WOOD ANATOMY NEWS

How to obtain disposable microtome knives

This is information which should be of interest primarily to North American microtomists. During a recent sabbatical at our Laboratory, Ladislav Kucera wanted to obtain "Feather" disposable microtome knives which, in earlier research (Journal of Microscopy 124: 319–325, fig. 10a. 1981), he had found to have edges superior to all other brands tested. However, we were unable to find blades by that name from any North American supplier. Barbara Gartner, at Oregon State University, confirmed the assessment of the quality of their edges, but also had been unable to locate a supplier in the U.S. Stacie Kirsch, President of Electron Microscopy Sciences, also was familiar with them from Europe and was able to discover the key information that they were marketed in the U.S. under an exclusive distribution agreement using the Miles Inc. brand name of "Accu-Edge". After two years of searching, I found a retail supplier for these blades, have successfully ordered them (and the package does say "Feather Safety Razor Co." and "Made in Japan" on the bottom) and agree that they are truly high quality edges. To save interested colleagues the trouble I went through, here are the details of ordering them: Accu-Edge disposable microtome blades, "High-Profile" (14.0 mm high), VWR No. 25608-961 (Scientific Products No. M7321-51, Miles No. 4685), 50 blades per dispenser, for a price of US\$ 74.50 (March 1997) from VWR Scientific Products, 800-932-5000. Holders to allow use of the blades in a rotary or sliding microtome are also available.

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Sclerified parenchyma cells – a neglected diagnostic feature?

Recently Caroline Vermeeren, a consultant for the identification of archeo-botanical materials in Leiden, shared an interesting puzzle with me. At stake was the identification of the black (or blackened?) wood of two perfectly preserved spinning spindles found in an allegedly medieval cesspit in the Netherlands. Only miniscule sections were available for inspection. The wood was obviously a tropical one, which narrowed down the possibilities of the geographical origin of the unknown wood to the Old World, because New World timbers on the European market still had to await the discovery of the Americas by Columbus in the Middle Ages.

One feature struck my eye more than any other in the sections: most of the axial parenchyma and marginal ray cells were very heavily sclerified, the multilayered cell walls almost occluding the lumina, not unlike sclerotic tyloses that also profusely occurred in the vessels of the unknown wood. I had not seen anything like it before. A quick SOS e-mail message to various colleagues who had co-operated in the IAWA List of Features for Hardwood Identification established that I was not the only one unfamiliar with these remarkable features. Nevertheless a run of the GUESS programme with the limited, rather undiagnostic anatomical features in combination with the more unusual occurrence of sclerotic tyloses narrowed down the possibilities to a few tree families, including the Moraceae. However, a number of features, common in Moraceae, such as coarse vessel-ray pits and laticifers could not be observed in the unknown.

Comparison with sections in the Leiden slide collection, scanning all pictures in the CSIRO World Wood Atlas, and consulting the series of Moraceae wood anatomy papers published by the Utrecht group in the IAWA Bulletin, gradually pointed to *Brosimum guianense*, the famous and highly priced Letterwood or Snakewood of commerce from Brazil and the Guianas. However, in the literature at hand, no mention was made of its sclerotic ray and parenchyma cells. Adrenalin levels were raised: had Neotropical woods reached Europe before Columbus discovered the Americas? Everything seemed possible ever since archeologists and phytochemists claim the presence of high nicotine and cocaine levels in ancient mummies of Egyptian pharaohs, begging the question of very early pre-columbian trade between the Old and the New World. My more cynical view was that the dating of the spindle was probably wrong; could the high specific gravity of letterwood after all not be responsible for the sinking of the artefacts into strata of the cesspit several centuries older than where it had originally been deposited? It was Jorgo Richter who finally sealed the identification of the unknown as *B. guianense* as a nearly 100% certainty by reporting exactly similar sclerotic parenchyma cells and ray cells in the reference slides in Hamburg. Ben ter Wille confirmed similar cells in the Utrecht slides. At the time a duplicate slide from Hamburg arrived in Leiden the archeologists had revised the dating of their cesspit and its spindles: the 17th instead of the 13th century made all speculations on mysterious pre-columbian links redundant. This spindle was simply additional proof of yet another use of exotic timbers in the golden age of our young and wealthy Dutch Republic.

So far the anecdote; one of many everyone who is sometimes engaged in wood identification can indulge in. One intriguing problem, however, remained. Why were these sclerotic ray and axial parenchyma cells usually ignored in the literature? Jorgo Richter suggested that they might be a variable feature within the species where they occurred and possibly of traumatic origin. Did they occur in other species, genera and woody families? Both Regis Miller and Jorgo Richter had some suggestions for families where they vaguely recalled to have seen similar cells. Prof. Helmut Gottwald had during his long career at Hamburg assembled an extensive collection of notes on sclerified axial parenchyma cells in secondary xylem, which Jorgo Richter kindly put at my disposal. From these notes it is apparent that there are various references to sclerotic parenchyma cells in the literature, and that Prof. Gottwald had observed them in quite a number of slides of the Hamburg slide collection. A list of taxa with partly sclerified parenchyma cells compiled by him includes besides *Brosimum*, *Teijsmanniodendron* and *Vitex* (Verb.), *Mezoneuron* (Leg.), *Pentadesma* (Clus.), *Hirtella* and *Licania* (Chrysob.), *Pouteria* and *Payena* (Sapot.), *Eusideroxylon* (Laur.), and *Klainedoxa* (Simar.). Fully sclerotised parenchyma is listed for *Avicennia* (Verb., but here we have the special case of conjunctive sclerified tissue associated with concentric included phloem), *Tiliacora* (Menisp., also associated with included phloem), *Irvingia* (Irving.) and *Pera* (Euph.). These lists should be considered complementary to the sporadic records of sclerotic cells in wood in Metcalfe and Chalk's "Anatomy of the Dicotyledons" (1950): *Davilla* (Dillen.), *Chaetocarpus*, *Cunuria* and *Elateriospermum* (Euph.), *Mangifera* (Anac.), *Gymnacranthera* (Myrist.), *Loranthus* and *Viscum* (Loranth.), and *Martiodendron excelsa* (Leg.–Caes.). Moreover, Moll & Janssonius had reported 'very thick-walled', presumably sclerotic, axial parenchyma cells in one

species of *Litsea* (Laur.) from Java. It also turned out that Record & Hess, in their "Timbers of the New World" (1943) had already noted that the heavy timbers among the Moraceae often have sclerotic cells, and in their earlier description of letterwood (still under the synonym *Piratinera guianense*) they had recorded sclerotic ray and parenchyma cells as commonly occurring [Trop. Woods 61 (1940) 46].

It is my opinion that the subject of sclerotic axial and ray parenchyma cells deserves further study, to begin with a thorough inventory of scattered records in the literature and documentation of incidental observations by practising wood anatomists. None of the persons mentioned in the anecdote above has time available for such as study, and we therefore challenge our readership to pay attention to this subject. First of all I would like to invite you to send any records of regularly occurring sclerotic cells to the editorial office, so that a more complete listing can be published, as a service to all who may use the feature in future wood identification procedures.

Pieter Baas

Hamamelidaceae – a request for wood samples

Dr. Lee Sun Jae from South Korea has recently embarked on a detailed wood anatomical survey of the Hamamelidaceae at the Rijksherbarium / Hortus Botanicus in Leiden. He would like to receive offcuts of wood samples of the following genera:

<i>Chunia</i> (Hainan)	<i>Mytilaria</i> (China, Laos)
<i>Embolanthera</i> (Philippines)	<i>Neostrearia</i> (Queensland)
<i>Eustigma</i> (Hongkong, Taiwan)	<i>Noahdendron</i> (Queensland)
<i>Fortunearia</i> (eastern China)	<i>Parrotiopsis</i> (northwestern Himalaya)
<i>Fothergilla</i> (eastern North America)	<i>Semiliquidambar</i> (eastern China)
<i>Loropetalum</i> (India, China)	<i>Sinowilsonia</i> (central China)
<i>Maingaya</i> (Malaysian Peninsula)	<i>Tetrathyrium</i> (Hongkong)
<i>Matudaea</i> (central Mexico)	<i>Trichocladus</i> (tropical eastern Africa)

The generous donors will receive duplicate slides in due course. Please send materials with full collecting data directly to Dr. Lee, Rijksherbarium / Hortus Botanicus, P.O. Box 9514, 2300 RA Leiden, The Netherlands.

Fourth Pacific Regional Wood Anatomy Meeting in South Korea

The 4th Pacific Regional Wood Anatomy Conference (PRWAC) will be held from October 26 through 29, 1998, at Chonnam National University in Kwangju, Korea. The theme of the meeting will be "New horizons in wood anatomy on the threshold of a new millennium." As has become customary at previous highly successful PRWACs, the programme will feature all aspects of fundamental and applied wood anatomy. Attractive excursions and social events are scheduled to complement the in-depth scientific discussions. Limited funds are available for travel grants for researchers who would be unable to attend the meeting otherwise. The organisers are at this stage inviting voluntary papers and posters. For full information please contact the Organising Committee, attn. Prof. Yoon Soo Kim, Department of Forest Products & Technology, Chonnam National University, Kwangju 500-757, South Korea (fax: +82 62 526 2911; e-mail: yoonsk@orion.chonnam.ac.kr; for detailed information also consult website <http://www.chonnam.ac.kr/~woodeng/index.htm>).