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### THE EURASIAN COLLARED-DOVE IN MEADE COUNTY, KANSAS

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Abstract - Since the first documented sighting of the Eurasian Collared-Dove (*Streptopelia decaoto*) in Kansas in May 1996, the species has rapidly colonized the state, starting in urban areas and more recently expanding to rural areas. Banding data suggest that this species may exhibit a short distance, westerly dispersal pattern in Kansas and throughout the United States. Dispersal in Kansas was most likely supplemented with the release of caged birds from various locations in the state. Morphological measurements and vocalizations from Meade County, Kansas, suggests that the *Streptopelia* dove populations seen there may be composed of hybrids between the Eurasian Collared-Dove and the Ringed Turtle-Dove (*Streptopelia risoria*).

#### INTRODUCTION

The first record of Eurasian Collared-Dove (*Streptopelia decaoto*) in Kansas was on 15 May 1996, of four birds, presumed to be nesting, which were discovered by J. Palmquist and G. Pittman in Goodland, Sherman County, 151 miles (259 km) northwest of Meade (Max Thompson, pers. comm. 2010).

Since the original Sherman County and subsequent Meade County sightings in 1996, the Eurasian Collared-Dove has exploded in Kansas and according to, "The Kansas County Checklist Project", is now found in all 105 counties of the state with nesting records in 16 counties (Chuck Otte, pers. comm. 2010. <http://www.ksbirds.org/checklist/maps/ECDO.jpg>).

Smith (1987) says that the Eurasian Collared-Dove is "not particularly fond of urban areas." This has not been the case in western Kansas, where birds colonized small towns first, nearly saturating them and only then expanded to the rural areas. Most likely this is a function of the lack of trees on the Kansas plains. Although present in Meade in 1996, they did not show up on the nearby, primarily rural, Missler Breeding Bird Survey in Meade and Gray Counties until nine years later, in 2005, when three birds were found. Each year since, the route has produced increasing numbers of Eurasian Collared-Doves, but without exception, they are found at farmsteads with established trees (unpubl. data). Most small communities in western Kansas have large grain storage facilities (elevators) with spilled grain nearby providing an ample food source. In recent years most western Kansas grain elevators have

stored corn (*Zea mays*) and grain sorghum (*Sorghum* spp.) in open piles on the ground for several months in the fall and winter. At back yard feeding stations, Eurasian Collared-Doves seems to show a preference for cracked corn, but also appear to consume yellow millet (*Setaria* spp.), grain sorghum, black oil sunflowers (*Helianthus* spp.) and niger (*Guizotia abyssinica*).

How the Eurasian Collared-Dove came to occupy the entire state of Kansas and much of the continental United States, in 12 years is a matter of speculation. Hengeveld (1993) listed two methods for invasion of an introduced species: 1.) a steadily rolling, laterally continuous wave and 2.) by the coalescence of initial foci lying ahead of a spatially more coherent region of occurrence. He further states that the second method of dispersion is "fed by occasional long-distance dispersers; the subsequent process of population coalescence is again fed by short-distance dispersal."

In all likelihood, the second means of dispersal occurred in Kansas. A slow, westward and northward range expansion may have been augmented through the release of caged birds in Dodge City, Kansas, and perhaps elsewhere in the state. These localized releases may have merged with short-distance dispersed birds. Localized releases of caged birds may also contribute to the genetic diversity of the species ensuring a more robust and healthy population, thus, further enabling their spread.

#### HYBRIDIZATION IN THE EARLY MEADE COUNTY POPULATION

When a group of *Streptopelia* doves were found on 4 November 1996, in the city of Meade, Meade County, Kansas, they were tentatively identified as the domestic Ringed Turtle-Dove (*Streptopelia risoria*) based upon identification books available at the time. There were up to 15 individuals in the group including a recently fledged juvenile barely able to fly. The birds were very tame, roosting above a dog house in a small eastern red cedar (*Juniperus virginiana*) and they seldom ventured far from the roost tree.

On 22 November 1996, I learned and confirmed that an individual in Dodge City, Ford County, Kansas, 37 miles (60 km) northeast of Meade, raised Ringed Turtle-Doves and other dove and pigeon species. In September 1996, he released 60 Ringed Turtle-Doves as well as other doves and pigeons species. He was surprised that they were still surviving as they were very tame and quite susceptible to domestic cat predation.

In December 1996, an effort was made to include Ringed Turtle-Dove on the local Christmas Bird Count, a state affiliated count not associated with the National Audubon Christmas Counts. The record was rejected by the state compiler as being highly unlikely, and, if present, certainly not capable of reproduction in Kansas.

Sightings and calls from birds, in addition to measurements taken from banded birds during their first few years of establishment in Meade raised suspicion as to a possible hybridization between the two *Streptopelia* species. Most authorities recognize that hybridization does occur and with some frequency (Romagosa and McEaney 1999, Bohlen 1998). Smith (1987) indicated that hybrids between the Eurasian Collared-Dove and the domestic varieties are well-known in European aviculture and that hybrids appeared to be present in St. Petersburg, Florida.

A lack of field guides with plates depicting the Eurasian Collared-Dove during the early establishment period in Kansas made identification to species difficult at best. Mary Gustafson,

then Acting Chief of the Bird Banding Laboratory in Patuxent, Maryland, communicated on 22 December 2003, that "...it would be very difficult to separate Ringed Turtle-Dove and hybrids from Eurasian Collared-Dove, other than by the smaller size (pers. comm.).

A request for information regarding an unidentified *Streptopelia* dove mist netted 20 December 2003 was sent out to the Bird Band List Serve, an international discussion group for bird banders. The bird captured in Meade was significantly smaller than the listed measurements in the Birds of North America (BNA) account for Eurasian Collared-Doves (Romagosa 2002) which indicated that something could be amiss. The Meade bird had a wing chord of 163 mm, a tail of 101 mm, and a mass of 158 g.

The BNA account gives an overall wing range for both male and female birds of 173-188 mm, a tail length of 129-147 mm, and a mass of 115-243 g. Measurements are from the Netherlands (Cramp 1985), India (Dunning 1993) and Florida (Smith and Kale 1986). The Meade bird was significantly smaller by all accounts.

Sara Brown, Field Ornithologist at the Central Science Laboratory in the United Kingdom, stated that the biometrics for Eurasian Collared-Doves in Europe fit the tail length, but not the wing or mass. She questioned whether the wing measurements were comparable because data used in Europe are of flattened wings while those recorded in Meade were wing chords (pers. comm. 2003). The BNA account does not indicate if measurement data for the wing are flattened or a chord.

The nominate race of Eurasian Collared-Doves in Europe shows a wing average for female birds of 182 mm (range 177-188 mm) and for male birds of 177 mm (173-182 mm) (Baker and Svensson 1993). The Birds of the Western Palearctic Concise Edition (Snow and Perrins 1998) show a tail of 100-110 mm, a female wing of 170-182 mm and a male wing of 170-182 mm. Male mass ranged from 170-240 g and female mass ranged from 170-230 g. The Meade bird was 12 g less than the lightest mass indicated for the Western Palearctic birds.

The Meade bird was not sexed, but the chord was 10 mm shorter than the shortest wing of males in the nominate race in Europe. Cramp (1985) noted that juvenile tail and wing lengths may be significantly shorter than those of adult birds. The Meade bird was not aged due to lack of adequate resources. Figure 1 shows typical central view of the tail in typical Eurasian Collared-Doves.



**Figure 1: Ventral view of a typical Eurasian Collared-Dove showing black extending down the outer vein of the 6th rectrix.**

Four photos sent to Peter Wilkinson, in the United Kingdom, of a bird banded in Meade, 20 December 2003, further led to the conclusion that some, if not most of the *Streptopelia* doves observed in Meade were indeed hybrids (pers. comm. 2004). Wilkinson concluded that the Meade bird was not a classic hybrid but had good reason to believe it was not a pure Eurasian Collared-Dove either. His experience handling hundreds of these birds led him to conclude

it was a male hatched in 2003, or a bird entering its second year (Figure 2).

The shorter wing and lighter mass combined with unusual and varied songs of the *Streptopelia* doves in Meade indicate the possibility that early populations were composed, at least in part, by hybrid birds.

The Meade “collared-dove” population exhibits three distinct calls. The first, and most common call heard is described in Sibley (2000) as a “rhythmic, three-syllable hooting coo COOOO cup” with a noted emphasis on the second syllable. Sibley also describes a second “display call;” a shorter “COO COO co,” which is also heard in Meade. A third distinct call typical of the Meade birds does not fit either the typical



**Figure 2: Ventral view of a hybrid “*Streptopelia collared-dove*” showing a lack of black extending down the outer vein of the 6th rectrix. This bird was identified as a second-year male by European banders familiar with the species.**

calls of the Eurasian Collared-Dove or the Ringed Turtle-Dove. It too is a rhythmic, three-syllable call with the emphasis on the third syllable. This possibly represents a unique call not noted in the literature or a hybrid call. Musically it can be likened to words and notes: who (middle C), who (middle A), WHO (middle E) with marked emphasis on the middle E.

## OBSERVATIONS OF BREEDING IN MEADE COUNTY

The Eurasian Collared-Dove appears to be capable of nesting twelve months out of the year. A recently hatched chick found beneath a nest during a February blizzard in Meade lends credibility to this. In Kansas, Thompson et al. (2011) indicated copulation has been observed 1 February-20 June, eggs 29 March-17 April, and Eugene Young (pers. comm.) has observed courtship behavior and birds carrying nesting material during each month in Cowley County. In Europe, the Eurasian Collared-Dove annually raises three to six broods, each usually of two young (Cramp and Simmons 1985), and breeding seems to be occurring almost year round.

Locally in Meade, nests have been observed in cottonwood (*Populus sargentii*), Siberian elm (*Ulmus pumila*), black locust (*Robinia pseudoacacia*), tree of Heaven (*Ailanthus altissima*), and purple smoke tree (*Cotinus coggyria*). Young (pers. comm.) indicated nests are commonly placed in pines and cedars in Arkansas City, Cowley County, Kansas, and in Tonkawa, Kay County, Oklahoma. Nests are very high and difficult to observe. There is no noted competition for nesting sites with native dove species. Nesting appears to be semi-colonial with multiple

nests in a single tree. Cramp (1985) states that if an area is densely populated distance between nests is often less than 30 m (98.4 ft)

### **BANDING RESULTS**

Banding records and limited returns for the Eurasian Collared-Dove in Kansas and elsewhere in the continental United State re-enforces a short distance, westerly dispersal concept. Twenty banding recoveries give a glimpse of the dispersal (see Table 1, several local returns are not listed). With the exception of the Yuma, Arizona, bird, banding returns show a westerly distribution with the recovery of greatest distance being 305 miles (490.8 km) from South Carolina to Alabama. Average distance for recoveries was 152.8 miles (245.9 km) and average lapse of time from banding to recovery was 1 yr 8 mo.

### **MORTALITY**

While no one knows what limitations may exist for the Eurasian Collared-Dove invasion in the United States, it should be noted that predation by Sharp-shinned (*Accipiter striatus*) and Cooper's Hawks (*Accipiter cooperii*) in Meade, take a significant winter toll on the species near bird feeders. Hunters also appear to be harvesting a significant number of birds with all but one of the banding recoveries in the United States being harvested by hunters. For the 2010-2011 Kansas hunting season, the Kansas Department of Wildlife and Parks lists a season for "exotic dove" including "Eurasian" and "Ringed" as September 1 through October 31, 6-14 November and November 20 through February 28 with no daily bag limit (Kansas Department of Wildlife and Parks, 2010).

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**Table 1. Banding and recovery data of 12 Eurasian Collared-Doves in the U.S.**

<b>BANDED</b>	<b>RECOVERED</b>	<b>DISTANCE and DIRECTION</b>	<b>TIME AFTER BANDING</b>	<b>BANDED BY</b>	<b>PERMIT NO.</b>
Yuma, AZ	Chihuahua, Mexico	649 miles SE	0 YR, 2 MO	Mike Rabe	6613
Meade, KS	Campo, CO	124 miles W	2 YR, 5 MO	Thomas L. Flowers	22849
Lecompte, LA	Alexandria, LA	15 miles NW	0 YR, 5 MO	Jim Johnson	23037
Charleston, SC	Johns Island, SC	7 miles W	0 YR, 1 MO	William Post	9717
Charleston, SC	Mt. Pleasant, SC	8 miles NE	1 YR, 2 MO	William Post	9717
Charleston, SC	Green Pond, SC	36 miles W	0 YR, 1 MO	William Post	9717
Charleston, SC	Orangeburg, SC	70 miles NW	4 YR, 0 MO	William Post	9717
Charleston, SC	Lamar, SC	95 miles N	3 YR, 0 MO	William Post	9717
Charleston, SC	Statesboro, GA	107 miles SW	2 YR, 0 MO	William Post	9717
Charleston, SC	Easley, SC	205 miles NW	3 YR, 8 MO	William Post	9717
Charleston, SC	Alapaha, GA	213 miles SW	0 YR, 4 MO	William Post	9717
Charleston, SC	Pittsview, AL	305 miles W	2 YR, 4 MO	William Post	9717

**BANDED WHITE-FACED IBIS OBSERVED IN NORTHEASTERN KANSAS.**— I observed a banded White-faced Ibis (*Plegadis chihi*) at West Lassiter Marsh, on the Perry Wildlife Area, in Jefferson County, Kansas (latitude 39.35578, longitude -095.49327) on four days during the period 11-17 April 2011. The bird, one of a maximum of five ibis present at the marsh during this period, was marked with an aluminum U.S. Geological Survey band on its right leg, and a wider, colored band with a three-character alphanumeric code on its left leg. On 11 April, I was unable to read the code, but I succeeded in doing so on 13, 14, and 17 April. The bird had been banded (code N14) as a flightless juvenile on 3 July 2007 by Jeffrey Warren at Market Lake Wildlife Management Area, in Jefferson County, Idaho (latitude 43.79167, longitude -112.15833; Bird Banding Laboratory, pers. comm.), approximately 1,470 km west-northwest of the locality of my observation, and was 3 years and 9 months old. This record represents the first Kansas recovery of this species (Thompson, M. C., C. A. Ely, B. Gress, C. Otte, S. T. Patti, D. Seibel, and E. A. Young. 2011. *Birds of Kansas*. University Press of Kansas, Lawrence, Kansas). – Dan LaShelle, 1036 SW Fleming Court, Apt 105, Topeka, KS 66604-1873.

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