

2:30

CARLA CACERES

The role of dormancy in Oneida Lake *Daphnia* populations.

The zooplankton community of Oneida Lake, NY includes two *Daphnia* species: the smaller *D. galeata mendotae* and the larger *D. pulicaria*. There exists a trade-off in dominance between these two species. When one species is abundant, the other species typically is absent or present in reduced numbers. This species shift can occur either within (early spring versus late fall) or between years. Both species are cyclically parthenogenetic, and their sexual eggs (ephippia) remain dormant in the sediment for an unknown period of time. These dormant eggs serve to re-establish each species following a population crash. However, few studies have considered the causes and consequences of both the production and emergence of these sexually produced eggs. My goal is to address the question of how dormancy affects not only the population dynamics of each species, but also how dormancy affects the long and short term interactions of the two species. In doing so, I consider both the production of the sexual eggs and their subsequent emergence from the sediment.

2:45

BREAK

Session VIII.

Thursday afternoon, 21 January

Moderator: Greg Lewis

Projectionist: Dan Peck

SP
0156

3:00

MOACYR DIAS-FILHO

Can soil moisture stress be beneficial to grazing ruminants?

I measured *in vitro* organic matter digestibility (IVOMD) and crude protein content (CP) in the tropical forage grass *Panicum maximum* Jacq. grown in a greenhouse and subjected to water stress. The soil water conditions were: $W_1 = 45\%$ (field capacity), $W_2 = 29\%$ and $W_3 =$ varying from 37% to 27% of soil water content. The evaluations were made at 7, 14, 21 and 28 days after the imposition of the soil water status. The basic treatment design was a factorial combination of soil water regimes x harvest periods. A complete randomized design with three replications was used. The IVOMD was similar ($P > 0.01$) among watering regimes in the first three harvests but higher ($P < 0.01$) for W_2 and W_3 plants in the last period. Although similar ($P > 0.01$) during the first harvest, from the second harvest onwards, CP content of W_2 and W_3 plants was higher ($P < 0.01$) than that of W_1 plants. These results suggest that soil moisture stress may have a positive effect on the nutritive value of this tropical forage grass and thus, be beneficial to grazing ruminants.

3:15

JOSHUA NOWLIS

Generalists versus specialist reaction to an induced host response.

During the summer of 1992, I studied the reaction of congeneric species of snails, one a specialist and the other a generalist, to understand the costs and benefits of ecological specialization. Previous experiments had demonstrated that the generalist, *Cyphoma gibbosum*, suffers long-term fitness consequences if it feeds on induced colonies of the coral species *Plexaurella dichotoma*, and that *P. dichotoma* responds to both *C. gibbosum* and the specialist, *C. signatum*, by increasing its sclerite density. In this study, I compared the degree to which each snail species was deterred by the coral response using two measures: residence times of the two snails in paired choice experiments and feeding rates in the paired choice experiments and controlled diet situations. Both species of snail showed similar feeding rates on induced and control colonies. In contrast, only the specialist, *C. signatum*, spent less time on induced colonies when given a choice. Given that *C. gibbosum* seems to suffer long-term fitness consequences for feeding on induced *P. dichotoma*, non-diet factors, such as mate-finding, may play a more important role in determining this generalist's host preferences.