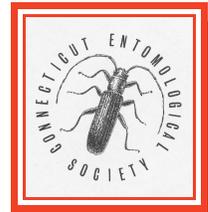


478TH MEETING
Minutes of the
**Connecticut Entomological
Society**
19 March, 2010



Biology Physics Building, University of Connecticut, Storrs
Pre-meeting pizza and beverages were enjoyed by the attendees, 6:30-7:25 p.m.

Business Meeting

Meeting was called to order by President Roberta Engel at 7:30 p.m.; 17 members and 2 guests were present.

Reports: The minutes of the 477th meeting were read by Secretary Munstermann with corrections. The Treasurer's Report presented by Treasurer Cowles was as follows: savings-\$2,318, CD-\$5,481, checking-\$658 = Total-\$8,470; both reports were approved as read.

Old Business: None

New Business: Several announcements from the Chair:

- (1) The insect fossil field trip to the Plainville MA quarry has been rescheduled to 18 April; it will be limited to 12 people and will be conducted by Dr. Robert Sproule.
- (2) The Annual Meeting, to be held at the Connecticut Agricultural Experiment Station, will entertain, once again, the Silent Auction of entomological paraphernalia donated by members, with the proceeds to go to CES.
- (3) The Annual Meeting will feature a potluck dinner of exotic dishes provided by the attendees and an entomological slide show.

Evening Presentation: President Engel introduced Dr. Jan Conn, a senior researcher at the Albany laboratory of New York Department of Health. She received her PhD in black fly cytogenetics at the University of Toronto and subsequently held posts at the University of Florida and the University of Caracas. Her work with the systematics of New World anopheline mosquitoes has spanned the past 25 years. She will discuss the "*Recent divergence or deep structure? Complexities of the primary Neotropical malaria vector, Anopheles darlingi (Diptera: Culicidae).*"

Dr. Conn began by citing the comments of de Quiroz (2007) who noted that many species of anopheline mosquitoes are species complexes and furthermore the divergent lineages have attributes that have evolved at differing rates. *Anopheles darlingi* appears to consist of several geographically separated and distinct species. It is the most efficient malaria vector in the Americas and its larvae inhabit clean river water. It has a disjunct distribution—it occurs in Mexico and throughout South America, but with a gap spanning the Central American countries of Nicaragua, Costa Rica and western Panama.

First, samples were obtained from each of a dozen zones representing the species range. Based on mitochondrial sequences of the cytochrome oxidase I (*COI*), three genetic groupings appeared—Mexico, northwestern South America, and the Amazon basin. Use of the single copy nuclear gene, *white*, indicated some continental gene flow along the Andean mountain chains. For example, populations from Equitos, Peru, and from Bolivia, showed mixtures of the northern and Amazonian genotypes. However, the ITS2 (intergenic spacer region of ribosomal genes) indicated no gene flow, with a differentiation at the level of *Anopheles gambiae*–*An. arabiensis*

sibling species pair of the Afrotropical region. The Fisher test indicated no selection was occurring on the *white* gene. Hence, different sequences were giving different results; furthermore the complete sequence of the mitochondrial genome from north and south samples showed no differences.

Questions:

(1) *How do these species migrate?* Flight is no more than 1-12 km. The role of human transport is not known.

(2) *Can movement occur via eggs in used tires (as is the case with some Aedes mosquitoes)?* No, the larvae of these species do not use containers as habitats; furthermore the eggs are not desiccation-resistant and must hatch within a week of oviposition.

(3) *How long do these mosquitoes live?* Male life expectancy is shorter, perhaps several weeks; the females may survive 3 months or more. Note that malaria develops only in the female mosquito and also human malaria transmission is only from human to mosquito to human (no animal reservoir).

(4) *Why are entire genomes the same, this seems unlikely?* Possibly laboratory error had occurred, noting the difficulty of sequencing through the AT-rich regions; this is an ongoing study.

(5) *What is the variation in the ITS2?* Variants have been found only at Boa Vista, midway between the Amazon basin and the Orinoco basin. Possibly, selection is occurring on this region of the genome.

Closing:

In closing, Dr. Conn read two poems from her latest published book of poetry. One concerned the mysteries of a course in statistics and the other the mystique of Venezuelan tepuis.

Following Dr. Conn's presentation, refreshments and exhibit viewing commenced.

Respectfully submitted,

Leonard E. Munstermann, CES secretary
10 April, 2010