network project) have most data in computers so that good lists of categories of information can be generated. Other collections are unable to computerise much of their data due to resource limitations and local problems with computers. Geographical data of many pre_CBD deposits is imprecise and the 'country of origin' may not be traceable because of country boundary changes, break_up of unions into separate states, and similar changes.

To obtain full data on all pre_CBD deposits would be a very big effort for many collections and resources would have to be found to complete the work. Although some collections are well_computerised, finding 'missing' data would still be time-consuming and in a good number of instances impossible, due to lack of original information at the time of deposit (often going back several decades). Most of the collections that have returned information to the WFCC are major resource centres, so it can be expected that the majority of collections around the world will have far greater difficulty in providing the kind of information listed above. Therefore tracking beneficiaries could be difficult in many instances and impossible in others. [Note: The collections themselves are always beneficiaries because of the major conservation role they play.]

It is notable that some post_CBD information is also incomplete and this is due to a number of reasons. The data may not be supplied by the depositor; the data has not yet been entered into records by the collection; verification by the recipient collection is still underway, and so on. It can be expected that the situation will improve as guidelines and codes of conduct for operating within the framework of the CBD are developed and become accepted (see EU MOSAICC project).

[2] MOSAICC INITIATIVE

A number of the WFFC Biodiversity Committee members participated in the MOSAICC initiative to develop guidelines for the operation of microbial collections within the framework of the CBD.

The outcome of this initiative can be found on the MOSAICC Web Site at http://www.belspo.be/bccm/mosaicc and the final voluntary guidelines can be downloaded in PDF format.

Participants found the activity complex, because of the need to visualise all eventualities that could be met by collections in the course of their activities. Nevertheless, the final guidelines are a valuable first attempt at resolving some of the difficulties that arise for collections in the implementation of the CBD. The BCCM co_ordinators hope that funds may now be found to distribute the guidelines for testing and evaluation.

[3] CONVENTION ON BIOLOGICAL DIVERSITY

The President of WFCC, Vanderlei Canhos, attended the 4th Conference of the Parties in Bratislava and the SBSTTA meeting in Montreal in 1999. Member of the WFCC Biodiversity Committee, Philippe Desmeth also was present at the latter meeting.

As a result of continued representation at these meetings and other WFCC activities (see above), the work of the WFCC has now become well recognised. In a recent report of the Intersessional Meeting on the Operation of the Convention (ISOC) available at http://www.biodiv.org/Cop5/html/COP_5_04_e.htm, the following statement appeared in paragraph 69:

> 69. Many of the representatives who took the floor expressed appreciation for the note by the Executive Secretary and generally endorsed the proposals for future work on the subject. Many representatives, however, stressed that, in addition to focusing on plants, adequate emphasis should be placed on microbial organisms, especially in view of their increasing value with the advent of biotechnology. One representative said that the Conference of the Parties should not duplicate existing efforts and therefore, given the work already under way by the World Federation for Culture Collections, the Secretariat's recommendation in paragraph 40 (i) of the note should not extend to microbial collections. Several representatives pointed to the need for further information_gathering on the subject, one of them suggesting that the Secretariat should submit an updated note to the Conference of the Parties at its fifth meeting.

In the Recommendations made at the ISOC meeting, the following paragraph appears:

> Encouraging cooperation with relevant organizations and forums in order to avoid duplication of work and efforts,
> 1. Recommends to the Conference of the Parties to continue the information-gathering exercise by requesting the Executive Secretary to gather available information of the type described in the annexes to the present recommendation, as appropriate, the result of which will be reported to the Conference of the Parties. This exercise would be carried out through, inter alia, asking relevant organizations and forums (such as the World Federation for Culture Collections and the Botanic Gardens Conservation International), which are already involved in consideration of these issues to provide this information and, where necessary, through a questionnaire, which will be developed by the Executive Secretary, based on the annexes to the present recommendation;

From these statements, and judging from the wording of a questionnaire developed by the CBD Secretariat, it would seem that there is scope for the WFCC to obtain support to extend the preliminary gathering of information that is required for establishing good working procedures for the implementation of the CBD.
It is important that the Biodiversity Committee continues to engage with the CBD and its developments to ensure that procedures required are practicable and do not detract from the primary aim of collections to provide cultures and services to the international microbiology community.

Barbara Kirsop

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WFCC Committee on Patents: 1996-2000

Over the last years, patent matters became more and more influenced by other legal developments and regulations. Some of these, like the Convention on Biological Diversity (CBD) and national and international transport regulations for biological material, have a direct impact on culture collection work and the work of patent depositories. This stimulated cooperation between the WFCC Patents _, Biodiversity _ , and Postal and Quarantine Committees and resulted in a combined workshop at the last WFCC congress. At this workshop matters of the CBD and the Budapest Treaty (BT) were highlighted by representatives of the International Union for the Conservation of Nature (IUCN) and the World Intellectual Property Organization (WIPO). Other speakers presented general overviews on patent application procedures and transport and im_ and export requirements.

Several members of the committee were able to participate in meetings of the Expert Group on Biosafety of the CBD, and at several other meetings the opportunity was taken to distribute WFCC material.

Members of the committee contributed to the WFCC satellite symposium in Halifax on 'The Economic Value of Microbial Genetic Resources', they contributed to the revised WFCC guidelines on 'The Establishment and Operation of Culture Collections' and to the 'WFCC Information Document' provided to the CBD.

On requests of WIPO and of the European Patent Office (EPO) support was given to two developing countries who consider entering the Budapest Union and to eventually set up own International Depositary Authorities (IDA).

At a recent preparatory meeting of the German Delegation to COP5 (Nairobi), which was devoted to consider the topic of access to genetic resources, the opportunity was taken to present details of the WFCC Information Document. The particular nature of microorganisms

in contrast to animals or plants was explained and a conclusion presented that, with regard to the implementation of the requirements of the CBD, microorganisms might need to be treated in a different way than animals and plants.

Composition of the Committee: it had previously been agreed that all IDA representatives of WFCC member collections should be included.

Dagmar Fritze

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