Acadian Flycatcher flies backward.—Because it seems to be a popular belief that the hummingbird is the only bird capable of flying backward, it seems worth while to record the fact that the Acadian Flycatcher (*Empidonax virescens*) has been observed to perform this feat very neatly and apparently very easily.

While in the vicinity of a nest of a pair of Acadian Flycatchers in the summer of 1937, the writer noticed one of these birds poised in the air facing a large insect (probably the big syrphid fly, *Milesia virginiensis*) also poised in mid-air facing the bird. The two were only three or four inches apart and each seemed to be regarding the other with fixed attention. Except for their rapidly vibrating wings they were practically stationary in the air. However, the insect appeared to be the more aggressive of the two, for shortly it began a slow advance, while the flycatcher retreated at the same rate, flying backward without apparent effort, while still facing the fly and maintaining the same distance from it. This lasted for only a few seconds, when the insect darted off and the bird sought its familiar perch.

This observation was made without the aid of glasses, at a distance of from fifteen to twenty feet, without any obstruction to clear view. It recalled at once the deft flight of the hummingbird as it backs away from the flower which it has just been probing. The flycatcher executed this maneuver so readily that the writer has not much doubt but that it could as easily duplicate other aërial feats for which the hummingbird is famous.—ARTHUR B. WILLIAMS, *Cleveland Museum of Natural History, Cleveland, Ohio.*

Key West Vireo at Miami, Florida.—On February 16, 1938, the writer collected an adult male Key West Vireo (*Vireo griseus maynardi*) along the bank of a drainage canal, twelve miles northwest of Miami, in Dade County, Florida. The locality is over forty miles from the Florida Keys, the typical range of this race. The specimen was examined and identified by Dr. H. C. Oberholser and is now in the collection of the Bureau of Biological Survey.—JOHN C. JONES, *Bureau of Biological Survey, Washington, D. C.*

Territorial aspects of the American Redstart.—During the course of about thirty-five cruises over four seasons for a census of the breeding birds in a heavily wooded slope in Westchester County, New York, the writer found *Setophaga ruticilla* to be a highly territorial species. Males advertised their presence by their typical well-known song and by formalized territorial displays that apparently served to define boundaries and reduce fighting. These displays consisted of short, horizontal, semi-circular flights made with stiffened wings and out-spread tails. These performances were frequently observed between males, less commonly between females and never between a male and a female where a question solely of territory was involved. Hingston's interpretation of the function of warning coloration in plumages seemed to be particularly applicable in these cases. Low, repeated *quit, quit* notes could be heard when the displays were concluded and the birds returned to their perches. As far as could be observed, these same performances seemed to serve as some part of the male's courtship of females. On all exciting occasions, of course, both sexes spread their tails like many other American wood warblers. Flight songs appeared to be absent. Singing perches, if present, were largely undetected by the observer. One male which took up territory in a blackberry-locust association sang frequently on April 30 and May 8 only one to two feet from the ground. Three males were once watched for an entire morning before females had arrived on the area: one was quite obviously patrolling the boundaries of his territory, the two others seemed to

be moving back and forth on an indefinite and irregular axis, which approximated the length of their territories.

A special effort was made in 1937 to learn the number of unmated males. Twenty-four occupied rigidly fixed territories on the study area. Twenty of these birds were definitely mated. Of the remaining four, one held its territory until at least June 13, another until at least June 19, a third until June 20, and a fourth until June 26. If all four, or even half of these were unmated, the percentage of paired birds would be between 83 and 91. This figure is comparable to the 85 per cent found by Mrs. M. M. Nice for Song Sparrows, but like most American studies, it is higher than the remarkable percentages reported by British investigators: 45 per cent for Nightingales, 60 and 70 per cent for Chiffchaffs, and 80 per cent for English Robins and Willow Warblers. In the case of the American Redstart, an indeterminate number of unmated wandering males also exist. Without banding, these are extremely difficult to detect in the adult plumage. By plotting the position of all birds on a map, one such bird was discovered on June 13. On the same day, a male in the immature plumage spent the entire morning softly singing and gradually working its way along 800 yards at the top of the ridge. This bird was furiously driven off by males and females whenever it passed through their territories. Plumage notes on 48 males on territory showed that only four (8.3 per cent) were in immature plumage. All four were paired and possessed territories of the same size as those of the adult males.

The size of territories was usually about one acre or less, but in one instance was compressed to about half an acre. Approximately twenty-two pairs (or males) each year occupied the 39.93 acres under investigation. Their boundaries were observed in two cases to break down on June 17, when young were being fed in the nest. Interspecies competition or jealousy were seldom in evidence. Redstarts and Ovenbirds were the two most dominant species of the slope and both would sing in the same tree without the slightest evidence of hostility. The former was once seen briefly fighting with a Black and White Warbler. Males were silent in the presence of female Cowbirds, but females reacted with sharp hisses, a rapid snapping of the bill and much spreading of the tail.—JOSEPH J. HICKEY, *c/o Consolidated Edison Co. of N. Y., 4 Irving Place, New York City.*

Bobolink rises from ocean surface.—During the spring of 1939, I observed an extremely unusual manifestation of bird migration on the eastern coast of Florida. Early in the morning of April 28, I arrived on an offshore bar protecting the coast of Riviera, Florida. Settling near the surf, I watched a stream of small, isolated flocks of passerines and Icteridae pass over the surf, coming from almost due east. Their origin was presumably Settlement Point, Great Bahama Island, which is about sixty miles due east of Riviera. None of the flocks was lower than one hundred feet.

Several hours after my arrival and while the flocks were still in passage, I discovered an unfamiliar object floating on the surface of the ocean about fifty feet beyond the surf. Using my eight-power binocular I was amazed to see a male Bobolink (*Dolichonyx oryzivorus*) riding the swells with both its head and tail held at right angles to the surface. Occasionally its back would appear above the water. I had not been looking in this direction for some time and did not witness the initial appearance of the bird. For a few seconds it remained very still, then it began to struggle vigorously for several seconds, finally leaving the water directly without pattering along in coot fashion. After flying very weakly across the beach, it