

## **A simplified method for assessing a squirrel's perception of habitat**

Amy T. SULLIVAN<sup>1</sup> and Steven M. SULLIVAN<sup>1,2</sup>

<sup>1</sup>Department of Biological Sciences, University of Illinois at Chicago, Chicago, Illinois (amysullivan@gmail.com) <sup>2</sup>The Chicago Academy of Sciences, Chicago, Illinois (ssullivan@naturemuseum.org)

A new technique for assessing squirrel perception of the environment has been developed for easy and efficient use by citizen scientists in any location and any kind of weather. This technique, called corn GUDs, is a method of collecting the giving up density (GUD) of grey (*Sciurus carolinensis*) and fox (*S. niger*) squirrels that capitalizes on the fact that, under certain circumstances, squirrels will excise the nutrient-rich embryo from a kernel of corn while under other circumstances they forage less carefully.

Usefulness of this method has been assessed by placing corn GUD foraging patches, paired with traditional GUD patches baited with sunflower seeds, near trees and 4 meters from trees in the front, side, and back yards of urban habitats. Traditional GUDs and corn GUDs gave similar information about how squirrels forage in relation to different microhabitats. As expected, traditional GUD trays near trees and in back yards were foraged in more heavily than those in more risky habitats. In these same safe habitats, squirrels excised corn embryos (leaving behind otherwise intact kernels) significantly more often than they did in risky habitats, where they were more

likely to leave the fragmented debris of randomly consumed kernels.

While this new method will not replace traditional GUDs, its ease of use and low cost is appealing to citizen scientists, making range-wide, long-term monitoring more feasible. Further, the ability to use it in any weather makes corn GUDs an effective tool for fine scale assessment of squirrel habitats throughout the year. It is likely that this technique can be used with any corn-eating squirrel.