

the mice, one ear, front feet, and tail of the mouse had wounds evidencing the extent of physical contact which had been made during the night.

After two days the animals were separated to avoid any further deaths among the mice since the aggressive activity of the voles did not appear to have abated in the least.

DISCUSSION

Results of this study indicate the dominance of the prairie vole in encounters with the white-footed mouse. This dominance could be a factor in the segregation of these animals in regions of adjoining habitats, especially if the encounters occurred during the normal activity period of the voles.

The nesting study further emphasized the dominance of the voles. Although this type of test was limited in extent, the results were identical. It appeared the voles were very intolerant of the mice in the vicinity of the voles' nest, and, perhaps indicating the totality of dominance, the mice were not only continually harassed but also denied any nesting material. If this situation holds true in field conditions, then the amount of contact would probably be reduced since the location of the voles' nest would be expected to be in the more optimum areas of their home range which would probably remove it from a habitat border.

To what extent the dominance displayed by the voles would manifest itself is questionable. Since the voles' peak aggressive activity was during the day and in the vicinity of their nest, both would tend to reduce the number of interspecific contacts, thereby limiting the influence of the voles.

It is possible that interspecific dominance displayed by the voles could exclude the mice from areas in which they both might occur. However, this probably would

not be a major factor in the habitat segregation of these animals. Other factors such as their differences in habitat preferences, food habits, and activity patterns would more than likely serve as more effective barriers to the coexistence of these species in natural situations.

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LITERATURE CITED

- Barbour, R. W. 1963. *Microtus*: a simple method of recording time spent in the nest. *Science*, 141(3575):41.
- Brown, I. N. 1964. Ecology of three species of *Peromyscus* from Southern Missouri. *J. Mamm.* 45(2):189-202.
- Clarke, J. R. 1956. The aggressive behavior of the vole. *Behavior*, 9:1-23.
- Dice, L. R. 1922. Some factors effecting the distribution of the prairie vole, forest deer mouse, and prairie deer mouse. *Ecology*, 3:29-47.
- Getz, L. L. 1962. Aggressive behavior of the meadow and prairie voles. *J. Mamm.* 43(3):351-358.
- Grant, P. R. 1971. Experimental studies of competitive interaction in a two-species system. III *Microtus* and *Peromyscus* species in enclosures. *J. Animal Ecol.* 40(2):323-350.
- Klein, H. G. 1960. Ecological relationships of *Peromyscus leucopus noveboracensis* and *P. maniculatus gracilis* in central New York. *Ecol. Monog.* 30(4):387-407.
- Krebs, C. J. 1970. *Microtus* population biology: behavioral changes associated with the population cycle in *M. ochragaster* and *M. pennsylvanicus*. *Ecology*, 51:34-51.
- Whitaker, J. O., Jr. 1967. Habitat relationships of four species of mice in Vigo County, Indiana. *Ecology*, 48(5):867-872.
- Wirtz, W. O., II and P. G. Pearson. 1960. A preliminary analysis of habitat orientation in *Microtus* and *Peromyscus*. *Am. Midl. Nat.* 63:131-142.

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RANGE EXTENSION OF THE YELLOW PERCH, *PERCA FLAVESCENS* (MITCHILL), IN TENNESSEE

TOM J. TIMMONS

Tennessee Technological University, Cookeville, Tennessee 38501*

DISCUSSION

The yellow perch is extending its range in Tennessee, and is now found in the Tennessee River. This species has moved down the Hiwassee River in southeastern Tennessee into the Tennessee River at Chickamauga Reservoir. The yellow perch, not considered native to

the Tennessee River drainage (Jenkins, et al., 1971) was probably introduced into the Hiwassee River.

The original species range extended from South Carolina to New Brunswick, and westward throughout the Great Lakes Region and the Upper Mississippi Basin (Hubbs and Lagler, 1958). *Perca flavescens* has been widely introduced in other areas. In the Southeastern United States native yellow perch are found only in coastal rivers in the Carolinas. Southern records

*Present Address: Swingle Hall, Auburn University, Auburn, Alabama 36830.