



SOCIETY ACTIONS

ESA Awards for 2004

The R. H. MacArthur Award
May Berenbaum, Ph.D.
University of Illinois, Urbana-Champaign



May Berenbaum

The **Robert H. MacArthur Award** is given biannually to an established ecologist in mid-career for meritorious contributions to ecology, in the expectation of continued outstanding ecological research. Nominees may be from any country and need not be ESA members. The recipient is invited to prepare an address for presentation at the annual meeting of the society and for publication in *Ecology*.

After careful deliberation, the Subcommittee has enthusiastically chosen May Berenbaum for this year's MacArthur Award. After receiving her Ph.D. from Cornell in 1980, May began her professorial career in the Department of Entomology at the University of Illinois (Urbana-Champaign), where she has remained ever since, serving as Department Head since 1992. May has received many high honors, including election to the National Academy of Sciences (1994) at the rather young age of 41, and dozens of awards including the George Mercer Award (from ESA), the E. O. Wilson Naturalist Award (ASN), the Silverstein Simeone Award (International Society for Chemical Ecology), and the Founder's Memorial Award (the top award of the Entomological Society of America). It is worth noting that May is one of only two women to win the Entomological Society's Founder's award among the 45 recipients since 1958, and she is also the first female winner of the MacArthur Award.)

May has made transformational research contributions to insect ecology, chemical ecology, and the study of coevolution, with the focal goal of understanding, at all levels, the role of plant chemistry in shaping the evolution and ecology of plants and their insect herbivores. As an example of the integrative nature of her research, May discovered early on that the leaf-rolling behavior of many herbivorous larvae served to protect them, not only by hiding them (the traditional explanation) but by keeping them in the dark, since many plant toxins are activated by UV light. May and her collaborators followed up on this discovery with multi-level investigations of phototoxic plant compounds and the ways that herbivores cope with them, including the genetics of inducible enzymes that detoxify plant defensive compounds. This work led to quantitative genetic studies by May and colleagues on both plants and their herbivores that showed heritable variation and biogeographically-pair adaptations in both coevolutionary antagonists. The study of coevolution came into being with Ehrlich and Raven's classic hypothesis of plant-herbivore arms race, but May Berenbaum was the first to provide a complete package of ecological, biogeographic, genetic, and chemical support for the hypothesis for a single system. May's CV lists more than 150 peer-reviewed publications. Her research has been supported continuously by NSF, USDA, and many private foundations.

May is renowned as a teacher and public lecturer, from major national and international venues to a long list of local preschools and elementary schools. Her non-majors course on insects at UI attracts hundreds of students, and she has directed the research of dozens of Ph.D. and M.S. students and introduced scores of undergraduates to research. Her famous annual "Insect Fear Film Festival" is just one facet of May's indefatigable campaign to keep insects and arachnids in the public view. She has published four popular books (two of which have won national awards) and more than a hundred popular and semi-popular articles on insect ecology and evolution including regular contributions to *American Entomologist*, the membership magazine for the Entomological Society, which have entertained and enlightened professional entomologists for more than a decade.

R.H. MacArthur Award Subcommittee: Rob Colwell (Chair), Steve Carpenter, Carla D'Antonio, Ann Kinzig, Bill Murdoch, Judy Meyer, and Jim Reichman.