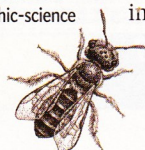


Where the Wild Bees Are

Croplands and climate change displace native bees

Farmers have always depended on both honeybees and native bees to pollinate crops. As honeybees die en masse, wild bees are needed more than ever—but they, too, are disappearing. In the late 1800s naturalist Charles Robertson traveled around Carlinville, Ill., by horse and buggy, meticulously recording which bees visited which flowers. In 2009 and 2010 ecologist Laura A. Burkle, now at Montana State University, and her colleagues repeated some of Robertson's studies. The dense network of plant-pollinator relationships Robertson originally documented had deteriorated. Less than half as many interactions occurred in 2009 and 2010 as in the 1800s. Ironically, ever expanding croplands have most likely killed off local populations of native bees by depriving them of natural habitat and exposing them to toxic pesticides. And climate change has thrown off the bees' timing by shifting bloom cycles. But life is resilient: in 121 instances, Burkle observed bees attending flowers they had not pollinated in the past. —Ferris Jabr

SCIENTIFIC AMERICAN ONLINE
 Read more about native bees at ScientificAmerican.com/dec2013/graphic-science



SOURCE: "PLANT-POLLINATOR INTERACTIONS OVER 100 YEARS: LOSS OF SPECIES, CO-OCCURRENCE, AND FUNCTION," BY LAURA A. BURKLE, JOHN C. MARLIN, AND TITANY M. KNIGHT, IN SCIENCE, VOL. 339, MARCH 29, 2013

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