

## New England Botanical Club - Minutes of the 987<sup>th</sup> Meeting 4 April 2003 Jennifer Forman, Recording Secretary

The 760<sup>th</sup> meeting of the New England Botanical Club, being the 987<sup>th</sup> since its original organization, met on Friday, 4 April 2003, in the Lecture Room of the Fairchild Biochemistry Building, Divinity Avenue, Cambridge MA. There were 34 members and guests in attendance.

President Paul Somers called the meeting to order, and announced one new club member. Paul also announced that the NEBC would be allocating money this year as part of the long-term project of integrating the specimens from the NEBC cryptogam herbarium with the Harvard herbaria collections. Pat Swain, chairperson of the Graduate Student Research Award committee, announced this year's winners, Mr. Jesse Bellemare and Ms. Julie Dragon. The club also heard tidbits of news and gossip from several other members. Vice President Art Gilman then introduced the evening's speaker, Dr. Jianhua Li, a botanical taxonomist from the Arnold Arboretum of Harvard University.

Jianhua then began his talk, "Botanic Expeditions in Guizhou, China - In Search of Natural Populations of Ginkgo." *Ginkgo biloba* is the only member of Ginkgoales, one of the five major lineages of seed plants (the others are Coniferales, Angiospermae, Gnetales, and Cycadales). It is considered by many to be found only in cultivation. The species is dioecious, and in China male plants produce pollen cones in April, while female plants produce ovules later in the season.

In the U.S., *G. biloba* is commonly used in herbal medicine, and the males are often planted as street trees (the seed-bearing females are considered unattractive as ornamentals). In China, where the species is widely distributed, it is the females that are planted most often, for their edible seeds are an important source of food. Jianhua remarked that the seeds, which need to be processed carefully before being eaten due to the presence of toxins, have the consistency of a "chewy peanut."

With Dr. Peter Del Tredici from the Arnold Arboretum, Jianhua traveled to southwest China and met up with researchers from Zhejiang University and Guizhou University, including members of the Chinese Ginkgo Society. Together the team visited several sites where *G. biloba* was known to grow, measured the diameter and height of the trees, and collected DNA samples for a genetic analysis that will help determine whether there is heterogeneity among Chinese ginkgo populations.

The team visited ancient *G. biloba* trees in the province of Zhejiang, from a thousand-year-old tree perched next to a temple on the summit of Mt. Wuyun, to a 30m tall male tree in Fuyang County observed to have a few branches bearing female cones. In Fuquan, Guizhou, they visited a ginkgo tree marked by a sign claiming it was in the Guinness Book of World Records, a remarkable 35m tall specimen with a diameter of 4.5 meters. The tree had four main branches, most likely the result of suckering. Jianhua reported that the tree had a hollow spot in the center that was so large that a farmer once lived there with his cow and pig.

The best candidates for natural *G. biloba* populations were groups of twenty or more ginkgoes observed in Wuchuan county, Guizhou, near valleys and mountain slopes where rice, corn and other crops are cultivated. In these seemingly relic, natural plant communities, there are many big ginkgo trees growing together with other Tertiary relics such as *Liquidambar formosana*, *Cupressus funebris*, and *Taxus chinensis*. The ginkgo population had a regenerative structure with seedlings and young individuals, and there were both males and females present. The sites where the ginkgoes were found were mostly rocky slopes with little topsoil. To survive in these habitats, the trees anchor themselves with lignotubers that can grasp rocks and grow down into the soil layer.

The team of botanists also visited a "Ginkgo Village," located in Letuo, Panxian County. The sale of ginkgo seeds as a food source is a large part of the village's economy, and each tree there is individually owned. Though there are 1500 ginkgoes in the village, there is only one male tree. To produce seeds on the females, pollen is collected from the male, mixed with water, and sprayed on the female trees. The ginkgoes in Letuo village were large and quite tall, but had many low-growing branches, indicative of cultivated plants.

Jianhua concluded his talk by answering questions from club members about how to prepare ginkgo nuts for consumption and the other uses of the plant in China, which include some street plantings and a ginkgo leaf tea. He also spoke briefly about future projects, including his molecular analysis of Ginkgo populations in China.