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DISTRIBUTION OF THE WESTERN HARVEST MOUSE, *REITHRODONTOMYS MEGALOTIS*, IN INDIANA

Brian Leibacher and John O. Whitaker, Jr.
Department of Life Sciences
Indiana State University
Terre Haute, Indiana 47809

ABSTRACT: The western harvest mouse, *Reithrodontomys megalotis*, entered Newton County in northwestern Indiana around 1969. By 1975, this species had extended its range to include seven counties. The harvest mouse has continued to spread and now occurs in the following 18 counties in northwestern Indiana: Benton, Carroll, Cass, Clay, Fountain, Fulton, Jasper, Lake, Marshall, Newton, Parke, Pulaski, Starke, Tippecanoe, Vermillion, Vigo, Warren, and White Counties.

KEYWORDS: Distribution, *Reithrodontomys megalotis*, western harvest mouse.

INTRODUCTION

The first western harvest mice in Illinois were taken in northwestern Illinois in 1953 (Hoffmeister and Warnock, 1955). Over the next 15 years, the species expanded its range across Illinois (Birkenholz, 1967; Klimstra, 1957; Pinkham and Meade, 1970; Verts, 1960). In Indiana, the first western harvest mice ($n = 4$) were taken in August 1969 at Willow Slough Fish and Wildlife Area in Newton County (Whitaker and Sly, 1970) in areas where trapping had been carried out for at least 25 years. We suspect this is where and when harvest mice first entered Indiana. Following the initial captures, harvest mice have been captured quite regularly at Willow Slough, although the numbers taken are somewhat smaller today than previously. The numbers taken on alternate-year spring field trips using about 1,200 to 2,000 traps for two nights from 1971 through 1999 were 11, 22, 14, 9, 0, 5, 6, 0, 9, 10, 7, 0, 0, 5, and 1.

Ford (1975) found that the species had extended its range to include at least seven Indiana counties by 1974 (Benton, Carroll, Jasper, Newton, Tippecanoe, Vermillion, and Warren Counties). The mice taken in Vermillion County were from the extreme northern part of the County. The first individuals from southern Vermillion County ($n = 5$) were taken at the Newport Chemical Depot in 1995. The first harvest mice in Vigo County were taken at Indiana State University's field station at Kieweg Woods in West Terre Haute in 1995. One was taken at the Amax Coal Mine, southwest of Brazil, Clay County, in 1996 (Steven Conrad, Indiana State Univ., unpub. data). The western harvest mouse is considered a species of special concern by the Indiana Department of Natur-

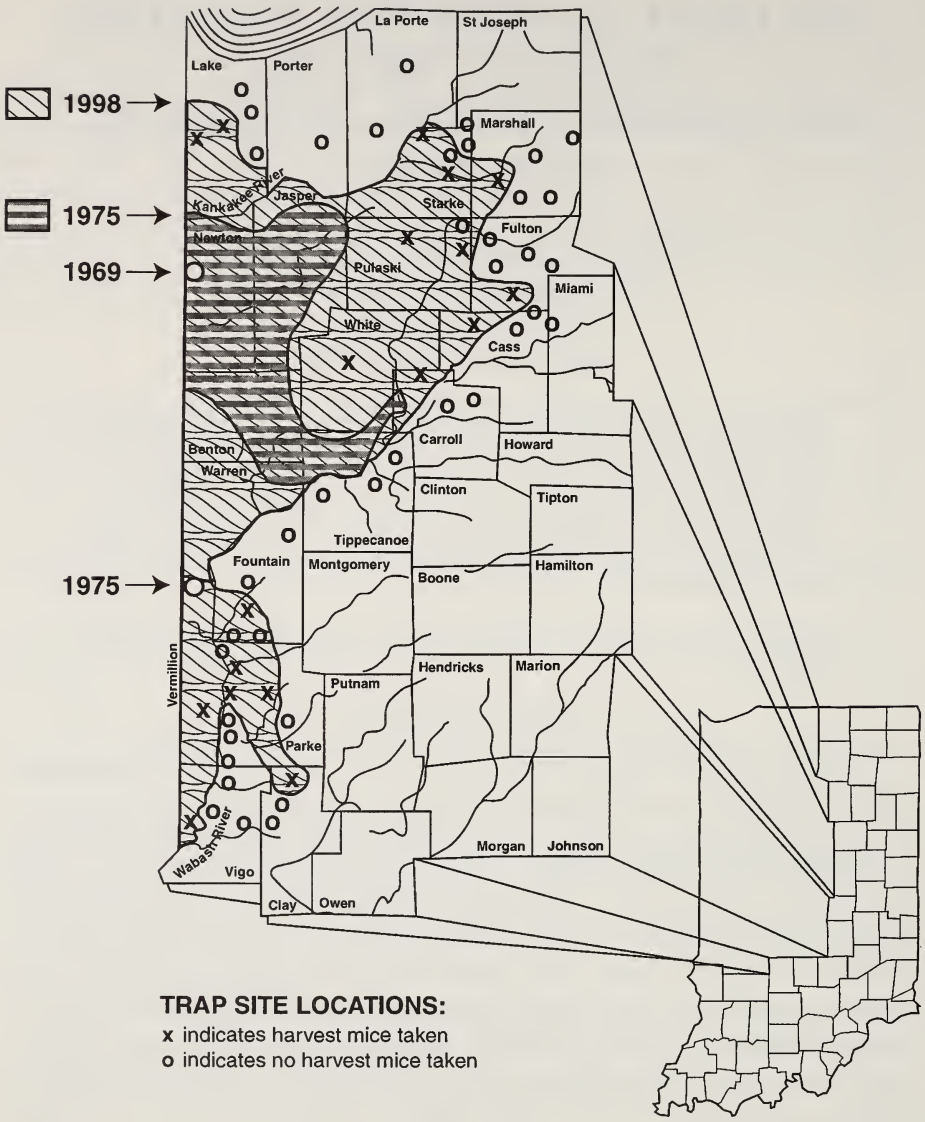

Figure 1. Distribution of the western harvest mouse, *Reithrodontomys megalotis*, in northwestern Indiana in 1969, 1975, and 1998.

al Resources. In this study, we document the extension of the harvest mouse's range since 1975 and map its current distribution in Indiana.

MATERIALS AND METHODS

From 1996 through 1998, snap-back mousetraps were used to sample early seral stage open fields, the primary habitat of the western harvest mouse in Indiana (Mumford and Whitaker, 1982). The sites were along the perimeter of the

Table 1. Trapping data for the western harvest mouse, *Reithrodontomys megalotis*, in northwestern Indiana from 1996 to 1998.

County	Number of Sites Trapped	Sites With Harvest Mice Taken	Number of Harvest Mice Taken
Carroll	3	1	1
Cass	4	1	6
Clay	3	1	2
Fountain	5	1	1
Fulton	5	1	2
Lake	5	2	3
LaPorte	2	0	0
Marshall	5	1	2
Parke	8	3	7
Porter	1	0	0
Pulaski	3	1	2
Starke	4	1	3
Tippecanoe	3	0	0
Vigo	3	0	0
White	1	1	1
Total	55	14	30

harvest mouse's previously known range, and a total of 250 or 300 traps was used at each site. Each site was trapped for three nights or until a harvest mouse was taken. Fifty-eight sites that appeared to provide suitable habitat for harvest mice were trapped in 15 counties (Figure 1, Table 1).

RESULTS AND DISCUSSION

Western harvest mice were taken at 14 sites in 11 Indiana counties. New county records since the study of Ford (1975) are from Cass, Clay, Fountain, Fulton, Lake, Marshall, Parke, Pulaski, Starke, Vigo, and White Counties. Along the Illinois border, the species ranges from Lake County in the north to Vigo County in the south. To the east, the harvest mouse is present in western Carroll, Cass, Fulton, and Marshall Counties. The harvest mouse's current range includes 18 Indiana counties.

This species appears to invade early seral stage habitat and then builds large populations rapidly. This pattern was followed at the time of the mouse's invasion of Indiana. A large uncut rye (*Secale cereale*) field at the Willow Slough Fish and Wildlife Area was the site of initial colonization. A large population occurred in that field, forming a dispersal base (Whitaker and Mumford, 1972). Cultivated fields often go fallow, providing necessary early stage habitat. The occurrence of patches of this habitat type allows the species to expand into new areas at the borders of its range and within its range. Harvest mice

dispersed across northern Illinois in about 15 years and across half of northern Indiana in the next 25 years. The biggest hindrance to dispersal appears to be major rivers. Once a river is crossed, the species disperses rapidly.

Once the species moved into Indiana between the Kankakee and Wabash Rivers, the harvest mouse dispersed southward through Benton, Vermillion, and Vigo Counties west of the Wabash River and to the northeast between the Wabash and Kankakee Rivers. The species also crossed the Kankakee River into Lake County, or else new individuals invaded from Illinois north of the Kankakee. No specimens have been taken in either Porter or LaPorte Counties. The species has also moved eastward across the Wabash River into Parke, Fountain, and Clay Counties.

In about 25 years, the western harvest mouse has dispersed about 75 miles to the east and over 100 miles to the south in Indiana. The species has also crossed the Wabash and Kankakee Rivers. It will be interesting to see how much farther this species disperses in Indiana. Since the species appears well established in Indiana, perhaps its status as a species of "special concern" should be reevaluated.

Whitaker and Mumford (1972) gathered information on the reproduction, food, and ectoparasites of this species in Newton County. They examined 180 individuals and collected 271 ectoparasites in 5 species (3 mites and 2 fleas). They found no lice. We later found lice on this species at the Willow Slough Fish and Wildlife Area.

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