

had taken ten hours to construct the nest with its hinged door, another spider having made a hole large enough to conceal itself in two hours. The method of digging was the same in the main as that described by the speaker for the tarantula. The young when they emerge at once build their own miniature nests, which are renewed every spring until they reach the full size. Based on his study of a Lycosid, the speaker had predicted that the enemy of the trap-door spider would be found to be a diurnal wasp. Dr. Davidson had established the fact that such is the case and that the attacking species is *Parapomphilis planatus* Fox.

Mr. H. C. Mercer made a report on his recent exploration of certain caves in Tennessee which he had been able to prosecute under the patronage of the University of Pennsylvania, mainly through the liberality of Dr. William Pepper. In Zirkel's cave, on Dumpling Creek, Jefferson county, Tennessee, crusts of breccia projected from the walls and hung from the roof. From this material the teeth of the tapir, peccary, etc., projected, while in the cave earth below were found bones, nuts, two pieces of Indian pottery and fragments of mica, probably indicating Indian cave burial. There were therefore two ages indicated: one ancient, by the breccia, and the other by the cave earth, comparatively recent. All the fossil remains belonged to the breccia and there was no association between them and the indications of human life.

Another cave, on the Tennessee river, under Lookout Mountain, Hamilton county, Tennessee, presented a floor of two layers, the black top one of three or three and a-half feet in thickness composed of Indian relics, and another of yellow earth containing a few animal remains, but no indication of human existence. *Myiodon* and *Tapirus* fragments found some time ago close to the bottom of the upper layer had probably been scraped up from the lower. Neither, therefore, did this cave present any certain data for the advancement of the date of man's antiquity. On the contrary, the evidence supported the belief that pleistocene or paleolithic man had not existed in that region.

On penetrating the forbidding entrance of Big Bone Cave, near Canly Fork River, Van

Buren county, Tennessee, he had found nine hundred feet in, the bones of *Megalonyx* still bearing articular cartilages. Fragments of torches were found beneath the Sloth bones, probably buried by burrowing rats.

Prof. Edw. D. Cope commented on the fossil bones collected in the caves described by Mr. Mercer. The presence of cartilages on the *Megalonyx* bones indicated for them an age certainly not more remote than the existence of man on this continent. Other bones belonging to young individuals were larger than corresponding ones found at Port Kennedy, indicating the validity of the two species, *Megalonyx Wheatleyi* and *M. Jeffersonii*. Mr. Mercer had also collected remains of fifteen or twenty species of birds, six fishes, one batrachian, four tortoises, one rattlesnake and nineteen mammals. The special value of Mr. Mercer's careful work was commented on. The peccary is found in Zirkel's cave, although no trace of it appears in the Lookout Mountain cave. Several undescribed species were indicated.

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