TABLE 2. Comparison of responses of Common Ravens to human intruders at nests in rangeland and farmland.

Responses of ravens to intruders	Mean ± 1 SD (*n*) in indicated areas	
	Rangeland	Farmland
Distance to intruder when raven flew from nest (m)	91.3 ± 32.0 (15)	455.8 ± 73.7 (18)
Closest approach of raven to intruder at base of structure containing the nest (m)	73.7 ± 25.5 (15)	315.3 ± 102.6 (18)
Closest approach of raven to intruder climbing to nest (m)	4.1 ± 1.7 (8)	120.0 ± 66.5 (10)
Rate of calling by raven at intruder climbing to nest (calls/min)	106.5 ± 25.4 (8)	47.3 ± 23.1 (10)
Rate of diving by raven at intruder climbing to nest (dives/min)	7.7 ± 3.8 (8)	0.2 ± 0.6 (10)

These differences support my hypothesis that the level of human densities, and the frequency and nature of human activities in the nesting area, affect responses of ravens towards human intruders. In this case, ravens nesting in an area of moderate human density and high persecution (i.e., farmland) were more timid and showed stronger avoidance behavior and lower nest defense than ravens in an area of low human density and low persecution (i.e., rangeland). These results agree well with Goodwin's (Crows of the world, Cornell Univ. Press, Ithaca, NY 1976:57) qualitative observations for corvids in general.

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THREE RECORDS OF CALLIOPE HUMMINGBIRD FROM LOUISIANA

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On 6 December 1982 Ronald Stein observed an unfamiliar hummingbird performing a wide, shallow U-shaped display flight at his residence in Reserve (St. John the Baptist Parish), Louisiana. The bird was silent during display but repeatedly gave a single, faint *Selasphorus*-like chip note as it fed at a large stand of introduced Turk's cap (*Malvaviscus grandiflora*). The next day Stein and I studied the bird for several hours. On the basis of its small size, short bill, three magenta gorget feathers, clear green back, short tail, and rufous edgings on the inner rectrices, we identified the bird as an immature male Calliope Hummingbird (*Stellula calliope*), a species previously unrecorded in Louisiana. On 8 December, S. W. Cardiff obtained the specimen (Louisiana State University Museum of Zoology #107915). The identification was confirmed by J. V. Remsen, Jr.

This represents the first winter specimen of Calliope Hummingbird taken north of Mexico and is the easternmost record of that western montane species. Specimen data are as follows: exposed culmen 14.3 mm; wing chord 42.2 mm; tail 19.8 mm; weight 2.6 g; testes 0.5 mm; light fat; no molt.

Nearly one year later, on 25 November 1983, at the same location, Stein noted another Calliope Hummingbird feeding in his garden. The following day, I captured the bird using a fine monofilament mist net, determined it to be an immature female, and banded it (USFWS #X30920, modified by filing away the X). Identification of the bird was based on rufous-edged subspatulate inner rectrices, and on three gorget feathers that had a central spot of magenta. Stein observed that the bird had difficulty feeding because of strong competition from larger species (Buff-bellied Hummingbird, *Amazilia yucatanensis*; Rufous Hummingbird, *Selasphorus rufus*) and was last seen on 27 November 1983. Measurements of this Calliope Hummingbird are as follows: exposed culmen 14.7 mm; wing chord 43.3 mm; tail 22.5 mm; weight 2.5 g. Rectrix #2 (left) and one colored gorget feather were retained to permit independent verification. These feathers have been deposited in the collection of Louisiana State University Museum of Zoology (LSUMZ #113137).

Also on 25 November 1983, in Baton Rouge (East Baton Rouge Parish), Louisiana, Paul McKenzie noticed a small unfamiliar hummingbird feeding in his garden. He noted the following characteristics: small size, short bill, three magenta gorget feathers, clear green back, and short tail. As it fed in the garden and at a feeder, McKenzie (pers. comm.) heard it give a faint *Selasphorus*-like chip note on numerous occasions. He also noted that it frequently fed on minute flying insects. McKenzie collected the bird on 21 December 1983, and J. V. Remsen, Jr. identified the specimen (LSUMZ #112917) as an immature male Calliope Hummingbird. Specimen data are as follows: exposed culmen 14.4 mm; wing chord 41.2 mm; tail 20.8 mm; weight 3.4 g; extremely heavy fat; testes 0.5 × 0.5 mm; light molt on head; insects in stomach.

The 1982 Calliope Hummingbird appeared after the passage of a strong western front that followed several weeks of strong, upper-level steering currents from the southwest and from Mexico. Interestingly, Stein (pers.

comm.) noted that three additional hummingbird species (Buff-bellied Hummingbird; Rufous Hummingbird; Allen's Hummingbird, *S. sasin* [probable, identification based on a clear green back and a display flight consisting of several shallow U-shaped dives followed by a towering J-shaped dive]) appeared at the same location on 6 December 1982.

During the week before the appearance of the two 1983 birds, a weather pattern similar to that which preceded the appearance of the 1982 Calliope Hummingbird prevailed. As in 1982, Stein noted that occurrences of other hummingbird species seemed to have been precipitated by the peculiar weather pattern.

It is noteworthy that both 1983 birds appeared on the same date, at locations approximately 65 km apart. Both Stein and McKenzie maintain extensive gardens of tropical plants that are known to attract hummingbirds, and both commented that their respective 1983 Calliope Hummingbirds favored Mexican Sage (*Salvia leucantha*) as a food plant.

At no time does the normal migratory pattern of the Calliope Hummingbird carry it closer to Louisiana than New Mexico. These birds normally vacate their breeding grounds in the northern Rocky Mountains (Phillips 1975) by July and August and do not reappear until March or April (Bent 1940). The species winters on the Pacific slope of southern and western Mexico, north to about Nayarit (Phillips, pers. comm.). Phillips (1975) noted that the species is abundant in the mountains west of Tepic, Nayarit in late January, while being rare east of Michoacan and Guerrero at all times.

Field identification of hummingbirds presents many opportunities for error. Females and immature males are particularly subject to confusion and even adult males are not immune from misidentification. For this reason, sight reports, while not disregarded, must be examined with some caution.

The few previous winter reports of Calliope Hummingbirds from the United States consist of a female said to have been photographed at Ramsey Canyon, Arizona on 29 December 1979 (Danforth 1980); one reported without details on the Ramsey Canyon Christmas Bird Count on 20 December 1980 (Danforth 1981); and a "probable Calliope Hummingbird" that was photographed 7 January 1982 and remained until 14 February at the same location (Witzeman 1982, photograph). Monson and Phillips (1981) considered the 1979 and 1980 Arizona reports "dubious." Rogers (1969) reported that an adult male was seen "at close range with binoculars" in Kelowna, British Columbia, Canada on 1 December 1968. Additionally, there are two winter sight reports from California (Powers 1959, Smith 1959) that were disregarded by Garrett and Dunn (1981) in their compendium of southern California bird records; and "a few verified coastal fall records" noted by McCaskie et al. (1979) in their annotated field list of northern California birds.

Extralimital reports for this species are similarly sparse. Graber (1954) collected an immature female in extreme southwestern Kansas on 3 September 1952, providing the first record for that state. Baumgartner (1962) reported that a female was found dead in Lincoln County, Nebraska on 8 April 1962 and that it was the first authenticated record for that state. Lister (1965) reported that a hummingbird found injured at Rapid City, South Dakota on 19 August 1964 was tentatively identified (no age or sex noted) as a Calliope Hummingbird and that it may be a first record for that state. Reports from Texas have been in summer (Williams 1970, 1977, 1981, 1983; Webster 1981) except for an October–November report of a female in Houston (Emanuel 1982, no details published). Therefore, all these extralimital reports except for those from Lincoln County, Nebraska, and Houston, Texas, occurred during the normal period of southward migration. Except for the Houston report, I have found no extralimital records for fall. Thus there appears to be a hiatus in the records between the period of southward migration and the late fall or early winter occurrences of vagrants. Remsen and Cooper (1977) noted a similar pattern of discontinuity for Scott's Oriole (*Icterus parisorum*) and several other species.

Although fall and winter occurrences in Louisiana of other western species of hummingbirds, i.e., Buff-bellied Hummingbird, Black-chinned Hummingbird (*Archilochus alexandri*), and Rufous Hummingbird, are not without abundant precedent (Lowery 1974; Hamilton 1979, 1980; Ortego 1982; Newfield 1983), there is not sufficient evidence to conclude that the Calliope Hummingbird is as regular in its occurrence as the aforementioned species. It seems likely, however, that the unique weather pattern noted above influenced movement of the three Calliope Hummingbirds to Louisiana.

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LITERATURE CITED

BAUMGARTNER, F. M. 1962. Southern Great Plains region. Audubon Field Notes 16:427.

BENT, A. C. 1940. Life histories of North American cuckoos, goatsuckers, hummingbirds, and their allies. U.S. Natl. Mus. Bull. 176.

DANFORTH, D. 1980. Ramsey Canyon Christmas bird count. Am. Birds 34:623.

DANFORTH, D. 1981. Ramsey Canyon Christmas bird count. Am. Birds 35:682.

EMANUEL, V. 1982. South Texas region. Am. Birds 36: 196.

GARRETT, K. AND J. DUNN. 1981. Birds of southern California: status and distribution. Los Angeles Audubon Society, Los Angeles.

GRABER, J. 1954. Additional notes on the birds of southwestern Kansas. Wilson Bull. 66:149–151.

HAMILTON, R. B. 1979. Central Southern region. Am. Birds 33:289.

HAMILTON, R. B. 1980. Central Southern region. Am. Birds 34:281.

LISTER, R. 1965. Northern Great Plains region. Audubon Field Notes 19:51.

LOWERY, G. H., JR. 1974. Louisiana birds. 3rd ed. Louisiana State Univ., Baton Rouge.

MCCASKIE, G., P. DE BENEDICTIS, R. ERICKSON, AND J. MORLAN. 1979. Birds of northern California: an annotated field list. Golden Gate Audubon Society, Berkeley.

MONSON, G., AND A. R. PHILLIPS. 1981. Annotated checklist of the birds of Arizona. Second edition. Univ. of Arizona Press, Tucson.

NEWFIELD, N. L. 1983. Records of Allen's Hummingbird (*Selasphorus sasin*) in Louisiana and possible *S. rufus* × *S. sasin* hybrids. Condor 85:253–254.

ORTEGO, B. 1982. Central Southern region. Am. Birds 36:303.

PHILLIPS, A. R. 1975. The migrations of Allen's and other hummingbirds. Condor 77:196–205.

POWERS, D. R. 1959. Pasadena–San Gabriel Valley Christmas bird count. Audubon Field Notes 13:251.

REMSEN, J. V., JR., AND J. R. COOPER. 1977. First record

of Scott's Oriole from Colorado. West. Birds 8:157–158.
ROGERS, T. H. 1969. Northern Rocky Mountain–Intermountain region. Audubon Field Notes 23:501.
SMITH, M. 1959. Redlands Christmas bird count. Audubon Field Notes 13:252.
WEBSTER, F. 1981. South Texas region. Am. Birds 35: 203.
WILLIAMS, F. 1970. Southern Great Plains region. Am. Birds 24:65.
WILLIAMS, F. 1977. Southern Great Plains region. Am. Birds 31:196.
WILLIAMS, F. 1981. Southern Great Plains region. Am. Birds 35:200.
WILLIAMS, F. 1983. Southern Great Plains region. Am. Birds 37:198.
WITZEMAN, J. 1982. Southwest region. Am. Birds 36: 319.

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PROBABLE IDENTITY OF PURPORTED ROUGH-LEGGED HAWK NESTS IN THE WESTERN U.S. AND CANADA

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The oological record of the Rough-legged Hawk (*Buteo lagopus*) is puzzling. This panboreal species breeds north of 60°N latitude in tundra and taiga (Brown and Amadon 1968). In North America, it nests from coastal and arctic Alaska, east through the northern Yukon, coastal and interior Northwest Territories, to Quebec and Labrador, where it breeds in northern and coastal areas (Godfrey 1966, Zarn 1975, AOU 1983). In years when microtine rodents are abundant, these hawks are thought to irrupt farther south and to nest in small numbers in northern Manitoba (Taverner and Sutton 1934), southeastern Quebec and Newfoundland, but never as far south as North Dakota and Montana. Nonetheless, at the turn of the century, oologists reported finding Rough-legged Hawks nesting in Colorado, Montana, and North Dakota, a full 1,000 km south of their presently accepted breeding range (Arnold 1895, 1897; Davy 1930a, b). Some of these records have been explained as incorrectly identified Ferruginous Hawk (*B. regalis*) nests (Taverner 1919). This seemed logical as Ferruginous Hawks were then commonly referred to as "ferruginous rough-legs" or simply as "rough-legs," and they were common in areas where the more suspect nests were reported.

Apparently, none of the eggs of the purported Rough-legged Hawk nests was closely examined and compared to those of other *Buteo* species to determine if they were in fact laid by Ferruginous Hawks. Herein, we make this comparison and attempt to clarify the record for the distribution of the Rough-legged Hawk in North America before the Great Plains were settled.

We contacted museums with the 20 largest collections of North American bird eggs (Kiff 1979) and obtained data for 146 sets of eggs collected in North America between 1850 and 1954 that were labelled as those of the Rough-legged Hawk. Of these, 74 sets came from places north of 60°N (Fig. 1), mostly in coastal and interior Northwest Territories. Twenty-nine sets were collected during the 1860s by Roderick MacFarlane, chief factor for the Hudson's Bay Company post at Fort Anderson. Travelling extensively in the Northwest Territories, he collected at least 70 sets of Rough-legged Hawk eggs, many of which he described in detail (MacFarlane 1891, Mair and MacFarlane 1908) and sent to the Smithsonian Institution, where they are presently kept.

Seventy-two sets came from locations south of 60°N. Of these, 45 were from northern Quebec, Labrador and coastal Alaska, and were within the accepted breeding range of the Rough-legged Hawk. The remaining 27 sets were collected west of Hudson Bay (Table 1). Ten sets were collected between latitudes 58 and 60°N and 17 were collected south of 54°N. All except one of the sets in the first group were collected from the shores of Hudson Bay near Churchill, Manitoba, and most were collected by Frank L. Farley. Eight of the sets in the second group were collected by Edward Arnold and Walter Raine, two of the most prolific collectors of western raptor eggs (Houston 1981, Houston and Bechard 1982). They recorded sets from File Hills, Crescent Lake, and Quill Lake, Saskatchewan and from the Little Red Deer River in Alberta. The other sets were collected by a number of less well-known oologists who, except for E. Pope, a known egg faker (Kiff, pers. comm.), were otherwise reliable oologists on the Northern Great Plains around the turn of the century.

All of the sets were collected in May or June, and clutch size averaged 3.2 ± .40 (± 1 SE, $n = 9$ nests) and 2.8 ± .24 ($n = 14$ nests) eggs for the sets collected between 58 and 60°N and south of 54°N latitudes, respectively. The nests from places between 58 and 60°N latitude were built on rocky ledges and outcrops. Nests in the more southern group were built in trees such as willows and cottonwoods at an average height of 8.57 ± .37 m ($n = 8$ nests). No notation on data slips with any of the sets mentioned dung or bones, which are typically found in the nests of Ferruginous Hawks, and all of the eggs were whitish with brown spots and blotches.

If the eggs collected south of the 60th parallel were not those of the Rough-legged Hawk, of what species were they? The Red-tailed Hawk (*Buteo jamaicensis*) is the only other buteo that would have nested between 58 and 60°N latitude and near Fort Alexander, Manitoba. Elsewhere south of 54°N latitude, there are three possible alternatives: the Red-tailed Hawk, the Ferruginous Hawk, and the Swainson's Hawk (*B. swainsoni*). We compared nest data and egg characteristics of the purported Rough-legged Hawk nests with those known to be rough-leg and the three alternative species. Since all four species may nest in trees and have clutches of similar size, we could not make an identification from information on nest placement and egg numbers alone. The heavy superficial markings on Ferruginous Hawk eggs aided in eliminating that species as a possible alternative, but, because all these buteos lay eggs with some degree of marking (Reed 1904, Bent 1937), egg coloration alone was not conclusive. The