

**A new subspecies of *Meleagris gallopavo*.**—Some time ago I described an unusual specimen of a desiccated Turkey found in Tularosa Cave, near Reserve, New Mexico (Schorger, Auk, 78: 138, 1961). That this specimen is not unique is shown by a second specimen, the history of which has been determined. The distance between the localities for the two specimens is approximately 180 miles. In the meantime no other feathered Turkey has been found. For these birds I propose the name:

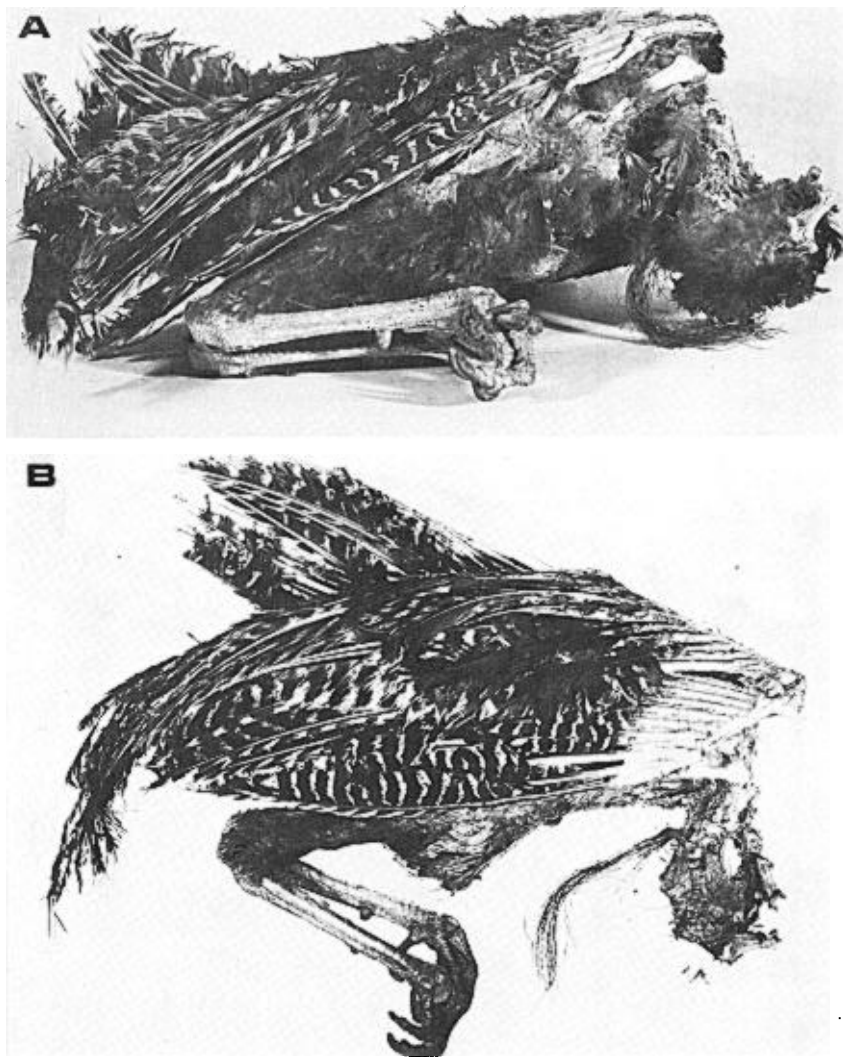


Figure 1. A. Turkey found at Canyon del Muerto (Canyon de Chelly), Arizona, in 1947. When found the neck was fully feathered. (Courtesy Gordon Vivian, National Park Service.) B. Canyon del Muerto Turkey in present condition on exhibition at Mesa Verde National Park. (Courtesy (Mrs.) Jean M. Pinkley.)

*Meleagris gallopavo tularosa* subsp. nov. Tularosa Turkey. It differs from indigenous *M. g. merriami* in having shorter tarsi (144–150 mm), especially in having the neck covered with semiplumes, and with conspicuously less white in the remiges. Tarsi, dragon's-blood red.

Type No. 477501, U. S. National Museum, Tularosa Cave, near Reserve, New Mexico.

Following inspection of a desiccated Turkey, on loan, at the Mesa Verde National Park, Colorado, I was able to obtain a satisfactory history of the specimen. The Turkey was found in 1947 in a small Basketmaker cave in Canyon del Muerto which runs into Canyon de Chelly, northeastern Arizona. Photographs were taken shortly after the discovery. Paul A. Berger, Superintendent, Canyon de Chelly National Monument, has written me: "The carcass was in an excellent state of preservation. . . . At the time the turkey was found, the neck was heavily feathered and had some yucca cordage around it. The bird had been decapitated." One of the photographs (Figure 1A) shows the feathers on the neck, which have since disappeared. This is not surprising as the neck feathers on the Tularosa specimen are easily detachable. Though the spurs on the Canyon del Muerto specimen are short and blunt, the length of the beard (Figure 1B), which is approximately 180 mm (7 inches), indicates an adult. Spur development shows great irregularity in *M. g. merriami* (Schorger, The wild Turkey, Norman, Univ. Oklahoma Press, 1966, p. 123). That the specimens were males is shown by the presence of beards, spurs, and breast feathers with black tips.

The tarsi of *M. g. tularosa* are shorter than those of adult male *M. g. merriami*. The tarsal measurements in mm of adult male *M. g. merriami* in collections are: 168 and 181, Museum of Comparative Zoology, from R. A. Paynter, Jr.; U. S. National Museum, 158, 157, 158, 164, and 165, from R. C. Banks; and 159–175 (166.6), Ridgway and Friedmann (U. S. Natl. Mus., Bull. 50, part 10: 452, 1946). An exception is 148 for an apparently adult male in the Chicago Museum of Natural History, from E. R. Blake.

I am greatly indebted to Thomas W. Mathews and Mrs. Charmion McKusick of the Southwest Archeological Center, Globe, Arizona, for information on archeological remains of Turkeys. The tarsal measurements of 29 males from Gran Quivira in central New Mexico, 160 miles east by north of Reserve, ranged from 130.7–165 mm, the average being 145.3 mm. The tarsal measurements of 9 males from Tse-Ta'a, northeastern Arizona, ranged from 138.4–163.2 mm, with an average of 153 mm. A larger form appears to have occurred in northeastern Arizona. Mathews has found that all of the bones recovered from archeological sites are more slender than those of the wild bird.

It is impossible at this time to determine the origin of this domesticated Turkey. It is highly improbable that confinement alone could have produced a bird with a neck fully covered with semiplumes. During the approximately five centuries that Turkeys have been raised in Europe and North America nothing similar has evolved. This holds also for the far longer period during which the Aztecs raised Turkeys, the stock of which was presumably the same as that existing in Mexico today.

The color of the tarsi of *M. g. tularosa* indicates that it is not far removed from the wild bird. It was common practice of the Indians to capture and confine young wild birds so that the constant infusion of new blood would preserve the color. It is well known that the red color of the tarsi of wild birds disappears in a few generations and becomes blackish. It is also probable that reduction in size was caused by

confinement antecedent to domestication. Under propagation by the Aztecs the domestic turkeys, when the Spaniards arrived, were much smaller than their wild ancestors. It is entirely possible that the ancestral race of the Tularosa Turkey disappeared and was replaced by Merriam's Turkey. The derivation of this Turkey from Merriam's Turkey is a remote possibility. In comparison with the latter, it not only has semiplumes on the neck, but shows little white in the wings and no evidence of white feathers on the rump.

The specimen in the U. S. National Museum has been selected as the type because it retains some of the characteristic feathers of the neck.—A. W. SCHORGER, *Department of Wildlife Ecology, The University of Wisconsin, Madison, Wisconsin 53706*.

**Proximal nesting of Harris' Hawk and Great Horned Owl.**—About 4 miles north of Brackettville in Kinney County, Texas, on 29 March 1969 we found nests of a Harris' Hawk (*Parabuteo unicinctus*) and a Great Horned Owl (*Bubo virginianus*) approximately 30 yards apart. Both nests were in live oaks (*Quercus virginiana*) at heights of 40 and 30 feet respectively. Adult birds were on both nests and the Harris' Hawk's mate was perched in its nest tree. Both hawks took flight at our approach, and the owl left the nest when I had climbed to about 6 feet below her. The owl nest contained two young about 1 week old and a partially consumed rabbit. I was unable to climb to the hawk nest. The hawks dived on the owl during its flight from and to the nest, and later while it sat on the nest. They dived to within 1 to 2 feet of the owl but did not strike it. One hawk went back to its nest after the owl's return.

We find no record of others reporting such close nesting or such adverse behavior between these two species, though other hawks have been reported attacking Great Horned Owls. E. S. Cameron (Auk, 31: 163, 1914) described a Ferruginous Hawk (*Buteo regalis*) attacking a Great Horned Owl near its nest. J. P. Weigand (Auk, 84: 433, 1967) saw a Ferruginous Hawk dive on and strike a Great Horned Owl in a fallow field. P. L. Errington (Wilson Bull., 44: 189, 1932) watched a Cooper's Hawk (*Accipiter cooperii*) making attacks on a Great Horned Owl near its nest. G. Orians and F. Kuhlman (Condor, 58: 382, 1956) report incidents of Red-tailed Hawks (*Buteo jamaicensis*) diving at incubating Great Horned Owls.—HOWARD FREEMYER AND SUE FREEMYER, 3615 Memorial Drive, Waco, Texas 76711.

**Close nesting and aggression contacts between Great Horned Owls and Red-tailed Hawks.**—During studies of raptor ecology in the central Utah deserts I found Great Horned Owls (*Bubo virginianus*) and Red-tailed Hawks (*Buteo jamaicensis*) nesting but 21 m apart in a cliff about 60 m long and 27 m high in March 1968. The Great Horned Owl's nest was in a shallow cave 4 m above ground and the Red-tailed Hawk's nest was on a small ledge about 11 m from the ground. Both nests contained three eggs. I flushed the Red-tailed Hawks from their nest site at 18:45 and both birds circled above, screaming. A Great Horned Owl was soon flushed from its nest site and immediately flew toward a clump of junipers some 100 m away. The larger of the hawks dove at the owl and twice struck it with open feet, but the owl's flight was not appreciably disturbed and it reached the junipers without further attack. About 5 minutes later the owl hooted several times from its cover, then flew directly to and landed on the hawk's nest. Again the larger hawk attacked it until it returned to its own nest. The hawk pursued, and landed in the entrance of the owl's nest cave but flew when the owl within began hooting. A visit to the sites disclosed the nests to be active 1 week later, but both were soon abandoned. The