A team of researchers affiliated with multiple institutions in Portugal and the U.S. has found that a single enzyme is responsible for gender-based plumage color differences in mosaic canaries. In their paper published in the journal *Science*, the group describes narrowing their search for the factors involved in gender-based color differences in canaries and what they found. In the same journal issue, Nancy Chen with the University of Rochester has published a Perspective piece detailing the history of the study of gender-based color differences in birds, and outlines the work by the team in this new effort.

Scientists have known for quite some time that genetic factors play a role in plumage color differences in male and female birds—but the actual genetic mechanisms involved have been poorly understood. In this new effort, the researchers set out to learn more about the process by cross-breeding canaries and studying their genes.
Collage of wild birds exhibiting sexual dichromatism. Top: (Male (left) and female (right) Northern Cardinal); middle: Male (left) and female (right) Pine Warbler; bottom: Male (left) and female (right) Red-bellied Woodpecker. Credit: Geoffrey E. Hill


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