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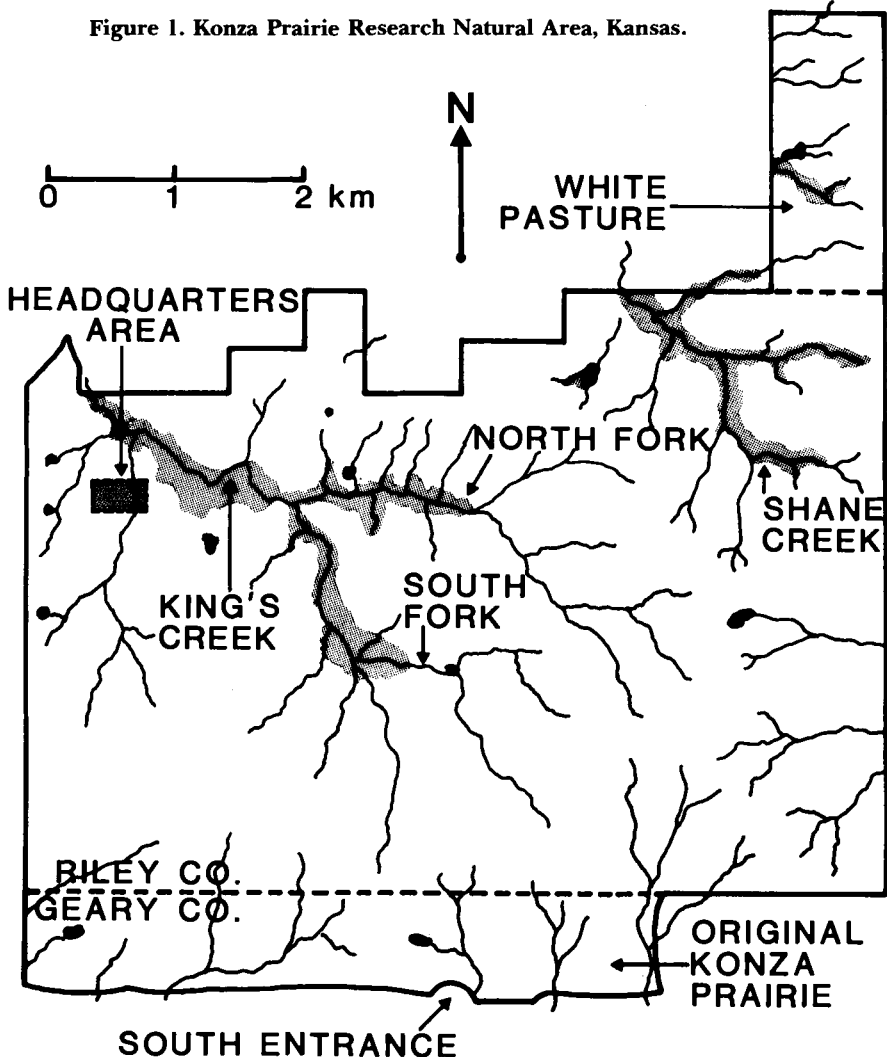
No. 4

### NON-PASSERINE BREEDING BIRDS OF KONZA PRAIRIE

John L. Zimmerman

The Konza Prairie Research Natural Area is a 3486 ha tract in the Flint Hills, purchased by The Nature Conservancy in the period 1971-1977, administered by the Division of Biology at Kansas State University in Manhattan, and set aside in perpetuity for long-

Figure 1. Konza Prairie Research Natural Area, Kansas.



term ecological research. The uplands are covered by tallgrass or true prairie dominated by *Andropogon gerardi*, *A. scoparius*, *Sorghastrum nutans*, and *Panicum virgatum* but further characterized by an abundance of prairie forbs. Since settlement of this area about 125 years ago and up to the date of purchase by The Nature Conservancy, this tract has been grazed by cattle, usually from May to October, and burned in the spring about every three years out of four (Lloyd Hulbert, pers. comm.). About 50 ha of lowlands with deep soil have been cultivated or converted into meadows of *Bromus inermis*. A gallery forest occurs in the lowland along the two major streams (see Figure 1) and is dominated by burr oak (*Quercus macrocarpa*) and hackberry (*Celtis occidentalis*) at the lowest and more mesic elevations but becoming largely composed of chinquapin (*Q. muehlenbergii*) upstream. The distribution of the underlying rock strata determines the availability of water since the interbedded limestone layers divert the flow of groundwater to numerous springs and seeps along the margins of outcrops. The outflows from these perched water tables permit the development of shrub thickets composed of *Cornus drummondii*, *Zanthoxylum americanum*, *Ulmus americana*, and *Rhus aromatica* above the stream valleys.

During the years following acquisition of the site, the documentation of breeding birds was incidental to research conducted by myself and students. With the initiation of an NSF-supported Long-term Ecological Research program on Konza Prairie in 1980, a more systematic effort was undertaken to identify the breeding species in order to provide a baseline reference for future research. Evidence used to substantiate breeding for this study was either the finding of an active nest of a species or the observation of recently fledged young attended by adult birds. Unless otherwise noted, all nesting records are from the Riley County portion of the tract. It is obvious that this work is not yet completed. For example evidence for the breeding of such common species as the Downy Woodpecker, *Picoides pubescens*, has yet to be obtained.

The accumulation of data upon which this report is based has benefited from research support provided over the years by the Bureau of General Research of Kansas State University, the Chapman Fund of the American Museum of Natural History, and the National Science Foundation. The cooperation and assistance of the late Lloyd C. Hulbert, Director, Konza Prairie Research Natural Area, and G. Richard Marzolf and Donald Kaufman, Project Directors for the LTER program, are gratefully acknowledged. Elmer Finck, Research Associate in the Division of Biology, has contributed a large number of nest records as a result of his responsibilities regarding LTER core measurements of bird and mammal populations on Konza Prairie.

#### GREEN-BACKED HERON, *Butorides striatus*

This summer resident is an uncommon but regular visitor to streams in the Kings Creek watershed as well as ponds formed by dams in the upper tributaries of this and other stream systems on Konza Prairie. Birds arrive in April and are still present in September. Elmer Finck found a nest on 4 June 1983 built of thin twigs in a *Salix* thicket, about 1.2 m above the water of the pond near the south entrance (Geary Co.). Three eggs were still present on 7 June, but the nest was empty on 13 June.

#### WOOD DUCK, *Aix sponsa*

The Wood Duck is present in the Kings Creek gallery forest from mid-March until the end of July. Mark Heinrich observed a female entering a nesting hole 6 m up in a burr oak along the South Fork on 31 May 1983. A female with a brood was seen on the South Fork of Kings Creek on 15 July 1981.

#### NORTHERN HARRIER, *Circus cyaneus*

This hawk is a common transient and an uncommon, but regular winter visitor. It is only an infrequent summer resident with one nest discovered by Elmer Finck (1984, Kansas Ornithol. Soc. Bull. 75:24) on 15 May 1982 on the original Konza Prairie (Geary Co.). When found, the nest contained 6 eggs and subsequently fledged at least 2 young. In the summer of 1986, Greg Farley found a nest (Riley Co.) with 5 eggs on 15 May. This nest continued for several weeks, but its ultimate fate was not determined.

**RED-TAILED HAWK, *Buteo jamaicensis***

During the migratory periods and in winter, this hawk is common; while in the breeding season the species is an uncommon, but regular resident. During the summer of 1983, five pairs occurred on Konza Prairie and three nests were located. One nest was in a burr oak on the edge of the gallery forest along the main stem of Kings Creek. The second was in a sycamore (*Platanus occidentalis*) in a more or less isolated stand of trees on a tributary of the South Fork about 1000 m from its confluence with the South Fork. The third nest was also in a burr oak in a small grove of trees about 300 m upstream on a tributary of the North Fork. Nesting began in late March with young fledging in mid-June.

**AMERICAN KESTREL, *Falco sparverius***

The kestrel is a common transient and winter resident on Konza Prairie, but an uncommon, yet regular, summer resident. Nests are located in old woodpecker holes in dead snags on the upper reaches of watersheds, while no nesting has been observed in association with the gallery forests. During 1983 I estimated that 7 pairs were breeding on Konza Prairie, but nesting evidence was only obtained for a pair on the North Fork of Kings Creek. This pair was observed copulating on 28 March 1983 and while the female was subsequently observed investigating nesting cavities, the nest was never found. On 6 July 3 recently fledged young were present in this area.

**RING-NECKED PHEASANT, *Phasianus colchicus***

The pheasant is a common permanent resident, frequenting both lowland agricultural sites near headquarters and upland prairie. Elmer Finck found a nest with 12 eggs on 3 May 1985 that had been destroyed by fire the day before. Chicks with two different hens seen by Mark Heinrich on 13 June and 16 June 1983.

**GREATER PRAIRIE-CHICKEN, *Tympanuchus cupido***

This species is a common permanent resident. There are about 9 active booming grounds on Konza Prairie with an average of 12 males per ground in March (range: 1-35 males). All nest records (including Geary Co.) are from early May to mid-June. Fledged young have been seen as early as 27 May (1983, Elmer Finck).

**NORTHERN BOBWHITE, *Colinus virginianus***

The quail is a common permanent resident, but only a few nest records have been obtained. A nest with 8 eggs was discovered by Martha Hall on 18 July 1981 in a valley above the North Fork. Dean Stramel found a nest with just 2 eggs on 16 June 1987. Groups of recently fledged young have been seen often, spanning the period from late June into September.

**KILLDEER, *Charadrius vociferus***

While seldom seen on upland prairie, the Killdeer is regular in the disturbed areas and cultivated fields along lower Kings Creek. All nest records are in April, the earliest found by Elmer Finck on 4 April 1985 with 3 eggs. Fledged young have been seen as early as 30 April (1986).

**UPLAND SANDPIPER, *Bartramia longicauda***

This species is the true harbinger of spring on the tallgrass prairie of Kansas, arriving in early April and becoming an abundant summer resident in both burned and unburned grassland sites. Although fall transients are still recorded during the first week in September, the species becomes irregular on Konza Prairie after the end of July. Based on a sample of 28 nest records (including Geary Co.), the earliest date is a nest with 4 eggs on 6 May 1979, while the peak of nesting begins in the last half of May.

**AMERICAN WOODCOCK, *Scolopax minor***

Birds have been seen during the summer since 1984, but a nest was not found until 28 April 1986. This nest contained 2 eggs and was discovered by Joe Gelroth. Although

no subsequent nests have been found, the species has become common in lowland oldfields along the South Fork of Kings Creek in the last two years.

**ROCK DOVE, *Columba livia***

The Rock Dove is a permanent resident almost completely restricted to the headquarters area where it nests in barns and storage sheds.

**MOURNING DOVE, *Zenaida macroura***

The dove is an abundant summer resident, nesting on the ground in grassland habitats and in trees in riparian habitats from the gallery forest to the upper elevations in all the stream systems. This species, however, becomes uncommon and irregular during the winter. A total of 200 nest records (including Geary Co.) span the period from 8 April to a nest still with eggs on 2 September 1985.

**BLACK-BILLED CUCKOO, *Coccyzus erythrophthalmus***

This species is an uncommon but regular summer resident in the *Cornus-Zanthoxylum* thickets that occur on the major rock outcrops. I have found one nest containing 3 eggs, 1.5 m up in a dogwood, *Cornus drummondii*, on 31 May 1983. Greg Farley discovered a similarly placed nest with 3 eggs on 13 June 1986.

**YELLOW-BILLED CUCKOO, *Coccyzus americana***

This is the cuckoo of the riparian habitats, occurring as a common summer resident from the gallery forest to the extent of tree vegetation in the upper drainages. Birds arrive in early May and remain until late September. Elmer Finck found a nest with 3 eggs in an elm on 19 June 1984 and another with 3 eggs on 24 July 1985. A third, rather late nest which subsequently failed, was discovered with 2 eggs in a hackberry on 28 August 1985.

**GREAT HORNED OWL, *Bubo virginianus***

This owl is an uncommon but regular permanent resident, occurring from the gallery forest into the upper reaches of the stream systems, including the open prairie. I have one nesting record from the north edge of the gallery forest along lower Kings Creek. This nest was in the crown of a mature burr oak and when discovered on 21 April 1982 contained one young in natal down and a second young molting into juvenal plumage. On 9 May 1985, Dick Marzolf found two young in a nest that had been used in previous years by Red-tailed Hawks.

**COMMON NIGHTHAWK, *Chordeiles minor***

Nighthawks arrive in early May and depart in early September, although migrants are still seen over the prairie for a few weeks longer. It is a common summer resident on both annually burned and unburned prairie with a total of 31 nest records (including Geary Co.).

**COMMON POORWILL, *Phalaenoptilus nuttallii***

This species is a common summer resident in upland prairie, frequenting limestone breaks and outcrops. Poorwills arrive in mid-April and remain until mid-September. There are 3 nest records for Konza Prairie, 25 May 1979, 3 July 1979 and 26 July 1986. The first two nests held 2 almost ready to fledge young, while the late July nest had 2 eggs.

**CHIMNEY SWIFT, *Chaetura pelagica***

Nests in the chimney of the ranch house in the Headquarters area. The only direct evidence of breeding was a nestling that fell into the basement fireplace on 20 August 1985 and identified by Elmer Finck.

**BELTED KINGFISHER, *Megaceryle alcyon***

The kingfisher is an uncommon but regular summer resident in the Kings Creek watershed as well as the more permanently flowing sections of streams throughout

Konza Prairie. In winter it is occasional and restricted to the main stem of Kings Creek. The only evidence of breeding that I have is the carrying of food by adults into what are assumed to be nest holes in the clay banks of streams.

**RED-HEADED WOODPECKER, *Melanerpes erythrocephalus***

Because of herbicide use by previous owners in both the Kings Creek and Shane Creek watersheds, there are numerous standing, dead snags which provide nest sites; and this species is abundant during the breeding season. This species also nest in the lower Kings Creek gallery forest where herbicides have not been applied, but it is less abundant there. During winters of high acorn availability, it remains on Konza Prairie in large numbers; but in years with little mast, it is absent in the winter.

**RED-BELLIED WOODPECKER, *Melanerpes carolinus***

This woodpecker is a common permanent resident of the gallery forest. Unlike *M. erythrocephalus*, it is more restricted to forested portions of watersheds. Nest records are all from late May and early June.

**NORTHERN FLICKER, *Colaptes auratus***

The flicker is a common permanent resident. All nest records are in dead snags associated with woody vegetation in the upper reaches of the stream systems, although this species is present in the gallery forest during the breeding season.

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**Status of the Ferruginous Hawk in Finney County, Kansas.** — The Ferruginous Hawk (*Buteo regalis*), largely restricted to the grasslands of the Great Plains, is considered to be declining throughout most of its range (Houston and Berchard. 1984. American Birds, 38:166-170). In western Kansas, Rising (1974. Univ. Kansas Science Bull. 50, No. 8) considered it a low-density, but regular summer resident. Stanley Roth and his students (pers. comm.) have observed several nests in recent years in western Kansas, and nests were discovered in the northeastern part of Finney County in 1982 and 1984 (Marvin Schwilling, pers. comm.). Winter records of Ferruginous Hawks are more numerous in both western Kansas and western Oklahoma (Graber and Graber. 1951. Trans. Kans. Acad. Sci. 54:145-174; Sutton. 1967. Oklahoma Birds. Univ. Oklahoma Press, Norman).

This note describes the occurrences of Ferruginous Hawks, usually in association with remnant prairie dog towns, during the winter of 1985-1986 in the Garden City area. On 29 December 1985, five Ferruginous Hawks were at a prairie dog town, nearly 40 acres in extent, located 4.5 mi N of 3rd and Mary Streets. On return visits during January and February as many as 14 were seen here, although five to ten individuals were more often present. Up to four Bald Eagles (*Haliaeetus leucocephalus*) were also seen at this site during January and February. During this same period, up to eight Ferruginous Hawks were seen in a winter wheat field about 9 mi SW of the previous site. Also a single hawk was seen from mid-December to late February at another prairie dog town of about 20 acres just a couple of miles east of town and north of U.S. 50. *Lawrence Herbert, 4021 E. 10th St., Trenton, MO 64683.*

**First Record of the Black-chinned Hummingbird in Kansas.** — On 8 May 1987 at approximately 11:30 a.m. CDT while birding in Elkhart, Morton County, Kansas, we saw a hummingbird flying through an alley behind the intersection of First and Coronado Streets in a residential part of town. The bird was rediscovered a short time later when Radell saw it perched in a small honey locust. He identified it as a male Black-chinned Hummingbird (*Archilochus alexandri*). The upperparts were uniformly metallic green.

The black throat was seen in direct sunlight, and the bird moved its head back and forth in this excellent light. Had there been any other color than black on the throat, both of us would have seen it. The bird had a very distinct white, post-ocular spot. The underparts were generally dusky-white, although the flanks and sides were greenish. The white on the upper breast contrasted sharply with the black throat and greenish flanks, giving the bird a collar across the chest. The tail was black. The bill was black (Figure 1). The bird flew four times, on two occasions in what can be described as a "J" pattern. During this display, the bird gave several "buzz" notes.



**Figure 1. Black-chinned hummingbird, Elkhart (Morton Co.), Kansas, 8 May 1987.**

The presence of this species in southwestern Kansas is not at all unexpected. It is a local breeder in the Black Mesa country of the Oklahoma panhandle, and has been recorded on several occasions in Tillman and Beckham Counties in the southwestern part of that state (Sutton. 1967. *Oklahoma Birds*. Univ. Oklahoma Press, Norman). In Texas, the species is "the most numerous . . . nesting hummingbird", being common to fairly common from the Trans-Pecos east across the southern panhandle and Edwards Plateau (H. C. Oberholser and E. B. Kincaid, Jr. 1974. *The Bird Life of Texas*. Univ. Texas Press, Austin). It is uncommon to scarce in the remainder of the panhandle region, although local nesting is suspected. Black-chinned Hummingbirds occur as far east as the Dallas-Ft. Worth area where they are uncommon to scarce. Given that the species' breeding range extends as far east as central Texas, it is surprising that it has never been reported before in migration from southwestern Kansas.

Copies of two photographs taken by Radell during this observation have been deposited in the Museum of Natural History at the University of Kansas, Lawrence. *Sebastian Patti, 552 W. Belden Ave., Chicago, IL 60614, and Marc Radell, 452 W. Oakdale, Chicago, IL 60657.*

**Violet-green Swallow Nesting in Wallace County, Kansas.** — The Violet-green Swallow (*Tachycineta thalassina*) has been listed as hypothetical in Kansas for lack of a specimen or other tangible evidence of its occurrence. There have been numerous sight records: 4 birds at Lake Shawnee, Shawnee Co. on 14 April 1947 (L. B. Carson); 1 bird at Cheyenne Bottoms Wildlife Management Area, Barton Co. on 14 September 1972 (Marvin Schwilling); 1, perhaps 2 birds at CBWMA on 24 September 1972 (Orville Rice and Elizabeth Cole); 1 bird at CBWMA on 4 November 1972 (Schwilling, Ed and Seliesa Pembleton, and the junior high school biology class from Liberty, MO); 2 birds at CBWMA on 14 September 1973 (Schwilling); 1 bird at CBWMA on 18 September 1973 (Schwilling and Bob Bartels); 1 bird at CBWMA in September 1974 (Schwilling); 1 bird at CBWMA on 2 September 1984 (Lloyd Moore, Mick McHugh, Robert Fisher, Richard Parker, Scott Seltman); 1 bird at Quivira NWR, Stafford Co. on 9 August 1985 (Roger Boyd); 1 bird in Morton Co. on 26 September 1986 (Ted Cable).

On 3 June 1987, Stan and Jim Roth along with Mark Dominik, Carl Ring and Liz Smith were checking for Ferruginous Hawk (*Buteo regalis*) nests on sandstone bluffs in Wallace Co. (T12S, R41W, sec. 5) when an unusually tame adult male Violet-green Swallow circled within a couple of meters of them several times over a period of 20 minutes. As they continued along the bluff, a second male and a female joined the first bird in these close flights. They discovered that one male landed several times at the entrance to a cavity in the honeycombed bluff and into which he subsequently carried nesting material. Many color photographs were taken to document this species' presence.

On the afternoon of 17 June, Marvin Schwilling visited the nest site. Only the female was seen as she fed on flying insects over the broad valley, making only one quick entrance into the nest cavity. On the following day he found the female making regular trips into the cavity with food, apparently feeding newly hatched young. Although he continued observations for over two hours, no male was seen.

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**Louisiana Waterthrush Nests in Lyon and Shawnee Counties, Kansas.** — There are few documented nesting records of Louisiana Waterthrush (*Seiurus motacilla*) in Kansas. Johnston (1964. The Breeding Birds of Kansas. Univ. Kansas Publ. Mus. Nat. Hist. 12:575-655.) list the species as an uncommon resident in eastern Kansas with breeding records from Douglas, Miami, Linn, Crawford, and Decatur Counties. However, this is a secretive bird and may nest more commonly than these records indicate.

On 11 June 1978 Marvin Schwilling and Steve Williams were conducting a Wood Duck (*Aix sponsa*) survey by canoe on the Neosho River between Americus and Emporia in Lyon Co. Rounding a bend (T18S, R11E, sec. 30), we saw a Louisiana Waterthrush with food in its bill cross the stream and enter a tangle of hanging tree roots at the top of the eight foot, undercut bank. The begging calls of young could be heard, and the adult soon reappeared with a fecal sac, which it dropped in the water as it crossed the river.

On 31 May 1985, Joanne Brier was checking for trail repairs at the Girl Scout site, Takavaca, 0.2 mi W junction of 10th and Irish Rd. in suburban Topeka, Shawnee County. Where the trail crossed a stream in a deeply eroded valley with the hillsides covered by fallen trees, shrubs, and vines, a Louisiana Waterthrush began scolding from a distance of about 7m. Over a period of 15 minutes the bird flitted among the low branches, scooted through the ground cover, ran to and fro, and once went through the broken-wing display. Brier returned 15 minutes later and saw the bird running hunched low and mouse-like into the woody tangles followed by a downy young.

That evening, Brier with Gene and Eulalia Lewis saw the adult with food; and although another bird was heard, the adult did not feed. On 1 June Brier saw two adults at the same location, one of them entered a tangle with food, but returned with food still in its bill. Although the site was checked on 7 and 8 June, no birds were found.

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