of these was noted October 13 at Fontanelle, Nebraska where two stalks were found that showed bird work. On October 22, 25, and 27 more than 30 stalks were examined just south and west of Fremont, Nebraska. Likewise on October 28 and November 4 a number of bird beak punctures were noted in corn stalks on the University of Nebraska Experiment Farm east of Lincoln. On October 23, while surveying counties where the corn borer had not previously been recorded in Nebraska, two similarly punctured corn stalks were found four miles east of Hebron in Thayer county.

No borers were found in any of the above stalks (more than 50 examined) that had been worked by the birds, indicating that they were successful in taking the borers. The punctures in the stalks were all of the same type. No woodpeckers were noted working on corn stalks, but on two different occasions Hairy Woodpeckers (*Dendrocopos villosus*) were seen along the edge of borer-infested corn fields. This bird predation was noted in eastern Nebraska the second year after the establishment of the European corn borer in the state. The borer apparently was also preyed on the first year it was recorded as common in Thayer county in south-central Nebraska.—CLARENCE A. SOOTER, Department of Entomology, University of Nebraska, Lincoln, Nebraska.

THE STUDY OF HAWKS IN FLIGHT FROM A BLIMP

The Tide Water Associated Oil Co. granted the Urner Ornithological Club the use of their advertising blimp on Sept. 21, 1948 to assist in studying the migration of the Broad-winged Hawk (*Buteo platypterus*) over New Jersey. The day chosen was clear with a 10 mph northwest wind and a temperature of 65°F. A total of 2,150 Broadwings were observed from the ground during the day chiefly from a vantage point in Upper Montclair. It was more difficult to locate the birds from the air than from the ground. Although 1800 hawks were spotted from the ground while the blimp was in the immediate vicinity, only 290 were spotted from the blimp. Radio communication from the airship to ground observers is recommended.

Observations made on only 1 day may not represent average behavior, even though the ground observers in this case described the day as a normal, good day for a Broadwing flight. The height at which the blimp found kettles, that is, a flock of hawks spiraling upward, was, in 4 cases, 1500, 2000, 2700, and 2400–2900 feet above sea level. These hawks were above a valley of 190 feet elevation and rising to fly over a ridge of 590 feet elevation. It is not known that these were the highest kettles of the day, nor measured at their highest point except for the 2000 foot kettle. Although earlier ground estimates had placed the kettles at greater heights, the maximum height reached may well be only 3000 feet, and many times the birds abandon their upward spiraling and "peel off", or enter their straight, downward glide, at only 2000 feet.

The birds peeling off from the 2000 foot thermal, a rising column of air heated from a warmer ground area, were successfully followed until they roosted in trees 4 miles away at a ground elevation of about 450 feet. Thus the ratio of glide to fall was about 12 to 1. The air speed of the Broadwings in the glide was 32 mph in one measurement and 26 mph in another. Judged by the criterion that the hawks were not frightened if they continued their glide in an undeviating line, the birds did not seem to mind the airship provided it was more than 300 feet distant.

Earlier ground observations, in addition to overestimating the height reached in the thermals, were unable to judge accurately airspeeds and distances of glide. Complete details of the undertaking may be found in "The Urner Field Observer", **3** (5–6): 2–9 1948. Further observations from a blimp appear to be a profitable method of obtaining new information on behavior of hawks in flight.—E. I. STEARNS, 92 Farragut Road, Plainfield, New Jersey.