May 21 were noisily in evidence about the ash tree. Unlike the other species mentioned, the Catbirds "miaoued" over each capture. They picked up and swallowed the larvae in one motion.

A severe wind storm accompanied by rain at 6.30 p. m., May 20, removed the few remaining larvae from the ash tree much to the disgruntlement of the Catbirds.

In the course of examinations made by the Bureau of Biological Survey, U. S. Department of Agriculture no less than forty-seven species of birds have been found to have fed upon sawfly larvae and seven additional species are recorded in the literature. The larvae were found in the stomachs of 20 Chickadees, 12 English Sparrows, 8 Robins, 7 Yellow-billed Cuckoos, 8 Mockingbirds and less frequently in the other species.—Phoebe Knappen, *Washington, D. C.*

Some Bird Enemies of Odonata.—On May 23 and 24, myriads of dragon-flies were to be seen everywhere along the road and beach connecting Lynnhaven Inlet with Virginia Beach, Virginia. The largest and most numerous species was *Epiaeschna heros*, which was being caught in the air as well as being picked up from the surface of the road by the Kingbird, Mockingbird, and Brown Thrasher, which also were present in unusual abundance. Two Fish Crows, a Long-billed Marsh Wren, and several Red-winged Blackbirds were observed to catch and eat this same large dragon-fly. Bluebirds and Cardinals were probably feeding on the Odonata.

On the ocean beach many of the dragon-flies were found dead and dying. Here Turnstones, Sanderlings, and Bonaparte's Gulls, observed through field glasses from a distance of thirty feet, appeared to be eating these insects. An examination of the dry sand where they had been feeding showed their footprints, no probing holes, and numerous remains of dismembered Odonata.—Phoebe Knappen, *Washington, D. C.*

Flight Speed of Some Birds.—The following speeds, in miles per hour, of various flying birds were determined by an automobile speedometer. The records are believed to be fairly accurate and have not been reported previously. The flight speeds were as follows, in miles per hour: Common Tern 13, Black Duck 26, Great Blue Heron 23, American Egret 17, Eastern Green Heron 22, American Woodcock 13, Mourning Dove 26, Turkey Vulture 15, Yellow-billed Cuckoo 22, Belted Kingfisher 17, Red-headed Woodpecker 22, Northern Flicker 23, Eastern Nighthawk 12, 17, 22, Eastern Kingbird 11, Starling 28, 35, Red-wing Blackbird 22, 23, 23, Eastern Meadowlark 15, 20, 20, Rusty Blackbird 19, 19, 20, 23, Purple Grackle 20, 20, 23, 24, 25, 25, 26, 28, English Sparrow 28, 35, Slate-colored Junco 18, Purple Martin 20, Barn Swallow 20, 20, Tree Swallow 25, Catbird 12, Brown Thrasher 19, 22, Eastern Robin 17, 20, 23, and Eastern Bluebird 13, 15, 26. Opportunity for measuring the flight speed does not come frequently. The bird must be close to the automobile and flying parallel with it. Factors which have an influence include the direction and force of the wind. In none of the above records did the wind exert any influence. To what extent fright was a factor could not be determined. Both the Turkey Vulture and the Woodcock rose from roads boarded by dense woods and flew for a few hundred feet directly in front and close to my car. The varying speeds may suggest an accelerative action by the birds, some inaccuracy in reading the speedometer or slight wind influence.—Harold B. Wood, M.D., *Harrisburg, Pa.*

A Suggestion for a Scientific Method of Studying Bird Sounds.—The study of bird sounds seems to have lagged far behind other branches of ornithology. This may be due to the prevalent practice of following the line of least resistance and investigating fields that are not so difficult of approach. Bird sounds are not easy to study. No adequate system has been proposed that will enable one to convey to another person the salient features of a sound so it can be recognized. This suggestion has to do with the analysis of sounds from the standpoint of physics, and not with graphical or symbolical systems devised for ready field identification.

Saunders (Auk, XXXII, 1915, pp. 173–183) seems to have proposed the best method of field study, but it requires considerable training and above all a good musical sense. Furthermore it is subject to the limitations of the human ear. Brand (Auk, XLIX, 1932, pp. 436–439) has taken a step in the right direction in making a permanent record of the sound. Here again, since the ultimate analysis of the records depends on the ear, the accuracy will be limited.

Sound consists of vibrations in some medium, usually air. Its motion is simple harmonic and can be represented graphically as a sine curve. The intensity will be indicated by the amplitude of the curve, the pitch by the frequency or number of complete cycles per second, and the quality by the wave shape, the latter determined by the number and phase position of the overtones or harmonics. I have thought for some time that if an instrument could be constructed, sufficiently sensitive to record these vibrations, then we would be down to the very fundamentals of sound.

In going through the literature of communication engineering I find that the Bell Telephone Laboratories have been doing some very interesting and important work in relation to sounds. While primarily interested in communication their engineers have been led to make a thorough study of human speech, music, and noises. Their numerous publications on sound may well serve as a starting point for the study of bird sounds.

They are using the electric oscillograph in their researches. This instrument has been in use for a number of years to record the variations of alternating current, usually 25 and 60 cycles. In recent years its frequency range has been gradually increased and now we have the "Rapid Record Oscillograph" with a range up to 10,000 cycles (Curtis, Bell System Technical Journal, XII, January 1933, pp. 76–90). This will record most of the components of speech and music. Briefly the principle is as follows: Sound waves striking a diaphragm cause proportional variations in an