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DATA ON IOWA RED-TAILED HAWKS

During 1932 and 1933 the <sup>writer</sup>(winter) carried on a survey of Iowa specimens of birds with the view in mind of determining the exact (identification) of each for recording or summarizing ~~them~~ in the "Revised List of the Birds of Iowa" (1933).

A special effort was made to evaluate each Iowa specimen of Red-tailed Hawk. The following <sup>winter are</sup> ~~were~~ assembled from this study.

*Double space*  
DATA ON IOWA RED-TAILED HAWKS  
In the Coe College Museum

No. 798  
↓ ↓

Albino Red-tail	male	Mt. Vernon	Wm. Kaplan
Harlan's <del>Hawk</del>	_____	Cedar Rapids	1907
E. Red-tail	female	Britt	October, 1914

No. ← 799 Krider's *hawk* \_\_\_\_\_ Boone C. F. Henning

Adult, Sex -- → Springville, Iowa. Dec. 8, 1928. Claude Boles  
 Head, back and wings calarus; dark black and rusty on  
 hind neck; below solid black, white basally; tibial  
 plume<sup>↑</sup> black, and rusty, long; tail bright rufous, broad  
 black terminal band.

A Western Red-tail, with tail of Harlan's based on motteling.

- (1st or 2nd year) Harlan's Male/ Nov. 17, 1925 Amana Jos. Erusia
- (Nearly Adult) Krider's Male/ Nov. 17, 1932 Palo
- (Adult) E. Red-tail Female/ Oct. 23, 1932 Cedar Rapids
- (Adult) E. Red-tail Female/ Oct. 31, 1932 " //
- (Adult) Harlan's Male Oct. 20, 1931 " "
- (Adult) E. Red-tail Male Nov. 15, 1931 Linn County
- (Adult?) ~~barred Red-tail~~ E. Red-tail Male Nov. 5, 1932 " "
- (Adult) E. Red-tail (barred red tail) (other than tail) Female Oct. 23, 1931 " "
- (Adult) (pale cream-colored tail, spotted with dark brown in cross bars.)
- (Adult) Harlan's Female Nov. 12, 1930 " "
- (tail rusty and black mottled; below white, spotted black; thighs, dark brown and tawny.)
- (Adult) E. Red-tail Male Nov. 7, 1932 " "
- (red tail, slightly cross-barred with black)
- (IMMATURE) Harlan's Female Oct. 28, 1904 Marshalltown (description already taken; brown spotted; brown and gray barred tail)
- (2nd year) Krider's Female Sept. 27, 1932 Linn Col (lightish back; tail barred, light, but rather much black in abdominal band)
- (2nd year) Krider's Male Oct. 13, 1905 Cedar Rapids (head white; back lighter than preceding; tail a little lighter; below nearly white)
- (2nd year) Krider's Male Sept. 17, 1932 Linn Co. (head not as white as last; back & tail similar, below nearly white; some black on belly band) *abdominal*
- (1st year) Krider's Male Sept. 17, 1932 Linn Co. (pale brown; tail grayish-brown, dull bars; below white, slight band; typical 1st year bird)
- (2nd year) Krider's Male Oct. 13, 1927 Linn Co. (agrees to bird bottom preceding page. with Krider's Hawk, male, taken in Linn Co, Sept. 17, 1932 - see above)
- (Adult) E. Red-tail Male Jan. 4, 1933 Linn Co. (Normal plumage)

~~4~~

(Adult) E. Red-tail Female Jan 2, 1933 Linn Co.  
(Normal plumage)

(Adult) E. Red-tail ? Nov. 3, 1904 Oakville  
(Normal plumage)

(2nd year) Krider's Male ? Dec. 9, 1904 Cedar Rapids  
(much light on head <sup>and</sup> back; tail light, barred,  
white below)

(1st year) Krider's ~~Female~~ <sup>Immature</sup> Oct. 17, 1905 Ruthevan  
(a border line specimen between Krider's and  
Eastern in 1st year)

(Adult) E. Red-tail Male Dec. 15, 1906 Cedar Rapids  
(Normal plumage)

(Adult) E. Red-tail Female ? Nov. 24, 1905 Toledo, ~~Iowa~~  
(normal plumage, slight barring on outer rectrices, <sup>and</sup>  
tibial plumes)

(Adult) E. Red-tail ? Nov. 1, 1904 LaPorte City  
(normal plumage; slight barring on tail)

(Adult) E. Red-tail Female Oct. 29, 1905 Cogg-  
(normal plumage)

(adult) E. RED-TAIL — — — — — ~~Normal plumage~~

(adult) E. Red-tail "Juv."(?) July 9, 1902 Clear Lake ~~B.H.B.~~  
(lighter on head; below nearly unmarked; tail  
"bright ~~er~~ moulting. Specimen by B.H. Bailey.)  
<sup>rufous;</sup>

(adult) E. Red-tail — — — — — Nov. 2, 1904 Louisa County  
(normal plumage)

(Adult) E. Red-tail — — — — — #793  
(Normal plumage; tail pale rufous.)

(Adult) E. Red-tail Female Dec. 15, 1913 Johnson Co.  
(Normal plumage; no abdominal band; rufous <sup>pale</sup> on throat,  
like S.A.-2 "Bridens" of H.C.O. Series of 1st year birds  
laid out in this order dark to light.

S.U.I. specimen  
of "krideri" identified  
by H.C.O.)

use this  
as a heading  
underlined;  
double space above  
& below.

(1st year) E. Red-tail Female Nov. 1, 1913 Iowa City  
(heavy breast band; dull, dark brown)

(1st year) E. Red-tail Male Oct. 24, 1923 Homestead  
(heavy belly band)

(1st year) E. Red-tail (?) <sup>Immature</sup> Nov. 8, 1906 Cedar Rapids  
(heavy belly band; dark barred tail; head dark; back dark)

(1st year) E. Red-tail Male Oct. 24, 1904 Cedar Rapids  
(heavy belly band)

- 24-
- (1st year) E. Red-tail Female <sup>immature</sup> Oct. 6, 1905 Jefferson  
(heavy belly band; tail lighter, brownish-gray; dark bands; back a little lighter)
- (1st year) E. Red-tail Female March 8, 1930 Amana  
(like preceding, but tail darker)
- (1st year) E. Red-tail Male? Oct. 25, 1905 Jefferson  
(belly band less pronounced; tail lighter, grayish-brown; head and back lighter)
- (1st year) E. Red-tail Immature Oct. 17, 1905 Ruthven  
(band slight; tail dark; back dark with some white spots)
- (1st year) E. Red-tail Male Oct. 23, 1913 Johnson Co.  
(back dark; tail lighter than preceding; belly a little heavier banded)
- (1st year) E. Red-tail Immature Oct. 31, 1905 Solon,  
(back lighter; tail lighter; belly band lighter)
- (1st year) E. Red-tail Female Oct. 3, 1906 Cedar Rapids  
(tail darker than preceding; back and belly the same)  
None of these light enough, on back, lacking belly band and dark hind-necks. Some have lighter tails but all are borealis.  
*for krideri, although*
- (1st year) Krider's Female March 26, — "R. Leonard"  
(belly band slight, pale tawny; back, head, and tail pale, dull brown)
- (1st year) Krider's Male Nov. 1, 1904 Marshalltown  
(like preceding)
- (1st year) Krider's Male <sup>tail</sup> Nov. 1, 1905 <sup>o</sup>Salon  
(hardly any marking below; ~~tail~~ paler, slight rusty tinge; back with much light)
- 1st year ) Krider's Immature May 10, 1904 Cedar Rapids ~~E.H.B.~~  
#780 (head light; back pale, ashy with white; tail dull ashy-gray, hardly marked; primaries fresh. Must be considered a krideri light on hind neck. This specimen, no. 780, was secured by R.H. Bailey)
- (1st or 2nd year) Krider's Male? Dec. 9, 1904 Cedar Rapids  
(unmarked below; tail whitish with dark crossbars, with rusty tinge; back quite light)
- (1st or 2nd year) Krider's Eagle, Alaska  
*spec*

2 1st year / E. Red-tail without data  
1 adult / E. Red-tail without data

~~2~~

(1st year) E. Red-tail Male Oct. 20, 1929 Linn Co.  
(belly band scant; back with moderate amount of white;  
tail dark)

(Adult) E. Red-tail Female Sept. 30, 1930 Amana  
(Normal plumage)

(Adult) E. Red-tail Female Oct. 3, 1905 Tama  
(Normal plumage)

(Adult) E. Red-tail — ~~No data~~ (tail pale rufous;  
some white on back; scant belly band)

(Adult) E. Red-tail — ~~No data~~ (slight rufous wash  
but hardly enough, and not enough black and rufous in  
belly band to be calarus. Tail pale-rufous a few cross-  
bars; some white on back; hind neck moderately dark;  
thighs buffy.) with

(Adult) E. Red-tail Female Oct. 29, 1929 Amana  
(slight buffy wash as in preceding and similar in all  
other respects; tail more frequently barred.)

space → These are the nearest to B. b. calarus. All have a buffy  
wash to underparts, heavy black abdominal band, suffused  
with buffy. The rufous throat band entirely across the  
upper breast, and black on sides of neck. The backs are  
dark, with rufous on hind neck much with the black. Tails  
are ~~rufous~~ some barred, some not. Tibial plumes washed  
with buffy, some barred, some not. mixed

(Adult) Western Female Nov. 20, 1932 Linn Co.  
(tail with narrow black bars)

(Adult) Western Male Oct. 27, 1931 Linn Co.  
(tail unbarred)

(Adult) Western Female Oct. 30, 1931 Cedar Rapids  
(tail unbarred)

(Adult) Western Female Dec. 6, 1932 Cedar Rapids  
(tail unbarred; buffy wash, scanty on underparts)

(Adult) Western Male (?) Nov. 8, 1906 La Porte City  
(tail unbarred)

(Adult) Western — Dec. 2, 1907 Iowa  
(tail unbarred; not much belly band, but heavily washed  
with buffy) of

carry this over to next page

~~#228~~ (Adult) Female Britt, Oct. 17, 1917 J. Ward

(typical ~~caerulea~~ <sup>borealis</sup> below; white, with incomplete throat band of pale brown; abdominal band light of medium dark-no buffy;)

back and wings typical eastern; tail, deep rufous with broad terminal band; each web with fine black motteling on basal two thirds as in harlani.)

An Eastern Red-tail with Harlan's tail except for bright-rufous color.

④  
Iowa Red-tailed Hawks in University of Iowa Museum

- (Iowa) B. b. borealis, Riverside, Washington Co., April 17, 1923. Female. Adult. F. W. Simonton #27785. Tail dull red, slightly barred across middle of all tail feathers; back dark; chestnut on sides of throat; ~~and~~ dark brown band across lower abdomen; tibial plumes barred. (typical borealis).
- (Iowa) B. b. borealis. Cedar Rapids, Linn Co., November, 1928. Female. Adult. Tom Forby. #28679. Tail as above, but brighter; barring the same; back dark; sides of throat dark brown; band on abdomen heavy; barred tibial plumes. (typical borealis).
- (Iowa) B. b. borealis. Iowa City, Johnson Co., Jan. 22, 1929. Female. Adult. #28111. Tail moderately bright red; no barring; back dark; sides of throat brownish-black; band on abdomen very scant, only a few streaks; tibial plumes tawny, but unmarked. (approaching krideri)
- (Iowa) B. b. borealis. Sioux City, Woodbury Co., Aug. 2, 1884. Adult. Talbot call. #17490. Tail bright red, unmarked (like last example above); back dark reddish black; scant chestnut on sides of throat; band on abdomen almost lacking; ~~like above and~~ tibial plumes tawny but unmarked. (approaching krideri).
- (Iowa) B. b. borealis. Marengo, Iowa Co., December 10, 1919. Male. Adult. Milford Dengler. #28680. Tail dull, dark red, unmarked; back dark blackish-brown; ~~throat + sides~~ very dull chestnut, scant; a few faint chestnut streaks narrow on lower abdomen, but underparts nearly unmarked; tibial plumes unmarked, almost white. (approaching krideri).
- ((Coe) B. b. borealis. Linn County. Nov. 7, 1932. Male. Adult. Call. ~~?~~ #~~\_\_\_\_\_~~. Tail dark red with all feathers more or less crossed with bars, broken up into mottling on two central rectrices only; back blackish; throat with blackish on sides; breast white-pure; band on abdomen well pronounced and slightly rusty, suggesting an approach to calurus; tibial plumes with rufous cross-bars. (A very typical borealis ~~eastern Red-tail~~).
- (Iowa) B. b. borealis. Lone Tree, Johnson Co., Wm. F. Coultas. #27787. October 10, 1921. Female. Adult. Tail pale red or rufous. All except outer two feathers unmarked; back dark, ~~as of the one~~ similar to above; throat reddish brown on sides; band on abdomen heavy, but no rufous; tibial plumes white with faint rusty cross bars; (~~typical eastern~~ borealis).
- (Iowa) B. b. borealis. Johnson County, Call. ~~?~~ #28678. Dec. 12, 1929. Male. Adult. Tail bright red unmarked; back as the last two; throat less heavily marked on sides with chestnut; band on abdomen not heavy but with both cross-bars on sides and longitudinal streak of black; tibial plumes light, unmarked. (typical eastern borealis).



- (Iowa) B. b. borealis. Lavaca Forks, Jackson Co., Texas, Talbot Call. #17493. February 20, 1885. Female. Adult. Tail rather bright red; a little lighter than last but similar to #27787; back blackish-brown; not as bright as last two (worn); pale chestnut on sides of throat; underparts almost unmarked; faint streaks on abdomen; tibial plumes light and unmarked. (approaching krideri).
- (Iowa) B. b. borealis. Lavaca Forks, Jackson Co., Texas, Talbot Call. #17477. February, 1885. Female. Adult. Tail bright red, unmarked; back brownish like last; throat like last; band on abdomen heavier with dark brownish streaks, rather wide; tibial plumes light with pale chestnut cross bars. (a rather more typical borealis, but in a paler more worn plumage).
- (Iowa) B. b. borealis. Burlington, Des Moines County, Paul Bartsoh. #16144. March 16, 1891. Female. Adult. Tail, dull red, unmarked; back blackish brown; throat with pale chestnut on sides; underparts very light with few rather broad dark streaks across abdomen; tibial plumes light, unmarked. (very near krideri but marks on flanks rather to heavy).
- (Iowa) B. b. borealis. Johnson County. Ridgway. #7949. Nov. 21, 1891. Female. Adult. Tail bright red, dark, well pronounced <sup>terminal</sup> band. back dark brownish; sides of neck with pale chestnut; underparts buffy, but may be soiled; band on abdomen not well marked, streaks reduced; tibial plumes unmarked, but buffy in color, stain? (rather typical borealis but not very heavily marked below. Almost a match for the Dec. 12, 1929 bird from Johnson Co.).
- (Iowa) B. b. borealis. Iowa City, Johnson Co., Rev. Schalte. # 28677. Nov. 24, 1902. Female. Adult. Tail pale rufous, almost gray on outer ones; slight cross-barring on middle of central rectrices, increasing towards outer ones, which are clearly marked; terminal band present; back dark brown with a little more whitish than ~~any before~~, but still with rufous (dark) on hind neck; dark brown on either side of neck; band on abdomen heavy, black streaks, broad; tibial plumes light, unmarked. (Below typical borealis; back a little lighter but hind neck dark).
- (Iowa) B. b. borealis. Johnson County, Call. (?) #18538. Dec. 4, 1901. Female. Adult. Tail pale gray with caste of rusty; a few rusty cross bars on center of middle rectrices, increasing but little towards outer ones; tail faded from wear?; terminal band well marked; back dark brown, with rufous caste to hind neck; chestnut on sides of neck; dark streak on abdomen; light tibial plumes but crossed with numerous buffy bars. (typical borealis with pale tail).

preceding specimen

arrange as on page 8 + 9

B. b. borealis.

- (Iowa) Burlington, Des Moines Co., Oct. 30, 1891. Female. <sup>first</sup> ~~1st~~ year. Tail dull brown with crossbars (narrow) of darker brown; back dark brown, some white; hind-neck rusty; underparts with abdominal band moderately present; tibial plumes faintly barred. (borealis but approaching krideri).
- (Iowa) B. b. borealis, Des Moines Co., Dec. 10, 1891. Male. <sup>first</sup> ~~1st~~ year. Tail similar to above but bars a little wider; back dull brown; dark brown on sides of throat; abdominal band present but scattered streaks; tibial plumes heavily barred. (normal borealis but band on belly a little faint).
- (Iowa) B. b. borealis, Muscatine Co., Nov. 21, 1921. Female. <sup>first</sup> ~~1st~~ year. Tail like last; ~~and~~ back nearly the same with a little more white; dark brown on sides of throat a little more prominent than last; abdominal band very well defined; tibial plumes white with light brown cross-bars. (typical Borealis).
- (Iowa) B. b. borealis, Iowa City, Johnson Co., Sept. 14, 1908. <sup>first</sup> ~~1st~~ year. Tail and back like #16142; underparts like #27780 but a little heavier. (typical borealis).
- (Iowa) B. b. borealis, North Liberty, Johnson Co., November 11, 1924. <sup>first</sup> ~~1st~~ year. Tail lighter than any of previous four; grayish-brown with dark cross-bars; back dark brown with small amount of white; underparts like # 23023. (typical borealis below tail a little lighter like krideri).
- (Iowa) B. b. borealis, Johnson Co., #16738. <sup>first</sup> ~~1st~~ year. Tail brown with a reddish cast; the cross-bars are dark brown slightly bordered with rufous; back dark with some whitish and rusty markings; below light with band across belly rather light; tibial plumes only faintly spotted. (borealis but tail a little light; light below, but rusty on back).
- (Iowa) B. b. borealis, Johnson Co., #28681. Nov. 8, 1913. Female. <sup>first</sup> ~~1st~~ year. Tail like #16738; also the back; underparts like #27780. (borealis, typical).
- (Iowa) B. b. borealis, Iowa City, Johnson Co., #28110. Nov. 11, 1924. Female. <sup>first</sup> ~~1st~~ year. Tail and underparts like #27780; back like #16738. (typical borealis).
- (Iowa) B. b. borealis, Marshalltown, Marshall Co., Oct. 30, 1920. <sup>first</sup> ~~1st~~ year. Like #28681 in all respects.
- (Iowa) B. b. borealis, Genva, Neb., #17447. Oct. 7, 1884. Female. <sup>first</sup> ~~1st~~ year. Tail like #28681; also back; underparts a little lighter but abdominal band well developed.

(Iowa) B.b.borealis <sup>first</sup> Sept. 1, 1885. Male. ~~1st~~ year. Similar to preceding but tail a little duller; abdominal band well developed.  
Sioux City, Woodbury Co., #17460. Talbot Coll. ✓

(Iowa) B.b.borealis <sup>first</sup> Jan. 6, 1885. Female. ~~1st~~ year. Tail like last, dull brown with darker crossbars; back dull brown, with practically no white; hind neck with some rufous color; sides of neck ~~not~~ slightly marked with pale chestnut; underparts almost unmarked, but with a few narrow streaks on belly and crossbars on flanks; (back and tail typical of borealis; below nearer krideri)  
Little Sioux, Harrison Co., #15906. Talbot Coll. ✓

Harlan's Hawk

(Iowa) B.b.borealis <sup>second</sup> Oct. 24, 1904. Male. ~~1st~~ 2nd year? Tail dull brown with dark longitudinal motteling on central rectrices and cross-barring on all others; wide terminal band and white tip; back brown with light edges to scapulars; inner primaries and secondaries whitish on inner webs and with broad dark brown cross-bars; much white basally (showing thro) on hind neck and head; Below white with but a few dark blotches on sides of throat, none on chest and abdominal band of only a few blotchs; tibial plumes white with light brown streaks or wedges; ~~not~~ spotted underwings and axillais white with light brown cross bars; tibial plumes not elongated.  
harlani Cedar Rapids, Linn Co., #20939. B.H. Bailey. ✓

<sup>space</sup> Buteo b. borealis <sup>adult</sup> April 1, 1883. Female. ~~ad~~ Wing, 16.50 in.; black, dull brown, with lighter margins to secondaries rich white; tail red, no cross bars; faint terminal band; tibial plumes faintly buffy, one with indistinct brown cross bars; rufous on sides of chest, a partial band of dark brown streaks and cross lower belly.  
Jones Coll. Eastford, Connecticut. ✓

Buteo b. borealis <sup>adult</sup> Nov. 10, 1882. Male. ~~ad~~ Back dull brown, with rusty areas on secondaries. Wing 15.25 in. Tail red no cross bars, faint terminal band. Tibial plumes unmarked; rufous on sides of neck; band of dark patches across lower belly; below with faint wash of buffy (age)?  
Jones Coll. Eastford, Conn.

B. borealis <sup>columns</sup> calwins ~~was~~ Nov. 7, 1923. Male (ad) Nov. 7, 1923. Wing 15.00 in. Back dark brown; with faint whitish edges to inner edges of coverts; tail deep rufous with all feathers unmarked except outer, these with faint black marks along mid vane; black terminal band distinct; tibial plumes faintly barred with brown; rufous deep on t throat; a well marked bank of black streaks across lower belly with rusty motteling between the streaks Below buffy on chest, thighs and under-tail coverts, A small dark slightly bird with tail almost perfect borealis and tibial plumes only slightly suggestive of calwins.  
Dill Call Linder Iowa City, Iowa

(12)  
B. b. borealis Nov. 8, 1913 Female (1st year).  
Wing 15.50 Back dark brown with much white showing through on  
#28681 hind neck lesser coverts spotted.  
Johnson Co. Dark brownish black on either side of neck, chest,  
unmarked and white, blackish patches on sides of  
lower belly, under tail coverts white with slight  
trace of brown bar.  
Tail dull gray with waving cross bars not opposite  
Slight tinge of rufous bordering each dark  
cross bar.  
X Basally on outer and inner edge giving away  
to mottling outer feathers white on inner  
web.  
Tibial plumes whitish - slightly buffy - with well  
marked brown cross bars. Flank feathers extending on  
thighs with blackish spots.

B. Borealis Krideri Nov. 17, 1923. Female (1st year) Black dull  
Dill Call brown, darkest across shoulders, head streaked  
Dr. Dean with whitish. Scapulars spotted white and middle  
Oxford, Iowa coverts tipped with white, throat white with  
Wing 14.75 brown on sides; below white with blackish spot-  
ting and cross bars on sides of lower belly.  
(not heavy) under tail coverts white with very  
faint, cross line caused by regular lack of  
barbules on waves X

Tail gray darker near tip with dark cross bars  
opposite but with deep waves X  
no rufous bordering bands. Inner and outer  
edges basally light gray with faint and very  
small speckling.  
Tibial plumes white with a few brown cross bars  
and a few small wedge shaped X spots.

B. b. borealis Nov. 11, 1914. Female (1st year) Back dull brown  
Dill Call darkest across shoulders. Scapulars tintals; great-  
Iowa City, Iowa er coverts spotted with white; sides of throat  
Wing 14.25 brownish black; chest white; black spotted on sides  
of lower belly; abdominal band very distinct; under  
tail coverts white.  
Tail dark grayish brown with dark cross bars, slight-  
ly wavy; broadening towards middle and narrower to-  
wards outer edges; basally on inner and outer edges  
mottling with rufous, black and gray; tip banded  
white. Tibial plumes white heavily cross band with  
rusty brown not spotted.

B. borealis krideri Nov. 16, 1914. Male. (1st year) Rusty of  
Dill Call hind neck lacking abdominal band heavy and so in  
Iowa City, Iowa that respect nearer borealis. Back light brown  
Wing 15.00 with dark patch on shoulders; Scapulars tintals  
greater and middle coverts spotted; barred with  
white; secondaries and from 5th primary in tip-  
ped with white; back cross barred with white also  
head streaked.  
Sides of throat dark brown; chest white; black  
spotted on flanks; feathers extending down on  
thighs spotted black under tail coverts white  
unmarked. Tail light gray, darker towards tip.

with dark cross bars narrower and rather regular.  
Tip white on inner and outer edges basally bars  
break up into white and dark brown speckling.  
Tibial plumes white with light brown cross bars  
not heavily barred.

B. borealis krideri  
Dill Call  
R. Leonard  
No locality  
Iowa City  
Wing 15.75

Dec. 7, 1914 Male (1st year) back brown broadly  
spotted with white on back. Scapulars, tinals  
greater and middle coverts. Secondaries and  
margins of inner primaries. white below with  
dark brown on head streaked with white, sides of  
neck and dark brown spots on flanks and across  
lower not heavy belly, under tail coverts white  
- unmarked.

Tail grayish lighter on inner webs; dark cross  
bars rather regular and uniform; the bars break-  
ing up into speckling on inner and outer webs  
basally.

Tibial plumes white with a few faint brown cross  
bars and a few wedge shaped spots.

B. borealis krideri  
Dill Call  
Iowa City, Iowa  
Wing 14.10

Nov. 9, 1914 Male (2nd year) head white with  
centers of feathers dark brown; band on abdomen  
present but not heavy like #16738  
Below white with a few brown streaks on sides of  
neck; throat, chest and under tail coverts white;  
a few dark brown spots  
on sides of lower belly.

Back light brown broadly mottled and spotted  
with white 6th, 7th and 8th primaries white with  
gray wash and dark towards tip crossed by dark  
brown bars bordered with rusty;

Secondaries heavily spotted; also scapulars great  
and middle coverts. Lesser coverts marginal with  
rusty; feathers of hind neck white with central  
part dark brown.

Tibial plumes white with a few faint wedge shaped  
brown spots along unit vanes.

Tail white with numerous (11) dark brown cross  
bars, but not extending to outer edges of webs  
where it is white. Between bars bordered by  
rusty and then grayish brown bars at base, tip  
white.

- (Coe) B.borealis krideri Nov. 17, 1932 Male [2nd year] Tail pale  
Palo Linn Co. rufous, cream colored at base, with each  
[Kubichele call?] feather crossed by several wavy bars, some  
slightly broken up into spots. Back light,  
secondaries, 6th to 10th primary white with  
narrow brownish black crossbars (bordered  
with rufous). No rufous on hind neck; head  
white with streaks of black tipped with  
white. Plumage fresh below nearly immaculate,  
a few small points of brown on abdomen  
chestnut on sides of neck very scant; tibial  
plumes white, unmarked.
- (Iowa) B.borealis krideri Oct. 11, 1932 Female [1st year]. Tail grayish  
Iowa City brown with dark brown crossbars bordered with  
Johnson County rusty secondaries and primaries whitish on  
(call \_\_\_\_\_) inner webs, brownish on outer, crossed by  
narrow brown bars. Hind neck streaked white  
and as head also. Chestnut streaks on sides  
of neck; band on abdomen moderate; tibial plumes  
white with some barring. (light above, pale  
tail, but with abdominal band moderately marked)
- (Iowa) B.borealis krideri Oct. 25, 1913 imm like preceding but with  
Marshalltown tail a little duller and at base the rufous  
Marshall County increasing and breaking up into mottling;  
Ira N. Gabrielson hind neck without rufous; white on secondaries  
and primaries; underparts with throat white,  
abdominal band well marked and tibial plumes  
barred.
- (Iowa) B.borealis krideri Oct. 20, 1913 ?[Female] like one above in all  
Marshalltown respects [1st year]  
Marshall County  
Ira N. Gabrielson
- (Iowa) B.borealis krideri Nov. 13, 1924 Female Tail grayer than last  
Iowa City with narrow dark brown bars; practically no  
Johnson County rusty bordering. Back dark brown with light  
#27788 edges to scapulars; hind neck without rufous;  
Call \_\_\_\_\_ primaries white on inner edges, dark brown  
on outer, crossed by narrow blackish brown bars  
head finely streaked with white; underparts  
light with brown streaks on sides of neck re-  
duced; abdominal band, scant tibial plumes  
white, faintly marked; (a dark brown and white  
bird with gray tail - no rufous in plumage)
- (Iowa) B.borealis krideri Sept. 19, 1892 Male [1st year] Like #27788  
Grand Rapids but tail a little duller; back, hind neck and  
L. Winnipeg. head the same; also throat and abdominal band  
Manitaba even has apparent--only a few broad blotches,  
#934 Frank Russell tibial plumes white, scarcely marked.
- (Iowa) B.borealis krideri Oct. 18, 1884 Male 1st year ? Tail like  
Wood River, Nebr. #27888 but all little lighter; back brown with  
#17491 Talbot call more white; secondaries definitely white; no  
Worthen & Lockwood rufous in hind neck; head white with a few  
streaks of brown; no markings on throat; ab-  
dominal band scarce; tibial plumes unmarked -

white. (One of the lightest specimens - yet with well marked abdominal band)

- (Iowa) B.borealis krideri Nov. 1932 - Tail very gray with blackish crossbars; 1st year even lighter on back than Iowa City Johnson County # \_\_\_\_\_ call \_\_\_\_\_  
last-being equal to Palo. Iowa bird: secondaries, primaries and coverts white with blackish brown crossbars, below like last #17491.

WESTERN RED-TAIL

- (Iowa) B.borealis calurus Nov. 7, 1922 Female (ad) Tail dark red with Midriver Johnson County #28688 Wm. F. Coultas terminal band - no cross barring. Back dark, with no light margins to primaries or secondaries. Hind neck solid black, head dark - unstreaked. A heavy dark brown band across throat with a mixture of rusty; chest washed with buffy and with a few streaks. Abdominal band heavy with a mixture of rusty, below buffy, Tibial plumes buffy with only slight crossbarring.
- (Iowa) B.borealis calurus Oct. 25, 1901. Female (ad) Tail, back, hind Iowa City Johnson County #18537 R. M. Anderson neck, and head as in #28688 - band across throat a little less distinct, and with same chestnut mixture. Abdominal band with rusty, tibial plumes buffy, but nearly unmarked.
- (Iowa) B.borealis calurus Nov. 22, 1894. Female (ad) Tail pale, dull Gilroy-Calif. #16147 Bartsch Call. reddish - narrow terminal band. Back, wings, hindneck and head like last two but a little duller - throat black - entire underparts rufous with narrow longitudinal streaks of dark brown. Feathers of belly crossbarred with pale rufous on paler grayish feathers, tibial plumes rufous heavily crossbarred. Underparts similar and rather uniform in color with tail.
- (Iowa) Lovace Forks, Texas Febr. 17, 1885 Female 2nd year Tail color of #17464 Talbot Call. last (#16147) but crossed with numerous narrow crossbars. wings, back, hindneck, head like last; feathers a little worn, therefore slightly paler; throat blackish brown, chest deep rusty (solid) below blackish brown with crossbars of gray or flanks. Tibial plumes dark brown with lighter crossbars.

HARLAN'S HAWKS

- (Coe) B.borealis harlani Nov. 17, 1925 Male 2nd year Tail black with Amana Iowa County #745 Jos. Erusha numerous lighter crossbars (a little narrower than black bars) Wings solid dark; back uniform blackish brown, lighter (white) basally; a little white showing on hind neck; head; rather uniformly blackish below except for white bases of feathers on chest showing thro; tibial

plumes black with faint grayish brown, tips to feathers; plumes in tibial long; spotted under wing; axillars dark hardly marked. (Rather solid dark, but feathers basally white; tibial plumes long, spotted under wings). Outer tail feather dark brown with white bars on inner web.

(Coe) B. borealis harlani  
Marshalltown, Iowa  
#781 B.H. Bailey  
call M. Huber down

Female Oct. 24, 1904 1st year Tail grayish brown with numerous dark brown crossbars (lighter than preceding). All except central pair, white on inner web with dark brown crossbars. Primaries solid; inner primaries and secondaries light with wide brown crossbars, back uniform dull brownish -a little rusty and white on neck and head, below heavily mottled dull brown with white bases to the feathers; darkest on throat; lightest on belly; tibial plumes long, dark with light brownish spots; lightly spotted under wing; axillars light brown with spots.



(Iowa) mounted *B-borealis harlani*  
Onawa, Iowa  
Moen

Nov. 25, 1922 Female-Head, back, and wings nearly a uniform rich dark brown, with secondaries a little lighter and showing the light gray and brown band (basally) coverts.

Chin brown, gray basally (bot white); chest rich chestnut brown; grey basally; lower parts uniform blackish brown with feathers on flanks whitish cross barred. Under-tail coverts heavily cross-barred brown, rusty and white. Tibial plumes, dark brown, slightly barred with white and rufous bars. Axillais (spotted black and white) black with narrow broken, white bars. Tail gray with black terminal band bordered on both margins with rufous. Tail crossed with broken bars of dark brown each margined with rufous. Center feathers, mostly rufous on outer webs. Neither definite bars nor fine motteling shown on the tail.

Wing 17.00 Tail 8.25 Tarsus 2.98

Iowa City, *B.borealis harlani*  
Johnson Co., (typical)  
#27791  
Carl Linder

Nov. 18, 1923 Female(adult) Tail gray with motteling of blackish and (terminally) rusty; wide black terminal band bordered by rufous. Outer tail feather heavily mottled on inner webs. Primaries black with broad grayish brown cross bars on both webs (not apparent on Caluirs and on borealis and krideri not of same porportion); back black, a little streaking of white on neck and head; throat white with black streaking; below, feathers white with black tips-so basally very white; blotching heaviest on throat and abdomen; tibial plumes black with white cross bars; plumes long; spotted under the wing.

Eastern Red-tail

- (Iowa) B.b.borealis Nov. 15, 1930 Female(ad) Tail red, narrow terminal band;  
Amana, Iowa back dull brown, some white in secondaries and coverts;  
Iowa county upper back and hind neck dark brown with rufous mixture;  
#28689 head dull brown streaked (faintly) with rufous; throat  
F. E. Horack white, chestnut on sides of throat; but not meeting; all  
below white, with only a couple of streaks on abdomen;  
flanks slightly crossbarred; tibial plumes white (a  
typical borealis except for lack of abdominal band; hind  
neck to rufous for krideri).
- (Iowa) Marengo Female (adult) tail bright red, narrow terminal band;  
2 miles east back dark a little margine to scapulars; hind neck rufous  
(PADUMont picked and black; a little white streaking on hind head; throat  
up deal) white, chestnut on sides of neck and across below white  
spot; abdominal band faint; below white; tibial plumes  
white unmarked. (typical borealis)