

HYBRIDIZATION OF NORTHERN BOBWHITES AND SCALED QUAIL IN OKLAHOMA AND TEXAS

Northern Bobwhites (*Colinus virginianus*) and Scaled or Blue Quail (*Callipepla squamata*) coexist in southwest Oklahoma, but each has distinctive patterns of behavior and habitat use. The following validates their hybridization in Greer and Harmon counties.

On 23 December 1986, the senior author was hunting quail 7 miles south and ½ mile west of Mangum in Greer County. This is an area of extensive mesquite (*Prosopis juliflora*) pastureland, flat in places, but very rough locally due to erosion gullies and small scattered mesas. Thickets of skunkbush (*Rhus trilobata*), scrubby hackberries (*Celtis reticulata*), and sand-plum (*Prunus* sp.) provide scattered cover. Suddenly, his dog detected a covey of quail in some nearby brush. He counted 18 birds on the ground altogether; one or two appeared to be full Blues, but every other quail there was a hybrid. The covey immediately scattered and began to flush, singly or in twosomes, but they levelled off before rising very high, a trait characteristic of bobwhites. Blue Quail usually reach greater heights before descending back to earth at a shallow angle. When the dog relocated and pointed them, they were hesitant to fly, holding briefly before flushing again — another *Colinus* attribute; Blue Quail much prefer to run from danger than to “freeze.” Webb shot two hybrids from this covey, had them prepared by a taxidermist, and later presented the mounted pair (male, CUMZ 1002; female, CUMZ 1003) to the Cameron University Museum of Zoology in Lawton. Unfortunately, no weights or measurements were taken on the freshly killed specimens.

The fall and winter of 1986-87 proved to be an exceptionally productive year for both species. As an Oklahoma game ranger, Webb is frequently afield in the southwestern counties and sees at least a few crosses approximately every fifth year. There are usually more in Harmon County to the southwest, than in Greer County. Since 1968, he has observed about 15 instances of hybridization, primarily in these two counties. Webb has noticed that pairing is invariably between cock Blues and bobwhite hens. He speculates that the larger, more aggressive Scaled Quail sometimes produces a surplus of males, which actively seek out and mate with bobwhite females. Moreover, he has observed as many as five bobwhite hens mated to a single bobwhite cock, possibly indicating a sometime shortage of males in that species. For some reason, high numbers of Scaled Quail frequently do not pair in this part of the state.

Callipepla also appears to be the hardier of the two. For example, during the bitterly cold winter of 1977-78, Webb found hundreds of Mourning Doves (*Zenaida macroura*) and meadowlarks (*Sturnella* sp.), as well as scores of bobwhites and other smaller birds that had starved or frozen to death. But more than once during this rigorous period, he watched the resourceful Scaled Quail eating seeds from fruits of pricklypear cactus (*Opuntia* sp.) they had dug from debris composing packrat (*Neotoma micropus*) nests. Schemnitz (Amer. Midl. Nat. 71:429-433, 1964) found that the severe drought of 1954-56 in Cimarron County also took a higher toll of bobwhites than Blues.

Plumage colors of the hybrid pair at Cameron University are similar, except that the white of the cock's throat and facial region is replaced by creamy buff in the hen, and the overall coloration of the male is a bit more vivid. Their general appearance trends neither to one species nor the other. They resemble bobwhites in the light color of head and throat; the facial pattern that includes a chestnut auricular patch; the pattern and color of the belly, flanks, under tail coverts, distal portions of the inner secondaries and all the tertials; and the chestnut color of the topknot. Conversely, their plumage is more Scaled Quail-like on the nape, back, upper tail coverts, breast, most of the wing, and in the presence of the topknot. The bills are black.

Mr. Jess Hanna of Tipton, in Tillman County, has shot at least two hybrid quail during the past 15 years in Harmon County. These birds were prepared as taxidermy mounts and are on display in his home. Slides of one of them, killed near Hollis, are on file in the Cameron University Museum of Zoology (CUMZ 1023), but exact dates of collection were not available.

On the late afternoon of 11 September 1987, a mostly calm, sunny day with a high in the lower 80's (°F), Webb, Jack D. Tyler, Victoria Begin (naturalist at Quartz Mountain State Park), and 11 natural history students from Cameron University, drove an irregular 20-mile route on dirt roads leading alternately west and north from Mangum. This line of travel more or less paralleled the Elm Fork of Red River. Except for the more extensive brushlands bordering the river and its small tributaries, this region is similar to that south of Mangum. During this trip through northwest Greer and northern Harmon counties, Tyler counted a minimum of 15 coveys of quail that flew up from the roadway. Each covey contained 15 to 20 quail, the great majority of which were Blues. A conservative estimate of the total number was 290 birds, as follows: Scaled Quail-144; Northern Bobwhites-12; unknown (primarily Scaled)-110; and hybrids-*at least 24!* Webb, a life-long field biologist and hunter who grew up in Greer County, had never before encountered such phenomenal numbers of quail.

Hybrids were noted in three of the 15 coveys, all in Greer County. One, about 10 miles northwest of Reed, contained more than 20 birds, of which six or seven were crosses, the rest Scaled. All of 14 quail in another covey approximately 4½ miles northwest of the first were intermediate in plumage, and a third group 2 miles farther south was made up of 13 Scaled Quail and 4 hybrids.

In numerous sections of the Texas High Plains, Reid, *et al.* (Proc. Ann. Conf. S.E. Assoc. Fish & Wildl. Agencies 33:146-153, 1979) found a positive correlation of whistle counts between the two species, indicating direct competition for habitat during the breeding season. Increasing usurpation of natural vegetative cover by agricultural interests in recent years has thrown these two species into closer contact, forcing them to compete for the remnants of food and cover in many areas of the southern Great Plains. This has probably broken down natural isolating mechanisms that normally prevent interbreeding. However, experiments with captive quail in Oklahoma by Wint (Proc. Oklahoma Acad. Sci. 40:151-52, 1960) strongly suggested that hybrids are sterile.

Rollins (Proc. Ann. Conf. S.E. Assoc. Fish & Wildl. Agencies 35:239-48, 1981) reported that these quails' diets overlapped considerably in southwestern

Oklahoma during the critical fall and winter months. In Cimarron County, another area of sympatry, Schemnitz (*op. cit.*) also observed the similarity of foods in these species during early winter.

Hybridization in the wild has been reported from Morton County, Kansas (Coles, L. S., 1985, Bull. Oklahoma Orn. Soc. 18:12-13), and Concho, Motley, and Stonewall counties of Texas (McCabe, R. A., 1954, Auk 71:293-97; Sutton, G. M., 1963, Southwest. Nat. 8:108-11), but never heretofore from Oklahoma.

Two recent Texas records are also worthy of note. In Howard County, several hybrids trapped in 1978 were suspected to have been the direct result of removal of more than 90% of the male bobwhites from the area by state wildlife personnel (letter of 1 April 1984 to Dr. Warren M. Pulich, University of Dallas, Irving, from Bill E. DelMonte; copy on file in CUMZ). E. D. Dorchester shot a hybrid cock that was with a covey of Scaled Quail in a mesquite pasture near Midland, Midland County, on 27 December, 1986. It is similar to the Oklahoma specimens in plumage, except that the gular area is washed with chestnut. Photos of it are on file at Cameron University.

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Breeding status of the Eared Grebe in the Texas Panhandle. — The Eared Grebe (*Podiceps nigricollis*) is generally considered as strictly migratory in the Texas Panhandle. My personal records show that north-bound migrants arrive in late March or early April and all have departed by late May (extreme dates: 11 March-28 May), while dates of southward migration fall between mid-August and late October or early November (extreme dates: 5 August-26 November). On rare occasions, it lingers into mid-winter. Published references to its summer status in the area are few. H. C. Oberholser (1974, The bird life of Texas, Univ. Texas Press, Austin, pp. 61-63) shows a summer sight record on his range map for the southcentral sector of the Panhandle, but makes no mention of it in his statewide summary of summer sightings. For Oklahoma, G. M. Sutton (1967, Oklahoma birds, Univ. Oklahoma Press, Norman, p. 10) cited one mid-summer sighting (20 July 1958, Oklahoma County). At least three birds in nuptial plumage were observed in Texas County in the Oklahoma Panhandle by W. M. Davis (1970, Bull. Oklahoma Orn. Soc. 3:14-15) on 3 June 1969. J. D. Tyler (1979, Birds of southwestern Oklahoma, Stovall Mus. Sci. & Hist., Univ. Oklahoma, Norman, p. 10) mentioned a single early summer sighting on 13 June. A nesting record, reported in Kingfisher County, northwestern Oklahoma, in 1984 (A. Ratzlaff, 1986, Bull. Oklahoma Orn. Soc. 19:9-11) was not accepted by the Oklahoma Bird Records Committee. The first documented case of breeding occurred in Cimarron County in June 1987 (Shackford, J. S., 1988, Bull. Oklahoma Orn. Soc. 21:1-2).

In New Mexico, J. P. Hubbard (1978, Revised check-list of the birds of New Mexico, New Mexico Orn. Soc. Publ. No. 6, p. 1) placed its breeding range in that state no nearer the Texas Panhandle than the northcentral section. He further stated that "spring migrants irregularly persist in non-breeding areas