

From: BCI4  
To: STRI  
Date: Sunday, May 12, 1996 12:28 pm  
Subject: Noon seminar Tuesday, May 14

Neal Smith has offered me the opportunity to give the STRI noon seminar on Tuesday, May 14. Since there is very little time to inform people about this, I take the liberty of sending my abstract (see below) to everyone on the STRI mailing list.

Sincerely, Jan Sevenster.

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#### STRUCTURING FORCES IN A TROPICAL INSECT COMMUNITY

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Abstract of STRI seminar, to be given on Tuesday, 14 May 1996.

The current interest in biodiversity and its conservation demands a better understanding of community structure. Since tropical forest ecosystems typically have high diversities, these systems provide critical tests of our understanding of the mechanisms that affect and maintain diversity.

Both local and regional processes may affect community structure. In the community of frugivorous *Drosophila* on BCI, patterns of species diversity and community structure could be explained from local factors. The factors studied include resource-use and life-history characteristics of the *Drosophila* species and their predators (parasitic wasps), as well as environmental heterogeneity in resource types, in space and in time.

Parasitism is not an important factor in this system due to high temporal variability. While the predictions of resource heterogeneity models are not supported by the data, spatial heterogeneity seems to provide a powerful explanation for species diversity. Temporal heterogeneity and life-history variation provide further stabilization of coexistence.

Presently, Coenraad Krijger and I are setting up a study to test the previous findings by comparing communities that differ in environmental heterogeneity, and to predict the combined effect of different kinds of environmental heterogeneity.