

Papers in the Biological Sciences

Grouse and Quails of North America, by Paul

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23 Elegant Quail

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Elegant Quail

Callipepla douglasii (Vigors) 1829

OTHER VERNACULAR NAMES

BENSON quail, Codorniz Gris, crested quail, Douglas quail, Lesson quail, Yaqui quail.

RANGE

Western Mexico from Sonora and Chihuahua to Nayarit and Jalisco.

SUBSPECIES (*ex Check-list of the Birds of Mexico*)

C. d. douglasii: Douglas elegant quail. Resident in extreme southern Sonora, south through Sinaloa and northwestern Durango (properly called *elegans*, according to van Rossem, 1945).

C. d. bensoni (Ridgway): Benson elegant quail. Resident in Sonora, from close to its northern boundary to Guaymas and San Javier.

C. d. teres (Friedmann): Jalisco elegant quail. Resident in northwestern Jalisco, but not extending to Colima (Schaldach, 1963). (Properly called *douglasii*, according to van Rossem, 1945).

C. d. impedita (Friedmann): Nayarit elegant quail. Resident in Nayarit.

C. d. languens (Friedmann): Chihuahua elegant quail. Known only from western Chihuahua (of doubtful validity according to van Rossem, 1945).

MEASUREMENTS

Folded wing: Adults, both sexes, 98–115 mm (males average 3 mm longer than females).

Tail: Adults, both sexes, 65–94 mm (males average 4 mm longer than females).

IDENTIFICATION

Adults, 9–10 inches long. The sexes are somewhat different in appearance. The head coloration is mostly brown (females) or gray (males), streaked or spotted with black, and with a straight, pointed crest of graduated feathers that are orange-buff (males) or mottled brown (females). The upper portions of the back, wings, and tail are uniformly gray (males) or mottled with grays and browns (females). The underparts from the breast to the abdomen are grayish or brownish, with paler spots that are generally rounded and increase in size posteriorly.

FIELD MARKS

The pale, rounded flank spotting of both sexes sets this species apart from all other quails, and the fairly straight crest that narrows toward the tip rather than being recurved forward and enlarged toward the tip distinguishes the elegant quail from its near relatives. It inhabits arid desert in northwestern Mexico and in some areas is found in company with Gambel quail. The location call is a loud, two-note rasping sound which has the cadence of the scaled quail's *pey-cos* call, and the unmated males' call is likewise very similar to the corresponding call of the scaled quail.

AGE AND SEX CRITERIA

Females have shorter crests than do adult males (average of ten is 28 mm compared with 39 mm in males), and these crest feathers are dark brownish, spotted or barred, rather than orange cinnamon.

Immatures (presumably) have buffy-tipped greater upper primary coverts and pointed outer primaries.

Juveniles resemble females but are generally darker, more rufescent above,

and the breast and abdomen feathers have barring rather than round white spots (Ridgway and Friedmann, 1946). No doubt shaft-streaks are also present dorsally.

Downy young (illustrated in color plate 110) of the elegant quail have an appearance quite similar to that of scaled quail young, but whereas the downy scaled quail have a brownish buff spinal stripe isolated by two narrow black lines, elegant quail downies have a less contrasting dorsal stripe, consisting of a spinal stripe of mummy brown that becomes darker toward the sides. Also, below the pale line that separates the dorsal stripe, a second dark brown area occurs, which is bisected by a second pair of narrow buffy lines. The relatively dark lower back and tail coloration also distinguishes elegant quail downies from those of California and Gambel quails.

DISTRIBUTION AND HABITAT

The range map prepared by Leopold (1959) provides an accurate indication of the elegant quail's range, except that the southern tip of the range is probably in Jalisco, rather than extending to Colima (Schaldach, 1963).

The northern limits of the elegant quail's range are in northern Sonora. Van Rossem (1945) lists the northernmost records as being Opodepe and eighteen miles north of Cumpas (near Nacozari, or about sixty miles south of the United States border). Recently there have been several sight records for this species as Nogales, Arizona (*Audubon Field Notes*, 18:476, 527, 1964; 23:391, 1969). After inquiring about these records to William Harrison, Nogales, I received this reply:

Beginning in the spring of 1964 elegant quail occurred around the Nogales area, especially west of town on the road to St. Joseph's Hospital. They were seen repeatedly at several good locations near water spots. A local doctor (M.D.) who travelled the road daily and who is very much interested in birds (and quite familiar with Mexican species particularly) reported seeing adults with young during the late summer of 1965 (and at other times?). Finally we talked with the operator of a used car lot on the road to the hospital who told us that the quail had originally escaped from a pen across the line in Nogales, Mexico (just one-half mile distant). I suspect this may be the case, for I have not seen elegant quail south of Nogales, a territory I have worked extensively during the last ten years. I understand that the species almost reaches the border at Douglas and Sasabe, but both of these areas are slightly lower in elevation than Nogales, and I know that the bird prefers thorn scrub.*

*William Harrison, 1970: personal communication.

Most of van Rossem's plotted specimen records are along interior river systems including the Sonora, Moctezuma, Yaqui, and Mayo. He earlier (1931) reported that the elegant quail is rare on the coastal plain, and common in broken, lower hill country. The only coastal record for Sonora he obtained was for Guaymas, where he reported a mated pair of male Gambel and female Benson elegant quail.

Alden (1969) indicates that the elegant quail is common in tropical deciduous forest along the road to Alamos, Sonora, and is also common in the valleys of the Fuerte and Culiacán rivers, Sinaloa. Edwards (1968) reported that the bird occurs near the coast at Mazatlán, Sinaloa, and San Blas, Nayarit, as well as farther inland near Acaponeta and Tepic, Nayarit.

The elegant and Gambel quails are widely sympatric in Sonora and northern Sinaloa but apparently exhibit ecological differences that reduce contact between them. Alden (1969) reported that whereas the elegant quail is common in the Río Fuerte valley, Sinaloa, the Gambel quail is only occasionally found there. It would seem that the Gambel quail is more highly desert-adapted, being found most commonly in desert or mesquite grasslands, while the elegant quail is primarily a bird of the thorn forest foothills and scrub thickets of river valleys. Leopold (1959) indicated that dense second growth of tropical forest is a favored habitat but that open fields and pastures are avoided. In such areas of heavy brush as Nayarit he estimated the population to achieve pockets of more than a bird per acre. The only other estimate of population density of which I am aware is a breeding bird census in Sinaloa thorn forest (*Audubon Field Notes*, 22:686, 1968), where the population of elegant quail was placed at 1.5 territorial males on 22.5 acres.

FOOD AND FORAGING BEHAVIOR

Little has been written on the food of this species. Leopold (1959) reported an assortment of weed seeds, fruits, and insects in the samples he examined, the weed seeds including a predominance of unidentified legumes. He reported that the birds scratch vigorously while they are foraging, and after filling their crops they loaf and dust along roads and trails.

MOBILITY AND MOVEMENTS

It would seem that the elegant quail is not highly mobile. Leopold (1959) reported that when frightened the birds would fly or jump into dense *monte* brush and "freeze," returning to the ground only long after the end of the

disturbance. Rarely was he able to force a covey into flight. At night they return to the brush for roosting, sleeping in vines or bushes a few feet above the ground. In the mornings they begin foraging again under the brush or along the edges of clearings. Like other quail, they probably move to water at least once a day when it is available but may utilize succulent green vegetation whenever free water is not within their normal range of mobility.

SOCIAL AND REPRODUCTIVE BEHAVIOR

Leopold (1959) found that in Nayarit coveys, which had averaged six to twenty birds, began to break up in mid-April, and males were then crowing from low perches. He estimated, on the basis of gonad development in birds he collected, that nesting would probably begin in early May. In southern Sinaloa nesting probably occurs in April and May, and the nests are reportedly on the ground, with eight to twelve eggs normally, but up to twenty sometimes found (Miller, 1905).

The eggs of the elegant quail are pure white and, if those I have seen are typical, are somewhat more elongated than is typical of related species. The average of ten eggs laid by birds in my collection was 33.9 x 23.9 mm, with ranges of 31 to 35 mm and 23 to 24 mm. In captivity at least the maximum rate of laying is about one egg per day; one female laid seven eggs in an eight-day period, followed by four more eggs during the next twenty-six days. Over a several week period, if the eggs are removed every day, the rate of laying is approximately two days per egg. Thus, one female laid twenty-four eggs in fifty-three days, followed by three more a month later. The incubation period is the same as in related species of *Callipepla*, namely twenty-two or sometimes twenty-three days.

Vocal Signals

Virtually nothing has been written on the vocalizations of this species. The birds in my collection have called very little, thus only a few general comments are possible. The male call that apparently serves as a separation call is a somewhat nasal two-note *ca-cow'* that usually occurs in groups of two to five calls (average of seven is three), separated by intervals of about one-fourth second. The midpoints of the first and second syllables of the call are almost exactly one-half second apart, as is also true of the scaled quail's *pey-cos* call. Unlike the scaled quail's call and in common with the *chi-ca-go* call of the California and Gambel quails, the frequency of the call is not constant, but rises and falls during each note. In cadence and frequency characteristics, the call thus is intermediate between the two

call-types. The advertising call of unmated males is a sharp, nasal whistle that corresponds to the unmated male *cow* call of the California and Gambel quails and the comparable *wock* whistle of the scaled quail, which it very closely resembles when compared sonographically.

When disturbed both sexes utter a chipping or clucking *chip-chip'*, and at least the male often utters a sharp whistled *wheet'* when alarmed. When held in the hand, both sexes produce sharply down-slurred distress whistles, usually repeated in a long series for ten or more seconds.

EVOLUTIONARY RELATIONSHIPS

Holman (1961) indicated that the elegant, Gambel, and California quails showed greater interspecific differences from one another than did the Recent species of *Colinus*. His data suggest a slightly greater affinity of the elegant quail with the Gambel quail than with the California quail (sharing ten as compared to eight of thirty osteological characters), but collectively the characters of the group are very much like those of *Colinus* and the scaled quail. The adult plumage pattern of this species is quite distinct from all of the other three species of *Callipepla*, whereas the downy plumages of all four species are relatively similar. Largely on zoogeographic grounds and general similarities in vocalizations, I would be inclined to believe that the scaled quail represents the nearest living relative of the elegant quail.