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PROCEEDINGS

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DESCRIPTION OF A NEW BAT FROM NICKAJACK CAVE, TENNESSEE.

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The presence of a colony of bats in Nickajack Cave was reported by Mr. W. P. Hay in an article on the crustacean fauna of the cave, published in 1903.* Two specimens in alcohol were forwarded by him to the National Museum, where they were referred provisionally to *Myotis velifer*. In order to secure a series of skins of these bats, I visited the cave on August 31, 1908. Penetrating for a distance of about 300 yards from the entrance, numbers of bats were seen in the dim light of a torch, flying about the large room.† In a few minutes I discovered a cluster of bats, apparently as large as a man's head, hanging from the ceiling of the cave. Discharging one barrel of my shot-gun at them, large numbers fell to the ground and the rest took wing. I picked up about 70 as the result of this shot, and many wounded ones escaped by swimming away in the stream which flows through the cave. At the entrance to the cave bats were heard squeaking in the crevices in the ceiling, and a few additional specimens were secured by shooting into the crevices. I was informed by persons living in the vicinity that at dusk the bats may be seen coming out of the cave in immense numbers. They also stated that the bats sometimes cling in clusters to the sides of the cave, where they may be picked off by hand. All the specimens taken here were of one species, which, on comparison with other species of *Myotis*, proves to be new. It may be characterized as follows:

* Proc. U. S. Nat. Mus. XXV, p. 418, 1903.

† Mr. Hay, in his description of the cave (l. c., pp. 417-419) gives the dimensions of this room as "100 feet wide and long, and 60 feet high"; the size of the entrance is given as "200 feet wide and 75 feet high."

Myotis grisescens sp. nov.

GRAY BAT.

Myotis velifer Miller, N. Am. Fauna, No. 13, p. 59, 1897 (in part; specimens from Marble Cave, Mo.); Hahn, Proc. U. S. Nat. Mus. XXXV, p. 580, 1908 (Indiana).

Type from Nickajack Cave, near Shellmound, Marion County, Tennessee. No. 157,517 U. S. National Museum, Biological Survey Collection. ♂ adult, skin and skull. August 31, 1908. A. H. Howell. Original number, 1233.

General characters.—Nearest to *Myotis velifer*, but differing from it in darker color, smaller skull, weaker dentition, and in the point of attachment of the wing membranes to the feet.

Color.—Varying above from dark hair-brown to dark mouse-gray, the hairs concolor to the roots; below mouse-gray basally, pale smoke-gray at tips; flanks and posterior border of abdomen paler, the hairs whitish and concolor; ears, feet, and membranes black.

Skull and teeth.—Compared with *M. velifer*, the skull of *grisescens* shows the following differences: Rostrum shorter and narrower; frontal region markedly depressed; parietal region rising more abruptly from the rostrum, thus giving to the skull a "pug-nosed" appearance; zygomata more widely expanded; dentition weaker, the upper canines and third upper premolars decidedly smaller; first and second upper molars with hypocone slightly developed (absent in *velifer*).

External characters.—The feet are large, as in *velifer;* the ears are only a trifle shorter than those of *velifer* and the tragus is about the same length as in that species. The wings are attached to the feet close to the ankle joint, not at base of toes as in *velifer*.

Measurements.—Average of 10 topotypes: Total length, 93;* tail vertebræ, 37.5;* extent, 282;* tibia, 17.5; foot, 10.5; forearm, 41.6; longest finger, 70; ear from meatus, 14.5; tragus, 8.8. Skull: Greatest length, 15.9 (15.5–16.3); condylo-basal length, 14.9 (14.7–15.1); zygomatic breadth, 9.9 (9.6–10.2); breadth of braincase, 8.2 (8–8.4); length of upper toothrow (exclusive of incisors), 5.9 (5.8–6.1); length of mandible, 11.6 (11.3–11.8).

Geographic distribution.—Specimens have been examined as follows:

Tennessee: Nickajack Cave, 83 (21 skins).
Missouri: Marble Cave, Stone County, 3 (alcoholics).
Indiana: Mitchell, 1 (skin).†

Remarks.—This species, though agreeing rather closely with *Myotis velifer* in size, differs from it widely in color, and indeed is quite unlike any other North American bat in this respect. It is the largest member of the genus occurring in the eastern United States and is equaled only by *M. velifer*, *M. incautus*, and *M. thysanodes* of the southwestern States.

Three specimens in alcohol from Marble Cave, Missouri, have been in the Biological Survey for some years, but have always been referred to

* Measured in the flesh; other measurements from alcoholics.

† Collection of the University of Indiana; kindly loaned by Dr. C. H. Eigenmann.

M. velifer. Upon re-examining these, they are found to agree with the species here described in cranial characters and in the attachment of the wing membranes to the feet. The color of course is not known, as no skins from this cave are available. A specimen (skin and skull) from Mitchell, Indiana, agrees with *grisescens* in skull characters, but differs slightly from it in color, though much nearer to this species than to *velifer*. It is sepia above, with a russet tinge; below, hair-brown.