

New England Botanical Club – Minutes of the 957th Meeting

7 April 2000 Prepared by Don Hudson, Recording Secretary

The 730th meeting of the New England Botanical Club, Inc. being the 957th since its original organization, met on Friday, April 7, 2000 in the main lecture hall at the Biological Laboratories of Harvard University in Cambridge, Massachusetts with 62 members and guests present.

Vice-President Paul Somers called the meeting to order at 6:55 PM. Somers moved first to Old Business, then to New Business without a peep from the membership. One new member has been added to the fold since the last meeting, Cathy Mabry of Des Moines, Iowa. Linn Bogle rose to report the passing of former member Dr. Ernst Cleveland Abbe. Dr. Abbe and his wife, Dr. Lucy Boothroyd Abbe served many institutions of science and education throughout their long careers. Ernst Abbe was one of the centuries most accomplished botanists, studying aspects of anatomy and morphology of the plants of Minnesota as well as subarctic North America and Southeast Asia. During his career he studied and collaborated with such luminaries as I.W. Bailey, M.L. Fernald, R. H. Wetmore, and A.J. Eames. Born in Washington, DC in 1905, Ernst Abbe attended Cornell University (BS 1928, MS 1930) and Harvard University (Ph.D. 1934), before joining the faculty of the University of Minnesota (1935-74). He trained innumerable undergraduate and graduate students and made a lasting impact on teaching, scientific research, and administration of scientific activities in the State of Minnesota. George Newman rose next to encourage the members' participation in the Club's trip to the Gaspé in July. Leila Shultz announced the publication of Volume 22 of the *Flora of North America*, and guests were finally introduced.

Paul then introduced the evening's speaker, **Dr. Paul Godfrey** of the University of Massachusetts at Amherst, to speak on "Biodiversity of Medicinal Plants in Northwestern Thailand." Dr. Godfrey has spent the large part of his career investigating aspects of coastal ecology along the Atlantic seaboard. Richard Evans Shultes, who once surprised an NEBC audience by firing a blowgun dart across a crowded hall, inspired Paul's interest in ethnobotany. At this juncture of his introduction, Paul reached for a small bamboo bow and fired its bamboo arrow across the crowded hall. He had our attention.

Paul was asked some years ago by Linda A. Swift of Hartwick College to lend his ecological expertise to an ethnobotanical investigation of plant utilization by an Akha hill tribe village of northwestern Thailand. Thai hill tribes have long used small-scale swidden and crop rotation for maize and rice production. Such swidden-based tropical agriculture is often linked with the loss of biodiversity, though it is critical to the survival of the hill tribes. The long-term studies of forest utilization and plant use around Pakhasukjai Village were designed to measure the impacts of wood gathering, agriculture, medicinal, and spiritual activities on diversity. Drs. Godfrey and Swift expected to find the lowest diversities in disturbed forests close to the village and the highest in undisturbed forests further away. They selected a group of native gingers (Zingiberaceae) to investigate, gathering data on the abundance and distribution of species within three discreet study areas near Pakhasukjai Village in order to evaluate modified importance values and biodiversity indices.

Paul was pleased to find J.F. Maxwell at Chaing Mai University during his first season in northern Thailand. As it turns out, Dr. Maxwell has contributed the largest part of northwest Thai plant specimens to the Harvard University Herbaria during the past several decades. Dr. Maxwell offered his considerable expertise by acquainting Paul and his colleagues with the fine points of collection and identification of the gingers *in situ*. The ethnobotanical team was supported at Pakhasukjai Village by the Hill Area Development Foundation, which provided space and facilities in its rustic center.

The Akha of Pakhasukjai Village are forest dwellers who are spiritually bound to their surroundings. They find both good and bad spirits in the forest. The forests provide both wood and medicines. Paul and his colleagues had great difficulty in learning the uses of medicinal plants in particular. Two layers of interpretation to get from the native language to Thai, then to English mediated interviews. Add to the linguistic hurdles the certain possibility of deliberate deception on the part of the shaman, and the team had its work cut out. Ten species of ginger in 7 genera are of particular interest. The list includes *Alpinia galanga* (for stomach ache and diarrhea); *Amomum repoense* (for multiple medicinal uses from appetite stimulant to pain reliever); *Boesenbergia rotunda* (similar medicinal uses as *Amomum*); *Costus speciosus* (stimulant, aphrodisiac, or for relief of back pain); *Curcuma longa* (leaf poultice for cuts and bites); *Kaempferia parviflora* (poultice to stop bleeding cuts); and three species of *Zingiber* (for headache, stomach ache, diarrhea, or a stimulant for breast milk production).

Paul devised an ecological sampling plan for three forest sites, each of which had been substantially cleared nearly 50 years earlier. On the first day out, the shaman lead the team by a tortuous and turning path to a very sacred site, the Cemetery Forest. It turned out to be the closest to the village. Diversity of gingers was relatively low here and greatest within a more heavily exploited site dubbed the Shrine Forest. Several of the gingers appear to respond to changes on the landscape as early successional types. The light and regular disturbance by the Akha may contribute to this increase in overall diversity.

Paul ended his presentation with a personal testimonial. He had learned that a local *Eupatorium* was effective for stanching blood flow. One errant blow of the machete and Paul was able to put the plant to the test. The wound healed nearly overnight. Following questions, the meeting was adjourned to refreshments at 8:05 PM.