New Keys to Keeping a Diverse Planet

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Variation in plants and animals gives us a rich and robust assemblage of foods, medicines, industrial materials and recreation activities. But human activities are eliminating biological diversity at an unprecedented rate.

A new UC Davis study offers clues to how these losses relate to one another -- information that is essential as scientists and land managers strive to protect the remaining natural variation.

Sharon Strauss, a professor of evolution and ecology, and former doctoral student Richard Lankau (now a post-doctoral researcher at the University of Missouri-St. Louis and the University of Illinois), studied competition among genetically varied plants of one species (black mustard, Brassica nigra), and among black mustard and plants of other species.

"This is one of the first studies to show that genetic diversity and species diversity depend on each other," Lankau said. "Diversity within a species is necessary to maintain diversity among species, and at the same time, diversity among species is necessary to maintain diversity within a species.

"And if any one type is removed from the system, the cycle can break down, and the community becomes dominated by a single species."

The research was funded by the National Science Foundation. The paper, titled "Mutual feedbacks maintain both genetic and species

diversity in a plant community," was published in the Sept. 14 issue of the journal Science.

The Strauss-Lankau paper is one of three papers by researchers in the UC Davis Graduate Group in Ecology that have recently been published in Science, Nature and the Proceedings of the National Academy of Science.

Source: UC Davis