

A NEW PLEISTOCENE TURKEY FROM MEXICO

WITH TWO ILLUSTRATIONS

By LOYE MILLER

Dr. Chester Stock of the California Institute of Technology has very generously placed in my hands for study a collection of several hundred bird bones from a Pleistocene cavern in northeastern Mexico. The work of exploration is still in progress and final publication on the collections appears to be a matter of the distant future. It is felt advisable, therefore, to place on record certain species that are new to science so that they may become available to all workers in the various fields interested.

Because of the considerable variety of turkeys that formerly existed in North America and the greatly impoverished present day status of the family Meleagrididae, a new and well marked species from northern Mexico claims a measure of interest.

The bird is here designated as

Meleagris crassipes new species

Type.—No. 2708, Calif. Inst. Tech.; tarsometatarsus of adult male; Pleistocene, San Josecito Cave, Nuevo León, Mexico.

Diagnosis.—Smaller than either Recent species of turkey; foot almost equal to *Agriocharis ocellata*, but metatarsus much shorter; spur located almost half way up the shank; spur directed less backward than inward.

MEASUREMENTS OF TYPE OF MELEAGRIS CRASSIPES IN MILLIMETERS

Total length, intercotylar tubercle through middle trochlea.....	114.3
Minimum transverse diameter of shaft below spur core.....	8.3
Width through trochleae.....	19.8
Mid-point of spur base through middle trochlea.....	52.4
Mid-point of spur base through intercotylar tubercle.....	59.8

Turkey bones began to appear during the very early days of exploration at the cave and it was soon evident that they represented a species that was new to science. Limb bones and coracoids represented both sexes and various ages of the bird, but unfortunately the cave rodents of the Pleistocene seem to have had a marked appetite for the keratinous sheath of the foot bones. The spur core and the hypotarsus were often entirely nibbled away. In studies of the Rancho La Brea turkey, *Parapavo*, the characters of these particular parts were considered to be of especial taxonomic importance,

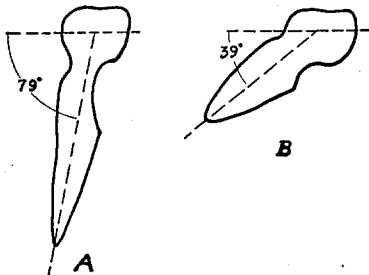


Fig. 44. Cross section of right metatarsus and spur core of (A) *Parapavo californicus* and (B) *Meleagris crassipes*, showing angle at which spur stands with the frontal plane of the bone (x1). Drawing by Gretchen Lyon.

but not until the exploration of the cave had progressed for some time did a spurred tarsus become available. The position and the proportions of the spur core proved to be different from any of the turkeys heretofore studied. Both the transverse and the proximodistal diameters of the core are greater than in *Meleagris gallopavo*, *Agriocharis*, or *Parapavo*. The position is relatively far up the shaft. Elevation of the spur may be measured from the center of the spur core to the extremity of the middle trochlea. This distance is equal to 45 per cent of the total length of the bone in *M. crassipes*. It is 43 per cent in *M. gallopavo*, 42 in *Parapavo*, and 35 in *Agriocharis*.

The angle at which the spur stands in relation

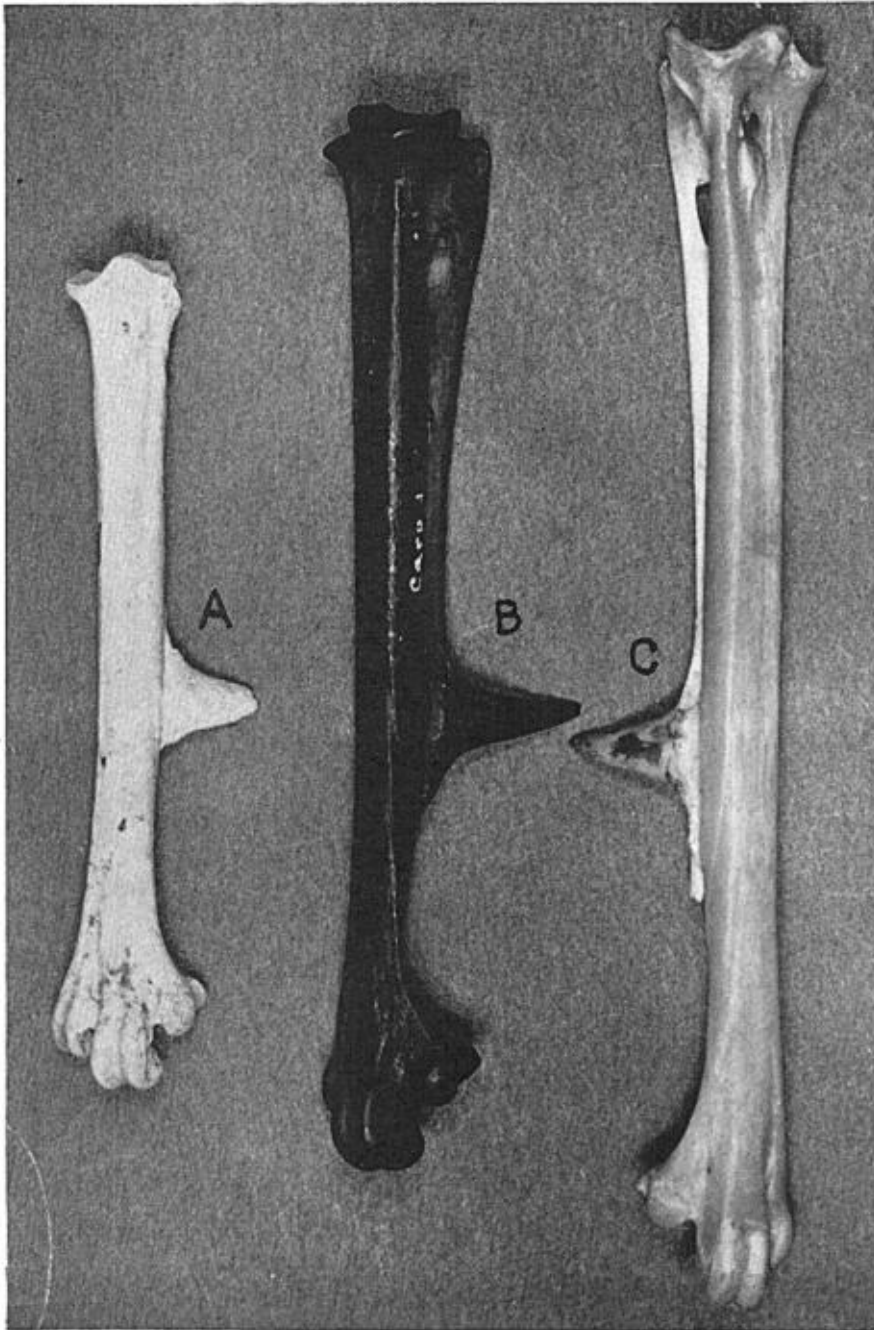


Fig. 45. Tarsometatarsi of (A) *Meleagris crassipes*, (B) *Parapavo californicus*, and (C) *Meleagris gallopavo sylvestris*, all x1.

to the frontal plane is of especial interest. In all the other turkeys at hand, the spur projects almost directly backward, being but slightly inclined toward the mesial line. In *M. crassipes* this inward slant is so exaggerated that the spur comes to project more inward than backward (see fig. 44). The spur is set more firmly upon the shank, with broader and heavier buttress and the ridge running up the shaft from the base is thicker and heavier. On the other hand, there is less of a ridge distal to the spur. Both of the living turkeys, as well as the Pleistocene *Parapavo*, are alike in having quite a strong supporting ridge running down the shank below the spur. In *Agriocharis* this ridge reaches to the base of the hind toe.

The proximal end of the tarsus is too far from perfect to afford exact measurements, but to the eye it is evident that, were it complete, it still would be narrower than in *Parapavo*. At the level of the papilla of the tibialis anticus it is almost of equal width, whereas through the whole middle zone of the shaft it is broader. Through the trochleae it is slightly narrower than in *Parapavo* though the total length is but 79.8 per cent that of the California bird.

Compared with *Agriocharis ocellata* the tarsus and tibia both are shorter and stouter, but the wing bones and coracoid are smaller. There is thus indicated a bird with small body and wings, but with tremendously heavy feet, armed with an unusually stout spur.

Five extinct species of *Meleagris* have previously been described, by Cope, Marsh, Shufeldt and Wetmore, but into none of these categories does the cave bird fit. *Meleagris celer* Marsh is described as small and slender legged; *M. superba* Cope (= *M. altus* Marsh) was as large as the modern bird, but much taller, the leg bones being almost like those of a wader; *M. antiquus* Marsh was nearly the size of *M. gallopavo*; *M. richmondi* Shufeldt was half the size of the modern bird which would make it much less than the cave bird; *M. tridens* Wetmore was about like the modern turkey except for the multiple spurs.

The California turkey (*Parapavo*) was a larger bird with a more slender, gaff-like spur and an incipient third ridge in the hypotarsus that was fairly constantly present. The outer toe was also raised to a higher relative position than in the true turkeys. The Mexican bird here discussed more closely resembles *Meleagris* in these tarsal characters. Assignment to the typical genus of the turkeys is considered wisest from the study of the present material. Should further excavation bring to light the characteristic body bones, the generic position may need to be revised.

It is considered most probable that turkey remains occur in San Josecito Cave as the result of their having been carried in as food by predatory birds and mammals that would be less inclined to crush bones of the foot and wing than of the head and body. Sooner or later, however, there should appear in the collection, representation of most of the skeletal elements if the deposit continues to prove fossiliferous.

Superficial layers upon the cavern floor showed evidence of human occupation. The material here discussed comes, however, from below the layer of ash and charcoal. A more or less typical Pleistocene mammal fauna is identified by Stock and the bird remains thus far identified indicate much in common with Rancho La Brea in the Pleistocene of California. More careful correlation will be hoped for with the further progress of exploration.

University of California, Los Angeles, October 26, 1939.