

OBSERVATIONS ON THE POLYGAMY AND TERRITORIAL
BEHAVIOR OF A MALE STARLING (*Sturnus vulgaris*)

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Polygamy in passerine birds is probably more frequent than is ordinarily supposed. House Wrens, Long-billed Marsh Wrens, Robins, Meadowlarks, Bobolinks, Red-winged Blackbirds, as well as Starlings have been found by Cornell graduate students to be occasionally polygamous in the vicinity of Ithaca, New York, and there are doubtless other species with similar tendencies. Few cases attract attention, however, because it is difficult to identify the specific individuals that exhibit polygamy unless they are marked and are under special observation.*

On December 14, 1947, an adult male Starling, that later proved to be a polygamist, was caught and banded at Fernow Hall on the Cornell campus. He had been about Fernow Hall almost constantly since February 1947, at which time he had come to a nesting box on the south side of the building.

Between April 26 and May 31, 1947, this male Starling had raised a family in the box. In the second week in June, following the moving of the box (now called Box 1) to a new site on the west side of the building about 70 feet away, this male, with a female whose identity was never determined, had started a second family. The eggs from this nesting, however, never hatched, the female having deserted the nest about July 1. No Starlings were seen about the box for several weeks.

Then, during the last week of July 1947 the male Starling returned, made a fresh nest in the box on top of the old one, and sang near the box daily. It is not positively known that this bird was the same one that defended the box during the spring, but his similar song with the same unique mixture of bird imitations, leaves little doubt that he was the same bird. He was seen about the box all during the autumn months, and finally, on December 14, 1947, as previously noted, he was caught roosting in the box; a Fish and Wildlife Service band No. 46-221365 was placed on the left leg and a bright cerise-colored band on the right, the colored band to serve for more accurate field identification.

On February 5, 1948, four more Starling nesting boxes were put up on or near Fernow Hall. Box 2 was placed on the north side of the building about 130 feet from Box 1; Box 3 was put up on the aviary two floors directly above Box 1; Box 4 was placed on a tree 150 feet northeast of Box 1; and Box 5 was fastened to the east side of the building 140 feet from Box 1. During the 1948 breeding season Box 4 and Box 5 each had a monogamous pair of Starlings nesting in them. Boxes 1, 2, and 3, however, were used by the females of the single cerise-banded male.

*Fritz Freitag has noted polygamy in Starlings in Germany similar to the case reported in this paper. "Aus dem Leben beringter Stare zur Fortpflanzungszeit," *Vogelring* 8: 8-15, 9: 43-49, 11: 1-9.

The cerise-banded male was forced by gray squirrels to find a new roosting place during February 1948, and on the evening of February 26 he was found occupying Box 2 on the north side of the building. Shortly thereafter, when the hole of Box 1 was made too small for squirrels, the male Starling returned.

By April 13 it appeared as though the cerise male had nests about three-fourths complete in both Box 1 and Box 2, and on April 22 he was seen to copulate with the female of Box 1. At this time there were three eggs in each box. During the evening of this same day both females were caught and banded; the female of Box 1 was banded white over cerise, and the female of Box 2 was banded white over blue. The white/cerise female deserted because of the disturbance, the white/blue female did not.

Early in the morning of April 24 an unidentified female was reported carrying nesting material into Box 1 as the cerise male sang nearby. Later he was still singing about the box, but during the course of the morning was also singing from a nearby hemlock, from a maple and from an elm behind the building near Box 2, and on various gables of the building. At ten in the morning he was seen to enter Box 2, changing places with the white/blue female who relieved him after he had incubated for about ten minutes. Ten minutes later he was seen on the roof with the white/cerise female that had deserted Box 1 two nights earlier, and was investigating Box 3 (the one on the aviary above Box 1). In the evening he was again seen with white/cerise female, this time feeding on the lawn.

On April 28 an unbanded female was about Box 1 with the cerise male, and by May 4 there was a new lining in the box; on May 17 there was a clutch of five eggs. These eggs hatched on May 29, but when the female was caught and banded (orange over cerise) that night, she deserted and was not seen again until July 29, at which time she was seen feeding on the lawn with an unbanded male. In the meantime the young of Box 2 had hatched but the white/blue female was doing all the feeding alone. On May 27, however, as the young were about ready to leave the nest, there were three strange male Starlings standing on the nearby gable and about the box. The cerise male flew in and drove the males away, leaving the white/blue female undisturbed, indicating that he was still interested in defending this box.

During the week of May 25 the cerise male was seen frequently singing on the corner of the roof near Box 3, and was often seen carrying miscellaneous bits of nesting material into the box. The nest was almost one-fourth complete, but its careless construction, mostly of leaves, indicated that it was built largely by this "lone" male.

Shortly after the orange/cerise female deserted Box 1 and the young had left Box 2, the cerise male was still exhibiting nesting behavior. On June 3 there were fresh grasses in Box 2, and on June 9 a female was flushed from one cool egg which she deserted. Up until this time the cerise male had been spending most of his time singing on a wire near this box. The quality of his singing had greatly declined and included

fewer imitative sounds and more plain squeaking and chuckling. On June 9 he was seen with a new unbanded female at Box 1 and was carrying bits of green leaves into the box. This female bird was probably not the same as the one flushed from Box 2, since there was scarcely any interval between the flushing of the bird from Box 2 and the observations made at Box 1. The new female at Box 1 had a complement of three eggs by June 15, but they were never hatched. There were no signs of Starlings about any of the Fernow Hall boxes for about a month after June 22. Then, during the last week in July, singing male Starlings again became evident about the campus, and during the first week in August three Starlings, two males and one female, were seen frequenting the east end of Fernow Hall in the evenings and early mornings. One of these birds, once more in full song, was the cerise-banded male.

The cerise-banded male Starling of this paper is a permanent resident about Fernow Hall. Probably because of this he has been strongly enough entrenched to defend three nesting sites throughout the breeding season. He has also been vigorous enough to have two female birds simultaneously within his area all season, and he has had three for one period of at least three days. During the nesting season of 1943 the cerise male had a total of five females at various times.—

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GENERAL NOTES

Recoveries of Some Banded Hawks and Owls.—On May 25, 1946, three nestling Red-shouldered Hawks, *Buteo lineatus* (Gmelin), which had hatched out on April 27 were banded in the nest at Silver Lake, a few miles northeast of Akron, Ohio. This nest was used for at least four consecutive years. One of these hawks, no. 34-638998, was shot 12 miles away near Copley, just west of Akron, on November 15 that same year. Another one, no. 34-638996, was shot two years after banding on May 19, 1948, at Chardon, some 32 miles to the northeast of the nesting site.

On April 14, 1940, two nestling Great Horned Owls, *Bubo virginianus* (Gmelin), were banded at Old Portage, two miles north of Akron, in a nest some 70 feet up in a large beech tree. In the nest at the time of banding were the remains of a rabbit and a pheasant. One of these owls, no. 40-802852, was recovered over five years later on September 7, 1945, at Berea where it was shot while taking chickens. At that time it was 22 miles from its place of origin. An adult Great Horned Owl was captured by a farmer at Streetsboro, Ohio, on February 9, 1949. It was kept in captivity for one week, then banded with no. 40-802854 and released in Akron. Nearly a year later, on January 2, 1950, the bird was recaptured in a pole-trap on the State Game Refuge at Twin Lakes, near Kent, only three miles from the point of original capture, but 15 miles from the point of release.—Ralph W. Dexter, Department of Biology, Kent State University, Kent, Ohio.

Glaucous-winged Gull Twenty Years Old.—A Glaucous-winged Gull, *Larus glaucescens* Naumann, No. 299669, banded as a juvenile at Bare Island, Haro Strait, Vancouver, British Columbia, by Mr. George D. Sprot on August 2, 1929, was found dead on April 7, 1950, on a beach five miles from Victoria, British Columbia, by Miss Yvonne Rathbone. Miss Rathbone estimated that the bird had been dead about three weeks. The band was submitted and is on file; the numbers are clearly legible. This gull was about twenty years and eight months old when it died. No other band records are on file for this species which approach this age.—Seth H. Low, Fish and Wildlife Service, Laurel, Maryland.