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IDENTIFICATION OF RED-TAILED HAWKS WINTERING IN KANSAS

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The Red-tailed Hawk (*Buteo jamaicensis*) is a common to abundant migrant and wintering species in eastern and central Kansas. The vast majority of specimens in all museum collections were taken during fall and winter. In the University of Kansas Museum of Natural History there are 123 (45 adults and 78 immatures), almost all taken between November and March. The subspecies nesting in eastern Kansas is *B. j. borealis*, while *B. j. calurus* probably nests in the most western parts of the state (Johnston 1965). Most winter specimens from Kansas have been identified as *borealis*, with most melanistic specimens being called *B. j. harlani* (see Mindell 1983). Although the AOU Checklist (1957) recognized the subspecies *kriderii*, it is, as stated by Taverner (1936) "only a dilution, diminution or suppression of color and hence introduces no new factor . . ." There is a tendency towards whiteness that occurs sporadically throughout populations of the Great Plains, extending northwest into the range of *harlani*. It is ignored in this study, as *kriderii*, in my opinion, is not a valid taxonomic concept. There is a greater degree of individual variation among immature specimens, and they are more difficult to identify, some not being assignable to subspecies. The characters that identify black immatures as *harlani* or as melanistic *calurus* need to be determined.

The northern and eastern populations of the species were recognized as *borealis* by Taverner (1936), while Peters (1931) and Hellmayr and Conover (1949) synonymized the western form *calurus* with *borealis*. In 1950, W. E. C. Todd described the heavily streaked, richly colored northern, spruce-nesting (sub-boreal) populations west of Hudson Bay as *B. j. abieticola*. The AOU Checklist (1957) did not recognize *abieticola*, and Stresemann and Amadon (1979) included *abieticola* as a synonym of *calurus* and extended the range of *calurus* east to Prince Edward Island and Cape Breton, Nova Scotia!

Recently Dickerman and Parkes (1987) re-evaluated the status of *abieticola* and provided a comparison with *calurus* which Todd had not done in the original description. In brief, *calurus* differs from *borealis* in being more intensely colored, often washed with buff to near ochraceous ventrally and often far redder about the face and nape. The tail of adult *calurus* has ancillary barring that is lacking in *borealis*, which has only a single broad sub-terminal band. The breast and belly of both *calurus* and *borealis* are finely streaked with dusky. In contrast, *abieticola* has broad blackish streaks on the breast, so much so as to make some individuals of the subspecies identifiable in the field. In some specimens, both adults and immatures, the black markings are so broad that they almost form a solid black band across the breast. Adults from the western portion of the range of *abieticola* may have ancillary barring in the tail, while those from the eastern part of the range lack such additional barring. The tail of adult *abieticola*, as in *borealis*, is darker red than in *calurus*.

The winter range of *abieticola* has yet to be fully defined. Todd (1950) illustrated fall-taken specimens from eastern Pennsylvania, and listed a March specimen from Iowa. Dickerman and Parkes (1987) listed additional specimens from New York, New Jersey, Pennsylvania, Maryland and Iowa not cited by Todd. Before discussing the Kansas series, two additional states may be added to the wintering range of *abieticola*.

The breast of an adult collected (or found dead) 11 March 1962 at Titusville, Brevard Co., Florida (Western Foundation of Vertebrate Zoology 20580) is reddish about the neck and nape, has very heavy breast streaking, and the tail has extra barring. It is thus typical of *abieticola* from the northern and western prairie provinces. An adult collected 13 December 1894 at Meridion, Dunn Co., Wisconsin (California Academy of Sciences 44589), is typical of the birds nesting in the eastern portion of the range of *abieticola*.

The 123 specimens in the KU collection were identified subspecifically using adults from the nesting season from Wisconsin and eastern Kansas to represent *borealis* and adults from California and Arizona and represent *calurus*. Specimens with red-tails, whether with second or later generations of rectrices (*i.e.* the equivalent of "second adult" or later plumages of Mindell, 1985) were considered as "adults." Note that Lish and Voelker (1986) also called "adult" birds with tails with second generation rectrices (see their Fig. 3, specimen "P"). The Kansas specimens were identified as follows: adults: 10 *borealis*, 3 *abieticola*, 5 *borealis* x *abieticola*, 10 *harlani* and 8 *calurus*; immatures: 45 *borealis*, 1 *abieticola*, 7 *borealis* or *abieticola* and 24 melanistic specimens not assigned to subspecies.

The occurrence of *abieticola* in the wintering Red-tailed Hawk population in Kansas is not surprising. Its nesting range extends in the sub-boreal zone across the continent to northern Alberta, and it would be expected in the Great Plains region in winter. The dominance of melanistic birds in this series (32%) can only be explained by selective collecting. For example, 5 of 12 (41%) of mounted specimens received by the KU museum from the J. C. Saunders collection were melanistic, whereas only about 5-10% of the wintering population is melanistic (independent estimates by R. F. Johnston, B. C. Livezey and R. M. Mengel). The author counted 22 Red-tailed Hawks along the Kansas tollroad southwest of Topeka on 31 November 1988. Only 2 were melanistic. The identification of melanistic immatures remains a problem.

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THE BALD EAGLE NESTING IN KANSAS
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Prior to settlement Bald Eagles (*Haliaeetus leucocephalus*) probably nested along most of the major rivers in Kansas, but early nesting records are sketchy and poorly documented. John James Audubon, on his journey through Kansas, stated that on 6 May 1843 he discovered two Bald Eagle nests between Ft. Leavenworth, Kansas and St. Joseph, Missouri. The following day, when he was north of St. Joseph, he again saw Bald Eagle on nests (Widmann, 1907).

The town of Lecompton's original name of Bald Eagle probably dates from the fall of 1854. "Local legends state that two men, D. Rodrigue and A. G. Boone, exploring the Kansas River Valley, decided to call the area Bald Eagle because a bald eagle had just left its nest in a large, nearby sycamore." (Levenson and Bee, 1979). Further indication that Bald Eagles nested in this area in the 1850s is found in a statement from M. F. Sherar, "many bald eagles rested on several immense sycamore trees, some on the south and some on the north, and here they made their homes and raised their young until Lecompton took on city airs and some wanton creature shot them." (Sherar, 1934). N. S. Goss (1891) lists the Bald Eagle as a "rare resident — begins laying about the middle of March". Show (1903) also lists the bird as a "rare resident". Reference to nesting activity was dropped by Long (1940) and Tordoff (1956) and listed only as a winter resident. Johnston (1964) does not include the Bald Eagle among the breeding birds of Kansas.

Homer "Steve" Stephens recorded information from 1957 through 1962 on nine Bald Eagle nests built during the winter months but were abandoned before the spring nesting season (Stephens, 1966). Additional winter nests have been recorded: one at the Neosho Wildlife Management Area, January 1966, two at the Flint Hills National Wildlife Refuge, January 1978 and December 1980, and a fourth at Clinton Reservoir, winter 1987.

In mid-March, 1989, Charles Holthaus and Jim Honn reported a Bald Eagle nest at Clinton Reservoir, in Douglas county, to Glen Hurst in the Department of Wildlife and Parks Topeka Regional office. Although Hurst was skeptical, Holthaus produced convincing pictures. Jerry Horak and Marvin Schwilling checked the report on 31 March and found an incubating Bald Eagle. As the Bald Eagle is nationally endangered, a meeting of federal and state agencies was called and protective measures were soon installed.

The nest is in a large dead tree standing in the water of the Rock Creek arm of Clinton Reservoir. A 200-yard radius no access zone buoyline was established around the nest tree. One of the adults disappeared from the area about 15 April. By 28 April it appeared that young were being fed by the remaining adult. On 6 May it was confirmed that two young could be seen above the rim of the nest. By 3 July the two young eaglets were able to flap their wings and could lift themselves a few feet above the nest. They left the nest in full flight on 16 July but continued to return to roost at the nest at night.

On 23 July the two young eaglets were captured by Mike Lockhart, a professional eagle trapper with the U.S. Fish and Wildlife Service, and banded with a standard aluminum leg band and a purple leg band with silver letters A and B. Both of the young are males and from measurement taken were determined to be the northern subspecies of bald eagle. All three eagles remained in the nesting area following banding and until 9 August when they apparently left the reservoir area.

A second Bald Eagle nest was reported to have raised one young in Hodgeman County this year. However, this could not be confirmed. The reported nest site will be monitored next spring.

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