

of the body, it had probably been dead about two days. The site where it was discovered was several hundred feet from any travelled dirt road. The specimen was a mature female and is now in the Museum of Vertebrate Zoology, University of California, Berkeley. Grinnell and Miller (Pac. Coast Avif. No. 27, 1944:408) indicate four prior recordings of this species in California.—WILLIAM N. GOODALL, *National Audubon Society, El Monte, California, August 9, 1961.*

Bird Remains from a Prehistoric Cave Deposit in Grant County, New Mexico.—Two lots of bones were recently submitted to me by Dr. Robert A. Zeller, Jr., of Hachita, New Mexico. In the course of a geological study, Zeller screened the bones from the dry dust of the floor of a cave high on the north side of Howells Ridge, Little Hatchet Mountains, Grant County, New Mexico. I take this opportunity to thank Dr. Zeller, not only for sending the first lot of bones, but, particularly, for returning to the cave to enlarge the collection and accumulate data.

Most of the bones are of rodents; a few are of larger mammals, such as horse and camel. Well over two hundred represent nineteen species of birds. Dr. Zeller's test excavation was about 5 feet in diameter and reached a depth of 3 feet. He believes that the bedrock floor of the cave lies several feet farther down. He states that the dust of the cave floor is not in clearly defined strata, but that most of the bones were found about 1 foot below the surface. No articulated skeletons were found; bones were scattered. Dr. Zeller considers the cave deposits to be Quaternary, the skeletal remains possibly representing a mixture of late Pleistocene and Recent forms. He notes the presence of a few flint chips and pieces of charcoal that suggest human association.

Condors, genus *Gymnogyps*, are represented by approximately 100 fairly well preserved bones, including nearly all skeletal elements, as well as by many fragments of shafts. Incompletely ossified bones are noted among the tibiotarsi, tarsometatarsi, coracoids, radii and fibulae. The tibiotarsi and tarsometatarsi, particularly, reflect three growth stages: the very young, in which the tarsus is not yet connected with the tibia or the metatarsals, and the texture of the bone is quite spongy (at least three individuals); an immature stage in which the tarsus is united, but the texture of the bone is still rough and slightly spongy (two or more individuals); and the adult with fully ossified bones (three or more individuals).

Measurements are possible on 33 of the condor limb bones. All appear to be of the large size of the Pleistocene form from Rancho La Brea, which Fisher (Condor, 46, 1944:290) recognized as *G. amplus*. Comparing measurements with those of *G. amplus* and *G. californianus* given by Fisher (Pacific Science, 1, 1947:227-236), all but nine of the 33 measurable bones are larger than the maximum for *G. californianus*. The nine fall in a middle zone in which the size ranges of *G. amplus* and *G. californianus* overlap. The carpometacarpi appear exceptionally heavy of shaft. Unfortunately Fisher did not give measurements of girth for this element; on a small sample measured in the course of the present study, the fossil and Recent forms differed very slightly in breadth of shaft and fell considerably below the cave specimens.

Two condor rostra are present, one fairly complete (though lacking the tip and part of the tomial edge), the other a fragment. The better specimen measures 27.8 mm. in breadth, which is 0.2 mm. broader than the maximum Rancho La Brea specimen recorded by Fisher (Condor, 46, 1944:277). On the other hand, it appears to be relatively more shallow dorsoventrally; the incomplete tomial edge prevents exact measurement of depth. Fisher notes (*op. cit.*:291) that "relative bill depth is less in *amplus* than in *californianus*." One characteristic of the cave rostra, best observed in the more complete specimen, is the presence of a pair of markedly swelled ridges, one on either side and extending along the median line of the ventral surface of the nasal process of the premaxilla. In the fragmentary rostrum the nasal process is split longitudinally along the midline, providing a longitudinal section that suggests, by its relatively great dorsoventral depth, the presence of the same ridges. Only a faint suggestion of such ridges can be found in one or two specimens of over 60 rostra in the Rancho La Brea collection at the Los Angeles County Museum. Neither of the two available Recent specimens of *G. californianus* shows the slightest indication of these ridges. Before ascribing taxonomic significance to this character of the rostrum, I should like to attempt to procure still more material from the site in the Little Hatchet Mountains. It is hoped, also, that some readers of this note may know of condor rostra taken from other prehistoric sites, which might be made available for scrutiny. Through the courtesy of Dr. Alexander Wetmore, and the United States National Museum, I have

been able to examine the rostrum that he recorded (Condor, 34, 1932:141) from Rocky Arroyo Cave in southeastern New Mexico, and which Fisher (Condor, 46, 1944:292) referred to *G. amplus*. This specimen agrees closely with the Rancho La Brea specimens and shows no indication of the swelled ridges.

Next in abundance to the condor bones are those of a vulture of the genus *Coragyps*, which I assign to *C. occidentalis* Miller. There are 22 bones of this bird, seven of which show immaturity. At least two adult and two immature individuals are represented. A symphyseal portion of furcula agrees with *C. occidentalis*, as contrasted with *C. atratus*, in greater obtusity of the arch. Seven measurable specimens of limb bones (ulna, carpometacarpus, tibiotarsus and tarsometatarsus) exhibit the considerably greater breadth characteristic of the Pleistocene species as noted in a series of bones in the Rancho La Brea collection at the Los Angeles County Museum. One well-formed, but texturally immature coracoid is almost as small and slender as that of *C. atratus*. Examination of the fossil series of over 250 coracoids reveals only one specimen as short, but several as slender. Two adult coracoids in the cave material fall well into the size range of *C. occidentalis* in all dimensions.

Five eagle bones represent two species. A nearly complete skull can be assigned to *Aquila chrysaetos*. Comparisons were made with measurements and proportions demonstrating differences between the Pleistocene and present-day forms of the Golden Eagle (Howard, Auk, 64, 1947:288). The cave skull was found to be about average for the Recent series, except that the beak tends slightly toward the relatively greater breadth characteristic of the fossil. A distal end of a tarsometatarsus, a distal end of an ulna, and a portion of a mandible represent a bird of larger size and heavier structure than *A. chrysaetos*. The tarsometatarsus can be readily compared with the type of *Spizaetus willetti* Howard, from Smith Creek Cave, Nevada (Quaternary), which is also a distal portion of the tarsometatarsus. The specimen from the Little Hatchet Mountains agrees with *S. willetti* in all characters noted as typical for the species (Howard, Condor, 37, 1935:207-208) except that the shaft on the present specimen is broken so that the length of the facet for the first metatarsal cannot be ascertained. The large ulna and the mandibular fragment are tentatively assigned to *S. willetti*. Both are heavier than the corresponding elements of *A. chrysaetos*, yet of the same general character. It has been previously noted (Howard, *op. cit.*:207) that *Aquila* and *Spizaetus* have many characteristics in common. The ulna differs from that of *A. chrysaetos* in less proximal extent of the external distal condyle and more rounded, less upturned carpal tuberosity. The ramus of the mandible is slightly higher and thicker than in *A. chrysaetos*, the articular end less attenuated in lateral dimension, but deeper proximodistally. A fibula belongs to one or the other of the above noted species.

One short, stocky anseriform coracoid resembles specimens in the Rancho La Brea collection assigned to *Anabernicula*, the "pigmy goose." There appear to have been two species of *Anabernicula*, the distinction between which is not evident in the coracoid (see Howard, Carnegie Inst. Wash. Publ. 551, 1946:172). The present specimen is, therefore, identified as *Anabernicula*, sp. In the course of this study, material from Conkling and Shelter caves, Doña Ana County, New Mexico, was re-examined, and it should be noted that a coracoid and fragments of humerus and carpometacarpus in the Shelter Cave collection can now be assigned to *Anabernicula*, sp.

Other avian remains from the Little Hatchet Mountains appear to represent present-day species. They are as follows: 7 duck bones, representing at least four species, tentatively assigned to *Anas acuta*, *Anas carolinensis*, *Mareca americana* and *Nyroca collaris* or *N. affinis*; one shaft of a tibiotarsus of *Buteo*, probably *B. jamaicensis*; 6 bones of *Falco mexicanus*; 3 bones of quail, tentatively assigned to *Oreortyx picta*, although they are slightly smaller than comparative material at hand; 4 fragments representing turkey, one of which, a scapula, resembles *Meleagris* more closely than *Parapavo* and is tentatively assigned to *M. gallopavo*; a manubrial end of sternum of *Centrocercus urophasianus*, and a large coracoid tentatively so allocated; one tibiotarsus of *Numenius americanus*; 18 bones of *Tyto alba*, only five of which are fully adult; one very young owl tarsometatarsus of a stoutness that suggests *Bubo virginianus*, which species is also represented by an adult distal end of a tibiotarsus; one adult tarsometatarsus of *Asio wilsonianus*; and 8 bones of *Corvus corax* representing at least three individuals, one of which is immature. A number of very young avian bones cannot be identified.—HILDEGARDE HOWARD, Los Angeles County Museum, Los Angeles, California, March 6, 1962.