

THE HARVEST MOUSE (REITHRODONTOMYS MEGALOTIS) IN ILLINOIS AND ITS TAXONOMIC STATUS

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It had long been suspected that harvest mice of the species *Reithrodontomys megalotis* might occur in Illinois, for they had been collected in Wisconsin, Minnesota, Iowa, and Missouri. However, it was not until November 27, 1953, that we were successful in catching specimens of *R. megalotis* in Illinois. On that date, two mice were caught at Mt. Carroll, Carroll County. Two other harvest mice were trapped in April 1954, one-fifth mile north of Mt. Carroll. All four were preserved as study skins.

The animals from Mt. Carroll were living in a half-acre orchard grown up with brome grass (*Bromus inermis*), goldenrod (*Solidago*), and blackberry (*Rubus*). The herbaceous vegetation was from 4.5 to 5.5 feet tall, and the understory was sparse in areas of goldenrod, dense in areas of brome grass. Blue grass (*Poa pratensis*) was present but not thick. One harvest mouse was taken among the old stems of goldenrod beneath a cherry tree. The other was taken in a dense stand of brome grass around the dead stump of a boxelder. This small orchard was bordered by blue grass pastures and garden plots. The area between the trees had not been disturbed for five

years. Trapping in this orchard subsequent to November 27, 1953, yielded no additional harvest mice.

The mice from one-fifth mile north of Mt. Carroll were taken along the shoulder of a road which had been deserted and unused for five years. The two mice were taken on two different nights in the same trap placed beneath a small gooseberry (*Ribes* sp.). Around this bush were the dried remains of six-foot giant ragweeds (*Ambrosia trifida*). Blue grass was growing among the stems of the ragweed, although in no place was the blue grass thick.

According to our records it took 574 trap nights to capture these four harvest mice. In addition, the following mammals were trapped: masked shrews (*Sorex cinereus*), short-tailed shrews (*Blarina brevicauda*), white-footed mice (*Peromyscus leucopus*), and southern bog lemmings (*Synaptomys cooperi*).

Harvest mice of the species *Reithrodontomys megalotis* from southern Wisconsin have been referred by Hanson (1944) and others to *R. m. pectoralis* and those from southeastern Iowa and eastern Missouri by Howell (1914:32) to *R. m. dychei*. Our specimens from Carroll County, Ill., are geographically intermediate

between *pectoralis* and *dychiei*. We have endeavored to determine to which race the Illinois specimens are best referred and also to determine if *R. m. pectoralis* is a recognizable race since some workers (as Hooper, 1952, p. 218) have questioned its validity. Should *R. m. pectoralis* not be a recognizable subspecies, the material from Illinois would be referable to *R. m. dychiei* with type locality at Lawrence, Douglas County, Kansas. For this study we have borrowed specimens from the University of Wisconsin (designated as U.W.), University of Minnesota (U.M.), Iowa State College (I.S.C.), Chicago Natural History Museum (C.N.H.M.), and the collection of Harold C. Hanson (H.C.H.). We thank the persons in charge of these collections for the loan of materials.

In the paragraphs below, comparisons are made between specimens of *R. megalotis* from southwestern Wisconsin, northwestern Illinois, southeastern Minnesota, and easternmost Iowa, which we here call "*pectoralis*," with specimens from western Minnesota, Iowa, and northeastern Kansas, which we here call *dychiei*.

Size: Specimens of "*pectoralis*" are similar to *dychiei* of comparable age in external measurements. Specimens from the northern part of the range in Minnesota are no larger than those from southern Iowa or Kansas. An example of the near-similarity in length of tail throughout the range can be indicated as follows: in adults from Illinois, the average is 62 mm.; Wisconsin, 64; central Minnesota, 65; eastern Kansas, 64 (this measurement for 27 specimens from Cockrum, 1952, p. 166). For skull measurements, the

samples for study are not large since many of the skulls, cleaned without the aid of dermestid beetles, are badly broken. Of those specimens available, it seems that on the average, skulls of "*pectoralis*" are of the same size as those of *dychiei*. Skulls from Carroll County, Ill., are slightly shorter in greatest length than the average for most *dychiei*, but the nasals and other features show no important differences. In summary, we find no important differences in external or cranial size or other features of the skull between "*pectoralis*" and *dychiei*.

Color: Specimens of "*pectoralis*" are described as characteristically having a buffy pectoral spot. Hanson (1944, p. 205) qualifies this by indicating that the spot is "usually"

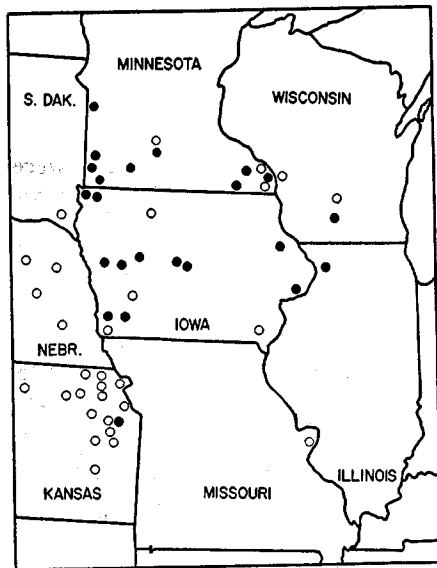


FIG. 1.—Distribution of the harvest mouse, *Reithrodontomys megalotis dychiei*, in north-central United States. Dots indicate localities where specimens have been examined; circles indicate localities where specimens have been recorded but not examined.

present. We attempted to determine the presence or absence of this spot in the specimens examined, measured the degree of presence (slight, medium, or strong), and plotted this information on a workmap. Examination of specimens of "*pectoralis*" indicates that the buffy pectoral spot often is present, but is absent in half of the specimens from Illinois, half of those from southeastern Minnesota, and in one of three specimens from eastern Iowa. Half the specimens we examined from Wisconsin have the pectoral spot so faint as hardly to be discernible; in the others it is more evident. Hanson (1944, p. 206) found the spot entirely absent in 18 percent of the specimens he examined from Wisconsin. Nearly half of the specimens of *dychiei* from westernmost Iowa and Minnesota display the pectoral spot, and in some it is as pronounced as that in any specimens of "*pectoralis*." Twelve of 97 specimens examined from eastern Kansas (near the type locality of *dychiei*) have some indication of the spot. Hooper (1952, p. 218) has pointed out that "The buffy pectoral spot...is inconstant in several races of *megalo-*
tis." Our interpretation of these facts is that the pectoral spot is not diagnostic of "*pectoralis*." Other differences in coloration of the animals seem minor and variable and do not serve to distinguish a group of harvest mice in the Mississippi River Valley from those to the west.

Specimens examined: *Illinois*: Carroll Co.: Mt. Carroll, 2 (U.I.); 1/5 mi. N Mt. Carroll, 2 (U.I.).

Wisconsin: Columbia Co.: Westpoint, 2 (C.N.H.M.). Sauk Co.:

Prairie du Sac, 5 (3 in C.N.H.M.; 2 in H.C.H.).

Minnesota: Brown Co.: North Star Twp., 1 (U.M.); unspecified, 1 (U.M.). Fillmore Co.: Forestville, 4 (U.M.). Jackson Co.: 4 mi. E Heron Lake, 1 (U.M.); 5 mi. E Heron Lake, 1 (U.M.). Pipestone Co.: Split Rock State Park, Ihlen, 5 mi. N Pipestone, 1 (U.M.). Rock Co.: Rosedell Twp., 4 (U.M.); Mound Twp., 1 (U.M.); Mound Springs State Park, 1 (U.M.). Winona Co.: Homer, 2 (U.M.); Saratoga, 1 (U.M.); Dresbach, sec. 33, T. 104 N.-R.4W, 3 (U.M.).

Iowa: Boone Co.: Jackson Twp., sec. 31, 1 (I.S.C.). Carroll Co.: Maple River Twp., sec. 22, 2 (I.S.C.). Crawford Co.: Denison Twp., sec. 8, 2 (I.S.C.); sec. 13, 1 (I.S.C.). Dubuque Co.: Dyersville, 1 (I.S.C.). Fremont Co.: Hamburg, 2 (I.S.C.). Lyon Co.: Granite, 2 (I.S.C.); Lyon Twp., sec. 26, 2 (I.S.C.); Riverside Twp., sec. 29, 1 (I.S.C.); sec. 33, 1 (I.S.C.). Manona Co.: Franklin Twp., Blue Lake, 2 (I.S.C.). Mills Co.: Glenwood Twp., sec. 13, 3 (I.S.C.). Montgomery Co.: Red Oak, 1 (I.S.C.). Scott Co.: 1/4 mi. N Pine Hill Cemetery, Davenport, 2 (U.I.). Story Co.: Franklin Twp., sec. 34, Ames, 2 (I.S.C.); Ames, 2 (I.S.C.).

Kansas: Douglas Co.: 2 mi. WNW Lawrence, 1 (U.I.); 2 mi. W Lawrence, 1 (U.I.).

Remarks: Because of the variability in the occurrence of the pectoral spot, the absence of distinctive morphological characters, and the ab-

sence of other color differences, we find no way of distinguishing between specimens of "*pectoralis*" and *dychei*. The earliest available name would be *Reithrodontomys megalotis*

dychei Allen. We prefer to use that name for specimens from Carroll County, Ill., and suggest that it is applicable throughout north-central United States.

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