

Index Xylariorum 4.1

Compiled by Anna H. Lynch and Peter E. Gasson (version March 2010), and updated by IAWA under supervision of Frederic Lens (March 2016).

Argentina

SUCURSAL: *Museo Argentino de Ciencias Naturales "B. Rivadavia" (BA/BAw)*, Av. Ángel Gallardo 470, 1405 Buenos Aires, **Argentina**. (updated 01/02/2016).

Curator: Dr. ROBERTO R. PUJANA (comparative anatomy of extant and fossil woods), rpujana@gmail.com.

Collection: about 1000 specimens, 250 genera.

Specialisation: Argentina, Paraguay.

Herbarium vouchers: Yes; about 100,000; 92% of wood specimens vouchered.

Periodical or serial publications: *Revista del Museo Argentino de Ciencias Naturales*

Samples for sectioning: Yes.

Microscope slides: Yes.

Exchange: Yes. Wanted: Woods from Argentina and Paraguay.

Catalogue: A catalogue of the wood collection is available on request from the curator.

LA PLATA: *Facultad de Ciencias Agrarias y Forestales, Universidad Nacional de La Plata*. **Argentina**. (new wood collection since 01/02/2016).

Curator: DRA. SILVIA MONTEOLIVA and PROF. STELLA MARIS RIVIERA (wood anatomy, identification), smonteoliva@yahoo.com.ar.

Collection: about 1000 specimens, 250 genera.

Specialisation: Argentina

Periodical or serial publications: *Revista Facultad de Agronomía La Plata*

Samples for sectioning: Yes.

Microscope slides: Yes.

Exchange: Yes. Wanted: woods from Argentina.

Catalogue: A catalogue of the wood collection is available on request from the curator:
www.maderasenargentina.com.ar

TUCUMAN: *Xiloteca of the Herbarium of the Fundation Miguel Lillo (LILw), Foundation Miguel Lillo - Institut Miguel Lillo, (LILw), Miguel Lillo 251, Tucuman, Argentina.*
(updated 05/08/2002).

Foundation: 1910.

Curator: MARIA EUGENIA GUANTAY, Lic. Ciencias Biologicas (anatomy of wood of Myrtaceae), megnty@cs.nat.unt.edu.ar.

Collection: 1,319 specimens, 224 genera.

Specialisation: northwestern and northeastern Argentina.

Herbarium vouchers: Yes; 189 specimens; about 15% associated with the wood collection.

Important collections: Important collections of Venturi, S., Schreiter, Pierotti, Bertoni, Morel, Huidobro, Schwarz.

Periodical or serial publications: Lilloa, Miscelanea, Opera Lilloana, Conservacion de la Naturaleza.

Samples for sectioning: Yes.

Microscope slides: Yes; of 100 specimens; Slides for loan; Slides for exchange.

Exchange: Yes. Available: Northeastern, central and south America. Wanted: Northwestern Argentina.

Catalogue: Yes, in hard copy and computer database.

Remarks: the wood collection was started by Dr. Miguel Lillo. The Phanerogamic Herbarium of the Foundation Miguel Lillo has 720,000 specimens.

Australia

Preamble: The status of Australia's wood collections was recently described in two papers published in 2014 and 2015 (see Dargavel et al. 2014, Historical Records of Australian Science 25, 43–54 [doi:10.1071/HR14004]; Dadswell et al. 2015, 78, 18-28 [doi:10.1080/00049158.2015.1011798]). A special thanks to Dr. Philip Evans (phil.evans@ubc.ca) and his colleagues Dr. Dargavel and Dr. Dadswell who updated the information for the Australian wood collections.

ADELAIDE: *Urrbrae House, Waite Campus of University of Adelaide, Australia.* (updated 01/02/2016).

Foundation: Early 1900s.

Curator: None.

Collection: Over 1,000 specimens; over 150 genera.

Specialisation: Australian native commercial species; Papua-New Guinea native species; principal commercial species imported into South Australia.

Herbarium vouchers: For native *Eucalyptus* of South Australia only; 96 species; about 3% overall. Herbarium transferred in 1986 to State Herbarium of South Australia, Adelaide.

Important collections: Desch's "Principal commercial species of the world"; New York State College of Environmental Science and Forestry, Syracuse; Malaya, 1968. Samples associated with grading rules part IV.

Samples for sectioning: No

Exchange: No.

Remarks: Listed in earlier versions of Index Xylariorum under '*Woods and Forests Department, (WFw)*'. The collection is in storage and is secure, but an integrated list of specimens does not exist. A 'comprehensive' collection from the US Forest Products Laboratory at Madison was held at one time, but was not catalogued or included in previous versions of Index Xylariorum. The samples were stored in a departmental site at Murray Bridge. The status of this collection is uncertain.

BRISBANE (Dutton Park & Salisbury): *Queensland Department of Agriculture, Fisheries and Forestry, Ecosciences Precinct, 41 Boggo Road, Dutton Park, Brisbane, Queensland 4102; and 50 Evans Road, Salisbury, Queensland 4107, Australia.* (updated 01/02/2016).

Foundation: 1922.

Curator: MR. GARY HOPEWELL, Principal Scientist, Salisbury Research Facility
(Gary.Hopewell@daf.qld.gov.au).

Collection: 10,000 specimens, 200 genera.

Specialisation: Queensland species attaining 30 cm in diameter.

Herbarium vouchers: Most specimens are based on botanical material identified by
Government Botanist.

Important collections: F.M. Bailey Collection collected by Queensland Government Botanist,
F.M. Bailey (1827-1915) and Pettigrew collection of larger Queensland samples (named
after an early Brisbane sawmiller, William Pettigrew, 1825-1906).

Samples for sectioning: Yes, application should be made to the Secretary, Department of
Forestry.

Microscope slides: Yes; not for loan.

Exchange: Yes, application should be made to the Secretary, Department of Forestry.
Available: Queensland. Samples for sale or reciprocal exchange are 15 x 7 x 9 cm with a
descriptive label. Wanted: Worldwide.

Remarks: Listed in earlier versions of Index Xylariorum under '*Queensland Department of
Forestry, (CQTw)*'. The main collection is held in Dutton Park. A display collection
including the Pettigrew Collection is held in a wood products research building at
Salisbury. The overall collection is one of only two Australian collections that is curated
by a trained wood scientist and the only one that is regularly used for wood
identification.

BRISBANE (Mt Coot-tha): *Queensland Herbarium*, Brisbane Botanic Gardens, Mount
Coot-tha, Mt Coot-tha Road, Toowong Qld 4066, **Australia**. (updated 01/02/2016).

Foundation: 1880.

Curator: None.

Collection: 3039 specimens.

Specialisation: Queensland and Papua New Guinea, mainly rain forest species.

Herbarium vouchers: Yes; 470,000; 75%.

Important collections: Queensland Woods (Colonial and Indian Expedition 1886, Colonial International Exhibition, Melbourne 1888); New Guinea Forests Collection; L.S. Smith Collection; Northern Queensland species collected by P. Forster in 1996.

Samples for sectioning: No.

Exchange: No.

Remarks: Listed in earlier versions of Index Xylariorum under '*Queensland Herbarium, Department of Primary Industries, (BRIw)*'. This is possibly Australia's oldest scientific wood collection, reported to have been started in 1880. The Queensland Herbarium is active in collecting botanical material, but is not specifically focussed on wood and the collection is not augmented by microscopic slides. The wood collection is secure and professionally conserved, but it is not used for wood identification.

CANBERRA (ANU): University Fenner School of Environment & Society, The Australian National University, Building 141, Linnaeus way, Canberra, ACT, 2601, Australia. (updated 01/02/2016).

Foundation: 1926.

Curators: DR CHRIS BRACK (chris.brack@anu.edu.au); DR JOHN DARGAVEL (john.dargavel@anu.edu.au).

Collection: 8400 specimens.

Specialisation: Australia and Papua New Guinea.

Herbarium vouchers: No.

Important collections: The collection contains duplicates of the wood samples transferred to CSIRO when they developed their national collection, which is now Australia's largest (see entry below for Canberra, CSIRO, National Facilities and Collections).

Samples for sectioning: No.

Exchange: No.

Microscope slides: Yes; several hundred slides; Not for loan.

Remarks: This collection started life as Australia's first national wood collection (see Dargavel et al. 2014 for a full description of the history of the collection). Most of the collection is now in storage except for a collection of large wood blocks in the Fenner School of Environment and Society.

CANBERRA (CSIRO, Australian National Herbarium): *Commonwealth Scientific and Industrial Research Organization, (CANBw), GPO Box 1600, Canberra, A.C.T. 2601, Australia.* (updated 01/02/2016).

Foundation: 1954.

Curator: None.

Collection: Less than 1000 specimens.

Specialisation: Papua New Guinea and Bougainville.

Herbarium vouchers: Yes, 97%.

Important collections: Saunder's (1930–2001) collection of Papua New Guinea woods, which is fully vouchered with herbarium specimens.

Samples for sectioning: No.

Exchange: No.

Microscope slides: Yes; 350 slides; Not for loan.

Remarks: The collection is secure, but is not used for wood identification.

CANBERRA (CSIRO, National Facilities and Collections): *Commonwealth Scientific and Industrial Research Organization, GPO Box 1600, Canberra, A.C.T. 2601, Australia* (updated 01/02/2016).

Foundation: 1929.

Curator: DR BETH MANTLE (Beth.Mantle@csiro.au) and DR JUGO ILIC (knowyourwood1@gmail.com).

Collection: 47,720 specimens, 2,237 genera.

Specialisation: Specialisation Malesia and South west Pacific area, particularly Australia and New Guinea.

Herbarium vouchers: No; Some records kept of vouchers deposited elsewhere; about 80%.

Important collections: CSIRO Land Research collections (New Guinea); New Guinea Forests collections (NGF, Sc, Sa, Cr, etc); BW series (West Irian); Lane-Poole (New Guinea); Desch (Malaya); A.C. Smith (Fiji); British Solomon Island Collections; B. Maguire (Venezuela); Stern and Chambers (Panama); Stern and Brizicky (Florida Keys); Sabah, New Caledonia, and China (Forest Research Institute - Guangdong Province).

Samples for sectioning: No.

Microscope slides: Yes; 18,700 slides; Not for loan.

Exchange: No.

Catalogue: A master collection index has been developed that links information from the original log books and index cards with photos of wood specimens and microscope slides. The slide images have been included in the InsideWood database.

Remarks: Listed in earlier versions of Index Xylariorum under '*CSIRO Forestry and Forest Products Laboratory in - Clayton South, Melbourne, Victoria, FPAw*'. The collection, which is Australia's largest, was transferred to CSIRO's, National Facilities and Collections unit following the closure of CSIRO Forestry and Forest Products Laboratories. The collection is in secure storage, but is not accessible.

CRESWICK (Victoria): *University of Melbourne, Department of Forest and Ecosystem Science, 4 Water Street, Creswick, Victoria 3363, Australia* (updated 01/02/2016).

Foundation: 1930.

Curator: DR BARBARA OZARSKA (bo@unimelb.edu.au).

Collection: 1517 specimens.

Specialisation: Australia.

Herbarium vouchers: No.

Important collections: Wardle collection started by Ballarat sawmiller, Henry Thomas Wardle (1857-1927) and continued by his son Henry Victor Wardle (1888-1960) <https://researchdata.ands.org.au/h-t-wardle-specimen-collection/186462>.

Samples for sectioning: No.

Exchange: No.

Microscope slides: No

Remarks: The collection is secure and conserved. It is one of only two Australian collections that is curated by a trained wood scientist.

DARWIN (Berrimah Research Farm): *Department of Primary Industries and Fisheries, GPO Box 3000 Darwin, Northern Territory, Australia*. (updated 01/02/2016).

Foundation: 1960s.

Curator: None.

Collection: 404 specimens.

Specialisation: Australia, Papua New Guinea, SE Asia and Africa.

Herbarium vouchers: No.

Samples for sectioning: No.

Exchange: No.

Microscope slides: No.

Remarks: The collection is secure, but is not used for wood identification. The number of African species in the collection reflects interest in introducing them to the Northern Territory, which has resulted in African mahogany (*K. senegalensis*) becoming the species of choice for the establishment of high-value timber plantations in the territory.

MELBOURNE: *Museum of Victoria*, 11 Nicholson St, Carlton Victoria 3053, **Australia**.
(updated 01/02/2016).

Foundation: 1885.

Curator: MS LIZA DALE-HALLET, Senior Curator, Sustainable Futures, Humanities Department (ldale@museum.vic.gov.au).

Collection: 1035 specimens.

Specialisation: Australia.

Herbarium vouchers: No.

Important collections: The collection is important for historical and aesthetic reasons. It contains many large samples of Australian woods that were displayed at international and national exhibitions in the 19th century. Most notably it contains 83 panels of banksia, acacia and eucalypt timbers on which May Vale (1862–1946) painted illustrations of the species' foliage and fruits under the watchful eye of Ferdinand von Mueller (1825–1896), the Government Botanist.

Samples for sectioning: No.

Exchange: No.

Microscope slides: No.

Remarks: The collection is professionally curated, but is not used for wood identification.

PERTH: *Forest Products Commission, Level 1, D Block, 3 Baron-Hay Ct, Kensington, Western Australia, 6151, Australia.* (updated 01/02/2016).

Foundation: 1916/17.

Curator: None.

Collection: Unknown

Specialisation: Western Australian species and other Australian woods, especially *Eucalyptus* spp.

Herbarium vouchers: No.

Important collections: Aforementioned collection of Western Australian woods.

Samples for sectioning: No.

Exchange: No.

Microscope slides: Yes covering most of the wood samples collected in the first half of the 20th century.

Remarks: The collection is not open to the public and it is not used for wood identification. No comprehensive list of specimens is available and the status of the collection is unclear.

SYDNEY: *National Herbarium of New South Wales, Botanic Gardens and Centennial Parklands, Mrs Macquaries Road, Sydney, New South Wales 2000, Australia.* (updated 01/02/2016).

Foundation: 1881.

Curator: Manager Collections, (+ 61 2 9231 8111).

Collection: 30,000 specimens.

Specialisation: Australia and Papua New Guinea with emphasis on *Acacia* and *Eucalyptus* spp. and vines.

Herbarium vouchers: Yes; 75% of general collection; 99% of *Acacia* collection. Important collections: C.E. Lane-Poole's (New Guinea) collection of Papua and New Guinea woods collected in 1922-24; *Acacia* woods collected by M.D. Tindale (1920-2011).

Samples for sectioning: No.

Microscope slides: Yes; 8,000 slides.

Exchange: Yes (potentially). Contact Director, Science and Conservation or Manager Collections in writing at address above.

Remarks: Listed in earlier versions of Index Xylariorum under 'Wood Technology & Forest Research Division, Forestry Commission of New South Wales, Beecroft, N.S.W, SFCw'. The collection was transferred to the National Herbarium in 2011. The collection is valuable and is professionally conserved to herbarium standards including fumigation and the preparation of a digital index. It is not being used for wood identification.

Austria

VIENNA: *University of Natural Resources and Life Sciences – BOKU*, Institute of Wood Technology and Renewable Resources, Vienna. Austria. (updated 01/02/2016).

Curator: DR. MICHAEL GRABNER (restricted to Austrian woods),
michael.grabner@boku.ac.at.

Staff members: Michael Grabner.

Collection: 62 genera.

Specialisation: Austrian wood species (including shrubs).

Samples for sectioning: Yes.

Microscope slides: Yes

Exchange: Yes.

Remarks: The collection is related to numerous research topics related to different tree and shrub species.

VIENNA: *Abteilung für Biologische Holzforschung an der Forstlichen Bundesversuchsanstalt, (VFw), Hauptstrasse 7, A 1140 Wien, Austria.* (outdated-1988).

Foundation: 1960.

Curator: Dr. HELMUT KREMPL (European and commercial timbers from overseas).

Staff members: Ing. EDMUND PAUSCH (wood anatomy).

Collection: 1,466 specimens, 636 genera.

Specialisation: European and commercial timbers from overseas.

Herbarium vouchers: All Austrian and European samples in the collection are associated with vouchers deposited in the herbarium of the Naturhistorisches Museum in Vienna.

Samples for sectioning: Yes.

Microscope slides: Yes; 60 slides; Slides not for loan, but assistance in special cases is possible.

Exchange: Yes. Available: Austria and central Europe. Wanted: Any timbers of commercial importance.

Remarks: A wood collection of approximately 300 species, especially from Europe, South America, and West Africa, was assembled by Janka between 1912 and 1914 and was used in his investigations on the hardness of wood. Unfortunately this collection was burned in May and June 1945.

Bangladesh

CHITTAGONG: *Forest Research Institute, (CHITw), P.O. Box 273. Chittagong, Bangladesh.* (outdated-pre 1988).

Foundation: 1960.

Collection: about 1,400 specimens, about 960 genera.

Specialisation: Bangladesh.

Herbarium vouchers: Yes; about 2,000; about 80% of the indigenous species.

Important collections: Bangladesh Forest Tree Species.

Periodical or serial publications: Bana Biggyan (Forestry Science).

Samples for sectioning: Yes.

Microscope slides: Yes; over 500 slides; Slides for loan, as a special case.

Exchange: Yes. Available: Bangladesh. Wanted: Japan, Malaysia, Philippines, Burma, Africa, Australia, India, Iran, Turkey, Indonesia, South America-mainly tropical species.

Belgium

TERVUREN: *Tervuren Xylarium, Royal Museum for Central Africa, (Tw),*
Leuvensesteenweg 13, B-3080 Tervuren, **Belgium.** (updated 27/11/2015).

Foundation: 1898.

Curator: Dr. Ir. HANS BEECKMAN, Head of Wood Biology Service,
hans.beeckman@africamuseum.be.

Staff members: ANNELORE NACKAERTS, Collection and Database Manager,
annelore.nackaerts@africamuseum.be.

Collection: ca. 69,000 specimens, 3,616 genera.

Specialisation: Worldwide, especially Central Africa.

Herbarium vouchers: Yes, herbarium vouchers associated with xylarium specimens are deposited at the National Herbarium of Belgium (BR) in Meise.; Records kept of vouchers deposited elsewhere; 32%.

Website address:

<http://www.africamuseum.be/collections/browsecollections/naturalsciences/earth/xylarium>.

Periodical or serial publications: There is no periodical, but the institution regularly publishes books on wood, tree and forests topics.

Samples for sectioning: Yes, in exchange for sectioning cubes, thin sections are expected to be given to the collection.

Microscope slides: Yes; ca. 17, 500 sets of slides; Slides not for loan; Slides for exchange.

Exchange: Yes. Available: Angola, Democratic Republic of Congo. Wanted: Congo Basin.

Catalogue: Yes, computer database and internet site.

Remarks: In order to study growth and structure of tropical trees, a collection of stem discs from tropical Africa is established (> 3000 stem disks).

Brazil

BELEM: *Walter Alberto Egler Wood Collection, Museu Paraense Emilio Goeldi - Campus de Pesquisa, Departamento de Botanica, (MGw), Av. Tancredo Neves, 1901, Terra Firme, CEP, 66.017-970, Caixa Postal. 399, Belem - Pa, Brazil.* (updated 22/08/2003).

Foundation: 1959.

Curator: PEDRO LUIZ BRAGA LISBOA, D.Sc. (anatomy and identification of tropical wood, ethnobotany - use of natural resources by traditional communities), plisboa@museu-goeldi.br.

Staff members: CLAUDIA VIANA URBINATI, M.Sc. (anatomy and identification of tropical wood, ethnobotany - use of natural resources by traditional communities), urbinati@museu-goeldi.br, xiloteca@museu-goeldi.br.

Collection: 7,305 specimens, 652 genera in 97 families.

Specialisation: 88.75% of the samples in the collection are from the Brazilian Amazon, of this percentage, 54.31% from the State of Para.

Herbarium vouchers: Yes; About 2,700 samples also possess vouchers in the Joao Murca Pires herbarium of the Museum.; At least 37% is vouchered.

Important collections: Amazonian species.

Website address: www.museu-goeldi.br.

Periodical or serial publications: An article on the Xiloteca of the Museu Paraense Emilio Goeldi, is being published in the Bulletin of the Museu Paraense Emilio Goeldi, Serie Botanica.

Samples for sectioning: Yes.

Microscope slides: Yes; 1,000 slides; Slides for loan.

Exchange: Yes. Available: Amazon. Wanted: Amazon.

Catalogue: Information on the collection will be published on the Museu Paraense Emilio Goeldi website (www.museu-goeldi.br) in English and Portuguese in 2004. There will be a database for identification of 500 tropical species, which have supporting herbarium material, accessible by password.

BENTO GONCALVES: *Universidade de Caxias do Sul, (UCAXw)*, Universidade de Caxias do Sul, Campus Universitario da Regiao dos Vinhedos, Alameda Joao Dal Sasso, 800, 95700-000, Bento Goncalves, Rio Grande do Sul - RS, **Brazil**. (updated 12/09/2002).

Foundation: 2001.

Curator: LIANE TEREZIHA DORNELES, PhD (biology of plants and trees),
lianetd@hotmail.com, ltdornel@ucs.br.

Staff members: ELTON LUIS MARTINS DE BARROS, (specialist in wood processing),
eltonlmb@terra.com.br.

Collection: 140 specimens, 97 genera.

Specialisation: Brazil, South America.

Herbarium vouchers: Yes; 19,885; Yes, part is in herbarium at this University and records for the rest are maintained.; 40%

Samples for sectioning: Yes.

Microscope slides: Yes; 40 slides; Slides for loan, some on a limited basis; Slides for exchange, but few.

Exchange: Yes. Available: Mainly family Fabaceae and Caesalpiniaceae. Wanted: All.

Catalogue: Yes, on paper and an internet site is in preparation.

Remarks: Some digital photos of the wood are available.

BOTUCATU: *Botucatu Wood Collection "Profa. Dra. Maria Aparecida Mourão Brasil"*, Universidade Estadual Paulista Júlio de Mesquita Filho (UNESP) São Paulo State University, (**BOTUw**), Universidade Estadual Paulista Júlio de Mesquita Filho (UNESP) São Paulo State University, Faculdade de Ciências Agronomicas (FCA)/Faculty of Agronomical Sciences, Departamento de Ciência Florestal (DCF)/Forest Science, Rua José Barbosa de Barros, n.1780. CEP. 18.610-307, Botucatu - São Paulo, **Brazil**. (updated 27/11/2015).

Foundation: Inaugurated on May, 24, 2005. This inauguration had the main purpose of giving the name of Profa. Dra. Maria Aparecida Mourão Brasil to this wood collection.

Curator: Prof. Dr. CARMEN REGINA MARCATI, Curator (wood anatomy),
carmen@fca.unesp.br

Collection: 2,421 specimens, 567 genera.

Specialisation: As this wood collection consists mainly of donations, we have woods from all over the world. Despite this, we have a good selection of Brazilian Cerrado woods.

Herbarium vouchers: The vouchers of the species we have collected in Brazilian cerrado (since 2004) are in the BOTU Herbarium. The other wood samples (the majority) came from other Institutions and the corresponding vouchers are therefore in the Herbarium of these Institutions. Records kept of vouchers deposited elsewhere; Around 70%.

Website address: <http://splink.cria.org.br/manager/detail?setlang=pt&resource=BOTUw>

Important collections: Brazilian Cerrado woody species.

Samples for sectioning: Yes.

Microscope slides: Yes, 300 specimens, 76 genera.

Exchange: We have some samples from cerrado species for exchange. Available: Cerrado wood species. Wanted: We accept wood samples from all over the world.

Catalogue: Yes, computer database.

Remarks: This wood collection is mainly composed of samples from wood collection donations: FPL - Madison (USA), Centre Technique Forestier Tropical (France), Rijksuniversiteit Utrecht (Netherlands), Institut Fuer Wald (Zurich), Institute of Ecology (Mexico), Museo Botanico (Firenze), Philippines, Royal Botanic Gardens - Kew (England), INPA (Brazil), Museo di Storia Naturale di Firenze (Italy), Istituto per la Ricerca Sul Legno Firenze (Italy), Reserva Natural de Linhares - Espirito Santo (Brazil). Since 2004 we have been collecting wood samples from cerrado vegetation. We have taken larger branches from shrubs and trees from cerrado. The vouchers have been deposited in BOTU Herbarium. We have all the samples organized in family order in drawers in a steel cabinet, which are in a climatized room. The name of Profa. Dra. Maria Aparecida Mourão Brasil of this Wood Collection is a tribute to this great Professor in Wood Quality. She is now retired and was one of the persons who created the Forest Engineer Course at this University in 1987.

BRASILIA: *Xiloteca Dr. Harry van der Slooten, Laboratorio de Produtos Florestais (LPFw) Serviço Florestal Brasileiro/Ministério do Meio Ambiente- SFB/MMA, (LPFw), Brasilia, Brazil.* (updated 30/12/2015).

Foundation: 1977.

Curator: ALEXANDRE BAHIA GONTIJO, M. Sc., Biologist (wood and bark anatomy, wood identification, tropical biomes ecology), alexandre.gontijo@florestal.gov.br.

Staff members: JULIANA SABINO RODRIGUES, Forest Engineering (wood identification, wood colorimetry), juliana.rodrigues@florestal.gov.br; ELISA PALHARES DE SOUZA, Biologist (Microscopy, wood anatomy, microtechnique), elisa.souza@florestal.gov.br; LUIZ FERNANDO MARQUES, Forest Engineering (wood identification, wood anatomy, instructor at wood identification course), luiz.marques@florestal.gov.br; Dra. VERA TERESINHA RAUBER CORADIN, Biologist (wood and bark anatomy, wood identification, cambial activity), vera@lpf.ibama.gov.br; JOSE ARLETE ALVES CAMARGOS, M.Sc., Technologist (wood identification, wood colorimetry), Camargos@lpf.ibama.gov.br.

Collection: 4,500 specimens, 740 genera.

Specialisation: Most material is from Amazonian forest. Also material from Cerrado, Atlantic Forest and obtained by exchange from other countries.

Herbarium vouchers: Yes; 1,500; Herbarium vouchers associated with our wood collection are in the main herbaria of Amazon - Museu Paraense Emilio Goeldi MG; Empresa Brasileira de pesquisa Agropecuaria IAN and Instituto de Pesquisas da Amazonia INPA.; 80%

Important collections: Collection of National Forest of Tapajos.

Collection of National Forest of Jamari.

Collection of Oriental Amazonia.

Periodical or serial publications: Brasil Florestal. Technological data are published in specific books edited by IBAMA and SFB/MMA

Samples for sectioning: Yes.

Microscope slides: Yes; 4,000 slides; Slides for loan; Slides not for exchange.

Exchange: Yes. Available: Amazonia region. Wanted: Other tropical areas of the world.

Catalogue: Wood collection data are in an Access database.

ILHEUS: *Xiloteca, CEPEC Herbarium, Divisao de Botanica, Centro de Pesquisas do Cacau, (CEPECw), APT CEPLAC, 45, 660, Ilheus, Bahia, Brazil.* (outdated-1988).

Foundation: 1965.

Curator: LUIZ ALBERTO MATTOS SILVA, Biologist (ecology, taxonomy).

Collection: 500 specimens.

Specialisation: Bahia, Brazil.

Herbarium vouchers: Yes; 50; 10%.

Samples for sectioning: Yes.

ITAJAI: *Herbario "Barbosa Rodrigues", (HBRw), Itajai, Santa Catarina, Brazil. (outdated-pre 1988).*

Foundation: 1956.

Collection: 298 specimens, 187 genera.

Specialisation: Vascular plants of the State of Santa Catarina.

Herbarium vouchers: Yes; 100%.

Important collections: R. Reitz & R. Klein (Santa Catarina, Brazil).

Periodical or serial publications: *Sellowia*; *Flora Illustrada Catarinense*.

Microscope slides: Yes; 41 slides.

LINHARES: *Reserva Florestal da CVRD, (CVRDw), Caixa Postal 91, 29,900 Linhares, ES, Brazil. (outdated-1988).*

Foundation: 1985.

Curator: Forest Engineer RENATO MORAES DEJESUS, Coordinator, jesus@cverd.com.br.

Staff members: Forest Engineer M.S. MENANDRO (tropical forests); D.A. FOLLI (collector).

Collection: 400 specimens, 232 genera.

Specialisation: Trees of the Atlantic forest in the Reserva Florestal da CVRD.

Herbarium vouchers: Yes; 1,670 specimens; 100%.

Samples for sectioning: Yes.

MANAUS: *Xiloteca, Instituto Nacional de Pesquisas do Amazonia, (INPAw), Alameda Cosme Ferreira 1756, Caixa Postal 478, 69,000 Manaus, Amazonas, Brazil.* (outdated-1988).

Foundation: 1954.

Curator: ARTHUR ARAUJO LOUREIRO (anatomy of wood).

Staff members: FRANCISCO JOSE DE VASCONCELLOS; JORGE ALVES DE FREITAS; KATIA BASTOS LOUREIRO; DARLINDA MARIA BASTOS GONCALVES; MANOEL MOACIR PEREIRA SENA; ADENAUWER FERREIRA GOES.

Collection: 10,120 specimens, 800 genera.

Specialisation: Brazilian, Peruvian, Colombian, and Venezuelan Amazon regions, Canada, Australia, Malaysia, Portugal.

Herbarium vouchers: Yes; 7,000 species; 70%.

Periodical or serial publications: Acta Amazonica, Boletim Informativo do CPPF/INPA.

Samples for sectioning: Yes.

Microscope slides: Yes; 1,000 slides; Slides for loan.

Exchange: Yes. Available: Brazilian Amazon region.

Remarks: A collection of macro- and microphotographs and microslides associated with the wood collection are all available for exchange with other institutions.

MANAUS: *Departamento de Madeira, Instituto de Tecnologia do Amazonia/UTAM, (ITA w), Avenida Darcy Vargas 1,200-Parque Dez C.E.P., 69,000 Manaus, Amazonas, Brazil.* (outdated-1988).

Foundation: 1978.

Curator: ADEMIR CASTROE SILVA (wood anatomy).

Staff members: NARCISO DA SILVA CARDOSO (wood anatomy); ROSA MARIA GONCALVES VIANEZ, Technician.

Collection: 931 specimens, 263 genera.

Specialisation: Amazon region.

Herbarium vouchers: Yes; 2,692; Records kept of vouchers deposited elsewhere; 15%.

Samples for sectioning: Yes.

Microscope slides: Yes; 537 slides; Slides not for loan.

Exchange: Yes. Available: Brazilian Amazon region. Wanted: South America.

MONTE DOURADO: *Herbario e Xiloteca Jari, JARI-Companhia Florestal Monte Dourado, Superintendencia de Pesquisa Florestal, (JARIw), 68,240 Monte Dourado, Para, Brazil.* (outdated-1988).

Foundation: 1978.

Curator: MARIA JOAQUINA PINHEIRO PIRES, Research Coordinator (plant systematics).

Staff members: NILO TOMAZ DA SILVA, Researcher (floristics and dendrology).

Collection: 800 specimens, 230 genera.

Specialisation: Jari River Basin, Brazil.

Herbarium vouchers: Yes; 2,000; 95%.

Samples for sectioning: Yes.

Exchange: Some. Available: Lower Amazon. Wanted: Tropics of New and Old Worlds.

Remarks: The JARI herbarium was established in 1986 although vouchers for the wood collection have been kept since 1978.

PIRACICABA: *Laboratorio de Anatomia e Identificacao de Madeiras, Curso de Engenharia Florestal, Escola Superior de Agricultura Luiz de Queiroz, Universidade de Sao Paulo, (ESAw), P.O. Box 09, 13418-900, Piracicaba, Sao Paulo, Brazil.* (updated 22/01/2007).

Foundation: 1972.

Curator: Prof. Dr. MARIO TOMAZELLO Fo., Curator (wood anatomy and identification, tree-ring analysis), mtomazel@esalq.usp.br.

Staff members: Biol. MARIA APARECIDA RIZZATO-BERMUDEZ, Technician Research Assistant, (wood anatomy and identification).

Collection: 1,600 specimens, 456 genera.

Specialisation: Native and introduced species of Brazil.

Herbarium vouchers: Yes; Herbarium vouchers are deposited in another Department of the Faculty (Department of Botany); about 30%.

Periodical or serial publications: Scientia Forestalis.

Samples for sectioning: Yes.

Microscope slides: Yes; 1,084 slides; Slides for loan; Slides for exchange, just a few available.

Exchange: Yes. Available: Tropical and subtropical areas. Wanted: Tropical and subtropical areas.

Catalogue: a hard copy.

Remarks: The wood collection catalogue will be computerized in the future.

RECIFE: *Wood collection Sergio Tavares, Universidade Federal Rural de Pernambuco (Rural Federal University of Pernambuco), Departamento de Ciencia Florestal (Forest Science Department) - Herbarium Sergio Tavares, (SUDENEw, TIPw), Av Dom Manuel de Medeiros s/n, Dois Irmaos, Recife, Pernambuco, CEP 52171-900, Brazil.* (updated 12/09/2005).

Foundation: 1960's.

Curator: ANGELA MARIA DE MIRANDA FREITAS, Master in Botany, Temporary Custodian, Keeper of Sergio Tavares Herbarium (systematics of phanerogams), pepita.miranda@clic21.with.br.

Collection: ITEP 4,600 specimens, SUDENE 80,000 (approximately) specimens, ITEP About 90 families, SUDENE at the moment not known.

Specialisation: The majority of samples represent plant species of northeast of Brazil.

Herbarium vouchers: The ITEP and SUDENE Wood Collections have botanical material deposited in the Sergio Tavares Herbarium, however the exact number of deposited specimens associated with the Wood Collections is not known; ITEP 50%, SUDENE not known.

Periodical or serial publications: Boletim Tecnico da Secretaria de Obras e servicos Publicos, Recife, 90: 17-28, Boletim de Recursos Naturais, Recife, 9(1/2):5-122, Boletim de Recursos Naturais, Recife, 9(1/2):123-231, Boletim de Recursos Vegetais, Recife: SUDENE, 9:231.

Samples for sectioning: Yes.

Microscope slides: No.

Exchange: Not at present as the Wood Collections are under "provisory guardianship", and the Herbarium Keeper is busy with its specimens but exchanges may be carried out in the future.

Catalogue: No.

Remarks: In the 1960's the Superintendancy of Northeast Development (SUDENE) created the Northeast Forest Survey, forming biological collections (herbarium and wood collections) with samples from Northeast region and also other Brazilian regions in: (i) SUDENE (1 herbarium and 1 wood collection, TIPw), (ii) Technological Institute of the State of Pernambuco - ITEP (1 herbarium and 1 wood collection) and (iii) Federal University of Pernambuco - UFPE (1 wood collection extinct). In the beginning, the SUDENE Wood Collection had 84,385 properly identified and catalogued wood samples, usable in studies of anatomy and systematics, education and research, for graduates and post-graduates, being, therefore, of great importance for Forest Sciences. Equally organized the ITEP Wood Collection has about 4,600 samples. Both Wood Collections have their respective Herbarium. Currently these two Wood Collections are placed at the Forest Science Department of the UFRPE, adjacent to the Sergio Tavares Herbarium. The ITEP Wood Collection is in a climatized room and in perfect conditions for use (samples and collection data). The SUDENE Wood Collection, however, now has about 80,000 samples. These samples are stored in cardboard boxes and can be reorganized as the collection data are written in original field notebooks and are in perfect order.

RIO DE JANEIRO: *Xiloteca do Jardim Botânico do Rio de Janeiro, Instituto de Pesquisas Jardim Botânico do Rio de Janeiro, (RBw), Rua Pacheco Leão, 915, Horto, Rio de Janeiro, RJ, 22460-030, Brazil.* (updated 16/08/2002).

Foundation: 1959.

Curator: Dr. CLAUDIA FRANCA BARROS (wood anatomy), cbarros@jbrj.gov.br.

Staff members: Ms. OSNIR MARQUETE, sub-curator; Dr. CECILIA GONCALVES Costa, (wood anatomy); Ms. NEUZA TAMAIO, (wood anatomy); Ms. MICHELINE MARCON, (wood anatomy).

Collection: 8,000 specimens, 1,100 genera.

Specialisation: Atlantic Rain Forest, Brazil, Rio de Janeiro.

Herbarium vouchers: Yes; 1,500 vouchers associated with wood collection; 18.75%

Important collections: Krukoff's Brazilian woods, Flora de Santa Catarina.

Samples for sectioning: Yes.

Microscope slides: Yes; 2,000 specimens with slides, 30,000 slides; Slides for loan; Slides for exchange.

Exchange: Yes. Available: Amazon, Atlantic Rain Forest. Wanted: Lauraceae, Rubiaceae.

Catalogue: Yes, Computer database available on internet site www.jbrj.gov.br.

RIO DE JANEIRO: *Antracoteca do Museu Nacional/UFRJ, Museu Nacional, Universidade Federal do Rio de Janeiro, Quinta da Boa Vista, s/nº. São Cristóvão, 20940-040 Rio de Janeiro, RJ. Brazil.* (updated 13/12/2015).

Foundation: 1994.

Curator: Dr. RITA SCHEEL-YBERT (anthracology, charcoal anatomy, archaeobotany), scheelybert@mn.ufrj.br.

Staff members: None.

Collection: 2,320 specimens, 545 genera.

Specialisation: Brazilian vegetation types.

Herbarium vouchers: 23% of the samples are field collections vouchered in herbariums RB, GUA and R. The other 77% are donations from other wood collections (especially BCTw, RBw, SPSFw, SPw) - corresponding vouchers, when existant, are therefore associated to these Institutions.

Important collections: No.

Samples for sectioning: Yes.

Microscope slides: No; This is mainly a charcoal collection, therefore no wood slides are made.

Exchange: Yes. Available: mostly Southeastern Brasil, especially restinga and Mata Atlântica species. Wanted: Brazilian and South American vegetation types.

Catalogue: Yes, Computer database.

Remarks: This is the first charcoal collection of tropical South America, and has been created to be a reference collection for anthracology and charcoal analysis studies. All samples in it are therefore carbonized, but dry wood duplicates are also kept for most specimens.

SALVADOR: *The Padre José Pereira de Sousa Xylarium*, Salvador, Bahia, Brazil (PJPsw).
Universidade Federal da Bahia; Departamento de Botânica, Instituto de Biologia;
Laboratório de Anatomia Vegetal e Identificação de Madeiras, Rua Barão de
Geremoabo, 147, Campus de Ondina, Salvador, Bahia, 40.170-290, Brazil. (updated
13/12/2015).

Foundation: unknown

Curator and staff: Dr. LAZARO BENEDITO DA SILVA (lbsilva2003@yahoo.com.br, wood
identification, wood technology, and ecological wood anatomy); MARIA LENISE
SILVA GUEDES MSc; Dr. KELLY REGINA BATISTA LEITE; MARCELO DOS
SANTOS SILVA MSc; EDUARDO REIS DE CARVALHO; NOELIA COSTA DOS
SANTOS; SOLANGE GONCALVES DA SILVA; WELITON MAIK RODRIGUES
FERNANDES; SHEILA OLIVEIRA LIMA.

Collection: 803 specimens; 177 genera.

Specialisation: Bahia: Atlantic Forest s.l. Scrub-land, Savannah and Subtropical Savannah;
other Brazilian states such as Pernambuco; commercial woods from lumber stores of
Bahia.

Herbarium vouchers: The collections are associated with the ALCB Herbarium of the
Instituto de Biologia, Universidade Federal da Bahia; 34% of wood specimens have
vouchers.

Important collections: Commercial Woods of Bahia; woods from the Atlantic Forest of Serra
da Jiboia (Bahia).

Samples for sectioning: Wood samples available for research: 70% of all samples are
available for research (30% are for exhibitions).

Microscope slides: Yes, 1,018 slides.

Exchange: Available woods of Caatinga and Atlantic Forest; slides of species from the
Atlantic Forest of Serra da Jiboia.

Catalogue: Information about the macro- and microscopic characteristics of wood of the
PJPsw are being made available in an online catalogue in
<http://www.madeirascomerciais.ufba.br>, updated periodically.

Remarks: The name honors Professor Dr. José Pereira de Sousa for initiating wood research
in Bahia. Contact: Lazaro Silva; E-mail: lbsilva2003@yahoo.com.br.

SAO PAULO: *Xiloteca Dr. Calvino Mainieri, Instituto de Pesquisas Tecnológicas do Estado de São Paulo S.A. - IPT (BCTw), Av. Prof. Almeida Prado, 532, Cidade Universitária, CEP 05508-901 - São Paulo, SP, Brazil.* (updated 04/12/2015).

Foundation: 1928.

Curator: MARIA JOSÉ DE A.C.MIRANDA, M.Sc., Researcher (wood identification, wood science and technology), mmiranda@ipt.br.

Staff members: RAPHAEL JAQUIER BOSSLER PIGOZZO, Biologist, Assistant Researcher (wood identification), rpigozzo@ipt.br ; CLAUDIA JANICE COLOMBELLI AGOSTINI, technician assistant (wood identification).

Collection: 17,450 specimens, 1,085 genera.

Specialisation: Brazilian woods with special emphasis on commercial species.

Herbarium vouchers: No; Records kept of vouchers deposited elsewhere; 5%

Important collections: J. Murca Pires, Museu Paraense "Emilio Goeldi", Belém, Pará; William Rodrigues, INPA, Manaus, Amazonas; B.G. Black, EMBRAPA, Belém, Pará; Capucho, EMBRAPA; R.D. Froes, EMBRAPA; Jari, Companhia Florestal Monte Dourado (INPA = Instituto Nacional de Pesquisas da Amazônia; EMBRAPA = Empresa Brasileira de Pesquisas Agropecuárias).

Website address: <http://smlink.cria.org.br/>

Samples for sectioning: Yes.

Microscope slides: Yes; 14,000 slides; Slides not for loan; Slides not for exchange.

Exchange: Yes. Available: Brazil. Wanted: Tropical woods from Africa, Asia and Oceania.

Catalogue: Yes, internet or email.

Remarks: The main purpose of the Wood Anatomy and Identification Group is to carry out studies in the wood anatomy field for identification of Brazilian commercial woods. This group has ISO 17045 certification and is in permanent contact with private and public organisations involved in the study or utilisation of Brazilian woods which provide the samples for this collection.

SAO PAULO: *Xiloteca SPSFw, Instituto de Florestal de Sao Paulo, (SPSFw), Rua do Horto, 931, Tremembe, Caixa Postal 1322 CEP:02377-000, Sao Paulo, SP, Brazil.* (updated 04/03/2003).

Foundation: 1931.

Curator: SANDRA MONTEIRO BORGES FLORSHEIM, M.Sc., Scientific Researcher (wood anatomy, identification and quality, and wood variation), florsheim@iflorestsp.br.

Staff members: FINE THOMAZ ROCHA, B.Sc., Scientific Researcher (wood anatomy and plant sociology); ONILDO BARBOSA, M.Sc., Scientific Researcher (wood anatomy); OSNY THADEU DE AGUIAR, B.Sc., Scientific Researcher (vascular plant taxonomy).

Collection: 3,350 specimens, 515 genera.

Specialisation: Wood from trees of southeast and southern Brazil.

Herbarium vouchers: Yes; 30,000; 10%

Periodical or serial publications: Revista do Instituto Florestal; Boletim Tecnico do Instituto Florestal.

Samples for sectioning: Yes.

Microscope slides: Yes; 2,532 slides; Slides for loan; Slides for exchange.

Exchange: Yes. Available: Sao Paulo State vegetation. Wanted: Tropical and subtropical woods from forests.

Catalogue: No.

Remarks: The wood collection and herbarium, "D. Bento Pickel", are now integrated and administered by the Wood and Forest Products Section of the Instituto Florestal.

SAO PAULO: *Xiloteca do Instituto de Botanica de Sao Paulo, Instituto de Botanica, (SPw), Caixa Postal 4003, Sao Paulo, Brazil.* (updated 26/11/2002).

Foundation: 1940.

Curator: Dra. AGNES ELISETE LUCHI (wood anatomy), aeluchi@uol.com.br.

Staff members: Dra. SOLANGE CRISTINA MAZZONI-VIVEIROS (plant anatomy), mazzoni-viveiros@uol.com.br; Dra. EDENISE SEGALA ALVES (ecological plant anatomy), esegala@terra.com.br.

Collection: 2,003 specimens, 434 genera.

Specialisation: State of Sao Paulo.

Herbarium vouchers: Yes; 360,000; 352 vouchers, 20%

Periodical or serial publications: Hoehnea.

Samples for sectioning: Yes.

Microscope slides: Yes; 550 slides; Slides not for loan; Slides not for exchange.

Exchange: Yes. Available: From Sao Paulo. Wanted: Worldwide.

Catalogue: No.

SAO PAULO: *Xiloteca Nanuza Luiza de Menezes, Universidade de Sao Paulo (USP), Instituto de Biociencias (IB-USP), Departamento de Botanica, (SPFw), Rua do Matao 277, Cidade Universitaria, 05508-090; Post Address: C.P. 11461, 05522-970 Sao Paulo, SP, Brazil.* (updated 25/11/2003).

Foundation: 1991.

Curator: Prof. Dr. GREGORIO CECCANTINI (research in ecological wood anatomy, archeobotany, vegetative plant anatomy, tropical dendrochronology), gregorio@ib.usp.br.

Staff members: Prof. Dra. VERONICA ANGYALOSSY, Vice-curator, valfonso@ib.usp.br; LUCIANA GUSSELLA, Volunteer.

Collection: 3,503 specimens, 582 genera.

Specialisation: Taxa well represented include *Terminalia* and *Buchenavia* (Combretaceae), *Podocarpus* (Podocarpaceae), *Casearia* (Flacourtiaceae), *Davilla* (Dilleniaceae). Also, ecosystems of Brazil, including trees and shrubs from Brazilian cerrado (woody savanna) and deciduous forest of Mato Grosso region, campos rupestres (Rocky fields) of Minas Gerais and Bahia regions, Atlantic rain forest and Amazonia. Many samples of tropical lianes. Also representative collections of Nicaragua and Cuba.

Herbarium vouchers: Yes, SPF - Herbario do Departamento de Botanica da USP; 160,000 specimens; about 85%

Important collections: The most important collections were made by G. Ceccantini (about 1500).

Samples for sectioning: Yes.

Microscope slides: Yes; 1,500 slides; Slides for loan; Slides for exchange.

Exchange: Yes. Available: Trees and shrubs from Brazilian cerrado (woody savanna) and deciduous forest of Mato Grosso, cerrado of Minas Gerais. Wanted: Any, but especially South America and Piperaceae, Arecaeae, Bambusoidae, Rutales, *Guatteria* (Annonaceae).

Catalogue: No, but in preparation.

Remarks: This collection has hundreds of samples used for reference in archeological, and paleoecological studies, vouchers of geochemical studies and linked to reference palynological slides of Minas Gerais, Mato Grosso and Maranhao states. The collection is being registered in a data bank that congregates all biological specimens present in collections of in the State of Sao Paulo. <http://smlink.cria.org.br/index?&setlang=en>.

SEROPEDICA: *Xiloteca do Departamento de Produtos Florestais, Universidade Federal Rural do Rio de Janeiro, Instituto de Florestas, Departamento de Produtos Florestais, (FPDw), BR 465, Km 07, Campus Universitario, Seropedica, Rio de Janeiro, 23890-000, Brazil.* (updated 01/12/2006).

Foundation: 1956.

Curator: Prof. Dr. JOAO VICENTE DE FIGUEIREDO LATORRACA, Curator of the collection (wood anatomy and quality), latorraca@ufrj.br, latorraca@hotmail.com.

Staff members: Prof. Dr. HEBER DOS SANTOS ABREU (wood chemical and biotechnology), abreu@ufrj.br, abreu8@hotmail.com.

Collection: 4,900 specimens, 797 genera.

Specialisation: The collection is represented by specimens from several ecosystems and parts of the world.

Herbarium vouchers: No; No records maintained.

Periodical or serial publications: *Revista Floresta e Ambiente* (<http://www.ufrj.br/institutos/if/revista/>).

Samples for sectioning: Yes.

Microscope slides: Yes; 3,816 slides; Slides for loan; Slides not for exchange.

Exchange: Yes. Available: Tropical woods. Wanted: Tropical woods, *Eucalyptus* woods.

Catalogue: Yes, there is a computer database.

Canada

OTTAWA: *Eastern Laboratory, Forintek Canada Corporation, (OLw)*, 800 Montreal Road, Ottawa, Ontario, K1G 3Z5, **Canada.** (outdated-1988).

Foundation: 1917.

Staff members: Dr. R.J. BARBOUR, Research Scientist (wood structure and growth relations); Mr. G. CHAURET, Senior Technology (microscopy and microtechnique).

Collection: 3,829 specimens, 730 genera.

Specialisation: Timber species of present and potential commercial importance.

Samples for sectioning: Yes.

Microscope slides: Yes; Slides for loan.

Exchange: Yes. Available: Canadian commercial species. These are also available for purchase in sets of 40 samples at \$ 36.00 Cdn. [1988 price].

Remarks: Information on the wood collection is now organised in a computerised catalogue in combination with similar information on the wood collections of the Western Laboratory in Vancouver, B.C. and the University of British Columbia in Vancouver, B.C. (VLw).

TORONTO: *Faculty of Forestry, University of Toronto, (TRTw)*, Toronto. Ontario. M5S 1A1, **Canada.** (outdated-1988).

Foundation: 1913.

Curator: Dr. JOHN J. BALATINECZ (wood anatomy, wood composites).

Collection: 2,000 specimens, 96 genera.

Specialisation: Canada. U.S.A., British Commonwealth countries.

Samples for sectioning: Yes.

Microscope slides: Yes; 120 slides; Slides for loan.

Exchange: Yes. Available: North America. Wanted: Europe, Africa, Asia. South America, Australia.

VANCOUVER: *Faculty of Forestry, University of British Columbia, (VLw), 2424 Main Mall, Vancouver, British Columbia, V6T 1Z4, Canada.* (updated 07/01/2010).

Foundation: 1948.

Curator: Dr. SIMON ELLIS (wood science, wood anatomy), simon.ellis@ubc.ca.

Collection: 7,500 specimens, 850 genera.

Specialisation: General.

Samples for sectioning: Yes.

Microscope slides: Yes; 300 slides; Slides for loan.

Remarks: This collection is jointly administered by Forest Products Innovation, Forintek Division (Western Region; 2665 East Mall, Vancouver, British Columbia, V6T 1W5).

Chile

CONCEPCION: *Departamento de Botanica, Facultad de Ciencias Naturales y Oceanograficas, Universidad de Concepcion, (CONCw), Casilla 160-C, Concepcion, Chile.* (updated 05/05/2006).

Foundation: 1973.

Curator: Dr. ROBERTO RODRIGUEZ RIOS (vascular plant systematics), rodrigu@udec.cl.

Staff members: Dr. CARLOS BAEZA P. (vascular plant systematics), cbaeza@udec.cl.

Collection: 322 specimens, 100 genera.

Specialisation: Chile.

Herbarium vouchers: Yes; 170,000; less than 1%

Important collections: no.

Samples for sectioning: Yes.

Microscope slides: Yes; 1,600 slides; Slides for loan; Slides not for exchange.

Exchange: Yes. Wanted: South America.

Catalogue: No.

SANTIAGO: *Xiloteca, Departamento de Ciencia y Tecnologia de la Madera, Facultad de Ciencias Forestales, Universidad de Chile, (EIFw), Santa Rosa, Paradero 32 1/2, Casilla 9206, Santiago, Chile.* (outdated-pre 1988).

Foundation: 1969.

Collection: 1,500 specimens, 20 genera.

Specialisation: Native and exotic Chilean woods with special emphasis on commercial species.

Herbarium vouchers: No; Records kept of vouchers deposited elsewhere; about 25%.

Samples for sectioning: Yes.

Microscope slides: Yes; 450 slides; Slides for loan.

Exchange: Yes. Available: Chilean woods. Wanted: Worldwide, especially from Paraguay and other parts of South America.

Colombia

BOGOTA: *Instituto de Investigaciones Forestales y Madereras, Universidad Distrital, (BOFw), Apanado Aereo 8668, Bogota, Colombia.* (outdated-1988).

Foundation: 1963.

Curator: Prof. JOSE A. LASTRA-RIVERA (wood technology).

Staff members: Ing. ARIEL RUIZ, Curator.

Collection: 1,400 specimens, 616 genera.

Specialisation: Magdalena Valley, Pacific coast, Amazon region.

Herbarium vouchers: Yes; 2,500; 90%.

Samples for sectioning: Yes.

Microscope slides: Yes; 235 slides.

MEDELLIN: *Universidad Nacional de Colombia Sede Medellín, Departamento de Ciencias Forestales, Laboratorio de Productos Forestales LPF, (MEDELw), Carrera 64 No 63 120 - Bloque 03 - Nucleo del Rio, A.A. 1027, Medellín, Colombia.* (updated 26/01/2016).

Foundation: 1975.

Curator: Prof., DSc. ANGELA MARIA VASQUEZ CORREA (wood anatomy and quality), amvasque@unal.edu.co.

Staff members: no.

Collection: 3.228 specimens, 131 families, 857 genera.

Specialisation: America, specially Colombia, Brazil and Venezuela.

Herbarium vouchers: About 2% of the collection from the Colombian region.

Website address: no.

Samples for sectioning: Yes.

Microscope slides: Yes; 2,817 slides.

Exchange: Yes. Available: Selected species from Anacardiaceae, Annonaceae, Apocynaceae, Aquifoliaceae, Araliaceae, Betulaceae, Bignoniaceae, Burseraceae, Caesalpiniaceae, Celastraceae, Clethraceae, Clusiaceae, Combretaceae, Euphorbiaceae, Fabaceae, Guttiferae, Hypericaceae, Humiriaceae, Lauraceae, Malphigiaceae, Melastomataceae, Mimosaceae, Myristicaceae, Myrsicaceae, Myrtaceae, Olacaceae, Proteaceae, Rosaceae, Rubiaceae, Rutaceae, Simaroubaceae, Verbenaceae, Vochysiaceae, Winteraceae, Podocarpaceae.

Catalogue: Yes, we have a computer database.

Costa Rica

CARTAGO: *Instituto Tecnológico de Costa Rica, (TECw), Instituto Tecnológico de Costa Rica, Escuela de Ingeniería Forestal, CIIBI- Apartado Postal 159-7050, Cartago, Costa Rica.* (updated 17/12/2009).

Foundation: 1980.

Curator: ROGER MOYA ROQUE (wood engineering), rmoya@itcr.ac.cr.

Collection: 3,000 specimens, 250 genera.

Specialisation: Central America; Tropical species; Additional collections received from Forest Products Laboratory and other countries.

Herbarium vouchers: Yes, INBIO, ITCR; Records kept of vouchers deposited elsewhere; 50%.

Important collections: Costa Rica , Bolivia ; Some woods from Forest Products Laboratory of USA (MADw).

Samples for sectioning: Yes.

Microscope slides: Yes; 20%; Slides for loan; Slides for exchange.

Exchange: Yes. Wanted: Commercial woods.

Catalogue: Yes.

HEREDIA: *Escuela de Ciencias Ambientales, Universidad Nacional, (ECw), Heredia, Costa Rica.* (outdated-1988).

Foundation: 1984.

Curator: Prof. JUAN CARLOS SANCHEZ (forestry).

Staff members: JORGE FALLAS, Director, Escuela de Ciencias Ambientales (natural resources).

Collection: About 250 specimens (150 native, 100 exotic), 118 genera.

Specialisation: Costa Rica.

Herbarium vouchers: Yes; about 600; 15%.

Samples for sectioning: Yes.

Exchange: Yes. Available: Costa Rica. Wanted: Tropical woods.

TURRIALBA: *Laboratorio de Productos Forestales del Centro Agronomico Tropical de Investigacion Ensenanza (CATIE), Universidad de Costa Rica, (IICAw), Apartado 36, Turrialba, Costa Rica.* (outdated-pre 1988).

Foundation: 1965.

Collection: About 1,350 specimens, about 450 genera.

Specialisation: South and Central America, Caribbean regions.

Herbarium vouchers: No; Records kept of vouchers deposited elsewhere; 95%.

Important collections: Musee Royal de l'Afrique Centrale, Belgium; Department of Forestry, Queensland, Australia; Instituto Nacional de Investigaciones Forestales de Mexico; Latin America Timber Species; U.S.D.A. Forest Products Laboratory, Madison, Wisconsin, U.S.A.

Periodical or serial publications: Turrialba.

Samples for sectioning: Yes.

Microscope slides: Yes; 2,230 slides; Slides for loan.

Exchange: Yes. Available: Central and South America. Wanted: Central and South America.

Remarks: Most of the specimens represented in the wood collection have been prepared from material which has been studied anatomically and of which the mechanical properties have been determined.

Croatia

ZAGREB: *Department for wood science, Faculty of Forestry, University of Zagreb, Svetošimunska cesta 25, 10000 Zagreb, Croatia. (updated 10/02/2016).*

Foundation: 1947.

Curator: Prof. dr. sc. JELENA TRAJKOVIC (wood structure and properties),
jelena@sumfak.hr.

Staff members: dr. Bogoslav Šefc; Iva Ištok, Msc.

Collection: 2,427 specimens, 292 genera.

Specialisation: Southeast Europe, especially the Balkan mountain area and the Adriatic coastal region.

Periodical or serial publications: Bulletin ZIDI.

Samples for sectioning: Yes.

Microscope slides: Yes; 812 slides; Slides for loan.

Exchange: Yes. Available: Indigenous trees and shrubs. Wanted: Extra-European.

Cuba

HAVANA: *Julian Acuna, Forest Research Institute, (HBw),* Calle 174, No. 1723 (e) 17b y 17c, Siboney, Playa, Ciudad Habana, Cp 11 600, **Cuba.** (updated 15/02/2007).

Foundation: 1970.

Curator: Eng. ALBERTO IBANEZ DRAKE, Agronomic Engineer (physical-mechanical properties specialist), direccion@forestales.co.cu.

Staff members: KATIA MANZANARES AYALA, Ph.D., Forestry Engineer (wood residues utilization), katia@forestales.co.cu; Eng. DIGNA VELAZQUEZ VIERA, Forestry Engineer (wood residues utilization), digna@forestales.co.cu; MARIA A. GUYAT DUPUY, M.Sc., Chemistry Engineer (bio-energy specialist), mguyat@forestales.co.cu; Tech. MIGUEL SOSA ARIAS, Forestry Technician (physical-mechanical properties); Eng. CARIDAD HERNANDEZ DEL VALLIN, Forestry Engineer (physical-mechanical properties); RAMONA OVIEDO, M.Sc., Agronomic Engineer (taxonomy specialist).

Collection: 569 specimens, 185 genera.

Specialisation: Wood samples from seven Cuban regions. We have an additional collection received from 14 countries.

Herbarium vouchers: No; 200; We maintain no records showing associated herbaria; 75%

Important collections: All cited collection is major. ["La Molina University Wood Collection", Lima, Peru is probably larger than our collection.]

Periodical or serial publications: *Xiloteca de Maderas cubanas.* 1983. Ciudad Habana /.IFF/: 10 pp.; *Coleccion de Maderas cubanas. Fuentes de conocimiento para futuras generaciones.* 2004. Libro Resumen Convencion Tropico. I Congreso de Biodiversidad y Ecologia Tropical. Ciudad Habana. /INIFAT/, 200 pp.

Samples for sectioning: Yes.

Microscope slides: Yes; 50% of collection are slides; Slides not for loan; Slides not for exchange.

Exchange: Yes. Available: From seven Cuban regions and some furniture, construction, energy, packing, and urban trees. Wanted: From other regions and forestry universities in Asia, Europe and Latin America.

Catalogue: In typewriter copy and hard copy.

Remarks: The collection is very important to increasing knowledge about characteristics and properties of our forestry biodiversity and their transformation forest biomass for industry, particularly on sawmill and bio-energy. It is very useful for students, teachers, researchers, businessman and others.

HAVANA: *Within this overall collection there are specific wood collections according to their origin: Wood collection of the Estacion Experimental Agronomica de Santiago de Las Vegas (SV); Wood collection of Colegio de la Salle (LS); Wood collection of The Cuban Science Academy (ACC), National Herbarium of Cuba "Dr. Onaney Muniz" (HAC), at the Institute of Ecology and Systematic, (ACCw, LSw, SVw), Carretera de Varona, Km 31/2 Capdevila, Boyeros CP 10800 AP8029, Ciudad de La Habana, Cuba.* (updated 12/03/2007).

Foundation: 1904 (SV), 1907 (LS), 1976 (ACC).

Curator: ANGEL VALE GONZALEZ, B.Sc. (plant reproductive ecology, plant-animal interactions, taxonomy and ecology in orchid family), merci@comerciallavega.com.cu, vitexaggelos@yahoo.es.

Staff members: Tech. MARIA TOMASA GONZALEZ (tomy@ecologia.cu).

Collection: SV: 382 specimens, LS: 280 specimens, ACC: 105 specimens, SV: 226 genera and 335 species, from 67 families; LS: 167 genera and 247 species, from 58 families; ACC: 76 genera and 129 species, from 30 families.

Specialisation: Cuban flora and they are representative of the main bushy and woody vegetations of Cuba.

Herbarium vouchers: No.

Important collections: Wood collection of the Santiago de Las Vegas station, Roig's wood collection.

Samples for sectioning: Yes.

Microscope slides: No.

Exchange: No.

Catalogue: A digital catalogue for the SVw collection is available as an Excel database with 477 records and the following fields: Botanical family, genus, species, author and infraspecific categories. Additionally the following publications are devoted to this wood collection: (a) Roig, J.T. (1966): Catalogo de maderas cubanas. Emp. Consolidada de Artes Graficas, La Habana, 102 pp. (b) Roig, J.T. (1960): Arboles Maderables cubanos, su localizacion por provincias y regiones. Centro Nacional de Experimentacion y Extension Agrícolas 60. (c) Herrera, P., Cardenas, A. and Machado, S. (1983): Lista

actualizada de la coleccion de maderas de la Academia de Ciencias de Cuba. Ed. Academia.

Remarks: [Are these three collections combined to make one collection or kept seperately?]

This small wood collection is poorly worked on and it has not been added to recently.

The ten families best represented are: 1. Caesalpinaceae, 2. Bignoniaceae, 3.

Sapindaceae, 4. Myrtaceae, 5. Verbenaceae, 6. Euphorbiaceae, 7. Sapotaceae, 8.

Rubiaceae, 9. Fabaceae, 10. Mimosaceae. The ten genera best represented are: 1.

Eugenia, 2. *Sideroxylon*, 3. *Terminalia*, 4. *Diospyros*, 5. *Manilkara*, 6. *Casearia*, 7.

Cupressus, 8. *Guapira*, 9. *Chionanthus*, 10. *Pithecellobium*.

Czech Republic

PRAGUE: *Xyloteka, Faculty of Forestry, Czech University of Agriculture, (PRAGw), Kamycka 129, Prague 165 21, Czech Republic.* (updated 15/01/2004).

Foundation: Early 70s.

Curator: ALES ZEIDLER, Ing., Ph.D., lecturer (wood structure, wood properties),
zeidler@lf.czu.cz.

Specialisation: No specialization but surprisingly contains mostly specimens from tropical areas and misses samples of some species from Middle Europe.

Herbarium vouchers: No; No records maintained.

Samples for sectioning: No.

Microscope slides: Yes; unknown number of slides; Slides not for loan; Slides not for exchange.

Exchange: Not at present.

Catalogue: yes, a hard copy but it is out of date.

Remarks: The collection was founded and run by Mr. Hurda from Wood Research Institute in Prague, Czechoslovakia, probably starting in the early seventies. As a country with a communist regime there was a good relationship with developing countries. Goods were sold to them and paid for with wood, which is the reason the collection is based on tropical woods. After a revolution in 1989 the regime changed. Transition to the market economy broke our relationship with less developed countries and Wood Research Institute also couldn't afford to own and run the collection. The collection changed place several times, some parts were damaged or destroyed, some samples were stolen or disappeared. In 1997 the Faculty of Forestry, Czech University of Agriculture, Prague, the Czech Republic took advantage of an opportunity to take the rest of the collection

over. Remaining samples are arranged according to a register obtained from Mr. Hurda. This collection is now placed in a separate room. There is neither enough money nor staff to take care of it, or to improve and enlarge it. It is intended to revise the collection and to work out a topical electronic database in future years.

Dominican Republic

SAN CRISTOBAL: *San Cristobal Central Laboratory, Loyola Polytechnic Institute, (LPIw), 1 Padre Angel Arias St., San Cristobal, Dominican Republic.* (updated 05/08/2002).

Foundation: 1968.

Curator: Prof. JULIO CICERO S. J., Curator of the wood collection.

Staff members: OMAR PAINO-PERDOMO, Research Associate (wood anatomy and fibers).

Collection: About 300 specimens, about 30 genera.

Specialisation: Haiti, Dominican Republic and Caribbean countries.

Herbarium vouchers: No.

Important collections: T. Zanoni, O. Paino-Perdomo and Julio Cicero S. J.

Samples for sectioning: Yes.

Microscope slides: Yes; few slides.

Exchange: Yes. Available: Dominican Republic. Wanted: Caribbean islands.

Remarks: The collections have anatomical pictures of endemic species of La Espanola island (Hispaniola; Dominican Republic and Haiti) and most of the specimens represented in the wood collection have been prepared from material which has been studied anatomically.

SANTO DOMINGO: *Jardin Botanico Nacional "Dr. Rafael M. Moscoso", Herbarium, Botany Department, (JBSDw), P.O. Box 21-9, Santo Domingo, Dominican Republic.* (updated 05/08/2002).

Foundation: 1982.

Curator: FRANCISCO JIMENEZ.

Staff members: LUISA MONEGRO, Research Assistant in information.

Collection: Specimens of about 76 families, 226 genera.

Specialisation: Haiti, Dominican Republic and Caribbean countries.

Herbarium vouchers: Yes.

Important collections: A. Veloz, F. Jimenez, I. Montero, J. Cicero, J. Gonzalez, J. Pimentel, J. Salazar, M. Mejia, O. Paino-Perdomo, R. Garcia, R.P. Adams, T. Clase, T. Zanoni, V.W. Klotz and W.L. Abbott.

Periodical or serial publications: Moscosoa.

Samples for sectioning: Yes.

Microscope slides: No.

Exchange: Yes. Available: Dominican Republic. A limited number of duplicates of older collections from different areas are available. Wanted: Tropical America.

Remarks: Most of the specimens represented in the wood collection have been prepared from material which has been studied anatomically.

Ecuador

QUITO: *Dendroxiloteca Ecuatoriana M.A.S., Instituto Ecuatoriano de Ciencias Naturales, (DEQw)*, Apartado 408, Quito, **Ecuador**. (outdated-pre 1988).

Foundation: 1940.

Collection: About 3,000 specimens.

Specialisation: Tropical woods of Ecuador.

Herbarium vouchers: Yes, in the herbarium of the Instituto Ecuatoriano de Ciencias Naturales, Quito and in the Field Museum of Natural History; 95%.

Important collections: Acosta-Solis (Esmeraldas) and east, west, and central regions of Ecuador.

Periodical or serial publications: Flora (publication suspended in 1953).

Samples for sectioning: Yes.

Exchange: Yes. Wanted: Tropical America.

France

EPINAL : *Université de Lorraine, ENSTIB (Ecole Nationale Supérieure des Technologies et Industries du Bois), 27 rue Philippe Séguin, CS 60036, 88026 EPINAL Cedex, France.* (updated 01/02/2016).

Foundation : 1985

Curator : Marie-Christine TROUY, marie-christine.trouy@univ-lorraine.fr

Collection : 200 genera + access to private and public collections in France

Specialisation : Europe

Herbarium vouchers: No

Periodical or serial publications: No

Samples for sectioning: Yes.

Microscope slides: Yes

Exchange: No

MONTPELLIER: *CIRAD-Foret, (CTFw), TA 10/16, 73 rue Jean Francois Breton, 34398 Montpellier Cedex, France.* (updated 31/10/2003).

Foundation: 1937.

Curator: PIERRE DETIENNE (tropical woods), pierre.detienne@cirad.fr.

Collection: 33,500 specimens, 2,100 genera.

Specialisation: West Africa, Madagascar, Indochina, New Caledonia, French Guiana.

Herbarium vouchers: No own herbarium. Many vouchers are lodged at the herbarium of Phanerogamie, Musée National d'Histoire Naturelle, Paris, France; 50%

Important collections: A. Chevalier (Ivory Coast, Gabon, Indochina); D. Normand (Central Africa); Services Forestiers (Cameroon, Gabon, Congo, Madagascar, French Guiana); Letouzey (Cameroon); Thouvenot (Madagascar); Sarlin (New Caledonia).

Periodical or serial publications: Bois et Forets des Tropiques.

Samples for sectioning: Yes.

Microscope slides: Yes; 5,500 slides; Slides for loan; Slides for exchange.

Exchange: Yes. Available: Tropical Africa. Wanted: Tropical Asia.

Catalogue: computer database.

Remarks: Transferred from Nogent-sur-Marne to Montpellier.

PARIS: *La Xylothèque du Museum national d'Histoire naturelle (P)*, Galerie de Botanique, 57 rue Cuvier, 75231 Paris cedex 05, **France**. (updated 05/01/2016).

Foundation: The Paris Herbarium has hosted an important wood collection, often related to herbarium specimens since the 19th century, but only since 2012 are these gathered in a true wood collection.

Curator: Prof. MARGARETA TENGBERG (archaeobotany), tengberg@mnhn.fr.

Staff members: BENOÎT CARRE, carre@mnh.fr.

Collection: ca. 15,000 specimens, 220 families.

Specialisation: worldwide.

Herbarium vouchers: Yes.

Important collections: A. Chevalier (Indochina), E. Poilane (Indochina), R. Decary (Madagascar), P. Claussen (Brazil), J.S. Blanchet (Brazil), G.S. Perrotet (India).

Periodical or serial publications: No.

Samples for sectioning: Yes.

Microscope slides: Yes.

Exchange: Yes. Available: Worldwide. Wanted: Europe.

Catalogue: Yes (available within the MNHN database, SONNERAT).

Remarks: The xylotheque of the Natural History Museum is currently being organized and will soon be available for research and exchanges. Limited requests can nevertheless be met with already (<http://colhelper.mnhn.fr/>).

PARIS: *Departement Hommes, Natures & Societes, Museum national d'Histoire naturelle, (PATw), 57 rue Cuvier, 75231 Paris cedex 05, France.* (updated 10/12/2003).

Foundation: 1907.

Curator: Dr CATHERINE ORLIAC (oceania), orliac@mnhn.fr.

Staff members: Prof. SERGE BAHUCHET, Director Departement: Hommes, Natures, & Societes, bahuchet@mnhn.fr.

Collection: 3,440 specimens, 1018 genera.

Specialisation: Africa (Ivory Coast, Cameroon, Gabon); Indochina, Japan, Oceania.

Herbarium vouchers: Yes; 975; 45%

Important collections: Auguste Chevalier (Cameroon, Ivory Coast, Gabon, Indochina).

Periodical or serial publications: JATBA: revue d'ethnobiologie.

Samples for sectioning: Yes.

Microscope slides: No.

Exchange: Yes. Available: Africa, Oceania. Wanted: Africa, Oceania.

Catalogue: No.

Remarks: The wood collection could develop considerably during the next few years as part of a project to restructure the wooden collections kept in various departments of the Museum of Natural History.

PARIS: *Centre Technique du Bois et de l'Ameublement, (CTBw), 10 avenue de St Mande, 75,012 Paris, France.* (outdated-1988).

Foundation: Between 1930 and 1940.

Curator: Mrs. YVONNE TRENARD, Keeper (wood anatomy).

Collection: 1,500 specimens, 200 genera.

Specialisation: France, Europe, temperate climate areas.

Important collections: Hardwoods and softwoods of France, U.S.S.R., Japan, Korea, New Guinea, Canada, U.S.A., Chile, Mexico.

Samples for sectioning: Yes.

Microscope slides: Yes; 5,000 slides; Slides not for loan.

Exchange: Some. Available: France.

Germany

BERLIN: *Naturhistorisches Forschungsinstitut, Museum fur Naturkunde, Institut fur Palaontologie, (BHUw)*, Invalidenstrade 43, D-10 115 Berlin, **Germany**. (updated 07/11/2002).

Foundation: 1770, as part of the fossil collections of the "Koniglich Preudische Bergakademie"

Curator: There is no special curator for this part of the collection, it is curated by the head curator of palaeobotany, Dr. STEPHAN SCHULTKA (early landplants, Upper Carboniferous and Upper Jurassic plants), stephan.schultka@rz.hu-berlin.de.

Staff members: Prof. Dr. Herbert Sud, Retired (cenophytic wood anatomy).

Collection: About 5,000 specimens.

Specialisation: Worldwide, mainly Brandenburg and Saxonie in Germany.

Herbarium vouchers: No; No records maintained.

Important collections: Cotta's Permian silicified woods from Saxonie; Sud-collection of recent woods.

Samples for sectioning: Yes.

Microscope slides: Yes; About 1,500 slides; Slides for loan.

Exchange: No, not at this moment.

Catalogue: Generally no, but a hardcopy of recent material.

Remarks: A database is in production; the wood collection is part of the palaeobotanical collections and is being reorganised.

BERLIN-DAHLEM: *Botanischer Garten und Botanisches Museum Berlin-Dahlem, (Bw),*
Konigin-Luise-Strasse 6-8, D-1000 Berlin 33, **Germany.** (outdated-1988).

Foundation: About 1850.

Curator: Dr. PAUL HIEPKO, Curator of the Herbarium (flora of the Guianas).

Collection: 9,000 specimens, 1,550 genera.

Specialisation: Worldwide.

Herbarium vouchers: Yes, some vouchers in the general herbarium; Only a very small proportion since the herbarium was destroyed in 1943; duplicates of original voucher specimens may be in other herbaria.

Important collections: Tessmann (Peru); Vageler, Karsten (Colombia); Philippi, Arendt (Chile); Sintenis (Puerto Rico); Curtiss (Florida, U.S.A.); Volkens, Warburg (Java); Volkens, Schlieben Holst v. Trotha (East Africa); Zenker, Mildbraed (Cameroon); Kersting (Togo); Forest Department, India; Krukoff (Brazil).

Periodical or serial publications: Willdenowia, Englera.

Samples for sectioning: Yes.

Microscope slides: Yes (small collection of gifts).

Exchange: Yes. Available: A limited number of duplicates of older collections from different areas.

DRESDEN: *Institute for Wood Technology, (DREw),* Zellescher Weg 24, D-01217 Dresden, **Germany.** (updated 13/01/2010).

Foundation: 1956.

Curator: BJORN WEISS, Dipl.-Ing. (wood anatomy, wood protection, microscopy),
weiss@ihd-dresden.de.

Collection: 2,000 specimens, 500 genera.

Specialisation: Europe, Africa, Central America, New Zealand, Indochina, Indonesia.

Herbarium vouchers: No.

Website address: www.ihd-dresden.de.

Samples for sectioning: Yes.

Microscope slides: Yes; 300 slides; Slides for loan, after inquiry; Slides not for exchange.

Exchange: Yes. Available: German/European wood species.

Catalogue: No.

FRANKFURT: *Johann Wolfgang Goethe-Universität, Institut für archaologische Wissenschaften, (JWGw), Abteilung für Vor- und Frühgeschichte, Archäologie und Archäobotanik Afrikas, Grunenburgplatz 1, 60629 Frankfurt am Main, Germany.* (updated 06/09/2006).

Foundation: 1988.

Curator: Dr. KATHARINA NEUMANN (archaeobotany), k.neumann@em.uni-frankfurt.de.

Staff members: Dr. BARBARA EICHHORN (archaeobotany), b.eichhorn@em.uni-frankfurt.de; Dr. ALEXA HOHN (archaeobotany), a.hoehn@em.uni-frankfurt.de.

Collection: 1,781 specimens, 395 genera.

Specialisation: Africa, south of the Sahara, in particular West- and Central Africa.

Herbarium vouchers: Yes, vouchers are housed at the Senckenberg herbarium in Frankfurt; more than 1 million vouchers; 573 specimens connected to wood samples, 33%

Samples for sectioning: Yes.

Microscope slides: Yes; 882 slides; Slides for loan; Slides for exchange.

Exchange: Yes. Available: West- (Sahelian domain) and West Central Africa. Wanted: West- (Sudanian domain) and West Central Africa, Euphorbiaceae of West Africa.

Catalogue: Yes, computer database in MS Access.

Remarks: The collection was established as a reference collection for the identification of archaeological charcoal. Most of the wood samples collected by ourselves are branches of varying diameter. Many samples were received from Tervuren or Hamburg.

FRANKFURT: *Senckenberg Forschungsinstitut und Naturmuseum, (FRw), Abteilung Botanik & molekulare Evolutionsforschung, Herbarium Senckenbergianum, Senckenberganlage 25, D-60325 Frankfurt am Main, Germany.* (updated 14/12/2009).

Foundation: 1817.

Curator: Prof. Dr. GEORG ZIZKA, Head of Botany-Paleobotany Department, Keeper of the Herbarium Senckenbergianum, georg.zizka@senckenberg.de.

Staff members: Dr. VOLKER WILDE, Curator of Paleobotany, volker.wilde@senckenberg.de; Dr. STEFAN DRESSLER, Curator of Phanerogams II, stefan.dressler@senckenberg.de; Dr. CHRISTIAN PRINTZEN, Curator of Cryptogams, christian.printzen@senckenberg.de.

Collection: Recent woods: About 1,000 specimens; Fossil woods: about 3,000 specimens, Recent woods: 550 genera; Fossil woods: 50 genera.

Specialisation: Recent woods: Europe (especially Austria and Germany), Ghana (Gold Coast) and Japan; Fossil woods: Tertiary, Gondwana (South Africa), Permian.

Herbarium vouchers: Yes; Less than 1%

Important collections: Recent woods: D. F. Knoblauch (New Caledonia, 31 spp.); G. Martin (Europe, about 150 spp.); TH. Nordlinger ("Querschnitte von hundert Holzarten": Bd. VII-XI [1876-1888]); M.O. Reinganum (Java, East-India, 66 spp.); G. Sennholz (Lower Austria); H. Tyroff (Europe, particularly Germany, 100 spp.); F.C. Noll, F. Schaarschmidt, R. Krausel, W. Kobelt; Woods from Botanic Gardens: Koln, Darmstadt, Frankfurt; collector unknown (100 cross-sections from Japan (Japanese, with English index, bound); collector unknown (woods from Ghana ["Gold Coast"]). Fossil woods: about 3,000 specimens (Tertiary, Gondwana (South Africa), Permian).

Website address: www.senckenberg.de/root/index.php?page_id=422.

Periodical or serial publications: Palaeobiodiversity and Palaeoenvironments.

Samples for sectioning: Yes, depending on specimens.

Microscope slides: Yes; Recent woods: 1,700 specimens of wood-slides (see publication details under Catalogue), Fossil woods: 500 slides; Slides not for loan, but accessible; Slides not for exchange.

Exchange: No.

Catalogue: Schaarschmidt, F. (1979): Vergleichssammlung rezenter Epidermis- und Holzpreparate.- Courier Forsch.-Inst. Senckenberg 37: 63-87. (hard copy; dealing only with a minor part of the collections, listing wood slides).

Remarks: CONERT, H.J. (ed.) (1999): Index Collectorum Herbarii Senckenbergiani.- Courier Forsch.-Inst. Senckenberg 217: 1-201. (hard copy), Index Collectorum Herbarii Senckenbergiani.- URL: <http://www.senckenberg.de/fis/sammler.pdf> (updated version).

HAMBURG: *Thünen Institute of Wood Research (The Johann Heinrich von Thünen Institute, Federal Research Institute for Rural Areas, Forestry and Fisheries, RBHw)*, Leuschnerstrasse 91, 21031 Hamburg, **Germany**. (updated 29/11/2015).

Foundation: 1939.

Curator: PD Dr. habil. GERALD KOCH, Head of Division: Quality of Wood and Wood Products at the Thünen Institute of Wood Research, gerald.koch@ti.bund.de.

Staff members: M.Sc. VOLKER HAAG (scientific assistant, wood identification), volker.haag@ti.bund.de; Dr. IMMO HEINZ (scientific assistant, wood identification), immo.heinz@ti.bund.de; Ms. ANNE WETTICH (laboratory assistant and wood collection management), anne.wettich@ti.bund.de; Mr. SERGEJ KASCHURO (laboratory assistant and wood collection management), sergej.kaschuro@ti.bund.de, and Dr. HANS-GEORG RICHTER (retired curator), jorgo@baric.de.

Collection: 35,000 specimens, 2,400 genera, 11,500 species.

Specialisation: Tropical regions, Boraginaceae, Dichapetalaceae, Dipterocarpaceae, Ebenaceae, Lauraceae, Magnoliaceae, Myristicaceae, Monimiaceae, Palmae (rattan genera), Sapotaceae (Asia).

Microscopic identification of internationally traded wood and wood products (particle boards, fibre boards, paper) according to the requirements of the European Timber Regulation (EUTR) and CITES-regulations. (<https://www.ti.bund.de/en/infrastructure/the-thuenen-centre-of-competence-on-the-origin-of-timber/>)

Development and updating of the computerized databases Commercial timber, *macroHOLZdata*, *CITESwoodID* in the delta-intkey system.

Herbarium vouchers: No, there is a small herbarium but not really associated with the wood collection. Only a few of our wood specimens have a voucher deposited at the Thünen Institute; Records kept of vouchers deposited elsewhere; about 50%.

Important collections: West Africa:- Jentsch, Mildbraed, Zenker (Cameroon); Kersting (Togo); Cooper (Liberia); Detienne (Ivory Coast); Dechamps (Angola); Breteler *et al.* (Dichapetalaceae); East Africa:- Schlieben (Tanzania); South and Central America:- Tessmann (Peru); Poveda (Costa Rica); Krukoff (Brazil); Schroeder (Uruguay); Eggers & Berge (Caribbean); Stahel (Surinam); Southeast Asia:- Krukoff (Sumatra); Gamble (India); BZF Bogor (Indonesia).

Samples for sectioning: Yes.

Microscope slides: Yes; More than 50,000 slides; Slides for loan and Slides for exchange.

Catalogue: Yes, hardcopies and internal computerized database.

MUNICH: *Technische Universität Muenchen, Holzforschung Muenchen (MUNw)*,
Winzererstrasse 45, D-80797 Muenchen, **Germany**. (updated 07/12/2015).

Foundation: 1955.

Curator: Diplom Holzwirtin GABRIELE EHMCKE, Chair of Wood Science,
ehmcke@hfm.tum.de.

Collection: ~10,000 specimens, ~1,500 genera, ~ 5,000 species

Samples for sectioning: Yes.

Microscope slides: Yes; 22,000 slides; Slides for loan; Slides for exchange.

Microscopic identification of internationally traded wood and wood products (particle boards,
fibre boards, veneer) according to CITES-regulations.
(<http://www.hfm.tum.de/index.php?id=456>)

Catalogue: Yes, hardcopies and internal computerized database.

Exchange: Restricted, from Central Europe. Available: Central Europe.

Remarks: With about 150 Central European specimens.

ROSENHEIM: *Fachhochschule Rosenheim, (RFw)*, Marienberger Strasse 26, D-8200
Rosenheim, **Germany**. (outdated-1988).

Foundation: 1970.

Curator: Prof. THOMAS TRUEBSWETTER (wood anatomy, pathology, and preservation).

Staff members: Ing. JOSEF SCHMID.

Collection: 3,500 species, 450 genera.

Herbarium vouchers: No; About 10%.

Samples for sectioning: Yes.

Microscope slides: Yes; 400 slides; Slides for loan.

Exchange: Yes. Available: By arrangement.

Remarks: The collection has been established for use of students in wood engineering and to
establish voucher specimens for identification and use in European industry and trade.

THARANDT: *Sektion Forstwirtschaft, Bereich Biologie, Forstbotanischer Garten, Technische Universität Dresden, (TSFw), Piennner Strasse 7, 8223 Tharandt, Germany.* (outdated-1988).

Foundation: 1852.

Curator: Prof. Dr. MANFRED TESCHE, Leiter des Bereiches Biologie und des Forstbotanischen Gartens (forest botany, tree pathology).

Collection: 2,350 specimens, 563 genera.

Specialisation: General.

Important collections: Nordlinger (Germany); Shiga (Japan); Vietnamese woods; Spanish woods.

Microscope slides: Yes; 2,560 slides; Slides for loan.

Exchange: Yes. Available: European woods and woods from Forstbotanischer Garten Tharandt. Wanted: Commercial tropical woods.

Remarks: The Spanish woods noted above formed the basis for Huber and Rouschal's publication, "Mikrophotographischer Atlas mediterraner Holzer."

Ghana

KUMASI: *Forestry Research Institute of Ghana (FORIG), (FORIGw), Wood Anatomy Laboratory, UPO 63, Knust, Kumasi, Ghana.* (updated 3/12/2015).

Foundation: 1965.

Curator: Dr. Emmanuel Ebanyenle, Senior Research Scientist, Head of Wood anatomy lab and Head of wood industry and utilization division, eebanyen@mtu.edu.

Staff members: Dr. A. A. Oteng-Amoako, Chief research scientist (on post retirement contract) Mr. James K. Govina, Senior Technical Officer (wood anatomy), jgovina@csir-forig.org.gh, Ms Ruth Esi Amuzu, Technical officer

Collection: 883 specimens, 276 genera.

Specialisation: Ghana, Tropical Africa.

Herbarium vouchers: No; No records maintained, however Forestry Research institute of Ghana has a herbarium department which contains some vouchers of most Ghanaian trees.

Important collections: North America, Philippines, Central Africa.

Periodical or serial publications: Ghana Journal of Forestry.

Samples for sectioning: Yes.

Microscope slides: Yes; 436 slides; Slides for loan; Slides for exchange, for selected taxa.

Exchange: Yes for some species. Available: Ghana woods. Wanted: Temperate and tropical woods.

Catalogue: Yes in the form of hard copy.

Greece

THESSALONIKI: *Laboratory of Forest Utilization, School of Agriculture & Forestry, Aristotelian University, (TAUw), Thessaloniki, Greece.* (outdated-1988).

Foundation: 1971.

Curator: Dr. GEORGE TSOUMIS, Prof. of Forest Utilisation (wood structure of forest trees, growth, identification, properties, and products).

Staff members: E. VOULGARIDIS, Assistant Professor.

Collection: 1,127 specimens, 944 species, 449 genera.

Specialisation: Commercial woods of the world.

Herbarium vouchers: For native Greek species; 80; Records kept of vouchers deposited elsewhere; 100%

Samples for sectioning: Yes.

Microscope slides: Yes; few slides; Slides for loan.

Exchange: Yes. Available: Greek (Mediterranean) forest trees and shrubs. Wanted: American (especially tropical), Asia, West Africa, Australia

Guyana

GEORGETOWN: *Xylarium Section, Jonah Boyan Herbarium, Guyana Forestry Commission, (GTw)*, Lot 1, Water Street, Kingston, Georgetown, **Guyana**. (outdated-1988).

Foundation: 1909.

Curator: Commissioner of Forests.

Staff members: GANESHWAR GHARBARRAN (forest flora of Guyana); Dr. JOHN J. PIPOLY, III, Honorary Research Associate (systematics of Myrsinaceae and Clusiaceae, flora of the Guianas, architecture of tropical trees, wood anatomy).

Collection: 757 specimens, 322 genera.

Specialisation: Guyana.

Herbarium vouchers: Yes; 7,800; Records kept of vouchers deposited elsewhere; 100%.

Important collections: B.R. Wood, C.W. Anderson, C.A. Persaud, D.B. Fanshawe, G.G. Brinsley, Ivan Welch, J.R. Lockie, J.B. Aitken, L.S. Hohenkerk, N.Y. Sandwith, Rufus Boyan, T.A.W. Davis.

Samples for sectioning: Yes.

Exchange: Yes. Available: Guyana. Wanted: All foreign countries.

Remarks: This wood collection specialises mainly in trees of Guyana.

Haiti

PORT-AU-PRINCE: *Ekman Herbarium of Haiti, Faculte d'Agronomie et de Medecine Veterinaire, Universite d'Etat d'Haiti, (EHHw)*, Route Nationale #1, Damien, Port-au-Prince, P.O. Box 1441, **Haiti**. (updated 05/08/2002).

Foundation: 1930.

Curator: JEAN ARSENE CONSTANT, constant@caramail.com.

Staff members: Profesors volunteers.

Collection: More than 300 specimens, more than 200 species.

Specialisation: Economic and trade woods of Haiti.

Herbarium vouchers: Yes.

Important collections: Department of Agriculture, Forest and Soils Service.

Samples for sectioning: Yes.

Microscope slides: No.

Exchange: Not yet. Wanted: Dominican Republic, Caribbean.

Remarks: The collections are not organized. Restoration project is adding to it.

Hungary

BUDAPEST: *Collectio Dendrologica., Botanical Department of the Hungarian Natural History Museum, (BPw), Budapest VIII. Konyves Kalman krt. 40, H-1476 Budapest Pf. 222, Hungary.* (outdated-1988).

Foundation: 1902.

Curator: Dr. DEZS? KOVATS, Curator (anatomy and taxonomy of flowering plants).

Collection: 1,500 to 1,700 specimens.

Specialisation: Mostly Hungary.

Herbarium vouchers: Yes; 1,500.

Important collections: Nordlinger, Fiori (Italy).

Samples for sectioning: Yes, partly.

Microscope slides: Yes; Nordlinger and Fiori thick slides; Slides for loan.

Exchange: Yes. Available: Mostly from Hungary.

Remarks: Part of the collection is undocumented but it is known that some of the specimens came from the botanical garden of Budapest.

SZEGED: *Institutum Botanicum et Hortus Botanicus, Universitatis Szeged, (SZDw), Egyetem u. 2, Szeged 6722, Hungary.* (outdated-pre 1988).

Foundation: 1946.

Collection: 50 specimens and 10 genera of Cycadales; 510 specimens and 70 genera of conifers.

Periodical or serial publications: Acta Biologica (Szeged).

Microscope slides: Yes; 2,500-3,000 slides of conifers; Slides for loan, 1,000 conifers.

Exchange: Yes.

Remarks: From 1980, the collection will be housed in the Pal Greguss Muzeum, Szeged 6722, Becsi krt. 11/a, Hungary.

Iceland

REYKJAVIK: *Haraldar Agustsson Wood Collection, (REYw), Miklabraut 9, 105 Reykjavik, Iceland.* (outdated-1988).

Foundation: 1966.

Curator: HARALDAR AGUSTSSON.

Collection: 1,600 specimens, 1296 species, 511 genera.

Specialisation: Worldwide and woods from Iceland.

Herbarium vouchers: No.

Remarks: The collection contains 241 species, representing 41 genera and 8 families of Gymnosperms, and 1,055 species of hardwoods belonging to 470 genera and 102 families. Although primarily of a private nature, this unique collection in Iceland is often used for educational purposes. Exchange with institutional wood collections is welcomed.

India

AMLAI: *Birla Museum of Forestry and Forest Products, Birla Institute of Scientific Research, (AMw), P.O. Amlai Paper Mills-484 117, Dist. Shahdol (M.P.), India.* (outdated-1988).

Foundation: 1979.

Curator: Mr. MOHAN C. PANDE, Director of Research (forestry and agriculture).

Collection: 1,140 specimens, 530 genera.

Specialisation: Museum exhibits woods from all over the world. Present collection comprises 581 species of Indian region and 433 species from countries in Africa, South and North America, Australian region, and Europe.

Herbarium vouchers: Museum herbarium projected for fall 1987. For Indian species vouchers now maintained in herbarium, Forest Research Institute, Dehra Dun; about 90%

Samples for sectioning: Yes, Indian species only.

Exchange: Yes. Available: India. Wanted: From all regions of world except India.

Remarks: Wood specimens from the Indian region in the museum are exhibited in natural form of small logs with bark intact and logs sectioned to show wood structure in various planes. The museum is a member of the Museums Association of India. After the update of Index Xylariorum version 4, no new information could be received from this wood collection. Most likely, the Amlai wood collection is not active anymore.

DEHRADUN: *Dehradun Xylarium, Forest Research Institute, (DDw), Dehradun-248006, India.* (updated 30/04/2004).

Foundation: 1836 (by Dr. Griffith).

Curator: Drs. SANGEETA GUPTA, Scientist-in-charge (wood anatomy and identification), guptas@icfre.org.

Staff members: DR. P.K. PANDEY (wood anatomist, email: pandeypk@icfre.org; pandep123@rediffmail.com), Mr. G.B. SAXSENA (technician).

Collection: 15,000 (9,000 foreign, 6,000 erstwhile India) specimens, 1,500 genera.

Specialisation: Erstwhile India (India, Myanmar, Bangladesh, Pakistan).

Herbarium vouchers: Vouchers deposited at Dehradun Herbarium (DD), Forest Research Institute, Dehradun-248006, India; 300,000, but very few are associated with the wood collection; 25% of Indian collections are backed by Herbarium vouchers.

Important collections: Griffith, Wallich, Brandis, Gamble, Kanjilal, Chowdhury (Indian region).

Samples for sectioning: Yes.

Microscope slides: Yes; about 7,000 slides; Slides for loan, limited; Slides not for exchange.

Exchange: Yes. Available: India. Wanted: Tropical regions of the world, China.

Catalogue: Yes, only for Indian woods, computer database.

Remarks: The wood collection formed the basis for the following publications: Gamble, J.S. 1922. A Manual of Indian Trees. Marston & Company, London.; Pearson & Brown. 1932. Commercial timbers of India, Calcutta.; Agarwal, S.P., L. Chauhan, R.D.Raturi & R.C.Madhwal. 1999. Indian Woods-Their identification, properties and uses (revised). Vol. I., ICFRE publication, Dehradun.; Anon. 1963. Indian Woods-Their identification, properties and uses. Vol. II. Manager of publication, Dehradun.; Purkayastha, S.K. 1982. Indian Woods- Their identification, properties and uses. Vol IV. Controller of publications, Delhi.; Purkayastha, S.K.1985. Indian Woods- Their identification, properties and uses. Vol V. Controller of publications, Delhi.; Rao, K.Ramesh & S.K.Purkayastha.1972. Indian Woods- Their identification, properties and uses. Vol III. Controller of publications, Delhi.; Raturi, R.D., Luxmi Chauhan, Sangeeta Gupta & R.V.Rao. 1999. IndianWoods- Their identification, properties and uses. Vol VI. ICFRE publication, Dehradun.

KERALA: *Xylarium at Wood Science and Technology Division, Kerala Forest Research Institute, (KFRIw), Peechi 680653, Trichur Dist; Kerala, India.* (updated 28/11/2015).

Foundation: 1979.

Curator: Dr. P. K. THULASIDAS (Scientist -Wood Anatomy, Wood Science & Technology Division), thulasidas@kfri.org, pktdas@gmail.com

Staff members:

Collection: 587 specimens (133 samples representing 68 genera and 114 species from India/Kerala and the rest are from 10 foreign countries), 68 genera.

Specialisation: India, Kerala, Australia, Bangladesh, Brazil, Canada, China, Germany, Japan, Netherlands, Philippines, UK.

Herbarium vouchers: Yes, maintained in the herbarium of Botany Division (KFRI); 40%

Samples for sectioning: Yes, but limited supply.

Microscope slides: Yes; 120 slides; Slides not for loan; Slides for exchange, limited slides available.

Exchange: Yes, a limited number. Available: Indian species (limited number may be available for exchange).

Catalogue: KFRI Research Report 73 (Published in 1991), available in KFRI CD.

LUCKNOW: *Birbal Sahni Institute of Palaeobotany, (BSILw), 53, University Road, Lucknow-226007, India.* (outdated-1988).

Foundation: 1950.

Curator: Dr. B.S. VENKATACHALA, Director; Dr. H.A. KHAN. Curator.

Staff members: Dr. N. AWASTHI, Assistant Director (fossil and living xylotomy and leaf morphology).

Collection: 3,612 specimens, 873 genera.

Specialisation: Worldwide.

Herbarium vouchers: Yes; a few; Records kept of the deposit of some vouchers elsewhere; about 30%.

Important collections: Indian collections from Uttar Pradesh and Madhya Pradesh.

Periodical or serial publications: *Palaeobotanist*.

Samples for sectioning: Yes.

Microscope slides: Yes; 4,009 slides; Slides for loan.

Exchange: Yes. Available: India. Wanted: Tropical regions of the world.

Remarks: The wood collection is maintained primarily for the identification of fossil woods.

KOTTAYAM: *Central Wood Testing Laboratory, The Rubber Board, Manganam Post, Kottayam, Kerala, Pin- 686018, India.* (new wood collection since 01/02/2016).

Foundation: 2000 (by Jimmy Thomas).

Curator: Dr. Jimmy Thomas, Wood Technologist (Wood anatomy and identification), woodtechnologist@gmail.com.

Staff members: Suseela VA, analyst.

Collection: 250 specimens, (175 foreign, 75 Indian).

Specialisation: India, USA (135 specimens from MADISON collection), Africa, Europe, New Zealand, Australia, Brazil, Malaysia.

Herbarium vouchers: No.

Important collections: Indian, Exotic, & MADISON collection from FPL, USA.

Samples for sectioning: Yes.

Microscope slides: Yes; about 20 slides; Slides for loan- Yes but limited; Slides for exchange-Yes.

Exchange: Yes. Available: India. Wanted: African and Tropical regions of the world, China.

Catalogue: No.

Indonesia

BOGOR: *Forest Products Technology Research and Development Center, (BZFw), Jl. Gunung Batu No. 5, Bogor 16610, Indonesia.* (updated 25/10/2002).

Foundation: 1914.

Curator: Dra. SRI RULLIATY, M.Sc. (wood anatomy and wood quality).

Staff members: Dr. YANCE MANDANG (wood anatomy and wood properties); USEP SUDARDJI, Technical Officer (wood identification).

Collection: 41,679 specimens, 785 genera.

Specialisation: Indonesia.

Herbarium vouchers: Yes, housed in Forest and Nature Conservation Research and Development Center, Bogor (BZF); 80%

Periodical or serial publications: Forest Products Research Bulletin.

Samples for sectioning: Yes, application should be made to Director of Forest Products Technology Research and Development Center.

Iran

KARAJ: *F.P.L. Wood Collection, Forest Products Laboratory, College of Natural Resources, (KARw), Karaj, Iran.* (outdated-1988).

Foundation: 1955.

Curator: Prof. PARVIZ NILOUFARI.

Staff members: Dr. DAVOUD PARSA-PAJOUH, Dr. KAZEM DOUST-HOSEINI, Dr. SAID AMIRI, Dr. GHANBAR EBRAHIMI, Eng. EBRAHIM AGHA-RAFII.

Collection: 1,000 specimens, 20 genera.

Specialisation: Iran, Turkey, Pakistan, Afghanistan; *Tamarix, Haloxylon*.

Herbarium vouchers: Yes; 3,000; 33%.

Important collections: Gauba, Sabeti, and Esfandiari collections.

Periodical or serial publications: Iranian Journal of Natural Resources.

Samples for sectioning: Yes.

Microscope slides: Yes; 500 slides; Slides for loan.

Exchange: Yes. Available: Caspian forests of Iran. Wanted: Fagaceae, *Quercus*, *Carpinus*.

Remarks: The Forest Products Laboratory was established in 1955 and collections of European, African, southeast Asian, and Australian woods were accessioned. Also, there are about 800 woody plants of Iran represented.

Ireland

DUBLIN: *National Herbarium, (DBNw), National Herbarium, National Botanic Gardens, Glasnevin, Dublin 9, Ireland.* (updated 13/12/2009).

Foundation: 1890s (formerly at the National Museum until 1970).

Curator: MATTHEW JEBB (taxonomy), matthew.jebb@opw.ie.

Staff members: CRISTINA ARMSTRONG, Herbarium assistant .

Collection: About 1,000 specimens, 200 genera.

Specialisation: Ireland (native and exotic), Brazil, Sri Lanka, Nigeria, Papua New Guinea, Philippines.

Herbarium vouchers: Yes; 600,000; Less than 1%.

Important collections: Coulter's Mexican woods; Arctic driftwoods, 1875 (28); Brazilian woods, 1909 (40); R.B.Hough's American woods, Lowville, N.Y., USA, Vols, 1-14 (1888-1910); Nordlinger's wood sections, Stuttgart, Germany, Vols I-XI (1852 to 1888); Timber Research & Development Association, High Wycombe, UK (48); PNG timbers, Dept. of Primary Industry, Papua New Guinea (88); Charcoal collection of Irish native species.

Website address: www.botanicgardens.ie .

Samples for sectioning: Yes, some of our collection comprises artefacts of known wood provenance, these are not available for exchange.

Microscope slides: Yes; about 150 slides; Slides not for loan; Slides not for exchange.

Exchange: Yes. Available: Irish native species and cultivated trees in the collection (www.botanicgardens.ie/nbg/cat.htm).

Catalogue: Currently about half the collection is computerised, but not available on the internet as yet.

DUBLIN: *The Powerscourt Collection of World Timbers, Department of Forestry, University College, (DBw), Dublin, Belfield, Dublin 4, Ireland.* (outdated-1988).

Foundation: 1930.

Curator: Dr. JOHN J. GARDINER.

Staff members: Dr. P.M. JOYCE.

Collection: 900 specimens.

Specialisation: General.

Samples for sectioning: Yes.

Microscope slides: Yes; 100 slides; Slides for loan.

Remarks: This is an amateur collection upon which no research has been carried out.
[Transferred to DBN - IX4 Editor's note]

Israel

ILANOTH: *Forestry Division, Agricultural Research Organisation, (NATw)*, Ilanot, D.N. Lev Hasharon, **Israel**. (outdated-pre 1988).

Foundation: 1950.

Collection: 1,820 specimens, 540 genera.

Specialisation: Native and introduced timbers.

Herbarium vouchers: Yes, but only for local species; 60; Records kept of vouchers deposited elsewhere.

Samples for sectioning: Yes.

Microscope slides: Yes; 80 slides; Slides for loan.

Exchange: Yes. Available: Native and introduced species. Wanted: Commercial timbers of the world.

Italy

FLORENCE: *IVALSA - CNR, Istituto per la Valorizzazione del Legno e delle Specie Arboree - Consiglio Nazionale delle Ricerche (Trees and Timber Institute - National Research Council)*, (**FLw**), Via Madonna del Piano, 50019 Sesto Fiorentino (Florence), **Italy**. (updated 12/07/2005).

Foundation: 1954.

Curator: Dr. NICOLA MACCHIONI, Head of the Wood Anatomy laboratory at IVaLSA - CNR, macchioni@ivalsa.cnr.it.

Staff members: SIMONA LAZZERI, Laboratory Technician, lazzeri@ivalsa.cnr.it; Dr. ALAN CRIVELLARO, Contract Researcher, crivellaro@ivalsa.cnr.it.

Collection: About 10,000 specimens, about 6,500 genera.

Specialisation: Italy, North and South America, Central Africa, Japan, Philippines, Europe.

Herbarium vouchers: No.

Important collections: Brazilian wood in book like specimens.

Periodical or serial publications: Our Institute published a sort of internal series called "Contributi scientifico pratici per una migliore conoscenza del legno". Moreover three books were published based on our wood collection.

Samples for sectioning: Yes, about 4,000 specimens, mostly species from Italy.

Microscope slides: Yes; about 4,000 slides; Slides for loan; Slides not for exchange.

Exchange: Yes, about 4,000. Available: Italy, Central Africa. Wanted: Asia, Oceania, Central and South America.

Catalogue: There is a computer database, based on File Maker software.

FLORENCE: *Herbarium Universitatis Florentinae and Erbario Tropicale di Firenze, (FIw)*, Via Lamarmora 4, 1-50121 Firenze, **Italy**. (outdated-pre 1988).

Foundation: 1842 (Same as that of the Herbarium Universitatis Florentinae).

Collection: 5,400-5,500 specimens.

Specialisation: Worldwide with special emphasis on tropical Africa.

Herbarium vouchers: Yes, in the herbaria; 4,000,000; 30-40%.

Important collections: Bavazzano (Somalia, Mozambique, Kenya, Cameroon); Beccari (Malesia); Corti (Fezzan, Libya); Fenaroli (Brazil); Fiori (Eritrea); Pichi Sermolli (Ethiopia); Senni (Peru).

Samples for sectioning: Yes, for some specimens only.

Exchange: Yes. Available: Tropical East Africa, Italy. Wanted: Worldwide, especially tropical Africa.

FLORENCE: *Xylarium Universitatis Florentinae*, Via San Bonaventura 13, 50145 Firenze, **Italy**. (updated 01/02/2016).

Foundation: 1980.

Curator: Prof. MARCO FIORAVANTI, Professor at GESAAF - University of Florence, marco.fioravanti@unifi.it

Staff members: Dr. GIUSEPPINA DI GIULIO & Dr. GIOVANNI SIGNORINI, Researchers,
giuseppina.digiulio@unifi.it, giovanni.signorini@unifi.it

Collection: About 1,000 specimens, 320 genera.

Specialisation: Europe, Mediterranean, South America, Africa, Asia.

Herbarium vouchers: No.

Periodical or serial publications: One book was published based on our wood collection.

Samples for sectioning: Some species from Europe.

Microscope slides: Yes; about 1,200 slides.

Exchange: Yes. Available: Europe. Wanted: Asia, South America (Chile) Oceania, Africa.

Catalogue: We have an image database of wood sections.

MILAN: *Civica Siloteca "R. Cormio", Civico Museo de Storia Naturale, (MCSw), Corso Venezia 55, Milano, Italy.* (outdated-pre 1988).

Foundation: 1910.

Collection: About 6,000 specimens, about 600 genera.

Specialisation: Central and southern Europe, East Africa.

Herbarium vouchers: No; 10% or less.

Samples for sectioning: Yes.

Remarks: The wood collection is in a poor state of conservation because it was neglected for many years. Because many of the specimens are seriously damaged, the collection needs reorganisation and specimens need to be replaced.

PADOVA: *Xiloteca didattica, Università di Padova, (UPADw), Padua University, Department of Land, Environment, Agriculture and Forestry (TESAF), Viale dell'Università 16, 35020 Legnaro (PD), Italy.* (updated 30/11/2015).

Foundation: 1990.

Curator: Dr TIZIANA URSO, researcher (wood anatomy, wood structure),
tiziana.urso@unipd.it.

Collection: Over 1,000 specimens, about 100 genera.

Specialisation: Italy, Europe.

Herbarium vouchers: No.

Important collections: wood defects.

Samples for sectioning: Yes.

Microscope slides: Yes; About 100 species; Slides for loan; Slides for exchange.

Exchange: No.

Catalogue: Available in hard copy and computer database.

Remarks: The collection is educational; many specimens are present in multiple copies for educational purposes.

Jamaica

KINGSTON: *The Natural History Division, Institute of Jamaica, (IJw), 12-16 East Street, Kingston, Jamaica.* (outdated-1988).

Foundation: 1943.

Curator: Mrs. LENA GREEN, Botanist.

Collection: 749 specimens, 169 genera (some specimens identified by common names).

Specialisation: Jamaica, Belize, Mexico, Guatemala, Argentina, Panama, Haiti, El Salvador, Egypt, Brazil, Thailand, various states in U.S.A.

Herbarium vouchers: Yes; 74,811 flowering plants; about 73%.

Samples for sectioning: Yes.

Exchange: Yes. Available: Jamaica. Wanted: Tropical America.

Remarks: The collection is good but needs updating. No one is currently working on this collection and it needs specialist attention.

Japan

HYOGO: *Museum of Nature and Human Activities, (HYOw), Hyogo, (HYOw), Yayoigaoka 6, Sanda, Hyogo, 669-1546, Japan.* (updated 23/02/2006).

Foundation: 1994.

Curator: Dr. AKIRA TAKAHASHI, Senior Researcher (wood anatomy, local flora),
takahasi@hitohaku.jp.

Collection: 5,200 specimens, 400 genera.

Specialisation: Mostly Japan and many are duplicates from Forestry and Forest Products Research Institute, Tsukuba (TWTw).

Herbarium vouchers: Yes; 95,000; 80%.

Samples for sectioning: Yes, but limited.

Microscope slides: Yes; 2000 slides; Slides not for loan; Slides not for exchange.

Exchange: No.

Catalogue: No.

KYOTO: *Research Institute for Sustainable Humanosphere, Kyoto University, (KYOw), Uji, Kyoto 611-0011, Japan.* (updated 12/12/2015).

Foundation: 1980.

Curator: Prof. JUNJI SUGIYAMA, (wood ultrastructure, image recognition, chemometrics),
sugiyama@rish.kyoto-u.ac.jp.

Staff members: Mr. HAJIME SORIMACHI (Technician).

Collection: 20,000 specimens, 1,150 genera.

Specialisation: Worldwide, but mostly Japan and south east Asia.

Herbarium vouchers: Yes; 2,500; All Japanese woods; Less than 15%

Important collections: Japanese woods.

Website address: http://database.rish.kyoto-u.ac.jp/arch/bmi/index_e.html

Samples for sectioning: Yes.

Microscope slides: Yes; >10,000 slides; Slides for loan, generally restricted to qualified scientists.; Slides not for exchange.

Exchange: Yes. Available: Japanese woods.

Catalogue: Yes, http://database.rish.kyoto-u.ac.jp/arch/bmi/index_e.html.

Remarks: -A large number of wood samples from temples and shrines in Japan of archaeological importance are collected in the framework of the institutional project.

-Cooperative research program on 'making' and/or 'utilizing' wood database is under continuous support. Projects are reviewed and approved by the committee. Annually, ~10 projects on wood anatomy are selected. Annual budget is around 3M yen. URL http://www.rish.kyoto-u.ac.jp/organization_e/databases/

- a web page of Xylarium network (lists of wood collection in the xylarium of Hokkaido Univ, Tohoku Univ, Nagoya Univ, Kyushu Univ) is available at the URL: http://database.rish.kyoto-u.ac.jp/arch/bmi/Xylarium_net/cai_jiandabetesu.html

SENDAI/TOHOKU: *Herbarium Tsudanum, Botanical Garden, Graduate School of Science, Tohoku University, (TUSw), Kawauchi 12-2, Aoba-ku, Sendai 980-0862, Japan.*
(updated 19/10/2004).

Foundation: 1994.

Curator: Dr. MITSUO SUZUKI, Director (wood anatomy), mitsuos@mail.tains.tohoku.ac.jp.

Staff members: Dr. MOTONARI OHYAMA (dendrochronology),
motonari@mail.tains.tohoku.ac.jp.

Collection: 7,100 specimens, more than 129 genera.

Specialisation: Japan, Nepal.

Herbarium vouchers: Yes.

Samples for sectioning: Yes.

Microscope slides: Yes; 3,000 slides, and about 100,000 slides of excavated fossil woods;
Slides for loan; Slides for exchange.

Exchange: Yes. Available: Japan, Nepal. Wanted: Worldwide.

Catalogue: No.

TOKYO: *Department of Forest Botany, University Museum, University of Tokyo, (TOFOw), Hongo, Bunkyo-ku, Tokyo, 113, Japan.* (outdated-1988).

Foundation: 1925.

Curator: Dr. TOSHIO HAMAYA (dendrology and forest botany).

Staff members: Dr. MIKIO KAJI (forest ecology, African trees especially of Cameroon).

Collection: 16,000 specimens, 760 genera.

Specialisation: Mostly Japan and tropical regions of the world; trade timbers.

Herbarium vouchers: Yes, the herbarium of the Section of Forest Botany, University Museum, University of Tokyo (TOFO); about 120,000; All from the University Forests.

Samples for sectioning: Yes, but partially.

Microscope slides: Yes; About 40,000 slides; Slides for loan.

Exchange: Yes, but only a small number. Available: Japan. Wanted: Tropics.

Remarks: The wood collection is temporarily housed in the Laboratory of Forest Botany, Faculty of Agriculture, University of Tokyo, Yayoi. Bunkyo-ku. Tokyo.

TSUKUBA: *Forestry and Forest Products Research Institute, (TWTw), Matsunosato, Tsukuba, Ibaraki 305-8687, Japan.* (updated 10/12/2009).

Foundation: 1928.

Curator: Dr. SHUICHI NOSHIRO, Team Leader (wood anatomy and identification),
noshiro@ffpri.affrc.go.jp.

Staff members: Dr. HISASHI ABE, Senior Researcher (wood anatomy and identification),
abeq@ffpri.affrc.go.jp; Dr. AKIRA KAGAWA, Researcher (dendrochemistry),
akagawa@ffpri.affrc.go.jp.

Collection: 28,000 specimens, 1,800 genera.

Specialisation: East and Southeast Asia.

Herbarium vouchers: Yes; 9,000; records partly kept of vouchers deposited elsewhere; 30%

Important collections: Ogata's Brunei woods.

Website address: www.affrc.go.jp/TWTwDB-E/home.php.

Samples for sectioning: Yes.

Microscope slides: Yes; 90,000 slides; Slides for loan; Slides for exchange.

Exchange: Yes. Available: Japan. Wanted: Worldwide.

Catalogue: Internet site.

Malaysia

KEPONG: *WT- Wood Technology, Forest Research Institute Malaysia (FRIM), (KEPw),* Kepong, 52109, Selangor, **Malaysia.** (updated 12/04/2007).

Foundation: 1918.

Curator: Dr ANI SULAIMAN (wood anatomy, properties and utilisation),
anis@frim.gov.my.

Collection: About 10,000 specimens, to be updated.

Specialisation: Peninsular Malaysia.

Herbarium vouchers: Yes; Almost 100%

Important collections: Desch's Malayan woods (some may not be available anymore).

Samples for sectioning: Can be considered.

Microscope slides: Yes.

Exchange: To be updated.

Catalogue: To be updated.

KUCHING: *Timber Research and Technical Training Centre, Forest Department,* (SARFw), Kuching, Sarawak, **Malaysia.** (outdated-pre 1988).

Foundation: 1956.

Collection: 7,418 specimens, 348 genera.

Specialisation: Sarawak, Malaysia; Dipterocarpaceae.

Herbarium vouchers: Yes; over 55,000; Almost 100%

Samples for sectioning: Yes.

Microscope slides: Yes; 2,566 slides; Slides for loan.

Exchange: Yes. Available: Anacardiaceae, Annonaceae, Euphorbiaceae, Dipterocarpaceae, Lauraceae, Meliaceae, Rubiaceae. Wanted: Same as Available.

SANDAKAN: *Wood Technology Section, Forest Research Centre, (SANw), Sepilok, P.O. Box 1407, Sandakan 90008, Sabah, Malaysia.* (outdated-1988).

Foundation: 1946, partly destroyed by fire in January 1961; active collection carried out since 1967.

Curator: Dr. ONG SENG HENG, Wood Technologist (wood structure and properties).

Staff members: M.P. UDARBE, Senior Research Officer.

Collection: 6,845 specimens, 364 genera.

Specialisation: Sabah, Malaya, Sarawak, Brunei, for timber-producing species only.

Herbarium vouchers: Yes; about 75,000; Records kept of vouchers deposited elsewhere; 100% of Sabah specimens.

Important collections: Sabah timbers.

Samples for sectioning: Will be considered.

Microscope slides: Yes; 513 slides; Slides for loan, requests will be considered.

Exchange: Yes, but limited and available for Sabah specimens only. Available: Sabah, Dipterocarpaceae and associated tree species. Wanted: Flora Malesiana region.

Remarks: Most of the data reported here are from Index Xylariorum 2 owing to receipt of incomplete information from sender (W.L.S. in IX3).

Mexico

JALAPA: *See XALAPA.*

MEXICO: *Xiloteca Dr. Ramon Echenique-Manrique, Instituto de Biología, Universidad Nacional Autónoma de México, (MEXUw), Circuito Exterior Jardín Botánico, Ciudad Universitaria, Coyoacán 04510, México D.F. Ap. Postal 70-233, México. (updated 19/01/2010).*

Foundation: 1969.

Curator: M. en C. JOSEFINA BARAJAS-MORALES, Master degree (research in descriptive and ecological wood anatomy), barajas@ibiologia.unam.mx.

Collection: 3,646 specimens, 565 genera.

Specialisation: Mexico.

Herbarium vouchers: Yes, the wood collection is part of the Herbario Nacional de México (MEXU), at the Instituto de Biología, Universidad Nacional Autónoma de México. All vouchers are deposited there; about 1,200,000; Records kept of vouchers deposited elsewhere; about 85%

Important collections: The more abundant collections have been carried out by: F. Miranda, J. Barajas, G. Angeles, C. Leon, G. Ibarra, P. Tenorio y E. Martinez, in different regions of México.

Periodical or serial publications: *Publicaciones Especiales del Instituto de Biología, UNAM; Serie Cuadernos del IBUNAM; Revista Mexicana de Biodiversidad.*

Samples for sectioning: Yes.

Microscope slides: Yes; About 3,000 slides; Slides not for loan; Slides not for exchange.

Exchange: Yes. Available: From México. Wanted: México and North, Central and South America.

Catalogue: Recently we made a computer database, which was included in the big governmental database CONABIO (www.biodiversidad.gob.mx/v_ingles/resources). Also another database at Instituto de Biología named UNIBIO.

Remarks: In 1969, the wood technologist Dr. Ramon Echenique-Manrique came to the Biology Institute. He organized the tablets collected by Faustino Miranda in 1949 (112 specimens), and obtained new specimens from México and other countries. With these

actions he started a serious wood collection, and the research in wood anatomy and Technology at UNAM with woods from Mexico.

MEXICO: *Xiloteca Nacional, Seccion de Anatomia de Maderas, Instituto Nacional de Investigaciones Forestales, (MEXFw), Avenida Progreso No.5, Coyoacan, Mexico 21, D.F., Mexico.* (outdated-pre 1988).

Foundation: 1954.

Collection: 4,882 specimens, 1,030 genera.

Specialisation: General.

Herbarium vouchers: All Mexican specimens are represented by herbarium vouchers deposited in the Section of Botany and Ecology of the Institute.

Samples for sectioning: Yes.

Microscope slides: Yes; Slides for loan; Slides for exchange.

Exchange: See Remarks.

Remarks: Communication and/or exchanges have been initiated with all institutions listed in the first edition (1967) of the Index Xylariorum and specimens of native Mexican woods are available on exchange.

XALAPA: *Xiloteca "Dr. Faustino Miranda", Instituto de Ecologia, A.C., (XALw), Km. 2.5 Carretera Antigua a Coatepec No. 351, Congregacion "El Haya", 91070 Xalapa, Veracruz, Mexico.* (updated 17/01/2007).

Foundation: 1976.

Curator: M. en C. FERNANDO ORTEGA ESCALONA, Keeper (wood anatomist in tropical timbers and structure-properties relationship), ortega@ecologia.edu.mx.

Staff members: Dr. GUILLERMO ANGELES, Wood Anatomist (functional structure of secondary xylem), guillermo.angeles@inecol.edu.mx.

Collection: 4,000 specimens, 362-380 genera.

Specialisation: Southeastern Mexico.

Herbarium vouchers: Only some of the specimens in the wood collection are backed by vouchers in the Herbarium of the Instituto de Ecologia, A.C. (XAL).; For the trees felled

specifically for our wood collection, vouchers were deposited in our herbarium and for the wood samples that we got in donation or exchange, only the xylarium id is kept.; about 30%

Important collections: Selva Lacandona's woods of Chiapas, Mexico Collection; Pine woods of Mexico Collection.

Periodical or serial publications: Boletin Tecnico "La Madera y Su Uso" No. 19, 1988, 206 pp. Angiospermas Arboreas de Mexico No. 1. Anatomia de la madera de veintiocho especies de Cosautlan, Veracruz. Instituto Nal. de Recursos Bioticos, Xalap, Veracruz, Mexico., Boletin Tecnico La Madera y Su Uso No. 23, 1989, 127 pp. Angiospermas Arboreas de Mexico No. 2. Anatomia de once especies. Instituto Nal. de Recursos Bioticos, Xalap, Veracruz, Mexico., Boletin Tecnico La Madera y Su Uso No. 26, 1991, 200 pp. Angiospermas Arboreas de Mexico No. 3. Anatomia de la madera de veintiseis especies de la Selva Lacandona, Chiapas. Instituto Nal. de Recursos Bioticos, Xalap, Veracruz, Mexico., Boletin Tecnico La Madera y Su Uso No. 27, 1993, 72 pp. Angiospermas Arboreas de Mexico No. 4. Anatomia de la madera de nueve especies tropicales. Instituto Nal. de Recursos Bioticos, Xalap, Veracruz, Mexico., Boletin Tecnico La Madera y Su Uso No. 28, 1993, 85 pp. Angiospermas Arboreas de Mexico No. 5. Anatomia de la madera de ocho especies tropicales. Instituto Nal. de Recursos Bioticos, Xalap, Veracruz, Mexico.

Samples for sectioning: Yes, in cases where we have enough duplicates.

Microscope slides: Yes; About 1,000 slides of 200 species; Slides for loan, some available, we could always provide colour images; Slides not for exchange.

Exchange: Yes. Available: Small number of duplicates from the tropical rainforest and moist forest of Southern Mexico. Wanted: Urticaceae wood samples from the Old World, wood from other families presenting un lignified parenchyma, from tropical forests, woody vines, Asian mangroves, root wood.

Catalogue: Information on part of our collection can be reviewed at:
<http://www.conabio.gob.mx/>

Remarks: Our wood collection is one of the few active ones in Mexico. It provides important services to the community in Veracruz, Mexico.

Myanmar

YEZIN: *Forest Research Institute, (ARw), Yezin, Pinyinmana, Myanmar.* (outdated-1988).

Foundation: 1960.

Curator: U THEIN KYWE, Research Officer.

Staff members: DAW YI YI HAN, Deputy Research Officer; U KYAW WIN MG, Technical Assistant.

Collection: 1,873 specimens, 444 genera.

Specialisation: Burma (Myanmar).

Herbarium vouchers: Yes; 1,490; 80%.

Samples for sectioning: Yes.

Microscope slides: Yes; 1,876 slides; Slides for loan.

Exchange: Yes. Available: Burma (Myanmar). Wanted: Tropical Africa, South America, temperate species.

Remarks: Material formerly at Ahlone/Rangoon has been moved to the Wood Anatomy Research Section of the Forest Research Institute at Yezin. The wood specimens are principally those collected between 1960 and 1962 by Dr. H. Gottwald and U Ral Lian Sum for projects of FAO. The collections are being expanded and all woods collected are associated with herbarium vouchers.

Nepal

LALITPUR: *Department of Plant Resources, National Herbarium and Plant Laboratory, (KATHw), P.O. Box 3708, Godawary, Lalitpur, Nepal.* (updated 26/06/2006).

Foundation: 1976.

Curator: Mrs. LAJMINA JOSHI, Head Plant Anatomy Section (wood anatomy and identification), lajmina@hotmail.com.

Collection: 350 specimens, 150 genera.

Specialisation: Nepal Himalayan Region.

Herbarium vouchers: Yes; 100; Records kept of vouchers deposited elsewhere; 10%.

Important collections: Suzuki and Noshiro (Himalayan region of Nepal).

Samples for sectioning: Yes.

Microscope slides: Yes; About 200 slides. Other plant parts are also represented including leaves, stems and twigs.; Slides for loan; Slides for exchange.

Exchange: Yes, available, but limited. Available: Nepal. Wanted: Worldwide, especially tropical.

Catalogue: No.

Remarks: Wood anatomy of Fagaceae published.

The Netherlands

Preamble: Nearly all Institutional Wood Collections in the Netherlands - except for the Groningen collection - have been merged with the Leiden wood collection (Lw) in the National History Museum of the Netherlands, called Naturalis Biodiversity Center. For lack of sufficient curatorial staff, the collections from Amsterdam, Delft, Leiden, Utrecht and Wageningen are still kept separate in Naturalis, and the information for each of these collections has been abstracted separately under LEIDEN. All the wood specimens (ca. 125.000) have been digitized, and their information is available online (<http://bioportal.naturalis.nl/?language=en&back>).

AMSTERDAM: *See LEIDEN, was Koninklijk Instituut voor de Tropen, (RTlw), Netherlands.* (updated 01/02/2016).

DELFT: *See LEIDEN, was TNO Building and Constructions, (Dw), Netherlands.* (updated 01/02/2016).

GRONINGEN: *GIA wood collection, Groningen Institute of Archaeology, (GIAw), Mail address: Poststraat 6, 9712 ER Groningen, The Netherlands; Location of wood collection: Broerstraat 9, Groningen, Netherlands.* (updated 14/05/2007).

Foundation: Not clear; the oldest date of collected wood is 1965.

Curator: Dr. R.T.J. CAPPERS, r.t.j.cappers@rug.nl.

Staff members: Drs. J.N. BOTTEMA-MAC GILLAVRY, j.n.bottema@rug.nl.

Collection: About 600 specimens, 61 genera.

Specialisation: N.W. Europe, Mediterranean (Greece, Middle East, North Africa).

Herbarium vouchers: No.

Samples for sectioning: Yes.

Microscope slides: Yes; 282 slides; Slides not for loan, only available for use at location; Slides not for exchange.

Exchange: Yes. Available: N.W. Europe, Mediterranean, Middle East, North Africa. Wanted: Mediterranean, Middle East, North Africa.

Catalogue: Not yet.

LEIDEN: Naturalis Biodiversity Center (Dw, Lw, RTIw, Uw, WAGw, WLw, WIBw), Darwinweg 2, P.O. Box 9517, 2300 RA Leiden, Netherlands. (updated 01/02/2016).

Foundation: 1955 (Lw). The Dw collection, founded in 1939 in Delft was transferred to Leiden in 2014; The RTIw collection, founded in 1913 in Amsterdam was transferred to Leiden in 2005; the Uw collection from Utrecht founded in 1946 transferred in 2009; the WAGw collection – including the collections from WLw and WIBw – from Wageningen founded in 1962 was transferred to Leiden in 2012.

Curator: Dr. FREDERIC LENS, wood scientist, frederic.lens@naturalis.nl; for request wood samples contact Ms Christel Schollaardt.

Staff members: MS. CHRISTEL SCHOLLAARDT, Chief collections manager, christel.schollaardt@naturalis.nl; Dr. PIETER BAAS, Honorary staff, pieter.baas@naturalis.nl; Ms NICOLIEN SOL, collection staff; MS ROXALI BIJMOER, collection staff.

Collection: ca 125,000 specimens (Dw 10,000; Lw 30,000; Uw 40,000; RTIw 35,000; WAGw including WLw and WIBw 10,000); over 2,000 genera.

Specialisation: Worldwide, but especially strong in the Malesian region, tropical South America and Africa.

Herbarium vouchers: Yes; about 5,500,000; as much as possible records are kept of vouchers belonging to wood samples received through exchange or gifts; 80%.

Important collections: Koorders (Java); BW (former colonial forestry service or BosWezen from Irian Jaya/Papua; Boschproefstation (bb); Forest Department (BBS, LBB, Surinam); Krukoff (Brazil); Reitz & Klein (Brazil); Collections by Leiden and other botanists from Thailand, Philippines and Indonesia, neotropical collections by Utrecht botanists, and African collections by Wageningen botanists.

Website address: <http://www.naturalis.nl/en/>.

Periodical or serial publications: IAWA Journal (published for the International Association of Wood Anatomists by BRILL publishers, the Netherlands).

Samples for sectioning: Yes.

Microscope slides: Yes; About 50,000 slides; Slides for loan, but restricted; Slides for exchange, but very limited numbers.

Exchange: Yes. Available: Worldwide. Wanted: Worldwide.

Catalogue: Yes. All the wood specimens (ca. 125.000) have been digitized, and their information is available online (<http://bioportal.naturalis.nl/?language=en&back>).

Remarks: Among our historical collections is the unique set of Japanese woods decorated with foliage paintings of the tree species they belong to. Donated to Von Siebold in 1826 by Mogami Tokunai. It probably dates from the end of the 18th century.

UTRECHT: *See LEIDEN, was Nationaal Herbarium Nederland, Utrecht University Branch, (Uw), Netherlands.* (updated 01/02/2016).

WAGENINGEN: *See LEIDEN, was Nationaal Herbarium Nederland Wageningen University Branch, Wageningen University, (WAGw), Netherlands.* (updated 04/01/2010).

WAGENINGEN: *See LEIDEN, was Vakgroep Plantencytologie en morfologie, Botanisch Laboratorium, (WLw - integrated with WAGw), Netherlands.* (updated 01/02/2016).

WAGENINGEN: *See LEIDEN, was Vakgroep Bosbouwtechniek, Instituut voor Bosbouwkundig Onderzoek, Landbouwhogeschool (Department of Forestry Techniques, Agricultural University), (WIBw - integrated with WAGw), Netherlands.* (updated 01/02/2016).

New Zealand

CHRISTCHURCH: *Biological Sciences, University of Canterbury, (CHNw), Private Bag 4800, Christchurch, New Zealand.* (updated 30/11/2015).

Foundation: 1970.

Collection: 2,500 specimens, 400 genera.

Specialisation: New Zealand indigenous species.

Herbarium vouchers: Yes; 1,500; 67%.

Periodical or serial publications: Structure of New Zealand Woods, B.A. Meylan and B.G.Butterfield, NZ Govt Printer 1978.

Samples for sectioning: Yes.

Microscope slides: Yes; 300 slides; Slides for loan; Slides not for exchange.

Exchange: No.

Catalogue: Personal card files.

CHRISTCHURCH: Landcare Research – Manaaki Whenua, (**CHRw**), Allan Herbarium (CHR), PO Box 69040, Lincoln 7640, **New Zealand**. (updated 30/11/2015).

Foundation: 1974.

Collection: 1,400 specimens, more than 110 genera.

Specialisation: New Zealand.

Herbarium vouchers: Yes; 900 specimens; 65%.

Samples for sectioning: Usually no.

Microscope slides: Yes; 1,600 slides; Slides not for loan.

Remarks: A collection of 900 wood samples, all with vouchers lodged with the wood collection, forms the basis of anatomical studies. There is also a collection of 500 wood specimens from the Canterbury Museum in Christchurch which do not have voucher specimens. A series of papers on the anatomy of New Zealand woods has been published in a DSIR publication and in the New Zealand Journal of Botany since 1967. Information contained in these papers is used for the identification service provided to museums, universities, several government departments, and the general public.

ROTORUA: Forest Research Xylarium, Forest Research, (**WZw**), Private Bag 3020, Rotorua, **New Zealand**. (updated 30/11/2015).

Foundation: Unknown.

Curator: Dr LLOYD DONALDSON, Senior Scientist, Biotransformation,
lloyd.donaldson@scionresearch.com.

Collection: More than 4,500 specimens, 1100 genera.

Specialisation: Southwest Pacific, New Zealand, more than 70 countries.

Herbarium vouchers: No.

Important collections: Day (New Zealand; woods donated by George Day 1903-1978), Ll. Williams (Peru, Mexico), Krukoff (Brazil), Acosta-Solis (Ecuador), Smith (USA), J.A. Buchanan (extensive).

Website address: <http://www.scionresearch.com/general/facilities-and-collections/wood-collection>

Samples for sectioning: Yes, except New Zealand woods.

Microscope slides: Yes, not associated with wood collection; Slides not for loan; Slides not for exchange.

Exchange: No, we have no space for new specimens and do not have duplicates.

Catalogue: There is a text based listing of samples.

Nicaragua

MANAGUA: *Laboratory of Wood Technology "Olof Palme," Nicaraguan Institute of Natural Resources and Environment, (NINw), P.O. Box 5123, Managua, Nicaragua.* (outdated-1988).

Foundation: 1983.

Curator: ZOILA HERRERA ALEGRIA (wood anatomy).

Staff members: ALEYDA MORALES VARGAS (wood anatomy); MARGARITA CASTRO GUTIERREZ (wood anatomy); PETRONILA AVENDANO MEDRANO (wood anatomy).

Collection: 472 specimens, 133 genera.

Specialisation: Nicaragua.

Herbarium vouchers: Yes; 205; about 50%.

Samples for sectioning: Yes.

Microscope slides: Yes; 105 slides; Slides not for loan.

Exchange: Yes. Available: Nicaragua. Wanted: Central and South America.

Remarks: Herbarium specimens are lodged in the National Herbarium of Nicaragua. Wood specimens have been collected from both tropical rain forest and tropical dry forest areas of Nicaragua.

Nigeria

IBADAN: *Timber Library, Forest Products Research Division, Forestry Research Institute of Nigeria, (FHIw), P.M.B. 5054, Ibadan, Nigeria. (outdated-pre 1988).*

Foundation: 1962.

Collection: About 2,500 specimens, 400 genera.

Specialisation: Nigeria.

Herbarium vouchers: Yes; 80,000; Over 95%.

Important collections: See Remarks.

Samples for sectioning: Yes, copies of such research papers are requested.

Microscope slides: Yes; 5,000 slides; Slides for loan.

Exchange: Yes. Available: Nigeria. Wanted: Temperate hardwoods and softwoods.

Remarks: The Timber Library is being built up by collecting specimens to represent the tree species of Nigeria. Slides have been prepared for all the samples collected. All collections of wood have herbarium vouchers and are lodged in the Forest Herbarium Ibadan (FHI). Research is concentrated on the anatomy of the lesser-used tree species. Woods are collected from different parts of Nigeria and include those from high forest, savannah, and swamps.

Papua New Guinea

BOROKO: *Forest Products Research and Development Centre., (PMPw), P.O. Box 1358, Boroko, Papua New Guinea.* (outdated-1988).

Foundation: 1944.

Curator: Dr. ANDREW OTENG-AMOAKO (wood structure and properties).

Staff members: ANNA AGLUA, Senior Technical Officer; JOHN BORI, Senior Technical Officer.

Collection: 13,000 specimens, 250 genera.

Specialisation: Papua New Guinea.

Herbarium vouchers: Yes, at LAE Herbarium.

Samples for sectioning: Yes.

Microscope slides: Yes; 1,000 slides; Slides for loan, by special arrangement only.

Exchange: Yes. Available: Papua New Guinea. Wanted: Southeast Asia, southwest Pacific area, Africa, South and Middle America.

Remarks: A wood collection known as the "W" series totals 3,000-odd specimens of which only 400 are supported by botanical vouchers. All have been determined microscopically to generic level and in case of voucher specimens, to species level.

BULOLO: *Bulolo Herbarium. Papua New Guinea Forestry College, (BULHw), P.O. Box 92, Bulolo, Papua New Guinea.* (outdated-pre 1988).

Foundation: 1965.

Collection: About 7,000 specimens, about 300 genera.

Specialisation: Mainly Papua New Guinea and Solomon Islands.

Herbarium vouchers: Yes; about 16,000; Proportion of wood specimens associated with herbarium vouchers unknown, but most are held at the Forest Products Research Centre, Boroko (Port Moresby) and at the Division of Botany, Lae.

Samples for sectioning: Yes, but prefer that all requests be made to Forest Products Research Centre, Boroko (Port Moresby), Papua New Guinea.

Microscope slides: Yes; 200 slides; Slides not for loan, for internal instructional purposes only.

Exchange: Duplicates of wood specimens are only distributed with the duplicates of herbarium specimens.

LAE: *PNG National Herbarium, Department of Forests, (LAEw), P.O. Box 314, Lae, Papua New Guinea.* (outdated-1988).

Foundation: 1944.

Curator: J.R. CROFT (oil botany).

Collection: 8,500 specimens, about 1,000 genera.

Specialisation: Papua New Guinea.

Herbarium vouchers: Yes; about 275,000; 100%.

Samples for sectioning: No, such requests should be sent to the Forest Products Research and Development Centre, Boroko (PMPw).

Microscope slides: No, all slides transferred to the Forest Products Research and Development Centre (PMPw).

Remarks: All wood research is conducted at the Forest Products Research and Development Centre, Boroko. The LAE herbarium curates all voucher specimens.

People's Republic of China

BEIJING: *The Research Institute of Wood Industry (CRIWI), Chinese Academy of Forestry (CAF), (CAFw), Wan Shou Shan, Chinese Academy of Forestry, Beijing 100091, People's Republic of China.* (updated 03/11/2003).

Foundation: 1932.

Curator: Prof. JIANG XIAOMEI, Master degree (wood science and wood anatomy), xiaomei@forestry.ac.cn.

Staff members: Prof. ZHANG LIFEI from CRIWI, CAF (wood identification and wood science), lifei@forestry.ac.cn.

Collection: More than 20,000 specimens.

Specialisation: More than 70 countries and regions.

Herbarium vouchers: Around 2,000 vouchers, but these have been transferred to the Research Institute of Forestry now; Around 10%

Samples for sectioning: Yes.

Microscope slides: Yes; More than 30,000 slides; Slides for loan.

Exchange: Yes. Available: From China. Wanted: From China.

Catalogue: Yes, as hard copy.

GUANGZHOU: *Wood Anatomy Section, Botanical Laboratories, Department of Biology, Sun Yat-Sen University, (SYSw), Guangzhou, Guangdong, People's Republic of China.* (outdated-1988).

Foundation: 1981.

Staff members: Ms. HUANG GUI-LING (plant anatomy); Professor HO TIEN-XIAN (wood anatomy).

Collection: About 1,800 specimens, about 250 genera and up to 1,000 species.

Specialisation: Guangdong Province, including Hainan Island.

Herbarium vouchers: No; But vouchers are housed in the South China Institute of Botany, Academia Sinica, Guangzhou; about 30%.

Samples for sectioning: Available in the near future.

Microscope slides: Yes; about 300 slides; Slides not for loan.

GUANGZHOU: *Forest Research Institute of Guangdong Province, (FRTGw), Saho, Guangzhou, Guangdong, People's Republic of China.* (outdated-1988).

Foundation: 1957.

Curator: Mr. SU ZHONG-HAI, Engineer (wood classification, properties, and utilisation).

Staff members: Mrs. TAN QUI-ZHU, Assistant Engineer.

Collection: 2,212 specimens, about 600 genera.

Specialisation: North America and Central Africa and a small portion from Southeast Asia.

Herbarium vouchers: Yes; 2,000 species; all Guangdong woods are supported by herbarium vouchers.

Samples for sectioning: Yes.

Microscope slides: Yes; 342 species; Slides not for loan.

Exchange: Yes, a few. Available: Tropical and subtropical China. Wanted: American and Asian tropical woods.

Remarks: The collections are divided among three main groups: 968 Guangdong woods, 420 from other provinces of China; and 824 foreign woods.

HEFEI: *Institute of Forest Products Industry, Anhui Agricultural College, (HEFw)*, Hefei, Anhui, **People's Republic of China.** (outdated-1988).

Foundation: 1948.

Curator: Prof. WEI GUANG-YANG (wood anatomy and identification).

Staff members: Prof. KE BING FAN (mechanical properties of wood, founder of the wood collection).

Collection: 4,072 specimens, 457 genera.

Specialisation: Eastern and southern China: some from western and northern China and from abroad such as Japan, Malaysia, Indonesia, and New Guinea.

Herbarium vouchers: There are about 2,700 voucher specimens for Chinese woods; Vouchers are not maintained for foreign woods but records are kept showing the source of the wood specimens, identifier, etc.; about 66%.

Samples for sectioning: Yes.

Microscope slides: Yes; 7,400 slides; Slides for loan.

Exchange: Yes. Available: Eastern and southern China. Wanted: Tropical woods of eastern and southern Asia; Lauraceae.

KUNMING: College of Material Engineering, Southwest Forestry University (SWFUw), Kunming, Yunnan, 650224, **People's Republic of China.** (updated 25/01/2016).

Foundation: 1960

Curator: Prof. JIAN QIU (Wood Anatomy), qiujianswfu@foxmail.com.

Staff members: DR. BEI LUO (Wood Anatomy and Wood Formation), MRS. YANG YAN (Wood Anatomy).

Collection: About 97 families, about 333 genera, 1400 species, and many duplicates of specimens in each species.

Specialization: Yunnan, China.

Herbarium vouchers: There is a separate herbarium collection in Wood and Forest Science Museum, Southwest Forestry University.

Samples for sectioning: Yes.

Microscope slides: Yes. 300 slides

Exchange: Yes.

Catalogue: Yes, all wood collections are included.

NANJING: *College of Materials Science & Engineering, Nanjing Forestry University, (NFUw), 159 Nanjing Longpan Road, Jiangsu Province 210037, People's Republic of China.* (updated 02/12/2015).

Foundation: 1952.

Curator: Prof. ZHANG YAO-LI (wood anatomy), zhangyaoli@126.com.

Staff members: Prof. PAN Biao; Associate professor LUO Jia'yan; Associate professor XU Kui-wu; Associate professor ZHAI Sheng-Cheng; Lecturer SHI Jiangtao.

Collection: 30,000 specimens, 660 genera.

Specialisation: China, Southeast Asia, Japan, Australia, and some other countries.

Herbarium vouchers: There is a separate herbarium xylarium in Nanjing Forestry University campus, and College of Forestry is in charge of it.

Important collections: Wood collections originated from Hainan province, Shaanxi province, Guangxi province, Yunnan province, Sichuan province, Guizhou province in China.

Samples for sectioning: Yes.

Microscope slides: Yes; 17,000 slides; Slides for loan; Slides not for exchange.

Exchange: Yes, wood specimens in 120 different species, from over 70 genera, can be used for exchange. Available: Chinese woods. Wanted: Woods from South America.

Catalogue: Yes, Excel database is available. All wood collections and microscope slides are included.

Remarks: Many imported commercial timbers in China have been collected since 1921. Lab has undertaken joint research with museums in China. Some wooden objects from famous excavated sites have been identified, like ZHENG He ships of the Ming dynasty, many tomb constructions of the Han dynasty.

SHENYANG: *Wood Research Group, Institute of Forestry and Pedology, Academia Sinica, (IFPw), P.O. Box 417, Shenyang, Lisoning, People's Republic of China.* (outdated-1988).

Curator: Prof. BEI TONG-REN (wood science); ZENG QI-YUN, Team Leader.

Staff members: LU HONG-RUA (wood structure); GUO DE-RONG (wood structure).

Collection: 416 specimens, 185 genera.

Specialisation: Northeast, central-south, and southwest China.

YANGLING: *Timber Research Laboratory, Northwestern College of Forestry, (YANw), Yangling, Shensi, People's Republic of China.* (outdated-1988).

Foundation: 1951.

Curator: Prof. WUANG BEN-CHUEN (wood science).

Staff members: Mr. AN PAI-JUN (timber technology); Mr. CHOW LI (wood science engineer).

Collection: 1,200 specimens.

Specialisation: Northwest provinces of China.

Herbarium vouchers: Yes; about 20%

Samples for sectioning: Yes.

Microscope slides: Yes; more than 200 slides; Slides for loan.

Exchange: Yes.

Remarks: Exchange of wood specimens, microscope slides, and information will be appreciated.

Perú

LIMA: *Laboratorio de Anatomía de la madera. Departamento de Industrias Forestales, Facultad de Ciencias Forestales, Universidad Nacional Agraria la Molina. Av. la Molina s/n. Lima, Perú.* (updated 01/02/2016).

Foundation: 1969.

Curator: MANUEL CHAVESTA CUSTODIO (dendrochronology and wood anatomy),
mchavesta@lamolina.edu.pe.

Staff members: ROLANDO MONTENEGRO. (wood anatomy),
rmontenegro@lamolina.edu.pe.

Collection: 5500 specimens.

Specialisation: Amazonian Species from Peru.

Herbarium vouchers: Yes.

Microscope slides: Yes: 32 000 slides (Approximately 8 slides per specimen). Slides for loan and Slides for exchange.

Exchange: Yes. Available: mostly genera *Bombacacea*.

Catalogue: Yes.

Publications: Atlas de Madera del Perú, Atlas de Madera del Perú (Vol II).

Philippines

COLLEGE: *Anatomy and Dendrology Section, Materials Properties Evaluation Division, Forest Products Research and Development Institute (FPRDI), (CLPw), Department of Science and Technology, College, Laguna 4031, Philippines.* (updated 26/06/2006).

Foundation: 1954. The collection consists mostly of original and duplicate authentic woods from the collection of the Philippine Bureau of Forestry which was started in 1901. The collection was then turned over to the then Forest Products Research Laboratory now the Forest Products Research and Development Institute. The wood samples were salvaged from the fires during World War II.

Curator: Dr. RAMIRO P. ESCOBIN, Supervising Science Research Specialist and Chief, Anatomy and Dendrology Section (plant systematics, dendrology, anatomy), fprdi@laguna.net, rpescobin@yahoo.com.

Staff members: Dr. WILFREDO M. AMERICA (wood anatomy and identification), fprdi@laguna.net; Forester DOMINADOR S. ALONZO (structure-property relations), fprdi@laguna.net; JOSEFINA G. PALISOC (fibre morphology), fprdi@laguna.net.

Collection: About 11,000 specimens, about 900 genera.

Specialisation: Philippines.

Herbarium vouchers: Yes. Present wood collection is associated with herbarium vouchers housed in CLP. The Philippine Forestry collections and vouchers deposited in the former Bureau of Science (now National Museum), Manila, were all burned during World War II. Duplicate vouchers may be found in the herbaria at Kew, University of California at Berkeley, US National Herbarium in Washington D.C., and may be elsewhere. The FPRDI herbarium (CLP) has about 2,631 specimens, mostly of trees, representing about 399 genera and 110 families.; about 20% in CLP.

Important collections: E.D. Merrill and A.D.E. Elmer (Philippines).

Periodical or serial publications: FPRDI Journal; Forest Products Technoflow; FPRDI Timber Series.

Samples for sectioning: Yes, upon request and with approval of the Director and Curator, Forest Products Research and Development Institute.

Microscope slides: Yes; about 6,000 slides; Slides for loan, upon request and approval of the Director & Curator.

Exchange: Yes, but limited. Available: Commercial and non-commercial woods of the Philippines. Wanted: Authentic commercial and non-commercial woods from exchanging institutions.

Catalogue: A catalogue of the wood collection is in hard copy and a computer database is currently being prepared and will be available in the near future.

Remarks: We have conducted a wood exchange programme with about 50 countries throughout the world and to date accumulated about 5,274 specimens representing about 1,000 genera and 182 families.

Poland

POZNAŃ: *Department of Forest Engineering, Faculty of Forestry, Poznan University of Life Sciences, 60-625 Poznan, Wojska Polskiego 71C, Poland. (new collection since 01/02/2016).*

Foundation: 1924.

Curator: Prof. D.Sc., Ph.D. ANDRZEJ CZERNIAK (forest engineering).

Staff members: Prof. D.Sc., Ph.D. ANTONI T. MILER (forest hydrology).

Collection: 5,142 samples (there are samples of wood, dried fruits, seeds), and also 82 veneers and 277 wood micro-sections.

Specialisation: World's timber.

Herbarium vouchers: no.

Samples for sectioning: Yes.

Microscope slides: 277 wood micro-sections.

Exchange: Acceptable.

Remarks: The collection contained arborescent and shrubby species, in superior quantities of very interested exotic species. There are representatives of all continents. Stock-taking and photographic records showed that at present this collection consists 5,142 samples (there are samples of wood, dried fruits, seeds), and also 82 veneers and 277 wood micro-sections. Generally in this xylaria are representatives from 1,293 species and 203 families.

Portugal

ALCOBACA: *Departamento de Tecnologia Fisico-mecanica dos Produtos Florestais, Estacao de Experimentacao Florestal, (ALCw), Alcobaca, Portugal. (outdated-pre 1988).*

Foundation: 1954.

Collection: 150 specimens, 70 genera.

Specialisation: Portugal, continental and insular (Madeira, Acores).

Herbarium vouchers: Yes; 100; about 80%.

Samples for sectioning: Yes.

Microscope slides: Yes; 100 slides; Slides for loan.

Exchange: Yes.

LISBON: *FLOR, Instituto de Investigacao Cientifica Tropical, FLOR -Florestas e Produtos Florestais, (LISFLw), Dep. Engenharia Florestal, Tapada da Ajuda, 1347-017 Lisboa, Portugal.* (updated 01/11/2007).

Foundation: The first collection was from Timor, in 1948.

Curator: FERNANDA SOUTO BESSA, Master (wood anatomy, forestry), fbessa@isa.utl.pt, fernanda.bessa@iict.pt.

Staff members: TERESA QUILHO, Researcher, Ph.D. (wood and bark anatomy, wood identification), terisantos@isa.utl.pt.

Collection: About 4,120 and 2,160 for exchange specimens, total genera unknown.

Specialisation: Africa (Angola, Mozambique, Guinea, Sao Tome and Principe); South Africa; Asia (India, Indonesia, Timor); America (USA, Venezuela, Brazil); Some of Europe.

Herbarium vouchers: ?

Important collections: Romero Monteiro (Angola); B. Coster (Netherlands, Australia); Koninklijk Instituut voor TROPEN (Netherlands); CIRAD (Guiana); John Terlak (tropical woods).

Periodical or serial publications: See Remarks.

Samples for sectioning: Yes.

Microscope slides: Yes; 5,101 slides; Slides for loan; Slides not for exchange.

Exchange: Yes. Available: Africa. Wanted: Europe, North America, Japan, China.

Catalogue: Hard copy, computer database in preparation.

Remarks: Our wood collection include mainly tropical woods from ancient Portuguese colonies. Liberato, M.C.; M.C. Freitas, T. Quilho, J. B. Reis & J. Saporitti. (2002). Essencias Florestais de Angola Cabinda. Ministerio da Ciencia e do Ensino Superior Secretaria de Estado da Ciencia e Tecnologia. Instituto de Investigacao Cientifica Tropical. Lisboa. 111pp.; Ferreirinha M.P. (1958). Identificacao de uma madeira angolana *Morus lactea* (Sim) Mildbr. Garcia da Orta Vol. 6(2): 283-300.; Ferreirinha M.P. (1962). Madeiras de Angola -2ª Serie. Garcia da Orta Vol. 10(1): 111-128.; Ferreirinha M.P. & Reis J.E.B. (1969). Madeiras de Angola -3ª Serie. Garcia da Orta Vol. 17(3): 289-298.; Franca O. (1960). *Pycnanthus angolensis* Exell. Estudo da sua Madeira. Separata de Melhoramento - Vol. XIII: 47-56. Freitas M.C. (1961). Madeiras de Angola -1ª Serie. Garcia da Orta Vol. 9(4): 699-712.; Liberato, C., T. Quilho F. Bessa & J. Saporitti. (2006) Recursos Florestais do Maiombe angolano - Contribuicao para o seu conhecimento In: Angola Agricultura Recursos Naturais Desenvolvimento Rural Cap.13: 261-286 ISA Press; Monteiro, R.R. (1960). Presenca de canais traumaticos na madeira de *Terminalia superba* Engl. (Limba). Separata de Melhoramento - Vol. XIII: 57-63.; Jardim e Museu Agricola do Ultramar (1963, 1967) Essencias florestais do Maiombe portugues Angola. 1 *Gossweilerodendron balsaminiferum* (Vermoes) Harms. 23 pp., 2 *Polyalthia suaveolens* Engl. & Diels var. *suaveolens*. 25 pp.; Mambo A. (1990) Taxonomia florestal de Cabinda. Tecnicas de herbariologia. Relatorio de estagio profissional. Instituto de Investigacao Cientifica Tropical. 131 pp.; Monteiro, R.R. & Frade, E.C. (1960) Essencias florestais de Angola. Regiao dos Dembos. Memorias e Trabalhos do Instituto de Investigacao Cientifica da Angola, Luanda, 1, 1, 135 pp.; Monteiro R.R. & Franca O.P.(1965). Tres especies florestais de Angola. Boletim do Instituto de Investigacao Cientifica de Angola, Luanda, 2, 2: 209-218.; Monteiro R.R. (1967) Essencias florestais de Angola. Estudo das suas madeiras. Especies do Maiombe. Memorias e Trabalhos do Instituto de Investigacao Cientifica da Angola, Luanda, 4, 74 pp.; Monteiro R.R. (1970) Alguns elementos de interesse ecologico da flora lenhosa do planalto do Bie (Angola). Memorias e Trabalhos do Instituto de Investigacao Cientifica da Angola, Luanda, 5, 166 pp.; Monteiro R.R. & Sardinha R.A. (1971) Essencias florestais de Angola. Estudo das suas madeiras. Regiao dos Dembos. Memorias e Trabalhos do Instituto de Investigacao Cientifica da Angola, Luanda, 1,II, 164 pp.; Silva M. R. M.(1971) Especies lenhosas da floresta aberta de Angola. Instituto de Investigacao Cientifica da Angola, Luanda, Serie Cientifica 18: 1-15.; Pedro E. , Seabra L., Ferreirinha P. E Sousa. *Pterocarpus angolensis* DC. Garcia da Orta Vol. 3(1): 11-31.

LISBON: Divisao de Madeiras, Laboratorio Nacional de Engenharia Civil, (LNECw), Avenida do Brasil, Lisboa, **Portugal.** (outdated-pre 1988).

Foundation: 1955.

Collection: 600 specimens, 300 genera.

Specialisation: Portugal and former Portuguese territories (Guinea-Bissau; Angola; Mozambique).

Samples for sectioning: Yes.

Microscope slides: Yes; about 500 slides; Slides not for loan.

Exchange: Yes, limited. Available: According to available lists of specimens from Portugal and tropical Africa. Wanted: Brazil and West Africa, especially from rain forest areas.

LISBON: *Xiloteca, Jardim e Museu Agricola Tropical, (LISJCw)*, Calçada do Galvão, Belem-Lisboa, **Portugal**. (outdated-1988).

Foundation: 1957, but there was a timber collection in the Museum founded in 1914.

Curator: CLAUDIO MANUEL BUGALHO SEMEDO.

Staff members: ROGERIO DIAS PEREIRA.

Collection: 4,148 specimens, 1,025 genera.

Specialisation: Worldwide, especially tropical forests.

Herbarium vouchers: Yes; 54,800; Records not kept of vouchers deposited elsewhere; very few.

Exchange: Yes. Available: African tropical forests and Portugal by special request.

Remarks: There is a collection of bark specimens used to aid tree identification in the field.
[This may have been incorporated into LISC - Jardim Botanico Tropical, at Instituto de Investigacao Cientifica Tropical?]

Russia

ST PETERSBURG: *Dendrological Collection, Botanical Museum, Komarov Botanical Institute of the Russian Academy of Sciences, (LEw)*, Professor Popov street 2, 197376 St. Petersburg, **Russia**. (updated 10/12/2009).

Foundation: 1823.

Curator: Dr. ALEXEI A. OSKOLSKI, Senior Researcher (wood anatomy of apiales),
aaskolski@gmail.com.

Staff members: Prof. *EUGENIA S. CHAVCHAVADZE*, Principal Researcher (comparative and ecological wood anatomy); Ms. *EKATERINA L. KOTINA*, Junior Researcher (bark anatomy); Ms. *SVETLANA B. VOLKOVA* (wood anatomy of shrubs and climbers).

Collection: About 14,000 specimens, about 1,400 genera.

Specialisation: Worldwide, but especially the former Soviet Union.

Herbarium vouchers: No; Records kept of vouchers deposited elsewhere; 20%

Important collections: V.F. Karvinski (Mexico), K.I. Maximovicz (Japan, China, Russian Far East), B.A. Krukoff (Brazil), V.A. Dubianski (California), E. Lobjanidze (Caucasus), M.S. Yakovlev (Ethiopia), N.A. Avrorin (Vietnam), I.V. Grushvitzky & N.T. Skvortsova (Vietnam).

Website address: <http://www.binran.ru/botmus/english/coll/collendr.htm>.

Periodical or serial publications: *Botanicheskij Zhurnal*.

Samples for sectioning: Yes.

Microscope slides: Yes; about 1,000 slides; Slides for loan; Slides not for exchange.

Exchange: Yes. Available: Worldwide, but especially the former Soviet Union. Wanted: Worldwide, but especially from tropics.

Catalogue: The computer database is now under construction. Internet site: <http://www.binran.ru/botmus/collect/collect2.htm> (Russian and English versions available).

South Africa

JOHANNESBURG: *Fossil wood collection, Bernard Price Institute for Palaeontological Research, University of the Witwatersrand, (JPR-Fw), Private Bag 3, WITS 2050, Johannesburg, South Africa.* (updated 06/01/2010).

Foundation: 1990.

Curator: Prof. MARION BAMFORD (palaeobotany), marion.bamford@wits.ac.za.

Collection: 2,275 specimens, about 60 genera - work in progress.

Specialisation: South Africa, Namibia, Botswana, Zimbabwe, Mosambique, Kenya, Tanzania, Uganda.

Herbarium vouchers: Not applicable; 0%

Samples for sectioning: No.

Microscope slides: Yes; Over 5,000 slides; Slides not for loan; Slides not for exchange.

Exchange: No.

Catalogue: Hard copy and computer database.

Remarks: Age range of Upper Carboniferous to Holocene.

JOHANNESBURG: *Modern wood collection, Bernard Price Institute for Palaeontological Research, University of the Witwatersrand, (JPRw), Private Bag 3, WITS 2050, Johannesburg, South Africa. (updated 06/01/2010).*

Foundation: 2002.

Curator: Prof. MARION BAMFORD (palaeobotany), marion.bamford@wits.ac.za.

Collection: About 100 specimens, 30 genera.

Specialisation: South Africa.

Herbarium vouchers: No; 0%

Samples for sectioning: Yes.

Microscope slides: No, slides will be made in the future; Will be for loan; Will be for exchange.

Exchange: Yes. Available: South Africa. Wanted: East Africa.

Catalogue: Hard copy and computer database.

PRETORIA: *South African Forestry Research Institute Wood Collection,, South African Forestry Research Institute, (PFPw), P.O. Box 727, Pretoria 0001, South Africa. (outdated-1988).*

Foundation: 1899 by Conservator, Western Conservancy; continued in 1929 by Forest Products Institute.

Curator: Mrs. STEPHANIE T. COETZEE, Forestry Scientist (wood anatomy).

Staff members: Mr. R. GROVE, Technical Assistant (sectioning).

Collection: 5,055 specimens.

Specialisation: South Africa.

Herbarium vouchers: In part, most local collections since 1968 accompanied by herbarium vouchers; 300; Records kept of vouchers deposited elsewhere; 33%.

Important collections: Wood collections have been received from the following: Imperial Institute Collection; Technological Museum, Sydney; Forestry Commission, New South Wales, Sydney; Forest Branch, Victoria, British Columbia; Yale University; Forest Department, Brisbane; Joel Hugo (Mexico); Forest Commission, Melbourne; Forest Research Institute, Dehra Dun; C.C. Robertson (Australia); Commonwealth Forestry Bureau, Australia; C.E. Legat (Australia); Tokyo University; Netherlands Embassy, Pretoria (Dutch Indies); Queensland Forest Service, Brisbane; New York State College of Forestry, Syracuse; Bureau of Forestry, Manila; Forest Products Laboratory, Canada; Forest Products Research Laboratory, Princes Risborough; Agriculture and Forestry, Tokyo; Professor Jaccard, Zurich; Divisional Forest Officer, Northern Rhodesia; Forest Department, Kenya; Conservator of Forests, Gold Coast; Director of Forestry, French West Africa; M.H. Scott (West Africa); South African Railways Administration (Gold Coast); O.B. Miller (Bechuanaland); Servico Florestal, Seccao Tecnologia, Brazil; E.E. Loock (Mexican pines); J.H. ter Laak, Amsterdam; Conservator of Forests, Tanganyika; Chicago Natural History Museum; C.W. Scott, Santiago; Smithsonian Institution; Museu Agricola do Ultramar, Portugal; Taiwan Forestry Research Institute, Republic of China; Ministry of Agriculture, Poland; W. Mayer, Austria; Abteilung fur Biologische Holzforschung, Austria; B. Goldsmith, Zimbabwe; Wood Research Institute, Kyoto, Japan; E.W. Carls, Oregon.

Samples for sectioning: Yes.

Microscope slides: Yes; 1,670 slides; Slides for loan.

Exchange: See Remarks. Wanted: General.

Remarks: With respect to exchanges, although the wood specimen division is now situated at the National Timber Research Institute, the sample collection is still housed at the South African Forestry Research Institute. The two institutes cooperate on the basis of wood specimen exchange.

STELLENBOSCH: *Department of Wood Science, University of Stellenbosch, (STew), Stellenbosch 7600, South Africa.* (outdated-1988).

Foundation: 1933.

Curator: Dr. F.S. MALAN, Senior Lecturer.

Staff members: Mrs. E. WAND, Research Assistant.

Collection: About 1,600 specimens, 1,465 genera.

Specialisation: Africa; South Africa.

Samples for sectioning: Yes.

Microscope slides: Yes; 500 slides; Slides not for loan.

Remarks: Wood specimens wanted from other institutions. Because of the small size of the collection, exchange is not possible; however, specimens will be purchased. Institutions having specimens to sell, are asked to write to the curator.

Spain

MADRID: *Universidad Politecnica de Madrid, Escuela Tecnica Superior de Ingenieros de Montes, (UPMAw), Catedra de Tecnologia de la Madera, Ciudad Universitaria, s/n 28040 Madrid, Spain.* (updated 13/01/2010).

Foundation: 1945.

Curator: Prof. Dr. LUIS GARCIA ESTEBAN (anatomy, physical and mechanical properties of wood), luis.garcia@upm.es.

Staff members: Prof. Dra. PALOMA DE PALACIOS DE PALACIOS, (anatomy, physical and mechanical properties of wood), paloma.depalacios@upm.es.

Collection: 1,635 specimens, 651 genera.

Specialisation: Mediterranean area, Iberian Peninsula and Canary Islands.

Herbarium vouchers: Yes, only for woods from Canary Islands.

Samples for sectioning: Yes.

Microscope slides: Yes; 1,459 specimens, 665 genera; Slides for loan; Slides not for exchange.

Exchange: Yes. Available: Iberian Peninsula. Wanted: Worldwide softwoods.

Catalogue: Yes, hardcopy, computer database in preparation. The collection database will be accessible on the website in the future.

MADRID: *Instituto Nacional de Investigaciones Agrarias, Departamento de Industrias Forestales, (MADRw), Ctra. de la Coruna Km. 7, 28008-Madrid, Spain.* (updated 03/06/2004).

Foundation: 1940 (from IX3).

Curator: M^a TERESA LOPEZ DE ROMA (Dipl.), Curator, troma@inia.es.

Collection: 6,420 specimens, 3,680 species, 1,199 genera.

Specialisation: Mainland Spain, Canary Islands.

Herbarium vouchers: ?

Samples for sectioning: Yes.

Microscope slides: ?

Exchange: Yes.

Catalogue: No.

Suriname

PARAMARIBO: *Surinam Forest Service, (BBSw), P.O. Box 436, Paramaribo, Suriname.*
(outdated-pre 1988).

Foundation: 1948.

Collection: 3,000-4,000 specimens, 500 genera.

Specialisation: Surinam.

Herbarium vouchers: Yes; duplicates in herbarium Botanical Museum and Herbarium,
Utrecht (U).

Samples for sectioning: Yes.

Exchange: Yes, of a limited number of species; these not always associated with herbarium
vouchers. Available: Surinam. Wanted: Guianas.

Remarks: Because space is limited, the wood collection is not easily accessible for the time
being.

Sweden

STOCKHOLM: *SP Technical Research Institute of Sweden, Wood technology, (SWTw),* Drottning Kristinasv. 67, Box 5609, 114 86 Stockholm, **Sweden.** (updated 18/06/2007).

Foundation: 1945. Founded by Endo Peeren who came to Sweden from Estonia after the Second World War in about 1945. Julius Boutelje took over in 1955 and expanded the collection during the following 40 years.

Curator: Today [2007] there is no curator of the collection, and it is discussed if the collection should be kept here in future, when we have no biologist or wood anatomist to take care of it.

Staff members: Charlotte Bjordal, guest researcher at SP Tratek, charlotte.bjordal@sp.se.

Collection: 1,200 specimens, about 300 genera.

Specialisation: Both tropical and Scandinavian timbers.

Herbarium vouchers: No; Some records kept, but very few.

Samples for sectioning: No.

Microscope slides: Yes; 4,000-5,000 slides; Slides not for loan; Slides not for exchange.

Exchange: No.

Catalogue: Unfortunately not. There is a book.

Remarks: From IX3: Boutelje's "Encyclopedia of World Timbers" is based on a card system associated with the collection. The system contains information on about 6,000 species. Editor's note: In IX2, this collection was listed in Wood Technology Department, Swedish Forest Products Research Laboratory. In 1985, the collection of woods formerly housed at the Hortus Botanicus Bergianus was incorporated into SWTw.

STOCKHOLM: *Section of Palaeobotany, Swedish Museum of Natural History, (S-PAw),* 104 05 Stockholm 50, **Sweden.** (outdated-pre 1988).

Foundation: Institution founded in 1884.

Collection: 350 specimens, 100 genera.

Specialisation: Worldwide, but mostly conifers brought together chiefly by the late Professor R. Florin.

Samples for sectioning: If possible.

Microscope slides: Yes; about 400 (chiefly conifers) slides; Slides for loan.

Remarks: The wood collection consists of about 30 per cent dry specimens and 70 per cent fluid-preserved specimens. Of the genera, less than half are angiosperms and more than half gymnosperms, mostly conifers. No active research on wood of recent plants is presently being carried out in the Section of Palaeobotany of the Swedish Museum of Natural History. The section contains large collections of fossil plants, including fossil wood. Particulars about this may be given on special request.

Switzerland

BIRMENS DORF: *Microscopic slides WSL, Swiss Federal Institute for Forest, Snow and Landscape, (WSLw), CH- 8903 Birmensdorf, Switzerland.* (updated 09/12/2009).

Foundation: 1960.

Curator: Prof. Dr. F. H. SCHWEINGRUBER, schweingruber@wsl.ch.

Collection: About 2,000 specimens, about 500 genera.

Specialisation: Mainly from the northern hemisphere. The major part belongs to herbs (annual, perennial, chamaephytes, dwarf shrubs) from the Sahara, Macaronesia, Western Europe, Russia, Carpathians and USA.

Herbarium vouchers: No.

Website address: Microscopic pictures of 2,000 species are online at www.wsl.ch/dendro/xylemdb/.

Samples for sectioning: Yes, but limited.

Microscope slides: Yes; 9,000 specimens and 3,500 species; Slides for loan, limited; Slides for exchange, limited on request.

Exchange: No.

Catalogue: Only hard copy.

Remarks: The collection is mainly a wood ecological slide collection; See Schweingruber, F.H. (2000), *Mikroskopische Holzanatomie*, Paul Haupt Bern. It contains all slides related to Schweingruber, F.H. (1990). *Anatomy of European woods*, Paul Haupt Bern. Included are about 2,000 slides of the xylem of perennial herbs.

ZURICH: *Institut für Wald- und Holzforschung, Fachbereich Holzkunde und Holztechnologie, Eidgenössische Technische Hochschule, (ZTw), ETH-Zentrum, CH-8092 Zurich, Switzerland.* (outdated-1988).

Foundation: 1957.

Curator: Prof. Dr. H.H. BOSSHARD.

Collection: 6,065 specimens, 1,067 genera.

Specialisation: Europe and the tropics.

Samples for sectioning: Yes.

Microscope slides: Yes; 3,920 slides; Slides for loan.

Exchange: Yes. Available: Switzerland. Wanted: Tropics.

Taiwan

TAICHUNG: *Department of Botany, National Museum of Natural Science, (TNMw), 1, Kuan Chien Road, Taichung, Taiwan 40453, Taiwan.* (updated 02/01/2007).

Foundation: 1993. Comprising wood collection, slide collection (including sectioning, whole mount and pollens) and fixed material (pickled/spirit) collection.

Curator: Dr. SHAU-TING CHIU, Associate Curator (functional morphology, vine biology, parasitic plant biology, carnivorous plant biology, and systematics in Loranthaceae, Viscaceae and Caprifoliaceae), stchiu@mail.nmns.edu.tw.

Staff members: Ms. CHUN-LIN HUANG, Curatorial Assistant & Collection Manager (molecular evolution of wild rice), wagtail@mail.nmns.edu.tw.

Collection: includes 1,025 wood blocks, 1,792 (3 dimension wood sections), 8,000 (stem sections) and 17,000 (others) microscopic slides and 8,470 fixed specimens, 155 genera and 339 species of wood blocks.

Specialisation: Taiwan, vines and mistletoes.

Herbarium vouchers: Yes, most deposited in TNM; 110,000; Records kept of vouchers deposited elsewhere; about 20%.

Important collections: Woods and vines of Taiwan, parasitic plants and hosts in Taiwan and Mainland China.

Periodical or serial publications: No. The statistics of collection including woods will be published in biannual reports.

Samples for sectioning: Yes.

Microscope slides: Yes; About 10,000 slides; Slides for loan, it depends; Slides for exchange.

Exchange: Yes. Available: Woods and lianas of Taiwan, Loranthaceae. Wanted: All areas.

Catalogue: Yes. Computer database.

Remarks: TNM Herbarium was founded in 1986 and by 2006 had a collection of about 150,000 specimens including about 130,000 vascular plants and over 18,000 non vascular plants (fungi, algae, mosses and lichens etc.).

TAIPEI: *Herbarium, Institute of Ecology and Evolutionary Biology, National Taiwan University, (TAIW), 1 Roosevelt Rd., Sec. 4, Taipei, 10617, Taiwan.* (updated 24/11/2005).

Foundation: 1929.

Curator: Dr. CENG-MENG KUO (Taiwan), tai@ntu.edu.tw.

Collection: About 50 specimens, about 50 genera.

Specialisation: Woody plants of Taiwan.

Herbarium vouchers: No; No records maintained.

Samples for sectioning: No.

Microscope slides: No.

Exchange: No.

Catalogue: No.

TAIPEI: *Taiwan Forestry Research Institute, (TAIFw), Botanical Garden, 53, Nan-Hai Road, Taipei, Taiwan.* (outdated-pre 1988).

Foundation: 1972.

Collection: 20,000 specimens, 530 genera.

Specialisation: Taiwan.

Exchange: Yes. Available: Taiwan. Wanted: Worldwide.

Thailand

BANGKOK: *Wood Research Institute, (BKFW), Forest Products Research Division, Royal Forest Department, Bangkok, Bangkok 9, Thailand.* (outdated-pre 1988).

Foundation: 1953.

Collection: 2,617 specimens, 209 genera.

Specialisation: Thailand and Southeast Asian countries.

Herbarium vouchers: Yes, in Section of Botany, Royal Forest Department; most of the commercial timbers are in the herbarium; 30% of our wood specimens in the collection came from many countries by exchange; about 50% are supported by herbarium vouchers.

Samples for sectioning: Yes.

Microscope slides: Yes; 1,200 slides; Slides for loan.

Exchange: Yes. Available: South Korea, Japan, Taiwan, India, Malaysia. Wanted: U.S.A., Europe, Africa.

Turkey

ISTANBUL: *Istanbul University, Faculty of Forestry, (ISTUFw), Department of Forest Biology and Wood Protection Technology, 34473 Bahcekoy, Istanbul, Turkey.* (updated 14/12/2009).

Foundation: 1955.

Curator: Prof. Dr. NURGÜN ERDİN (wood anatomy and identification, wood preservation), nurgun@istanbul.edu.tr.

Staff members: Dr. A. DILEK DOGU, Assistant professor (wood anatomy and identification), addogu@istanbul.edu.tr, addogu@yahoo.com.

Collection: 740 specimens (2,410 wood samples in total), 254 genera.

Specialisation: Turkey, England, USA, Mexico, South Africa, New Zealand, Pakistan, Canada, Italy.

Herbarium vouchers: We maintain records showing where herbarium vouchers are deposited; 90%.

Website address: <http://www.orman.istanbul.edu.tr/en/node/2546>.

Periodical or serial publications: Istanbul University, Journal of Forestry Faculty.

Samples for sectioning: Yes.

Microscope slides: Yes; 725 slides; Slides for loan; Slides for exchange.

Exchange: Yes only on exchange. Available: *Abies bornmulleriana* Mattf., *Cupressus sempervirens* L., *Juniperus foetidissima* Willd., *Juniperus oxicedrus* L., *Pinus pinea* L., *Acer campestre* L., *Acer hyrcanum* Fisch. et C.A. Mey., *Acer monspessulanum* L., *Acer platanoides* L., *Alnus orientalis* Decne., *Arbutus andrachne* L., *Betula pubescens* Ehrh., *Buxus sempervirens* L., *Castanea sativa* Mill., *Cornus mas* L., *Fraxinus oxycarpa* Willd., *Juglans regia* L., *Morus nigra* L., *Pistacia terebinthus* L., *Platanus occidentalis* L., *Populus euphratica* Oliv., *Populus nigra* L., *Quercus cerris* L., *Quercus frainetto* Ten., *Quercus hartwissiana* Steven., *Quercus ithaburensis* Decne. subsp. *macrolepis* (Kotschy.), *Quercus libani* Oliver, *Quercus robur* L., *Quercus sessiliflora* Sm. var. *Pinnatifida sensu* Boiss., *Tilia platyphyllos* Scop., *Tilia tomentosa* Moench. Wanted: North America, South America, Central America, Asia.

Catalogue: Yes, computer database.

Remarks: Book entitled "The World Woods Collection" published in 1985, by Prof. Dr. A. Yilmaz Bozkurt and Prof. Dr. Nurgün Erdin, gives valuable information on the Xylarium.

Uganda

KAMPALA: Nakawa Forest Research Institute, (KNw), P.O. Box 1752, Kampala, **Uganda.** (outdated-pre 1988).

Foundation: 1950.

Staff members: Wood Utilisation Section staff members.

Collection: 282 specimens.

Specialisation: Uganda.

Periodical or serial publications: Uganda Timber Leaflets.

Samples for sectioning: No, but visiting scientists are welcome to collect as much as they have funds for.

Microscope slides: Yes; 90-95 slides; Slides not for loan.

UK

BANGOR: *School of Environment, Natural Resources and Geography, (UCNWw), Bangor, Gwynedd, LL57 2UW, Wales, UK.* (updated 09/03/2016).

Foundation: About 1970.

Curator: Dr. M. PAT DENNE, Senior Research Fellow, mary@patdenne.fsnet.co.uk, staff member: Mrs HELEN L SIMPSON, Senior Technician, h.simpson@bangor.ac.uk.

Collection: About 4,800 specimens, about 825 genera.

Specialisation: Ghana, parts of South America.

Herbarium vouchers: No. The origin and donor of the sample is recorded, but no herbarium specimens.

Important collections: G. Stahel (Surinam).

Samples for sectioning: Yes.

Microscope slides: Yes; About 1,000 slides; Slides for loan.

Exchange: A limited number.

Catalogue: Yes, a card index and a computer spreadsheet.

CARDIFF: *Timber collection, National Museum Wales, (NMWw), Cathays Park, Cardiff CF10 3NP, Wales, UK.* (updated 17/12/2009).

Foundation: 1912.

Curator: Dr TIM RICH, Head of Vascular Plants, Department of Biodiversity and Systematic Biology (British vascular plant botany), tim.rich@museumwales.ac.uk.

Collection: About 5,000 specimens, about 650 genera.

Specialisation: Worldwide.

Herbarium vouchers: No; No records maintained.

Important collections: Full sets of Nordlinger thin sections (1,102) and Hough's American woods (315), Wheldon and Wesley collection of about 2,000 handling specimens.

Samples for sectioning: Yes.

Microscope slides: Yes; 2,000 slides; Slides for loan; Slides not for exchange.

Exchange: No.

Catalogue: Published catalogue: Spears, R. (1997). Catalogue of Timber Collection, National Museum and Gallery, Cardiff. National Museums and Galleries of Wales, Cardiff. Also available on the museum's computerised collections database.

Remarks: The bulk of the timber collection was acquired in the 1920s and 1930s primarily through gifts and purchase. Many of the larger sections were donated by local landowners such as the Earl of Plymouth whilst smaller handling specimens of tropical hardwoods were donated by or purchased from timber importers. Some of the more unusual aspects of the collection include various stages in the manufacture of sports equipment such as cricket bats and tennis racquets from producers based in Cardiff and Nottingham.

GARSTON, WATFORD: *Centre for Timber Technology and Construction, Building Research Establishment Ltd, (FPRLw), Garston, Watford, WD25 9XX England, UK.* (updated 15/10/2002).

Foundation: 1926.

Curator: Mr. G.L. MOORE, Retired (consultant wood technology), mooreg@bre.co.uk.

Staff members: Dr. P. BONFIELD, Centre Director, bonfieldp@bre.co.uk; Mr. G. COOPER, Consultant (wood technology), cooperg@bre.co.uk.

Collection: Over 30,000 specimens, about 2,500 (estimated) genera.

Specialisation: Worldwide, but particularly rich in timbers of tropical Africa and Southeast Asia.

Herbarium vouchers: No; Records kept of vouchers deposited elsewhere when available; about 30% (estimated).

Important collections: Fujioka (Japan 1929); Vigne (Ghana, c. 1930-1945); Krukoff (West Africa, Brazil, Sumatra, 1932-1934); Desch (Peninsular Malaysia, 1933-1939); Walker (Soloman Islands, 1946); most of the timber collections of the Imperial Institute, South Kensington, London, and the Cambridge School of Forestry including the collections of Elwes & Henry and Herbert Stone; authentic collections made by the Forest Departments of: Burma (1920-1930), Uganda (1933-date), Kenya (1936-date), Guyana (1942-date), Sri Lanka (1944), Sabah (1950-date), Sarawak (1935-date); and others.

Samples for sectioning: Please enquire.

Microscope slides: Yes; 16,000 (estimated) slides; Slides for loan, please enquire; Slides for exchange, please enquire.

Exchange: Please enquire. Available: Please enquire. Wanted: Any.

Catalogue: Yes, hard copy, but not publicly available.

Remarks: The collection was founded at the Forest Products Research Laboratory at Princes Risborough, which was later to become the Princes Risborough Laboratory of the Building Research Establishment. The Laboratory, with the collection, was transferred in 1988 to its' present location, the main site of the Building Research Establishment at Watford. In 1997 the Building Research Establishment passed from Government, into private ownership by the Foundation for the Built Environment. The collection also contains approximately 350, 6 ft long specimen planks of commercial timbers, 700, 18 inch long panels, 300 veneers and 150 plywoods. Associated with it are extensive collections of literature and references on timbers worldwide, though most of the library was transferred to Oxford in 2007-08.

KEW: *Economic Botany Collection, Royal Botanic Gardens Kew, (Kw), Richmond, Surrey, TW9 3AE England, UK.* (updated 14/08/2009).

Foundation: 1847.

Curator: Dr. MARK NESBITT, Collection Manager, m.nesbitt@kew.org.

Staff members: see under K-Jw.

Collection: 33,500 specimens, 3,205 genera.

Specialisation: Worldwide.

Herbarium vouchers: Yes; There are about 7 million specimens held in RBG Kew's Herbarium; Most woods collected since the 1970s are vouchered; about 4,000 specimens, about 12%

Important collections: J.S. Gamble (Indian woods, 1,400); Natural History Museum (1,700 woods transferred in 1983); International exhibitions (about 1,800 specimens) including: Great Exhibition (1851), International Exhibition (1862), Colonial and Indian exhibition (1886); Japan-British exhibition (1910), British Empire Exhibition (1924), and Paris exhibitions (1855, 1878, 1900); J.B. Worthington (Sri Lanka, 650); R. Schodde & L.A. Craven (New Guinea, 500); G. Stahel (Surinam, 500); George Loddiges (Brazil, Jamaica etc, collected 1790-1810, 415 woods); Ken Ogata (Brunei woods, 500); Woods from the collection of the Duchess of Portland; Great Storm of 1987 (Kew and Wakehurst Place, 300).

Website address: www.kew.org/science/ecbot/

Samples for sectioning: Yes, Contact Curator; sample request form to be completed in advance of visit.

Microscope slides: See K-Jw.

Exchange: No. Wanted: All, but especially taxa not represented in the collection; trees of conservation concern, including CITES-listed species; specimens with bark; shrubs; fuelwood.

Catalogue: Comprehensive database; simplified version available online at: <http://epic.kew.org/>

Remarks: The wood collection at Kew forms a significant part of the Economic Botany Collection, this includes a further 60,000 specimens of plant raw materials and artefacts, including many wooden objects. The wood collection ranges in 4 sizes from very small samples to whole sections of trunk.

KEW: *Jodrell Laboratory, Royal Botanic Gardens Kew, (K-Jw), Richmond, Surrey TW9 3DS England, UK.* (updated 04/06/2009).

Foundation: 1876.

Curator: Dr. PETER GASSON (systematic wood anatomy, tree biology), p.gasson@kew.org.

Staff members: Dr. PAULA RUDALL, Head (micromorphology and reproductive biology), p.rudall@kew.org; Ms. ANNA LYNCH, M.Sc. (Plant Micromorphology Bibliographic Database, monocots), a.lynch@kew.org; Ms. MARY GREGORY (micromorphology), m.gregory@kew.org; Dr. HAZEL WILKINSON (dicot anatomy), h.wilkinson@kew.org; Dr. DAVID CUTLER (micromorphology), d.cutler@kew.org; Dr. MARY-CLARE SHEAHAN (dicot anatomy), m.sheahan@kew.org.

Collection: About 40,000 slides, about 2,250 genera.

Specialisation: Worldwide.

Herbarium vouchers: Yes; Most recent slides are from vouchered material, and there is improving cross-referencing between this collection, the Economic Botany collection and the Herbarium.; The Kew Herbarium holds c.7 million specimens.; unknown proportion of slides is linked to Herbarium specimens.

Important collections: See Kw entry.

Website address: www.kew.org.

Periodical or serial publications: We publish our research in a wide range of scientific journals and in books; Kew Bulletin.

Samples for sectioning: Yes, see Kw.

Microscope slides: Yes. The collection of slides was originally for the preparation and revision of *Anatomy of the Dicotyledons* by C.R. Metcalfe and L. Chalk and *Anatomy of the Monocotyledons* by various authors and is used for research and as a reference collection for identification work. Most flowering plant families and Gymnosperms are represented. The main collection of slides is arranged alphabetically in families, and the wood slides are duplicated in a separate section arranged according to geographical origin. Other plant parts are also represented, including leaves, stems, twigs, woody roots, barks, fibres, medicinal plants and monocotyledons.; The whole collection numbers about 100,000 slides, of which about 40,000 are of woods, and is being continuously enlarged.; Slides not for loan, researchers can visit to consult the collection.; Slides for exchange, some duplicate slides are available for exchange.

Exchange: See Kw. Available: See Kw. Wanted: Worldwide from all families. We aim to maintain an extensive coverage of taxa as comprehensively as possible.

Catalogue: Yes, the slide collection is being documented in an Access database. New slides are added as they are made and the backlog is being worked on by volunteers, supervised by Mary Gregory.

LIVERPOOL: *National Museums & Galleries on Merseyside, Liverpool Museum,, (LIVw), William Brown St, Liverpool L3 8EN England, UK.* (updated 15/08/2002).

Foundation: 1851.

Curator: Dr. LEANDER WOLSTENHOLME, Head of Botany,
leander.wolstenholme@nmgm.org.

Staff members: Ms. DONNA YOUNG, Collection Manager (Botany),
donna.young@nmgm.org; Ms. WENDY ATKINSON, Assistant Curator (Botany),
wendy.atkinson@nmgm.org.

Collection: 10,662 documented items, several thousand undocumented specimens, 640 genera. Unfortunately the database does not allow these data to be readily extracted.

Specialisation: Tropical Africa, S.E. Asia, Australasia.

Herbarium vouchers: No; Although there are numerous associated vouchers, these are mostly in the Kew (K) and Natural History Museum (BM) herbaria. Several hundred in all, e.g. Bagshawe (Uganda), Forbes (New Guinea), Fortune (China); about 5%

Important collections: Nordlinger's Holzquerschnitte; Hough's American Woods; British Museum (Natural History) reserve timber collection; no major additions have been made since IX3.

Periodical or serial publications: No periodicals, but Lady Lever Art Gallery: Catalogue of Commodities by Lucy Wood, 1993, published by Her Majesty's Stationery Office (HMSO) in association with National Museums and Galleries on Merseyside contains the results of considerable research into timbers used in antique furniture. A similar catalogue of seated furniture, with timber data researched by Dr Angus Gunn, is in preparation.

Samples for sectioning: Possibly, on application.

Microscope slides: Yes; 680 documented in the database; a similar number of undocumented slides; Slides for loan; Slides not for exchange.

Exchange: No.

Catalogue: There is a computerised catalogue held in Access. A published catalogue of Economic Botany collections, including some samples (e.g. bark) derived from woody plants, exists: "Handlist of the Economic Botany Collections at Liverpool Museum" by Sarah Bird and Samantha Hallett, ed. J. Edmondson and A. Gunn, 1995, 107 pp. This is a partial listing of the Museum's collections of samples of plants used by mankind for food, medicine, fibres, dyes and a myriad other uses. It includes details of the scientific and vernacular names, uses, geographical source and collector (where known) of 4,000 items from the Economic Botany collections (excluding timbers). There is also "A Provisional List of Wood Samples in the Collections of Liverpool Museum" by John Edmondson, Angus Gunn and John Malpas, National Museums & Galleries on Merseyside Occasional Papers, Liverpool Museum No.4, 1989.

Remarks: It has recently been rehoused in a new store as part of a major refurbishment of Liverpool Museum, funded by the Heritage Lottery Fund.

LONDON: *Department of Botany, British Museum (Natural History), (BMw),* Cromwell Road, London SW7 5BD, England, **UK.** (outdated-pre 1988).

Remarks: The Department has a small though adequately representative collection of uniform-sized samples of wood which is housed in bench drawers in the General Herbarium. This collection is arranged systematically (under the Bentham & Hooker system) and is available to visitors if they wish to see wood of some particular species. We have also a much larger miscellaneous collection of odd-sized wood samples, but this is presently not available for reference owing to the lack of storage facilities. IX4
Editors note: Wood collection has been dispersed to Kew (Kw) and Liverpool (LIVw).

LONDON: *The Horniman Museum and Library, (HMw),* London Road, Forest Hill, London SE23 3PQ, England, **UK.** (outdated-1988).

Foundation: Windsor Great Park Collection of 1886 acquired in 1986; Horniman collections date from 1896.

Curator: ADRIAN HOLLOWAY, Collection Manager, enquiry@horniman.ac.uk.

Collection: 170 specimens from Windsor Great Park and 40 specimens from the conservation collection.

Samples for sectioning: Yes.

Catalogue: www.horniman.ac.uk.

Remarks: The Museum would like to accumulate a general collection of woods mainly of economic species, principally for educational purposes and as a reference for art conservationists and restorers. Woods used in musical instruments and for ethnographic artifacts are especially desired. The collection of 170 specimens now held from Windsor Great Park was donated to the Horniman Museum by the Liverpool Museum which originally received it from the British Museum (Natural History).

OXFORD: *Department of Plant Sciences, University of Oxford, (FHOW),* South Parks Road, Oxford, OX1 3RB England, **UK.** (updated 14/08/2002).

Foundation: 1924.

Curator: Dr STEPHEN HARRIS, Curator, stephen.harris@plantsciences.oxford.ac.uk.

Collection: 24,381 wood blocks specimens, 2,719 genera.

Specialisation: The Commonwealth.

Herbarium vouchers: Yes, FHO; about 250,000 specimens; Records kept of vouchers deposited elsewhere; 44%

Important collections: Desch (Malaysia), Gamble (India), Vigne (Ghana), Fanshawe (Belize), Cooper (Panama, Liberia), Molfino (Argentina), Krukoff (Sumatra, Brazil), Walker (British Solomon Islands), Wood (Sabah/Sarawak), Breteler (Venezuela, Cameroon), Cuatrecasas (Columbia), Anderson (Sarawak).

Website address: herbaria.plants.ox.ac.uk/herbaria_pages/xylarium.html.

Periodical or serial publications: Oxford Plant Systematics - published yearly and has occasional articles on wood.

Samples for sectioning: Yes.

Microscope slides: Yes; 13,123 slides; Slides for loan; Slides for exchange.

Exchange: Yes. Available: The Commonwealth.

Catalogue: Computer Access database for whole collection.

Remarks: Details of the genera and collectors represented in the wood collection are given on the Herbaria website (<http://www.plants.ox.ac.uk/>).

USA

ANN ARBOR: *University Herbarium, North University Building, University of Michigan, (MICHw), Ann Arbor, Michigan 48109-1057, USA. (outdated-1988).*

Foundation: 1921.

Curator: Dr. WILLIAM R. ANDERSON, Director, Curator of Vascular Plants and Prof. of Botany (taxonomy of Malpighiaceae, flora of Mexico).

Collection: About 2,500 specimens.

Herbarium vouchers: Yes; 800,000.

Important collections: H.H. Bartlett (Sumatra, Mexico, Guatemala, Belize); Rahmat (Sumatra); B.A. Krukoff (Sumatra); W.R. Taylor (Bikini).

Samples for sectioning: Yes.

BRONX: *The New York Botanical Garden, (NYw), Bronx, New York 10458, USA.*
(outdated-1988).

Foundation: 1944.

Curator: Dr. PATRICIA K. HOLMGREN, Director of the Herbarium.

Remarks: The wood collections of Bassett Maguire and collaborators have been distributed to the Smithsonian Institution (USw), Yale School of Forestry and Environmental Studies [now housed at the U.S. Forest Products Laboratory (MADw)], The College of Environmental Science and Forestry, Syracuse University (BCWw), and the State University of Utrecht (Uw). The wood collections of Ghilleen T. Prance and collaborators have been distributed to the Instituto Nacional de Pesquisas da Amazonia (INPAw), BCWw, and Uw. The wood collections of Howard S. Irwin have been distributed to USw, BCWw, and MADw. The general wood collections of Scott Mori are deposited at MADw and his wood collections of Lecythidaceae are housed at BCWw. The wood collections of James Luteyn are at the New York Botanical Garden. The herbarium of the New York Botanical Garden houses the voucher specimens for all these collections. The wood collections of Michael Nee are deposited at MADw and vouchers for Nee's collections are at various places.

CAMBRIDGE: *Bailey-Wetmore Laboratory of Plant Anatomy and Morphology, Harvard University Herbaria, (Aw), 22 Divinity Avenue, Cambridge, Massachusetts 02138, USA.* (outdated-1988).

Foundation: About 1938.

Curator: The Director, Harvard University Herbaria.

Collection: Over 31,000 specimens.

Specialisation: General, but strong in tropical Asia, Australasia, and America.

Herbarium vouchers: Yes; In the Harvard University Herbaria and elsewhere; between 60 and 70%.

Important collections: Borneo and Sarawak forestry departments; Jesup (U.S.A.); Krukoff (Brazil); A.C. Smith (Fiji); Brass; Surinam woods; E.H. Wilson; J.G. Jack; C.S. Sargent.

Periodical or serial publications: Journal of the Arnold Arboretum.

Samples for sectioning: Yes, reasonable requests.

Microscope slides: Yes; 35,000 slides; Slides for loan, by arrangement only.

Exchange: Yes, some.

CLAREMONT: *Rancho Santa Ana Botanic Garden, (RSAw)*, 1500 North College Avenue, Claremont, California 91711, **USA.** (updated 14/12/2009).

Foundation: 1960 (general herbarium 1927).

Curator: SULA VANDERPLANK, Administrative Curator, svanderplank@rsabg.org.

Staff members: STEVE BOYD, Curator Emeritus, steve.boyd@cgu.edu; Herbarium staff, herbarium@rsabg.org.

Collection: 7,500 specimens, 2,500 genera.

Specialisation: Southern California, Australia, South Africa, Hawaii; "woody herbs", vines, and other non-arborescent plants.

Herbarium vouchers: Yes, RSA - POM Herbarium, <http://www.rsabg.org/collections/120>; 1,200,000 total specimens; 90%.

Important collections: Carlquist (California, Australia, South Africa, Chile, Hawaii, New Caledonia); Stern and Carlquist (Hawaii); Stahel (Surinam); duplicates from USw; Gary Wallace's Californian wood collection; the haustorial collections of Clyde Calvin.

Website address: www.rsabg.org/collections/120.

Periodical or serial publications: Aliso.

Samples for sectioning: Yes.

Microscope slides: Yes; more than 4,500 wood anatomy slides from Sherwin Carlquist, and the recently acquired Rudy Schmidt slide collection.; Slides for loan; Slides not for exchange.

Exchange: Yes. Available: From areas of specialisation noted above. Wanted: Specimens from taxa not ordinarily considered for inclusion in wood collections; woody material from non-tree species preferred.

Catalogue: No.

DAVIS: *University of California - Davis, (DAVw)*, Section of Plant Biology, College of Biological Sciences, One Shields Avenue, Davis, CA 95616 USA, **USA.** (updated 15/08/2006).

Foundation: About 1980.

Curator: Dr. DEBORAH CANINGTON, Curator, dkcanington@ucdavis.edu.

Staff members: SUSAN NICHOL, M.Sc., sanichol@ucdavis.edu; LESLEY HAMAMOTO, B.Sc., lhamamoto@ucdavis.edu.

Collection: About 600 specimens, Unknown.

Specialisation: Worldwide.

Herbarium vouchers: We do have a herbarium, but no vouchers for the wood collection.; Herbarium records not maintained, the wood collection was donated to us and we have added to it over the years.

Samples for sectioning: Yes.

Microscope slides: We have some slides used for classes, but not connected to the wood collection.

Exchange: Very few.

Catalogue: Hard copy, cross-indexed to order, family and common names.

GAINSVILLE: *University of Florida Herbarium Wood Collection, University of Florida Herbarium, (FLASw), 379 Dickinson Hall, Florida Museum of Natural History, PO Box 110575, Gainesville, Florida 32611-0575, USA. (updated 22/12/2006).*

Foundation: 1938.

Curator: KENT D. PERKINS, Manager of the Collection, herb@flmnh.ufl.edu.

Collection: About 15,700 specimens.

Specialisation: Worldwide, but especially the tropics.

Herbarium vouchers: Yes; about 435,000 specimens (about 250,000 vascular plants, 168,500 byophytes, lichens & algae, 15,700 wood collections). This does not include holdings in the affiliated Paleobotany Collection; There are vouchers in the FLAS vascular plant collection but only a few of these are correlated with the wood collection in our database. We have a card file with information on taxon, collector and locality data. Many of the wood samples are duplicates from the Smithsonian and we have the Smithsonian computer records on those. Other sets are likely vouchered and files associated with each kept, probably in the file cabinet in the wood collection room. According to IX3 there are records for the place of deposit of vouchers.; unknown proportion.

Important collections: A.F. Wilson; Commercial woods used in the U.S.; Commercial woods (U.S. National Lumber Association); Commercial woods of Brazil, Chile, Surinam, and Japan; Japanese Taiwanese woods; A.F. Wilson miscellaneous woods and woods of Korea; Milton F. Scott wood collection (about 6,700) - a carefully documented, diverse assemblage of specimens. Those specimens were presented by him to the School of Forest Resources and Conservation, University of Florida and are now housed as part of the University of Florida Herbarium wood collection at the Florida Museum of Natural History; G.C. Bucher, Sr. wood collection (about 1,930); New York State College of Forestry at Syracuse University, Project I wood samples, with fairly detailed accession logs for the collection and an index card file with information on the taxon, collector, locality and source.

Website address: www.flmnh.ufl.edu/herbarium/flaswood.htm.

Samples for sectioning: Yes, We will loan the wood block for the researcher to take a sample.

Microscope slides: Yes; 1,000 slides; Slides for loan; Probably not for exchange.

Exchange: No.

Catalogue: Index card files with information on the taxon, collector, locality and source. A partial computer database is being worked on but lacks staff to complete it.

HONOLULU: *Department of Botany, Bernice P. Bishop Museum, (BISHw), P.O. Box 6037, Honolulu 96818, USA.* (outdated-pre 1988).

Foundation: 1889.

Collection: 4,400 specimens.

Specialisation: Polynesia, Micronesia, Melanesia. Malaysia.

Herbarium vouchers: Yes; 405,900; a large proportion.

Important collections: J. F. Rock, Hosmer (Hawaii).

Periodical or serial publications: Occasional Papers of the Bernice P. Bishop Museum; Bernice P. Bishop Museum Bulletin; Memoirs of the Bernice P. Bishop Museum.

Samples for sectioning: To meet this need, duplicates of most of the specimens have been placed in the S.J. Record Memorial Collection (now at MADw).

Exchange: See above under Samples/or sectioning.

MADISON: *Forest Products Laboratory Wood Collection and Samuel J. Record Memorial Wood Collection, USDA Forest Service, Forest Products Laboratory, (MADw, SJRw), One Gifford Pinchot Drive, Madison, WI 53726-2398, USA. (updated 07/04/2005).*

Foundation: Present composite collection organised in 1970; Field Museum of Natural History (Fw) specimens date from 1896; The S. J. Record collection (Yw) dates from 1905 and the Forest Products Laboratory collection (MADw) from 1911.

Curator: ALEX C. WIEDENHOEFT, Botanist, Center for Wood Anatomy Research (identification of native and foreign woods, wood ecophysiological research), acwieden@facstaff.wisc.edu.

Staff members: Dr. MICHAEL C. WIEMANN, Botanist, Center for Wood Anatomy Research (identification of native and foreign woods, effects of growing conditions on wood anatomy and properties), mwiemann@fs.fed.us.

Collection: 105,000 (MADw 49,000; SJRw 56,000) specimens, about 3,500 genera.

Specialisation: Worldwide, but especially strong in New World.

Herbarium vouchers: Yes; The herbarium has transferred to the University of Wisconsin-Madison (WIS), but will remain separately as MAD.; about 25,000; Records kept of vouchers deposited elsewhere; about 60%

Important collections: M. Acosta-Solis (Ecuador); British Guiana Forest Department; G.P. Cooper (Liberia, Panama, Costa Rica); J. Cuatrecasas (Colombia); H. Curran (Argentina, Brazil, Philippines, Venezuela); Desch (Malaya); A. Ducke (Brazil); A. Dugand (Colombia); Forest Research Institute (Malaya); Gamble (India); H. Irwin (Brazil); Janssonius (Java); M.K. Jesup (U.S.A.); Koorders (Java); B.A. Krukoff (Brazil, Bolivia, Africa, Sumatra); C.E. Lane-Poole (New Guinea); B. Maguire, *et al.* (Venezuela, British Guiana, Brazil); Nee (Panama); New York State College of Forestry, Project I (U.S.A.); H. Pittier (Panama Canal Zone, Venezuela); Pullen, *et al.* (New Guinea, Bougainville); R. Reitz & R Klein (Brazil); C.S. Sargent (U.S.A.); Schunke (Peru); A.C. Smith (Fiji, British Guiana); H.H. Smith (U.S.A.); G. Stahel (Surinam); W.L. Stern & G.K. Brizicky (Florida Keys, U.S.A.); W.L. Stern & K.L. Chambers (Panama; Florida Keys, U.S.A.); U.S. Forest Products Laboratory PL-480 Project (Peru, Guatemala); Vigne (Gold Coast); H.N. Whitford (Brazil, Colombia, Cuba); Ll. Williams (Mexico, Venezuela, Peru).

Website address: www2.fpl.fs.fed.us.

Periodical or serial publications: Forest Products Laboratory Research Papers and Notes.

Samples for sectioning: Yes.

Microscope slides: Yes; 35,000 slides, including the acquired Vernon Cheadle bark microscope slides which represent over 300 genera; Slides not for loan; Slides for exchange, in limited quantities.

Exchange: Yes. Available: Mostly USA, and Latin America. Wanted: Worldwide.

Catalogue: The MADw wood collection is on a computer database and available at <http://www2.fpl.fs.fed.us>. A database for the SJRw collection is being developed.

Remarks: The Madison Forest Products Laboratory wood collection is a composite of specimens originally from three separate institutions: the original Madison Forest Products Laboratory collections (MADw); Chicago Field Museum of Natural History collection (Fw); and the New Haven Samuel James Record collection from the Yale School of Forestry (Yw). The field collections and the original Forest Products Laboratory collections are now integrated into a single collection which bears the designation MADw. The Record collection is maintained in Madison as a separate, static entity whose specimens are now to be designated SJRw (previously MAD-SJRw in IX3). The designations Yw and Fw are obsolete.

OXFORD: *Willard Sherman Turrell Herbarium, Department of Botany, Miami University, (MUw), Oxford, Ohio 45056, USA.* (updated 09/12/2009).

Foundation: 1906.

Curator: Dr. MICHAEL A. VINCENT, Curator (plant taxonomy), vincenma@muohio.edu.

Collection: 20,000 specimens, unknown genera at the moment.

Specialisation: Worldwide .

Herbarium vouchers: Yes; 650,000; unknown proportion of slides is linked to Herbarium specimens.

Important collections: Charles Heimsch, Thomas K. Wilson.

Website address: www.units.muohio.edu/herbarium/.

Samples for sectioning: Yes.

Microscope slides: Yes of many, but not all; 10,000 slides; Slides for loan; Possibly for exchange, please enquire.

Exchange: Yes. Available: Worldwide.

Catalogue: Yes, card file. The entire catalog will be entered into our main herbarium database in the near future, and will be available on our web page.

Remarks: The microscope slide collection has been assembled chiefly from research materials contributed by or exchanged with many different investigators, such as B.G. Cumbie, W. Dickinson, C. Heimsch, R.A. Howard, R. Keating, W.L. Stern, T.K.

Wilson. Families with largest representation include Icacinaceae, Anacardiaceae, Burseraceae, Meliaceae, Sapindaceae, and Myristicaceae. A separate collection of microscope slides of herbaceous stems and roots of over 700 species is also housed in the microscope slide collection.

PORTLAND: *The Jesup Collection of Woods of North America, World Forestry Center, (NYJw), 4033 S.W. Canyon Road, Portland, Oregon 97221, USA. (outdated-1988).*

Foundation: 1890.

Curator: JOHN L. BLACKWELL, Executive Director.

Collection: 505 specimens.

Specialisation: North America.

Herbarium vouchers: Yes, at the Arnold Arboretum; 100%.

Samples for sectioning: Perhaps, at cost to the researcher.

Remarks: The World Forestry Center also houses the James P. Langdon Wood Plate Collection consisting of 600 plates representing over 500 species from around the world.

RALEIGH: *The David A. Kribs Wood Collection, Department of Wood and Paper Science, College of Natural Resources, North Carolina State University, (PACw), Raleigh, North Carolina, 27695-8005, USA. (updated 05/05/2004).*

Foundation: 1925 (when founded at University Park, Pennsylvania).

Curator: Prof. Emeritus Dr. ELISABETH WHEELER (fossil wood),
Elisabeth_Wheeler@ncsu.edu.

Staff members: Associate Prof. Dr. ILONA PESZLEN (wood quality).

Collection: About 32,000 specimens (of these about 20,000 are sectioning blocks that R.A. Scott of the U.S. Geologic Survey had from Harvard collection and transferred to NC State), about 2,500 genera.

Specialisation: worldwide, emphasis on USA.

Important collections: Jack Wolfe (Fiji, New Caledonia, Puerto Rico; all with detailed ecological information and vouchers deposited at MO); C.S. Sargent's 1888 10th Census (U.S.); State University of New York at Syracuse's Project I (US woods); Ll. Williams (Mexico, Peru, Venezuela).

Samples for sectioning: Yes.

Microscope slides: Yes; 4,000 slides; Slides for loan, duplicates; Slides for exchange, mostly of US woods.

Wanted: China, Japan.

Catalogue: Hard copy.

Remarks: Most of the collection represents woods collected by David A. Kribs and used as the basis for his book "Commercial Foreign Woods on the American Market". There are samples and sections of collections of Cretaceous-Tertiary fossil woods associated with the collection.

RICHMOND: *University of California Wood Collection, Forest Products Laboratory, University of California, (UCw), 1301 South 46th Street, Richmond, California 94804, USA. (outdated-1988).*

Foundation: 1925, 1926.

Curator: Dr. ARNO P. SCHNIEWIND, Prof. of Forestry (mechanical behaviour of wood, conservation of wood artifacts).

Staff members: NELLY C. REM, Staff Research Associate (identification, documentation).

Collection: 12,000 specimens;, 1,180 genera.

Specialisation: Worldwide.

Herbarium vouchers: No; But records are kept of herbarium vouchers deposited elsewhere; 25%.

Important collections: B.A. Krukoff (Brazil, Sumatra); Ll. Williams (Peru); R. Reitz & R. Klein (Brazil); W.R. Barbour (Haiti); M. Fujioka (Japan, Korea); H.H. Bartlett-Rahmat (Sumatra); Bureau of Forestry, Manila (Philippines, Malaya); North Borneo Forest Department, Sandakan (Borneo); C.S. Sargent (U.S.A.); Project I, New York State College of Forestry (North America).

Samples for sectioning: Yes.

Microscope slides: Yes; 2,500 slides; Slides for loan, limited to duplicates.

Exchange: Yes. Available: USA. Wanted: Mexico, Egypt, Europe.

Remarks: The entire wood collection was moved from its original location in the Forestry Department on the University of California Berkeley campus to a special new wing of

the Forest Products Laboratory in nearby Richmond in 1980. The main wood collection is U.C. numbered and labelled; separate from that system are stored: the woods of Project I, the "Robinson Collection" (privately donated by C.H. Robinson), and a reference collection established in Richmond by Nelly C. Rem between 1970 and 1980.

RIO PIEDRAS: *Institute of Tropical Forestry, (RPPRw)*, P.O. Box 21390, Rio Piedras, Puerto Rico 00928, USA. (outdated-1988).

Foundation: 1939.

Curator: Dr. JOHN K. FRANCIS, Soil Scientist.

Staff members: CARLOS DOMINGUEZ, Biological Technician.

Collection: 1,844 specimens.

Specialisation: Tropics.

Herbarium vouchers: Yes; about 3,000; 18%, but only those specimens from the Virgin Islands and Puerto Rico are associated with vouchers deposited in the Institute herbarium.

Remarks: The collection is currently inactive, but would be made available to visiting scientists.

SEATTLE: *Burke Museum of Natural History and Culture, (WTUFw)*, University of Washington, Box 353010, Seattle, WA 98195-3010, USA. (updated 14/12/2009).

Foundation: Collection was reportedly established about 1920.

Curator: Dr. CAROLINE A.E. STROMBERG, Curator of Paleobotany (evolution of grasslands and Late Cretaceous paleoecology), caestrom@u.washington.edu.

Staff members: Mr. THOMAS A DILLHOFF, Curatorial Associate (Paleogene and Neogene paleobotany of northwestern North America, with an emphasis on the Middle Miocene fossil woods of the Columbia River Basalt Formation), tdillhoff@evolvingearth.org, paleobot@u.washington.edu.

Collection: About 5,500 specimens, estimated at about 820 genera and 2,400 species.

Specialisation: North American temperate woods, tropical hardwoods from South America and Asia; Woods from the island of Borneo are especially well represented.

Herbarium vouchers: No.

Important collections: None known of at this time.

Samples for sectioning: Yes.

Microscope slides: Yes. Approximately 200 thin sections representing 100 species of mainly North American wood types.; Slides not for loan; Slides not for exchange.

Exchange: No.

Catalogue: An index card catalogue accompanies the collection. Efforts are in progress to inventory the collection and transfer the catalogue to a computer database.

Remarks: Collection is in the process of being organized, inventoried, and databased. About 50% complete as of December 2009.

SYRACUSE: *Harry Philip Brown Memorial Wood Collection, College of Environmental Science and Forestry, State University of New York, (BWCw), Syracuse, New York 13210, USA. (outdated-1988).*

Foundation: Prior to 1925.

Curator: Dr. ROBERT W. MEYER, Prof. and Curator of the Wood Collection (wood anatomy, physical property relations, and identification).

Staff members: Dr. CARL DE ZEEUW, Professor and Curator Emeritus.

Collection: About 40,000 specimens, about 2,100 genera.

Specialisation: Best representation is in the Neotropics, but there are strong collections from North and Central America; good representation of Asiatic material and moderately good in tropical and temperate Africa.

Herbarium vouchers: Yes, but only for the North American special collection known as Wood Technology Project I and a small number of other special items; 1,000; Records kept of vouchers deposited elsewhere; about 97%.

Important collections: Krukoff (Africa, Brazil, Sumatra); Maguire *et al.* (Guayana Highlands); Prance (Amazon Basin); Mori (northern South America); Wood Technology Project I (North America); A.C. Smith (Guiana, Fiji); Pittier (Venezuela, Panama); Cuatrecasas (Colombia); Kanehira (Micronesia, east Asia); Lecomte (Madagascar, Indochina); Gamble (India); Instituto Nacional de Investigaciones Forestal (Mexico); Desch (Malaya); Ducke (Brazil); Rimbach (Ecuador); Williams (Peru, Mexico); Stahel (Surinam); Bena (French Guiana).

Samples for sectioning: Yes.

Microscope slides: Yes; 5,000 slides; Slides for loan, limited.

Exchange: Yes; prefer exchange for other authenticated material. Available: North America (Project I, about 800); Amazon Basin, Krukoff and Prance collections (about 1,500); Maguire et al (Guayana Highlands, about 1,500); Central America, miscellaneous collections. Wanted: Africa, southern South America, Southeast Asia, New Caledonia, Lecythidaceae, especially *Careya*, *Crateranthus*, *Chydenanthus*, *Foetidia*, *Napoleonaea*, and *Abdulmajidia*.

WASHINGTON: *Department of Botany, National Museum of Natural History, Smithsonian Institution, (USw), Washington D.C. 20560, USA. (outdated-1988).*

Foundation: 1915.

Curator: GEORGE F. RUSSELL, Collections Manager, russellr@si.edu.

Staff members: Dr. RICHARD H. EYDE, Curator (floral morphology and systematics of angiosperms).

Collection: 40,000 specimens, 3,033 genera.

Specialisation: General, but largely tropical America.

Herbarium vouchers: Yes; 4,210,000 (including specimens of all kinds in all groups of plants); In the U.S. National Herbarium. Records kept of specimens deposited elsewhere; 60%.

Important collections: B.A. Krukoff (Brazil, West Africa, Sumatra); College of Environmental Science and Forestry, State University of New York at Syracuse (U.S.A.); A.F. Wilson (worldwide); J. Cuatrecasas (Colombia); J.E. Ebinger; H. Pittier; W.L. Stern, K.L. Chambers, J.D. Dwyer & J.E. Ebinger (panama); Stern & S. Carlquist (Hawaii); Stern & D. Wasshausen (Dominica); M. Acosta-Solis (Ecuador); W.L. Abbott (Dominican Republic); K.L. Chambers (western U.S.A., Dominica); H.N. Whitford & L.R. Stadtmiller (Guatemala-Honduras boundary); S.J. Record & H. Kuylen (Guatemala); R.M. King (Mexico, Thailand, Guatemala, Colombia); A. Ducke, R. Reitz (Brazil); Maguire *et al.* (Brazil and Guyana); Schunke, L.I. Williams, F. Woytkowski (Peru); G.S. Miller (Jamaica); B. Maguire (Surinam, Venezuela); J.J. Wurdack & L.S. Adderly (Venezuela); W.R. Barbour; E.C. Leonard (Haiti); H.H. Bartlett-Rahmat (Sumatra); G.H. Pickles (Sarawak); Stern (Philippines); C.S.I.R.O., Australia (West New Guinea); L.A. Craven and R. Schodde (New Guinea); Fan Memorial Institute (China); Dutton (Pacific Islands).

Website address: www.botany.si.edu/colls/wood.

Periodical or serial publications: Smithsonian Contributions to Botany (Contributions from the U.S. National Herbarium has been discontinued); Atoll Research Bulletin.

Samples for sectioning: Yes.

Microscope slides: Yes; 5,000 slides; Slides for loan.

Exchange: No duplicate hand samples available for exchange. Wanted: Well-documented specimens; worldwide, all taxa.

Remarks: The wood collection has been moved to a storage facility in suburban Washington. However, visitors may consult the collections (ample advanced notice is advised) and requests for material for sectioning will be honoured. Reference files and card catalogues of specimens will be maintained in the Department of Botany at the Smithsonian Institution in Washington. The collection database is accessible on the website.

WINTERTHUR: *The Professor E.S. Harrar Wood Collection, The Henry Francis du Pont Winterthur Museum, (WDw), Winterthur, Delaware 19735, USA. (outdated-1988).*

Foundation: 1974.

Curator: HARRY A. ALDEN, Wood Researcher.

Staff members: CHARLES F. HUMMEL, Curator, The H.F. du Pont Winterthur Museum.

Collection: 8,799 specimens, 1,156 genera.

Specialisation: North America, Philippines, Australia, Indo-Malayan region, South America.

Records kept of vouchers deposited elsewhere; about 35%.

Samples for sectioning: Yes.

Remarks: The bulk of the Winterthur collection of woods was received from Duke University (DUKEw) where it had been amassed largely by Dr. E.S. Harrar who had, until his retirement, been Dean of the Duke University School of Forestry. The collection, which was transferred to Winterthur in 1974, had been initiated in 1936. Most of the American species are backed by herbarium vouchers deposited in the Duke University Herbarium in Durham, North Carolina; Queensland Australia specimens are associated with herbarium vouchers in Brisbane. A reference collection of 200 specimens had been kept at the Winterthur Museum prior to the accession of the Duke woods.

Venezuela

CARACAS: *Fundacion Instituto Botanico de Venezuela, Herbario Nacional de Venezuela, (VENw)*, Apartado Postal 2156, Caracas, **Venezuela**. (updated 15/08/2006).

Foundation: 1940 (from IX3).

Curator: There is no assigned curator to this collection, it is cared for by the Director of the National Herbarium: Dra. LEYDA RODRIGUEZ, Directora del Herbario Nacional (floristics and taxonomy of vascular plants).

Collection: 2,397 specimens, 87 genera.

Specialisation: Venezuela.

Herbarium vouchers: Yes; unknown; unknown proportion.

Important collections: Williams (Guayana), Steyermark (Venezuela).

Samples for sectioning: Yes.

Microscope slides: No.

Exchange: No.

Catalogue: Not at this time, maybe in the future.

Remarks: VEN wood collection is an important and historic collection. It is organized in alphabetical order of families, genera and species. We want to catalogue and organize it better.

MERIDA: *Xiloteca MERw, Universidad de Los Andes, Facultad de Ciencias Forestales y Ambientales, (MERw)*, Ingenieria Forestal, Laboratorio de Anatomia de Maderas, Merida, **Venezuela**. (updated 04/02/2004).

Foundation: 1959.

Curator: Prof. WILLIAMS J. LEON H., Mg.Sc. (wood anatomy), wleon@ula.ve.

Staff members: Prof. JOSE L. MELANDRI P., Mg.Sc. (wood anatomy), melandri@ula.ve;
Prof. NARCISANA ESPINOZA DE PERNIA, Mg.Sc. (wood anatomy),
nepernia@ula.ve.

Collection: About 20,000 specimens between permanent and exchange collections, about 1,000 genera and 3,000 species.

Specialisation: Samples from different countries of the world, but specialises in woods from Venezuela.

Herbarium vouchers: Yes; about 50%

Periodical or serial publications: Acta Botanica Venezuelica, Revista Forestal Venezolana, Pittieria.

Samples for sectioning: Yes.

Microscope slides: Yes; Slides for loan; Slides for exchange.

Exchange: Yes, we have an exchange collection If one specimen has five samples or more, the additional samples used for exchange.

Vietnam

HANOI: *Research Institute of Forest Industry, Vietnamese Academy of Forest Sciences*, Duc Thang Ward – Bac Tu Liem District – Ha Noi City, **Vietnam**. (updated 28/11/2015).

Foundation: 1930.

Curator: Nguyen Tu Kim PhD. (Wood and Wood-based Materials Scientist),
nguyentukim@vafs.gov.vn

Staff members: Bui Huu Thuong Eng. manhthuongvafs@gmail.com

Collection: About 4,000 specimens (700 species samples), About 450 genera.

Specialisation: Indochina, China, Malaysia, Japan.

Herbarium vouchers: No

Samples for sectioning: Yes. depending on specimens.

Microscope slides: Yes; Slides for loan and Slides for exchange, limited;

Exchange: Yes. Available: Indochina, depending on specimens. Wanted: Africa, America, Europe, Australasia.

Catalogue: Not at this time, maybe in the future.

HANOI: *Wood Industry College, Vietnam National University of Forestry*. Xuanmai town, Chuongmy, Hanoi City, **Vietnam**. (new collection updated 01/02/2016).

Foundation: 1964.

Curator: TongThi Phuowng PhD. (Wood and Wood preservation Scientist),
vfunttp@gmail.com; tongphuong@vfu.edu.com.

Staff members: TaThiPhuong Hoa PhD (wood anatomy); Phan Thi Thien Thu Msc (wood anatomy)

Collection: About 4,000 specimens, About 240 species.

Specialisation: none.

Herbarium vouchers: No.

Samples for sectioning: Yes.

Microscope slides: Yes.

Exchange: limited.

Catalogue: No.