

significance of notching. The variation among species in the presence of notched toes might be associated with differences in mechanisms of climbing.

That some climbing species (e.g., *Sitta carolinensis*) lack notches is not surprising in view of the diversity of specializations for climbing in birds. Comparable is the occurrence of stiffened tail feathers in some but not all climbers. Undoubtedly, notching evolved independently in different lineages. It can thus illustrate convergent evolution, such as between the Old World Wall Creeper (*Tichodroma*) and the New World Canyon Wren (*Catherpes*), both specialized for feeding on vertical rock surfaces. The similar notching of *Tichodroma* and *Certhia* may also be due to convergence, for *Tichodroma* is reported to

be more closely related to *Sitta* than to *Certhia* (Vaurie, Amer. Mus. Novitates, 1854:1-26, 1957; Löhrl, J. Ornithol., 105:153-181, 1964).

As most examined species lack notches, and there is no evidence that species with notches are primitive, the occurrence of notching is probably a derived, rather than primitive, condition within both the order Passeriformes and the suborder Oscines.

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NEW DISTRIBUTIONAL RECORDS OF BREEDING MEXICAN DUCKS

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There are few definite records of the Mexican duck (*Anas diazi*) breeding within the United States. Ligon (1961) located a nest with five eggs at Burford Lake, Rio Arriba County, New Mexico, in 1913. He also reported approximately 12 nesting pairs and three broods in the San Simon marshes of Hidalgo County, New Mexico, on 6 June 1935. Lindsey (1946) made an intensive study of nesting Mexican ducks on New Mexico's Bosque del Apache National Wildlife Refuge, Socorro County, in 1944. Between 1947 and 1955, various reports of broods were made at Bosque del Apache and other areas along the Rio Grande as well as in the San Simon Valley (Ligon 1961). However, fewer Mexican ducks have been reported in the United States in recent years. The reasons for this apparent decline in population have been given as heavy stream erosion because of overgrazing, and the advent of large-scale irrigation projects with attendant flood control and lined irrigation ditches (Levy 1964).

Johnsgard (1961) described and mapped the geographic range of the species in both México and the United States. Aldrich and Baer (1970) updated this information. They stated that the Mexican duck had largely disappeared as a breeding bird in the United States by 1968 but that limited local populations could still be found along the Rio Grande in New Mexico and near El Paso, Texas, and in the San Simon Cienega of New Mexico and adjacent Arizona. They also listed possible breeding areas near Van Horn and Pecos, Texas, as well as on the Gray and Slaughter Ranches in extreme southwest New Mexico and southeast Arizona. Hubbard (1971) reported occurrences of the Mexican duck in summer during the late 1960s near Redrock, Grant County, New Mexico.

New information on breeding Mexican ducks has since been obtained. On 2 July 1968, U.S. Game Management Agent Charles Heumier (pers. comm.) located a brood of seven young and one adult female Mexican duck in the Lobo community south of Van

Horn, Culberson County, Texas. He captured a young male and photographed the bird before releasing it. During the last few years he has seen other Mexican ducks in the same general area during spring and summer months.

Heumier also reported that a fellow agent observed a female Mexican duck and five flightless young on Ascarate Lake at El Paso, Texas, on 18 June 1968. Heumier (pers. comm.) believes, but has not confirmed, that Mexican ducks also breed in the Pecos-Balmorhea area of Reeves County, Texas. Ohlendorf and Patton (1971) observed an adult Mexican duck with six small young along Ash Creek on the Babcock Ranch, 16 miles SSE of Alpine, Brewster County, Texas, on 18 June 1969.

On 29 April 1968, two of the authors (Seymour and Jim Levy) saw three Mexican ducks south of Willcox, Cochise County, Arizona. On 21 May 1968, Tomlinson and Seymour Levy returned to the general area and observed 19 adults and a brood of eight young Mexican ducks that were approximately three-fourths grown. Although all of the young birds had just become capable of flight, one immature was caught by hand and examined. The brood probably had been hatched in a shallow, low-profile marsh area created by a seep from the Willcox sewage lagoon.

On a subsequent trip (28 May 1968), the Levys observed 11 adults and another brood of six young in the same general area of the Sulphur Springs Valley. The authors and Bureau of Sport Fisheries and Wildlife biologist Roger Johnson again saw the first brood herein reported at the same location on 26 June 1968. During the same day, four birds that probably were Mexican ducks were seen at Parks Lake, Graham County, and one positively identified Mexican duck was observed at an irrigation pond just north of Bowie, Cochise County, Arizona. Earlier in the day, approximately 110 Mexican ducks had been observed from the air during a 3-hr flight in the Sulphur Springs Valley between Willcox and the Mexican border. During the same flight, eight Mexican ducks were seen at San Simon Cienega. Possibly a few of the birds observed from the air were Mallards (*Anas platyrhynchos*), but only one Mallard was identified on the ground during the 3-day field trip.

On 27 June 1968, Tomlinson observed two broods, each containing three flightless young and an adult Mexican duck, at San Simon Cienega. At this time, New Mexico State University graduate student Vernon Bevill informed Tomlinson that his detailed observations there had yielded a count of 14 young in three broods that year.

¹ Assigned to a field station in Tucson, Arizona.

In 1969, Arizona Game and Fish Department biologist Dave Brown (pers. comm.) reported that he and two other biologists saw 13 pairs and one brood of nine young Mexican ducks south of Willcox on 5 June. The brood was seen in the marshes below the Willcox sewage lagoon.

The above-reported sightings represent extensions of the known breeding range of the Mexican duck, both to the east and west. It is not known whether the range extension is an actual and recent phenomenon or just an addition to our knowledge of the traditional range. The former explanation is supported by the fact that the newly discovered breeding areas are in extensively irrigated farming communities, where pumping of underground water has increased vastly within the past 20–30 years, creating temporary cienega-type marsh habitat at the same time that natural marshes were being destroyed by other farming practices. As a result, the Mexican ducks possibly have extended their range in the face of marsh destruction in historical habitat. If the Mexican duck has extended its range into irrigated lands in the face of marsh destruction in historical habitat, marsh development projects within the present range of this endangered species could help to save it from extinction.

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AUTUMN CONCENTRATIONS OF BALD EAGLES IN GLACIER NATIONAL PARK

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Bald Eagles (*Haliaeetus leucocephalus*) gather each autumn in Glacier National Park, northwestern Montana. They are attracted to spawning runs of kokanee salmon (*Oncorhynchus nerka*). This paper relates a brief history and reports observations on numbers and behavior of eagles during 1965–70. Maximum counts occurred in November of each year and ranged from 179–373.

STUDY AREA

The study area included lower McDonald Creek and a portion of the Middle Fork of the Flathead River (fig. 1). Numerous shallow riffles, gravel bars, and deep pools are interspersed along this mainly slow-flowing stream. McDonald Creek flows into the Middle Fork of the Flathead River, a much larger, swifter stream, which provides less suitable feeding habitat for eagles. The forest in the vicinity of the study area burned in 1925, 1926, and 1929. It is now dominated by lodgepole pine. Remnants of earlier forests serve as perch trees for the eagles. Preferred tree species are western larch (*Larix occidentalis*) and western redcedar (*Thuja plicata*). Black cottonwood (*Populus trichocarpa*) and Engelmann spruce (*Picea engelmannii*) are common along the streams and are also frequently used for perching.

HISTORY

Kokanee salmon are not native to the Flathead River system. They were introduced into Flathead Lake about 1916 and probably into Lake McDonald in 1922 and 1923 (Morton 1968). Kokanee reach maturity and spawn when 4 years old. Although some salmon in the lower McDonald Creek spawning run may come from Lake McDonald, most probably come from Flathead Lake, roughly 60 river miles downstream. The earliest documented observation of spawning kokanee in McDonald Creek is from 1935. The phenomenon is now an annual occurrence. Spawning occurs from October to January, with the peak in November. An estimated 75,000 to 150,000 kokanee annually utilize lower McDonald Creek for spawning (D. A. Hanzel, pers. comm.).

Records of eagle numbers in autumn in the park prior to 1963 are scanty. The first estimate to appear in the park's Annual Wildlife Report is from 1939. In that year the estimated number was 37. The report of such a large number probably indicates an autumn count at migration time, as the records show only a few active nests in the park in any year. The first positive record of an eagle concentration is contained in a ranger's report of November 1947. This is a description of 20 eagles soaring over the outlet of Lake McDonald.

Maximum counts show a general upward trend since 1950, with highs of 352 eagles in 1963 and 373 in 1969, but systematic counts of a comparable nature were not made prior to 1965.

METHODS

Before 1965, most counts were made by scanning with binoculars from overlook points or by walking along the stream bank and counting. In 1965 we began to census a 7-mile water route by canoe.