

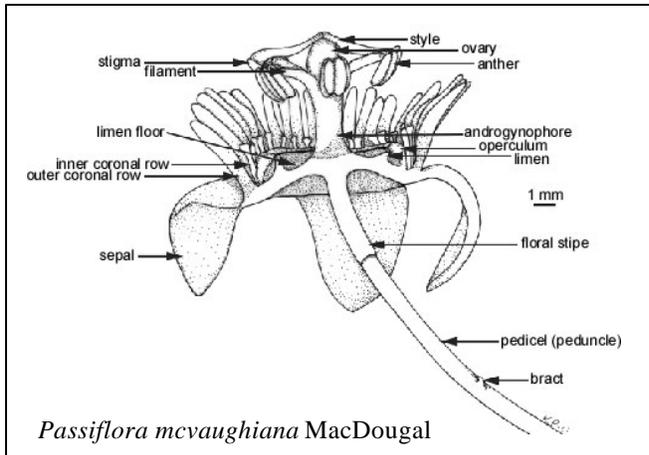
New England Botanical Club - Minutes of the 986th Meeting

7 March 2003 Jennifer Forman, Recording Secretary *pro tempore*

The 759th meeting of the New England Botanical Club, being the 986th since its original organization, met on Friday, 7 March 2003, in the Lecture Room of the Fairchild Biochemistry Building, Divinity Avenue, Cambridge MA. There were 35 members and guests in attendance.

President Paul Somers called the meeting to order, and this being the annual meeting, the nomination committee presented its slate of officers for the next year, which was unanimously approved. Progress reports were given by the vascular and non-vascular plant committees, which continue to oversee the integration of NEBC herbarium specimens into the Harvard collections. The club also heard reports from the library committee and the graduate student award committee.

Vice President Art Gilman introduced the evening's speaker, Kristen Porter-Utley, a Ph.D. candidate from the University of Florida Gainesville. She began her talk, titled "The Apetalous Passionflowers: Phylogenetic Relationships within *Passiflora* Section *Cieca* (Passifloraceae)," by drawing a diagram to introduce club members to the intricacies of *Passiflora* flower morphology.



As indicated by the title of her talk, Kristen studies passionflowers that have sepals but no petals. This is a group of 19 climbing species (4 of which are endangered) that are native to the southern U.S., Mexico, Central America and South America. Club members were introduced to the research subjects with many photos of *Passiflora* plants in flower, no less beautiful for their lack of petals. In her research, Kristen used both morphological and molecular data in order to better understand the taxonomy of *Passiflora* subgenus *Decaloba* supersection *Cieca*. She began by examining over 4000 specimens at 40 herbaria as well as photos from around the globe. After the preliminary analysis, she then scored 95 of the specimens for

330 different vegetative and floral characteristics. For the molecular analysis, she scored samples for sequence variation in three different regions of ribosomal DNA: ITS-1, ITS-2 and 5.8S. Both the morphological and molecular data were then analyzed using software that generates cladograms to show how closely related the taxa are to one another.

Supersection *Cieca* contains two problematic species complexes, *Passiflora suberosa* and *P. coriacea*. Morphological analysis of herbarium specimens of *P. suberosa*, a species known to have both polyploidy and hybridization, indicates that it has served as a "taxonomic garbage can" for at least four entities (*P. pallida*, *P. suberosa* subsp. *suberosa*, *P. suberosa* subsp. *litoralis*, and *P. tridactylites*) that cannot be assigned to any of the other members of the supersection. The molecular analyses also support this finding. *Passiflora coriacea* is another "species" that exhibits marked morphological variation over its distribution from eastern Mexico to northern South America. Evidence indicates that it contains three distinct entities: *P. coriacea*, *P. megacoriacea*, and *P. sexocellata*.

Kristen also noted that when the cladograms of morphological and genetic data were placed side by side they were completely different. Thus, the complex relationships that exist within the supersection are not yet completely understood. She concluded by saying that this work had led to revisions in the taxonomy of the genus, because the analyses showed that while members of supersection *Cieca* share a common ancestor, the *Passiflora suberosa* and *P. coriacea* subcomplexes within it are not monophyletic. Following her talk, Kristen entertained several questions from club members about the apetalous *Passiflora* species, including a query about their pollinators, which are mainly wasps and bees, and whether their fruits are edible (they are, but they tend to be small and bitter).