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NORTHWARD RANGE EXPANSION BY THE SHORT-TAILED HAWK, WITH FIRST RECORDS FOR NEW MEXICO AND CHIHUAHUA

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ABSTRACT: We documented single Short-tailed Hawks (*Buteo brachyurus*) in the states of Chihuahua in April 2005 and New Mexico in May and June 2005. These are the first reports for both states. To put these records into historical and geographical context, we compiled published reports for western Mexico and Arizona and for northeastern Mexico and Texas; these indicate a steady northward range expansion by this species over the past half century, an expansion that may have accelerated in recent years.

The Short-tailed Hawk (*Buteo brachyurus*) is a relatively little known hawk best understood from studies of a small and disjunct population in peninsular Florida (e.g., Ogden 1974, 1978) but with an extensive geographic range stretching from Mexico south through Central and South America to northern Argentina (A.O.U. 1998). Throughout that vast range, this specialized hunter of small birds can be found in the tropical, subtropical, or temperate zones but is everywhere considered rare or uncommon or, at least, very thinly distributed. Ogden (1988:46), citing A. R. Phillips, alluded to a possible northward range expansion in both western and eastern Mexico, but more recent summaries (e.g., Johnsgard 1990, Thiollay 1994, Miller and Meyer 2002, 2004) did not comment on that phenomenon other than to note "accidental occurrences" in Arizona and Texas. Here we report on the first records of the Short-tailed Hawk for the state of New Mexico and, apparently, for the Mexican state of Chihuahua, both obtained in 2005. We also compile records from western Mexico and Arizona, northeastern Mexico and Texas, and elsewhere, which, taken together, demonstrate a progressive northward range expansion during the latter half of the 20th century, an expansion that is continuing into the present.

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RESULTS

Chihuahua and New Mexico

Chihuahua. From 1 to 4 April 2005, DeLong monitored migrating raptors in the Sierra San Luis at a microwave station in the northern terminus of the range, just north of Mexico Highway 2 and about 0.5 km south of the international border. The site, at about 2095 m elevation, is in shrubland below the pine–oak zone. Raptors migrating north along this northeastern-most spur of the Sierra Madre Occidental pass over the site en route to the Animas Mountains of New Mexico, the next range north. On 3 April, a light-morph adult Short-tailed Hawk soared north past the site and continued to within 350 m of the Chihuahua–New Mexico line before turning back south. The bird was photographed (Figure 1) but was not seen again. Although Howell and Webb (1995:200) mapped the Short-tailed Hawk as occurring in southwestern Chihuahua, no specific records were given, and we are not aware of any published records for the state. Hence our photograph appears to be the first record, verified or otherwise, for Chihuahua.

New Mexico. On 24 May 2005, while surveying for Yellow-eyed Juncos (*Junco phaeonotus*) in the Animas Mountains, Hidalgo County, DeLong and Williams twice saw a light-morph adult Short-tailed Hawk around Cistern Saddle and upper Indian Creek Canyon. Initially, a bird was seen soaring above Cistern Saddle; a short while later one was seen as it sailed north down Indian Creek Canyon. DeLong returned 28 June and again observed



Figure 1. Light-morph adult Short-tailed Hawk, Sierra San Luis, northern Chihuahua, Mexico, 3 April 2005.

Photo by John P. DeLong

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a light-morph adult Short-tailed Hawk near Cistern Saddle, photographing it (Figure 2). Cistern Saddle, at about 2410 m elevation in the pine zone, is situated in the highest reaches of the Animas Mountains. There are no previous reports for New Mexico, although the species has been expected there, on the basis of recent occurrences in adjacent Arizona.

Western Mexico and Arizona

Michoacán. Blake and Hanson (1942:526) reported a dark immature Short-tailed Hawk collected in pine-oak forest at 1675 m elevation on the slopes of Cerro de Tancitaro, western Michoacán, in July 1941, apparently the first record of the species in Mexico away from the eastern and southern lowlands. Subsequently, a light-morph adult was seen and a dark-morph juvenile was collected in pine-oak forest at 1980 m southeast of Morelia 14–16 July 1951 (Davis 1953:90); the noted collector Chester C. Lamb had visited that site in August 1939 (Davis 1953) but did not report the species.

Colima. Schaldach (1963:23) reported two specimens taken at or near Pueblo Juárez in central Colima in September and November 1958, commenting that they represented first records for the state and an extension of the known range north from Michoacán. It is noteworthy that the locality had been “one of the most well-known collecting stations in Colima” prior to 1910 (Schaldach 1963:8), yet the species was not recorded in those early years.

Nayarit. The date of initial discovery in Nayarit is not precise, but Alden (1969), who began field work there in 1960, reported the species as com-



Figure 2. Light-morph adult Short-tailed Hawk, Animas Mountains, Hidalgo County, southwestern New Mexico, 28 June 2005.

Photo by John P. DeLong

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mon in the vicinity of San Blas as well as occurring inland toward Tepic. Alden (1969:88) commented that those observations represented “a recent discovery”; one on the San Blas Christmas Bird Count in December 1965 is the earliest specific date provided (Alden 1969:121). The avifauna of the environs of San Blas and Tepic had been well studied, beginning with Andrew Jackson Grayson’s work in the region in the 1860s (Lawrence 1874), but the species was not reported there until the early 1960s.

Sinaloa. Hubbard and Crossin (1974:7) reported that Crossin, while studying Tufted Jays (*Cyanocorax dickeyi*), observed a pair of Short-tailed Hawks on numerous occasions during 1964 at Rancho Carrizo, located in the pine-oak zone at 1830 m elevation and situated near the Durango line; they noted one bird was light and the other was dark, and that these apparently represented the first records for Sinaloa. Alden (1969) likewise found the species in Sinaloa, at least by the mid-1960s, including inland from Villa Unión, once at Mazatlán, and “occasionally” between Mazatlán and Culiacán.

Sonora. The spread northward into and through Sonora has been documented by Russell and Monson (1998:69), who remarked that the species “appears to have only recently extended its range northward into Sonora.” It was first seen at Alamos in southern Sonora in March 1982, next near Tepahui and El Territo in May 1986, subsequently at three additional locales in July 1986, and at yet three more locales during 1987 and 1988, and eventually north to Nacozari by May 1995. Of 13 individuals recorded through 1995, 9 were dark birds; elevations of occurrence were 125–2000 m. The ornithology of Sonora was described in meticulous detail by van Rossem (1945), who found no records for the state.

Arizona. Historically, the Short-tailed Hawk was unknown in Arizona (e.g., Monson and Phillips 1981). The first report for the state was of one seen in the Chiricahua Mountains in August 1985, followed by one in the Huachuca Mountains in July 1988 (Rosenberg and Witzeman 1998). However, over a decade passed before the species was conclusively documented, when one (of two) in the Huachuca Mountains July–September 1999 was photographed (Rosenberg 2001), and one or two were seen in the Chiricahua Mountains in March and August 1999 (*N. Am. Birds* 53:309, 54:83). The species has been found annually in Arizona since 2001, including with breeding reported in the Chiricahua Mountains that year (*N. Am. Birds* 56:84) as well as in 2003 (*N. Am. Birds* 57:528). Of 10 adults identified to color morph in Arizona through 2003, nine were described as light.

Northeastern Mexico and Texas

Tamaulipas. The Short-tailed Hawk has a long history in tropical eastern Mexico; in fact, the type specimen of *B. b. fuliginosus*, the subspecies occurring in North America south to Panama (Rand 1960, Miller and Meyer 2002), was taken in the northeastern state of Tamaulipas (Sclater 1858), although the precise locality is unknown. Early efforts to map this hawk’s range (e.g., Brown and Amadon 1968:map 57, Ogdin 1988:39) extended it north only to about the vicinity of Tampico in southernmost Tamaulipas. The historic status of the species in the state seems to be unknown; save for

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the type plus another specimen from another unspecified locality reported by Rand (1960:451), we found no additional published reports of the species from anywhere in Tamaulipas until the 1970s. In particular, the extensive collecting in northern Tamaulipas in the early 1900s by F. B. Armstrong failed to obtain the species (Phillips 1911), and numerous published reports of expeditions to Tamaulipas from the 1930s through the 1950s (e.g., Sutton and Burleigh 1939, Sutton and Pettingill 1942, Eaton and Edwards 1948, Zimmerman 1957) likewise did not mention it. Similarly, published avifaunal analyses conducted in Tamaulipas during the 1960s and early 1970s (e.g., Webster 1974, Gehlbach 1976) do not mention the species, although many of the sites visited from the 1930s to the early 1970s (e.g., Gómez Farías) are now well known Short-tailed Hawk locales. Christmas Bird Counts were formally extended into Mexico in the winter of 1972–73, and the following winter a Short-tailed Hawk was identified (and recognized as something unusual) by J. C. Arvin at Gómez Farías 1 January 1974 (*Am. Birds* 28:548). Whatever its earlier status in the state may have been, by the mid-1970s the Short-tailed Hawk was frequently encountered in at least southern Tamaulipas (J. C. Arvin in litt.). By the 1990s, the species was mapped as resident north to central Tamaulipas (Howell and Webb 1995:200) and considered regular at such sites as La Pesca (Howell 1999:86), another locale where it had gone undetected in earlier years (Baker and Fleming 1962).

Nuevo León. The Short-tailed Hawk was first reported from the interior northern state of Nuevo León in 1996, when a light-morph adult was identified near Montemorelos (elevation about 530 m) 29 June 1996 (Behrstock and Eubanks 1997). These authors also reported two additional Nuevo León sightings by A. M. Sada, apparently from about the same time period, and noted that, taken together with recent observations in adjacent Texas, they implied a northward range expansion.

Texas. As in Arizona, the arrival of the Short-tailed Hawk in Texas is clearly a recent event, and this has been summarized by Lockwood and Freeman (2004:46). The first report was from the lower Rio Grande Valley in Starr County in July 1989, and most Texas records since have been from adjacent Hidalgo County. In 1995, however, the species was found north to the Edwards Plateau (Lockwood 2001:58), where there have since been three additional records (Lockwood and Freeman 2004). And, even more recently, one occurred west to the Chisos Mountains in April 2002, a first for trans-Pecos Texas (*N. Am. Birds* 56:326). Of 17 individuals documented in Texas by 2004, 15 were identified as light-morph birds (Lockwood and Freeman 2004).

DISCUSSION

Available data indicate the Short-tailed Hawk reached western Mexico by the early 1940s and spread steadily northward through northwestern Mexico in subsequent decades, reaching Arizona by 1985 and breeding there by 2001 (Figure 3). A similar expansion apparently occurred in northeastern Mexico, perhaps beginning in the 1970s, with the species subsequently reaching south Texas by 1989, the Edwards Plateau by 1995, the state

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Figure 3. Mexico and southwestern United States, with dates of first known occurrences of the Short-tailed Hawk in western and northeastern Mexico and the southwestern United States; first dates are given for three regions in Texas. Reported historic (pre-1940) range in tropical eastern and southern Mexico, based on Brown and Amadon (1968), is indicated by shading.

of Nuevo León by 1996, and trans-Pecos Texas by 2002 (Figure 3). Our records for Chihuahua and New Mexico in 2005 appear to be a predictable continuation of this overall expansion.

We recognize that identification of this pattern rests largely on negative data—the Short-tailed Hawk is a generally scarce species that can be overlooked easily, and so it may have been present but went undetected in our region in previous years. Nevertheless, the avifauna of most of these states was fairly well known prior to first detection, and this argues that the range expansion described here explains a real event. To our knowledge, breeding in these recently occupied areas has been confirmed only in Arizona, but this is a species for which few nests are known anywhere in its range away from the intensively studied Florida population (Ogden 1988, Miller and Meyer 2002).

There is additional evidence of range expansion and/or increased numbers elsewhere in this hawk's range, including in Central America, but detection of changes there is complicated except in places where the avifauna was previously well known. For example, the ornithology of El Salvador was meticulously described by Dickey and van Rossem (1938), who failed to detect the Short-tailed Hawk (an absence still emphasized by A.O.U. in 1998), yet Thurber et al. (1987:167–168) reported five occurrences involving up to

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nine adults there beginning in 1971. The situation is similar in Guatemala, where Land (1970:67–68) was aware of only one very old record and never encountered the species himself nor, apparently, did others (e.g., Smithe 1966). Yet the species now is commonly found at sites such as Tikal, where Beavers (1992:63) reported it was first seen in 1971 and has been annual since then, with evidence of local breeding in 1989.

The Short-tailed Hawk's northward expansion, and possible expansion or increases elsewhere, may be related to (1) its ability to tolerate human-altered habitats, and/or (2) the observed northward movement by many species apparently responding to climate change. Some accounts (e.g., Thiollay 1994) mention this hawk's use of edge, cleared, or second-growth habitats, and speculate that such flexibility implies the species likely is secure. In populations studied closely, however, nesting birds clearly prefer the most remote, inaccessible, and undeveloped natural areas available (Meyer 2005). While it is conceivable that the range expansion we discuss was aided in part by habitat alterations that favored the species, we note its frequent occurrence in protected natural areas or remote mountain ranges and caution that tolerance for altered habitats (where birds may be more detectable) should not be confused with preference for such habitats. Alternatively, evidence is accumulating that many bird species, especially "warm-country" species, are advancing northward, and this is often attributed to global climate change (e.g., Inkleby et al. 2004). The Short-tailed Hawk's expansion northward, which may have accelerated in recent years, may be another example of that phenomenon.

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