

Die Ernst Mayr Lecture ist eine von der Berlin-Brandenburgischen Akademie der Wissenschaften und dem Wissenschaftskolleg zu Berlin gestiftete Vorlesungsreihe auf dem Gebiet der Biowissenschaften. Mit der jährlich stattfindenden Vorlesung soll die Entwicklung des biologischen Denkens von führenden Wissenschaftlerinnen und Wissenschaftlern verschiedener Disziplinen einer breiteren Öffentlichkeit vermittelt werden. Die Reihe bezieht sich damit auf eines der Hauptwerke des Ornithologen und Evolutionsbiologen Ernst Mayr (1904–2005), *The Growth of Biological Thought*, und wurde von ihm selbst im Herbst 1997 eröffnet.

NAOMI E. PIERCE

ANT SYMBIOSES: FROM PARASITISM TO MUTUALISM

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ERNST MAYR LECTURE 2015

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Berlin-Brandenburgische Akademie der Wissenschaften
Akademiegebäude am Gendarmenmarkt
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Wissenschaftskolleg zu Berlin
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Ants play a central role in shaping terrestrial ecosystems, and have repeatedly evolved complex relationships with other organisms, including insects, plants and microbes. These interactions range from parasitisms to mutualisms. I will discuss three examples: the association between ants and caterpillars of butterflies in the family Lycaenidae, the interaction between ants and their gut microbiota, and the relationship between ants and ant plants found on the savannahs of East Africa. Collectively, these interactions illustrate how symbiosis can be a creative force in facilitating adaptive radiation through the acquisition of novel capabilities that permit exploitation of new ecological niches, and at the same time pose constraints on the evolution of both partners through the need to coordinate opportunities for interaction as well as through the population consequences of increased specialization.



Naomi E. Pierce is interested in the ecology and evolution of species interactions, and how parasitic and mutualistic life histories can influence the evolutionary trajectories of each partner. Her work has ranged from field studies measuring the costs and benefits of symbioses between ants and other organisms, to genetic analyses of biochemical signaling pathways underlying interactions between plants, pathogens and insects. More recently, she has used molecular phylogenies to analyze life history evolution in bees, ants and butterflies.

In 1991, Naomi Pierce was appointed Hessel Professor of Biology and Curator of Lepidoptera in the Museum of Comparative Zoology at Harvard University. The author of over a hundred papers and an edited book, she is a member of National Geographic's Committee for Research and Exploration, and was elected a Senior Fellow of the Harvard Society of Fellows, and Fellow of the AAAS. She has received honors such as a Fulbright Fellowship and a MacArthur Award.

**Die Berlin-Brandenburgische
Akademie der Wissenschaften**
und
das Wissenschaftskolleg zu Berlin

laden ein zur

ERNST MAYR LECTURE 2015

Begrüßung

Martin Grötschel

Präsident der Berlin-Brandenburgischen
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Einführung

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ANT SYMBIOSES: FROM PARASITISM TO MUTUALISM

Naomi E. Pierce

Museum of Comparative Zoology, Harvard University

Vortrag in englischer Sprache