

# Field identification aspects of some Red-tailed Hawk subspecies

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**T**HE PLUMAGE VARIATION AMONG subspecies of the Red-tailed Hawk (*Buteo jamaicensis*), has been a source of confusion for both taxonomists and field ornithologists. The taxonomy for this species is complicated by extensive plumage variation, combined with considerable unknown degrees of breeding range overlap. It is not the objective here to investigate these problems (for a recent discussion of this topic see Mindell 1983), but rather to help clarify problems associated with the field identification of Red-tailed Hawks.

sympatric in winter in some areas, particularly in the southern Great Plains.

It makes little difference to the field observer faced with an identification problem whether these variants are referred to as types, races, subspecies or forms. Therefore, throughout the remainder of this treatment, the term "forms" and/or common names will be used, thereby avoiding taxonomic conflicts. The main objective here is to provide more accurate field descriptions of Red-tailed Hawk forms than have previously been available so that the field observer can separate Red-tailed Hawks

in handbooks, are not presented as they often have very little utility under field conditions. For in-the-hand descriptions of Red-tailed Hawk forms see Taverner 1927, Lowe 1978, and Friedmann 1950.

The important aspects of Red-tailed Hawk identification deal mainly with the ventral features of flying birds (Figs. 1, 2), and in some cases with the patterns and colors of the dorsal surface of the tail (Fig. 3). Flying hawks are easier to identify than perched birds as larger surface areas are visible, particularly in the underwings. The exact breeding and

## Plumage characteristics of five subspecies are discussed using clues that are easily and consistently observed in the field.

There are seven subspecies of Red-tailed Hawks found north of Mexico (as recognized by the A.O.U. Check-list of North American Birds, 1957, 1973). These subspecies are: *B. j. fuertesi* (Fuertes' Red-tailed Hawk), *B. j. borealis* (Eastern Red-tailed Hawk), *B. j. calurus* (Western Red-tailed Hawk), *B. j. kriderii* (Krider's Hawk), *B. j. harlani* (Harlan's Hawk),\* *B. j. alascensis* (Alaska Red-tailed Hawk), and the sedentary peninsular subspecies *B. j. umbrinus* (Florida Red-tailed Hawk). This discussion does not include the last two subspecies, as each has been little studied and are morphologically similar to *calurus* and *borealis* respectively. The five subspecies discussed here are all

from other *Buteo* species with a higher degree of accuracy. We absolutely do not intend to indicate that the observer can confidently place Red-tailed Hawks into subspecific categories in the field. This would be difficult at best, since even in-the-hand, many Red-taileds cannot be subspecifically identified. This is especially true of many immature Red-tailed Hawks (Friedmann 1950, Lowe 1978). The central problem arises because various forms of Red-tailed Hawks intergrade with forms living adjacent and thus show features of both forms. This makes field and in-hand identification oftentimes extremely difficult.

Only those traits that are easily and consistently observed in the field are discussed here. Lengthy detailed plumage descriptions, such as those found

wintering ranges of most forms are not well understood; however, because range size and boundaries are important considerations in field identification, brief range descriptions are presented.

The most consistent field characters that separate Red-tailed Hawks (with the exception of the Harlan's Hawk) from other North American species of *Buteo* are: the red dorsal aspect of tails in adults, and patagial markings (Figs. 1a, 1c through 1f). Patagial markings are those dark rectangular areas along the ventral surface of the patagium, near the leading edge of the wing. They are excellent field characters for light-colored Red-taileds and no doubt have been used by many observers as good field marks for this species. Surprisingly, patagial markings were not mentioned in any of the more popular field guides

\* See *American Birds* Volume 39, Number 2, "Plumage variation and winter range of Harlan's Hawk (*Buteo jamaicensis harlani*)" by David P. Mindell.

until recently, when Clark and Pramstaller (1981) noted the importance of this trait. In erythristic (rufous) and melanistic (black) phases of Western Red-tailed Hawks the patagial marks are not visible, but the red tail is still conspicuous in adults.

## Field identification characteristics of Red-tailed Hawks

### Krider's Hawk

*General range:* breeds in southwestern central Canada and adjacent portions in the United States. The core wintering range is in the southern Great Plains. It is sporadically seen in winter in many states (Friedmann 1950).

*Main field characteristics of adults (Figs. 1a, 1b, 2a):* characterized by overall light color both dorsally and ventrally. Krider's Hawks typically have immaculate underparts. At a distance, the dorsal aspect of the tail (Fig. 3j) appears white, but at close range, it is less white and typically washed with a light rufous color near the tips of the tail feathers. At close range, the tail has a faint subterminal band. Upperwing coverts are very speckled. The head of this form is white and the dark eyes of adults stand out sharply against the white head. There is usually a faint line through the eye, sometimes with a faint collar or dark cheeks. Light colored primaries form conspicuous white trapezoidal shaped wing windows dorsally (Fig. 1b). This form is the palest of the Red-tailed forms. Its white tail, head and wing windows make it one of the easiest to identify. Individuals of this form can be easily mistaken for normally plumaged Ferruginous Hawks (*Buteo regalis*), which also have white heads, tails, and wing windows. However, Krider's Hawks are shorter winged than Ferruginous Hawks and have typical Red-tailed patagial markings; Ferruginous Hawks have silvery undertails with dusky tips on the tail feathers. Dorsally, Ferruginous Hawks have oval rather than trapezoidal shaped wing

windows, and in adult Ferruginous Hawks, a conspicuous dark "V" formed by the brown feathers of the legs can be seen.

*Immatures:* Krider's Hawks in immature plumages are very variable, but in general, are quite similar to adults.

### Fuertes' Red-tailed Hawk

*General range:* breeds throughout the southwestern United States and adjacent portions of Mexico (Sutton and Van Tyne 1935). The eastern and northern limits of its breeding range are not well known. These hawks are sedentary in winter in many parts of their range.

*Main field characteristics of adults (Figs. 1c, 2b):* ventrally, Fuertes' Red-tailed Hawks appear whitish or slightly buffy. The underparts are almost as white as Krider's Hawks and, in the field, appear immaculate or with a very faint abdominal band. The markings of the faint abdominal band are often light, very attenuated streaks. The barring of primary and secondary wing feathers appears faint under field conditions. The sides of the head (cheeks) are brown and the area of the chin and throat is white. Some birds have a thin necklace or collar connecting the dark cheeks. The dorsal aspect of the tail of this form (Fig. 3i) is usually various shades of rufous with a narrow subterminal band, no band, or a subterminal band with other lighter and often incomplete bands (Lowe 1978). In general, Fuertes' Red-tailed Hawks are most similar to light-phase Western Red-tailed, Eastern Red-tailed, and Krider's hawks. They generally differ from both Westerns and Easterns by the lack of a well-defined abdominal band and from Krider's Hawks by the dark head.

*Immatures:* quite similar to adults (Fig. 1e), except for their heavily barred brownish tails (Fig. 3a) instead of red tails. Immatures are also more heavily barred on the lower abdomen and typically have a large white area on the upper breast. The area around the eye is much lighter in immature Fuertes' than in adults, and all immature Red-taileds

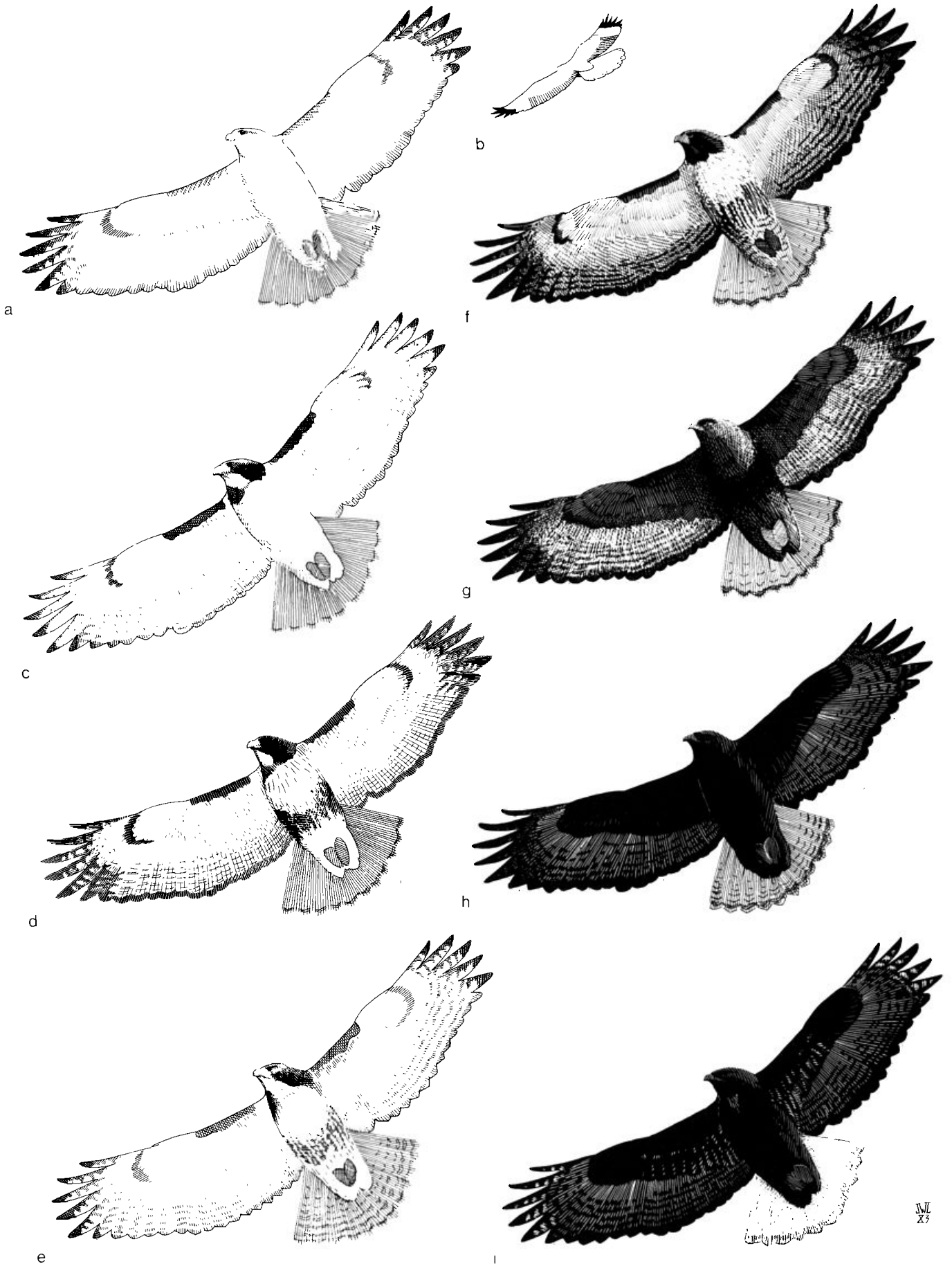
have light eyes rather than the dark brown eyes typical of adult Red-taileds. Fuertes' Red-tailed Hawks are not known to exhibit melanism and are less variable than other Red-tailed Hawks.

### Eastern Red-tailed Hawk

*General range:* core of the breeding range is in eastern North America but with poorly known western range limits. Winters in the eastern United States and adjacent portions of the Great Plains (Friedmann 1950).

*Main field characteristics of adults (Figs. 1d, 2c):* the ventral surfaces of this form appear whitish or slightly creamy in color. The abdominal band is typically quite dark and can be easily seen in flight. The trailing edges of the secondaries form a definite dark margin and the barring of the primaries and secondaries is noticeable in the field. Many birds have a wide collar connecting the dark cheeks and forming a hood, but the chin and throat still appear white or buffy. The dorsal aspect of the tail (Fig. 3h) is rufous with a thin black subterminal band. The black subterminal band may be quite faint or absent on some individuals. Eastern Red-taileds are sometimes impossible to distinguish from either Fuertes' or light-phase Western Red-taileds. The heavier wing barring, heavier abdominal band, and overall darker color (especially dorsally) of the Eastern can sometimes be used to separate it from Fuertes' Red-tailed Hawk. When compared with light-phase Westerns, Easterns tend to be much less rufous. Also, Western Red-taileds often have heavily barred or rufous colored "flags" or thighs not found on Easterns; the heavier barring on the secondaries and primaries is much darker dorsally and ventrally, and the abdominal band of Western Red-taileds is typically much heavier than that of Easterns. If the dorsal aspect of the tail is visible, Western Red-taileds (Fig. 3g) can sometimes be told from Eastern Red-taileds (Fig. 3h) by their much wider subterminal band and heavier tail banding in general. The Eastern Red-tailed Hawk does not have a melanistic phase.

Opposite page: **Figure 1.** Diagram showing main field characters of various Red-tailed Hawk forms (see text for descriptions). a. adult Krider's Hawk. b. adult Krider's Hawk. c. adult Fuertes' Red-tailed Hawk. d. adult Eastern Red-tailed Hawk. e. immature Fuertes' Red-tailed Hawk. f. adult normal-phase Western Red-tailed Hawk. g. adult rufous-phase Western Red-tailed Hawk. h. adult black-phase Western Red-tailed Hawk. i. adult Harlan's Hawk. Illustration/James Lish.



*Immatures* similar to adults (Figs 2d, 2e) but with lighter irides, lighter head and a brown barred (Fig. 3a) rather than a red tail. Also, immatures are more heavily barred on the lower abdomen.

## Western Red-tailed Hawk

*General range:* breeds throughout the western United States north to Alaska. Eastern and southern range limits are not well defined. Winters in the western United States and the Great Plains and sporadically in the east.

*Main field characteristics of adults:* this form has a light phase, almost as light as the Eastern Red-tailed Hawk, an erythristic (rufous) phase, a very dark melanistic (black) phase, and all plumages intermediate to those. The phases described here are at the extremes and middle of this range of variation.

*Light-phase (Figs. 1f, 2f):* ventral surfaces typically noticeably more rufous than either Fuertes' or Eastern Red-taileds. In addition, this phase of the Western is much more heavily barred than either the Fuertes' or the Eastern Red-tailed Hawk. Streaking on the upper breast may be quite heavy. The abdominal band is heavy and dark and the head is typically dark with a light throat. Heavily barred and rufous colored thighs or "flags" are typical of Western Red-tailed Hawks but not of Eastern or Fuertes' Red-taileds. Dorsally, even light-phase Westerns are darker than either Eastern or Fuertes' Red-taileds and have tails with heavy subterminal bands and other lighter bands (Fig. 3g).

*Rufous-phase (Figs. 1g, 2g):* relatively easy to identify owing to its overall rufous color (which has also been described as reddish or cinnamon), and red uppertail surface. In this intermediate phase, the upper breast and underwing coverts are uniformly rufous with heavy wing and tail banding and dark wing margins. The lower breast and abdomen are typically dark brown in this phase. Both Swainson's Hawk (*Buteo swainsoni*) and Ferruginous Hawks also have erythristic phases, but rufous-phase Western Red-tailed Hawks have shorter wings and shorter bodies than rufous-phase Ferruginous Hawks as well as broader wings and

stockier bodies than the more slender Swainson's Hawk. Also, erythristic Swainson's and Ferruginous hawks lack the dark lower breast and abdomen typical of erythristic Western Red-tailed Hawks.

*Black-phase (Figs. 1h, 2h):* very dark, appearing either dark brown or black in the field. The typical Red-tailed pagtagial markings are not visible. Black Western Red-tailed Hawks are most easily confused with Harlan's Hawks, but adult Westerns can be distinguished from adult Harlan's Hawks by their red tail coloring, lack of mottling or lack of light color in the tails (Mindell 1983). Black-phase Western Red-taileds have upper tail surfaces that may be very heavily barred on a red background (Fig. 3f), or appear similar to other Western Red-tailed Hawks (Fig. 3g).

*Immatures:* black-phase Westerns are usually very difficult to distinguish from immature Harlan's Hawks, under field conditions.

## Harlan's Hawk

*General range:* core breeding area in southwestern Alaska, north of the Alaska peninsula, but breeding birds can be found south and east to northern British Columbia (Mindell 1983); core wintering area in the southern Great Plains, but has been reported in winter in many states.

*Main field characteristics of adults (Figs. 1i, 2i):* main field characters are the overall dark appearance, whitish basal areas of the uppertail (Figs. 3c through 3e), centrally located whitish area of the upper breast and a tendency for white mottling, particularly on the underwing coverts, nape, and upperwing coverts, but some birds are totally black having no white areas (Mindell 1983; Lavers 1975). Rarely, Harlan's Hawks have tails that appear quite barred (Fig. 3b), but the typical adult tail (Fig. 3d) has a rather wide subterminal band, longitudinal mottling and white basal areas, often with varying degrees of rufous near the tips of the tail feathers. This form, which is typically dark, is easily confused with melanistic Ferruginous Hawks and melanistic Rough-legged Hawks (*Buteo lagopus*). Melanistic Ferruginous Hawks can be distinguished from Harlan's Hawks by

their larger size and obviously different proportions—Ferruginous Hawks have much larger heads and longer wings—and lack of white speckling. Melanistic Rough-legged Hawks also have a much different flight profile than Red-taileds; the Rough-legged Hawks having noticeably longer and narrower wings. Normally plumaged Rough-legged Hawks have a well-defined subterminal band—usually more well-defined and broader than that of Harlan's Hawk—and they tend to frequently hover. Very dark-phase Rough-leggeds only rarely have white areas visible on the upper tail surfaces.

*Immatures:* very similar to adults (Fig. 3d) except that the tail is banded rather than mottled on the dorsal surface.

## Albinistic Red-tailed Hawks

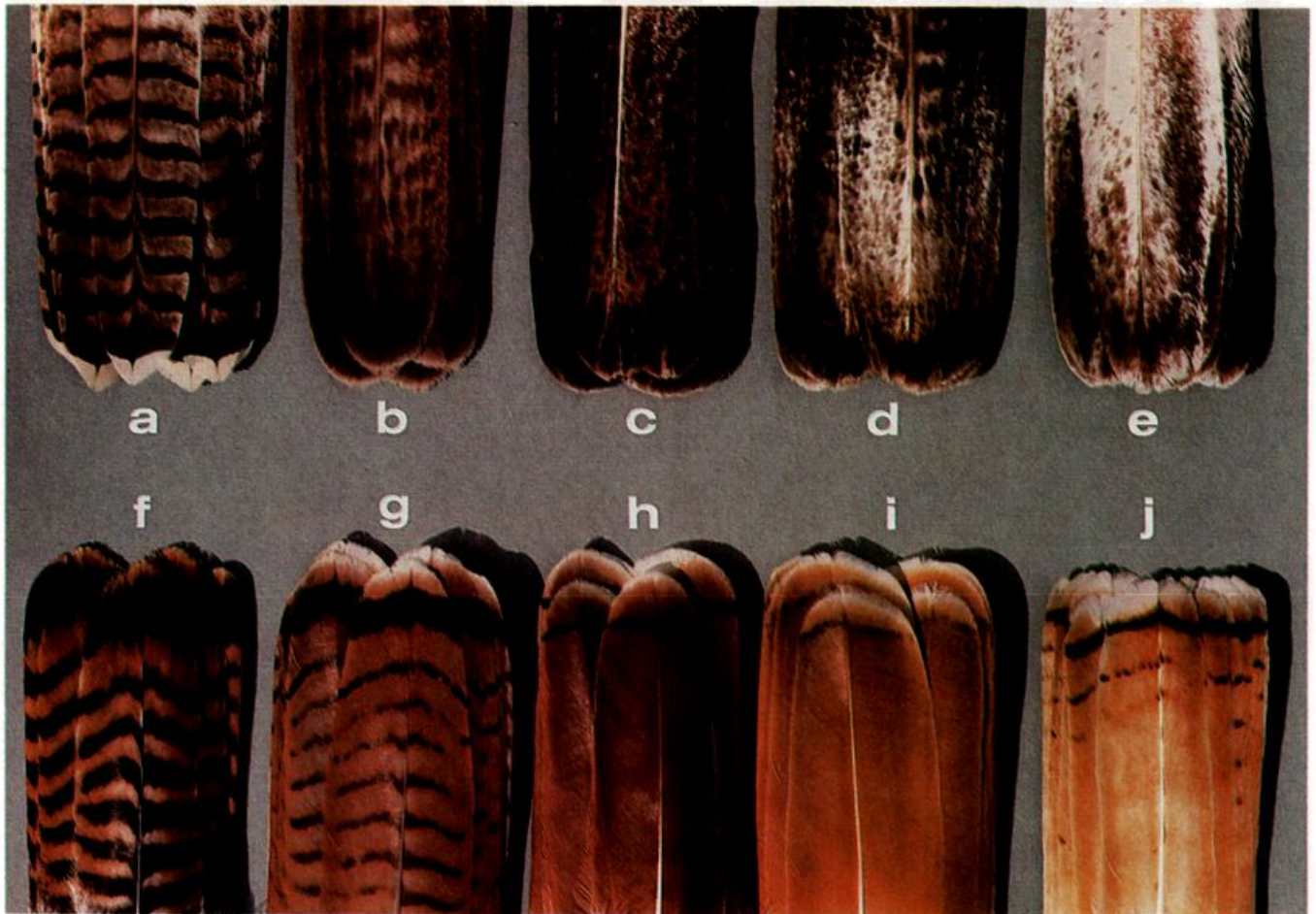
Although very uncommon, albinistic individuals are regularly reported throughout the range of the Red-tailed Hawk (Fig. 2j). The degree of albinism varies from a few white feathers or patches to completely white birds. Totally albinistic Red-tailed Hawks are not likely to be confused with any other raptor north of Mexico except perhaps the Gyrfalcon (*Falco rusticolus*), which is quite rare in the contiguous United States, and is also strikingly different in size, behavior, general shape and flight style. Partially albinistic Red-tailed Hawks typically have some normally-colored flight feathers which give the bird an irregular and patchy pattern quite different from any of the very light Red-tailed forms, e.g., Krider's Hawks

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**Figure 2.** Photographs of major Red-tailed Hawk forms in flight. a. adult Krider's Hawk in winter, Noble County, Oklahoma. Photograph/J.W. Lish. b. adult Fuertes' Red-tailed Hawk, resident bird in Ellis County, Oklahoma. Photograph/J.W. Lish. c. adult Eastern Red-tailed Hawk in winter, Osage County, Oklahoma. Photograph/J.W. Lish. d. immature Eastern Red-tailed Hawk during migration at Kittatinney Mts., New Jersey. Photograph/H.C. Darrow. e. immature Eastern Red-tailed Hawk during migration at Fairview Lake, New Jersey. Photograph/H.C. Darrow. f. adult normal-phase Western Red-tailed Hawk, resident bird Medicine Bow, Wyoming. Photograph/C.T. Patterson. g. adult rufous-phase Western Red-tailed Hawk, resident Wyoming bird. Photograph/C.T. Patterson. h. adult black-phase Western Red-tailed Hawk in winter, Noble County, Oklahoma. Photograph/W.S. Clark. i. adult Harlan's Hawk (barred-tailed morph), resident bird from the Yukon River area, Alaska. Photograph/D.P. Mindell. j. adult albino Eastern Red-tailed Hawk, resident bird near Tarrytown, New York. Photograph/H.C. Darrow.



**Figure 3.** Dorsal tail patterns of major Red-tailed Hawk forms. a. immature Red-tailed Hawk (most forms similar) b. adult Harlan's Hawk (barred-tailed morph) c. adult Harlan's Hawk (dark-phase) d. adult Harlan's Hawk (normal-phase) e. adult Harlan's Hawk (light-phase) f. adult Western Red-tailed Hawk showing heavy barring g. adult Western Red-tailed Hawk showing typical barred pattern h. adult Eastern Red-tailed Hawk i. adult Fuentes' Red-tailed Hawk j. adult Krider's Hawk.

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