



Ecological complexity and pest control

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John Vandermeer works in forest ecology, tropical agroecology and theoretical ecology. He studies the ecology of the traditional shaded coffee agroecosystem in southern Mexico to understand the spatial dynamics of a major arthropod community and the effect of ecological complexity on pest control. Theoretical ecology is focused on the study of coupled systems of consumer/resource and spatial dynamics.

Modern agriculture has come to rely extensively on pesticides to control pests and pathogens in agriculture, generating problems that have been well-publicized. An alternative approach, variously referred to as “total systems” or “autonomous” or “ecological,” posits that the overall structure of the ecosystem is itself an agent that, if understood correctly, could be marshaled to avoid pest problems in the first place. In extensive observational/experimental/theoretical work on the coffee agroecosystem in Mesoamerica, major elements of the autonomous control system have been elaborated. Modern concepts of ecological complexity such as Turing processes, coupled oscillators, network theory and chaos suggest a convergence between more traditional ideas of pest control and more contemporary ideas of ecological complexity.

Time: 22.4. 11:00

Place: Raum H2.21 (Alte WU, Augasse 2-6)

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