

Esau Award Committee Report

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The Katherine Esau Award was established in 1985 with a gift from Dr. Esau and is augmented by ongoing contributions. It is given to the graduate student who presents the outstanding paper in developmental and structural botany at the annual meeting.

Last year's Esau Award was presented at the Botany 2007 conference in Chicago, IL to Mackenzie Taylor, University of Tennessee, for her paper "*Fertilization timing and the pollen tube pathway in Cabombaceae (Nymphaeales)*." Her co-author was Joseph H. Williams.

The paper's abstract was as follows:

Fertilization in seed plants is the result of concurrent development of four distinct entities, the male and female sporophytes and the male and female gametophytes. In angiosperms, these ontogenies are especially intertwined during the period between pollination and fertilization, the progamic phase. Relatively little is known about the progamic phase in recently defined basal angiosperms. A range of studies indicates that the Nymphaeales, or water lilies, comprise one of these earliest lineages of angiosperms. In this presentation, the pollen tube pathway in the two genera that comprise the water lily family Cabombaceae, *Brasenia* and *Cabomba*, will be characterized and the relative timing of developmental events that occur during the progamic phase will be described. These events include the duration of stigma receptivity, female gametophyte receptivity, pollen germination, ovule entry, and fertilization. Maximum pollen germination occurs within 15 min in *Cabomba* and 60 min in *Brasenia*. Pollen tubes grow at the same rate in both genera, but ovule entry was first observed after 2 hrs in *Cabomba* and 6 hrs in *Brasenia*. Stigmata are receptive the entire time the flower is open in *Cabomba*, while in *Brasenia*, the duration of receptivity is less than 4 hrs. *Brasenia* and *Cabomba* are sister genera that flower in a similar environment; however, *Brasenia* is wind-pollinated, while *Cabomba* is insect-pollinated. Divergence of pollination syndromes in Cabombaceae can explain disparity in floral structure, and has had direct and indirect effects on reproductive timing.

For 2008 at least seven papers will be judged in Vancouver for the award. These student talks will be presented back to back during Session 48 on Tuesday July 29th from 1:00-3:30pm. This year's judges will be Kenneth Cameron (Chair), Joe Williams, and Michael Christianson who is standing in for Jennifer Richards. Jennifer is unable to attend the meeting.