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FOX SQUIRREL UTILIZATION OF CATKINS AND ACORNS OF THE BLACK OAK GROUP

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ABSTRACT

The feeding of fox squirrels (Sciurus niger) on catkins of oak (Quercus spp.) is described. Black oak (Q. velutina) and southern red oak (Q. falcata) received the highest utilization. Observation suggests that the catkins of the black oak group may be a significant spring food source for the fox squirrel. Also, evidence indicates that there should be delineation between oak groups due to their relative contributions toward the survival of fox squirrels.

INTRODUCTION

Baumgartner (1938), working with the fox squirrel (Sciurus niger) in Ohio, described the acorns of oak (Quercus spp.) as a year-round "staple" food, and the pistillate catkins of willow (Salix spp.) as an "emergency" food source. Havera, Nixon and Collins (1976) report the feeding of fox squirrels on buckeye (Aesculus glabra) pith.

Information gathered in southern Illinois indicates that acorns of the black oak group are the only acorns available on a year-round basis, and that their catkins may be an important spring food source for the fox squirrel.

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RESULTS AND DISCUSSION

On the afternoon of March 25, 1976, heavy use of oak catkins was noted by Harty when five fox squirrels were observed feeding atop a large southern red oak (Q. falcata) at Thompson Woods on the campus of Southern Illinois University at Carbondale. This activity was reminiscent of the concentrated fall feeding of squirrels in hickory (Carya spp.) trees.

Examination of twigs cut by squirrels revealed a feeding solely on oak catkins. Closer scrutiny disclosed that only a small portion of the many catkins available on each twig was actually eaten. Many individuals were observed to take only a single mouthful of catkins before dropping the twig and cutting another.

A similar observation was noted by Nichols (1927) while watching gray squirrels (Sciurus carolinensis) on Long Island, New York. Nichols reported gray squirrels feeding on the catkins of scarlet oak (Q. coccinea) on April 27-29 and on the catkins of white oak (Q. alba) on May 24-29. Their feeding was described as lavish and wasteful.

The feeding technique utilized by fox squirrels was similar to their nut-eating posture. After cutting a twig, they would right themselves into a sitting position in the crown of the tree with their front paws free to handle the twig. Many twigs were dropped due to this precarious position. However, there was never a display of angry chatter when a twig was prematurely dropped as is often observed in the fall after the loss of a nut or acorn.

On the afternoon of April 9, three fox squirrels were observed feeding together in the top of a mature black oak (Q. velutina) in Thompson Woods. These individuals were watched until they quit feeding at sunset. The next morning, cuttings under the tree were collected and counted. In one feeding session these three squirrels cut 136 catkin laden twigs, averaging 45 twigs per squirrel.

On April 10, the same black oak was watched to check the figures from the previous day. That afternoon only two squirrels appeared to feed in the oak and cut 84 twigs in that feeding session, averaging 42 twigs per squirrel. Feeding sessions on both days began at approximately 4:00 PM and ended with sunset at 6:45 PM.

Collectively, these five squirrels cut 220 twigs in two feeding sessions from a single black oak. Many twigs that were cut and dropped were intercepted by lower branches and midcanopy species. Thus, these figures represent an underestimate of total feeding, as about one of every three

cuttings were intercepted and unretrievable.

Twigs were dropped prematurely and an overall increase of wastefulness occurred when there were two or more squirrels feeding in the same tree. A lone squirrel observed feeding in the crown of an isolated black oak exhibited a more deliberate feeding technique and cut 36 twigs during one feeding session.

Although there were scattered individuals of white oak (Q. alba), post oak (Q. stellata), and northern red oak (Q. rubra) in Thompson Woods, fox squirrels were not observed to feed on their catkins. However, an individual was observed feeding on the catkins of a pin oak (Q. palustris) planted at the edge of the woods.

Other spring foods, taken by the fox squirrels in Thompson Woods, included the samaras of American elm (Ulmus americana), winged elm (U. alata), silver maple (Acer saccharinum), and the acorns of black oak (Q. velutina) and pin oak (Q. palustris).

Brown and Yeager (1945) consider stands composed primarily if black oak (Q. velutina) to be inferior squirrel habitat. Thompson Woods is an 18-acre woodlot dominated by black oak (70%) and has an estimated fox squirrel population of 2.3-3.6 squirrels per acre (Eveland 1974).

Investigators working with white-tailed deer (Odocoileus virginianus) in Missouri, found that white oak (Q. alba) acorns were of little use to deer since they exhibit no embryonic dormancy, and either germinate or rot soon after falling from the tree (Hosley 1956). In relation to the fox squirrel, this information is also valid.

With the exception of bur oak (Q. macrocarpa), all the members of the white oak group found in Illinois lack embryo dormancy. In contrast, members of the black oak group do exhibit embryo dormancy, and do not germinate until spring (Olson 1974). Thus, the acorns of the black oak group are an available food source for fox squirrels through fall and into spring, whereas, acorns of the white oak group are only available in the fall.

SUMMARY AND CONCLUSIONS

The intensive utilization of oak catkins by the squirrels observed, indicates that oak catkins may be an underestimated spring food source of the fox squirrel, especially the early flowering forms such as Quercus falcata and Quercus velutina. Also, due to the overall contribution of the black oak group to the survival of the fox squirrel, members of the black oak group should be favored over the white oak group in the management of woodlots for fox squirrel habitat.

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