

Researchers able to perform extended study of stunning wild northern cardinal gynandromorph

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Credit: Brian D. Peer

(Phys.org)—Ornithologists Brian Peer and Robert Motz, with Western Illinois University, found themselves with a unique opportunity a couple of years ago—to study a gynandromorphy in its native environment for an extended period of time. They have written a paper describing what

they observed and have had it published in *The Wilson Journal of Ornithology*. The observations made by the pair of researchers represent the most extensive study of a bilateral gynandromorph bird in the wild to date.

Gynandromorphy is a condition where an organism unnaturally possesses both male and female traits. Examples have been observed in chickens, lobster, butterflies and other species. The cardinal in Illinois was particularly striking as males and females generally are colored very differently. The male is usually all bright red, while the female exhibits mostly a mix of soft and dark brown feathers. The gynandromorph wound up with plumage split right down the middle, literally—one half of the bird looks male, the other half female. In fact, when viewed from either side it is impossible to tell that anything is amiss.

Most mammals have the familiar XY for male, XX for female chromosomes. That is not the case with birds, their gender is determined by a Z pair—males have ZZ, [females](#) ZW, and hormones do not come into plays as much, thus gynandromorphy in [birds](#) is more common. Typically bilateral gynandromorphy such as observed with the cardinal, shows up early in life—it happens when the chromosomes in a dividing cell do not split normally leading some cells to have female information, the other male.

The researchers were able to study the gynandromorph in its native northern Illinois habitat, for an eight month period (which involved 40 days of actual study) to see how it fared—though most sightings occurred around human placed feeders. They noted that the bird was not approached by other cardinals for procreation purposes and interestingly, it never made a sound—not a single peep the whole time it was observed. It was never tested aggressively by other male cardinals either, which left the bird mostly solo. The researchers also noted that the bird did not respond to recorded calls.

In an interesting side note another gynandromorph cardinal was spotted in 1969, but its plumage coloring was reversed.

More information: — Observations of a Bilateral Gynandromorph Northern Cardinal (*Cardinalis cardinalis*), *The Wilson Journal of Ornithology* 126(4):778-781. 2014. doi: [dx.doi.org/10.1676/14-025.1](https://doi.org/10.1676/14-025.1)

ABSTRACT

We describe behavioral observations of a bilateral gynandromorph Northern Cardinal (*Cardinalis cardinalis*) in northwestern Illinois from December 2008 through March 2010. The bird exhibited the typical bright red color of a male cardinal on the left half of its body, and the dull brownish-gray appearance of a female cardinal on the right half. We observed the bird more than 40 days, mostly in the vicinity of bird feeders. It was never paired with another cardinal, was never heard vocalizing, and was not subjected to any unusual agonistic behaviors from other cardinals. These observations are among the most extensive of any bilateral gynandromorph bird in the wild.

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