

SPRING MIGRATION OF SAW-WHET OWLS AT TORONTO, ONTARIO

By PAUL M. CATLING

Spring migration of saw-whet owls (*Aegolius acadicus*) was studied at Toronto, Ontario. For three consecutive years, a daily search was conducted in a definite study area, and birds found were captured, banded, measured, and released. Individual saw-whet owls were consistent in their selection of certain roosting places. Spring migration at Toronto begins in late March (24th), reaches a peak in mid April (12th-20th incl.), and has ended by late April (25th). The spring concentrations of saw-whet owls along the north shore of Lake Ontario may be explained by a more or less direct crossing of the lake. A major influx occurs on a clear night when there are light winds. The period of spring migration may be related to the abundance of small passerine birds also migrating at this time. Males and females apparently migrate simultaneously.

INTRODUCTION

The Great Lakes region is famous in North America for its autumnal concentrations of saw-whet owls (*Aegolius acadicus*). These have been documented by Saunders (1907), Taverner and Swales (1911), Woodford (1959), Taylor (1962), Mueller and Berger (1967), Wyatt (1969), and by others in *Audubon Field Notes*. Less important references are too numerous to cite.

Presumably the individuals which appear to move southward (i.e. migrate; see Urquhart (1960)) in the autumn, return again (i.e. migrate) to northern breeding grounds in the spring. However, I have found only three references to a spring migration. Eaton (1914 p. 119) states: "In western New York I have seen evidence of (spring) migration in the fact that this bird (*Cryptoglaux acadica*) is frequently observed by bird enthusiasts during April and early May." A more positive statement is that of Barry (1952 p. 18) regarding the south shore of Lake Ontario (also western New York State): "Name your woodlot along the lake shore and chances are that, during the first week of April, saw-whet owls could be found there. On April 1st they put in their first appearance after a night of southwest winds. On Thursday, April 3rd, Walt Listman and I found ten of them scattered in every woods searched from Island Cottage to Salmon Creek." More recently Beardslee and Mitchell (1965 p. 286) have written: "Sometimes at the height of spring migration it is possible to find a number of saw-whet owls by checking woods and thickets along the south shore of Lake Ontario."

No evidence for a spring migration of saw-whet owls in Ontario has been published, nor is one indicated on the Bird Migration Chart of the Toronto Field Naturalists Club. In 1967, I noticed that saw-whet owls were seen in various localities in and near Toronto (43°37'N.L., 79°23'W.L.), during late March and early

April, when they had not been found in these localities throughout the preceding winter. Also, Mr. G. Norris of the Toronto Ornithological Club "always found them south of Ajax (45°51'N.L., 79°02'W.L.) around Easter" (pers. comm.). My winter studies of saw-whet owls near Toronto had shown that they frequently become established in an area (a range), and may be found consistently in the same roosting places; and more important to the present consideration, that saw-whets which were established on winter range disappeared in March. Here then was some evidence to suggest a regular spring migration noticeable in the Toronto region. It is the purpose of this paper to present more conclusive data supporting a spring migration of saw-whet owls, and to discuss some aspects of their behavior and ecology at this time of year.

METHODS

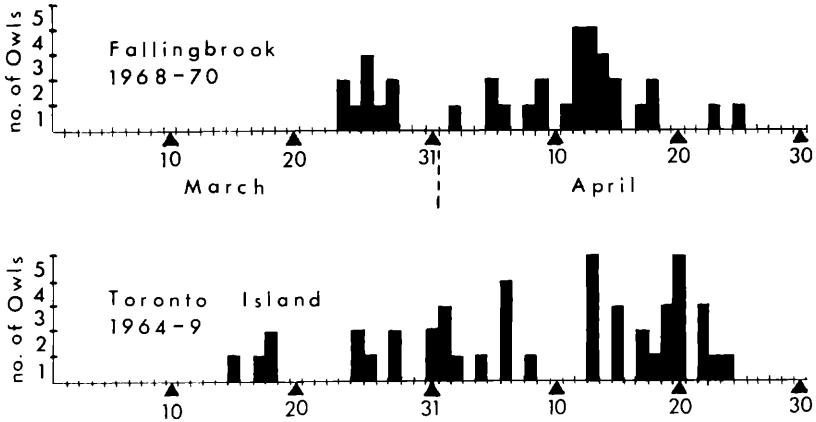
In order to discover more about the spring migration, I determined to make a daily search for saw-whet owls in the Fallingbrook woods (43°41'N.L., 79°16'W.L.) which is located on the western property of the Toronto Hunt Club in southwest Scarborough twp., York county. Essentially a mature woodland of red oak (*Quercus borealis* Michx.f.) and hemlock (*Tsuga canadensis* (L.) Carr.), Fallingbrook is ca. 10 acres in extent with the Scarborough Bluffs and Lake Ontario shore forming the southern boundary. A definite route was planned through the woods so as to search it completely. This search required approximately 1.5 hours, and was conducted between 0700 and 0830 every day throughout the months of March and April in 1968, 1969, and 1970. Also during each of these years the woods was searched at least five times in each of January, February, and May. All saw-whets found were captured with a noose and pole, banded with lock-on bands, measured, and released less than 10 minutes after capture. Occasionally owls were located in the morning (0800) and captured and banded in the evening (1700), in order to note their daily movement and to allow time for egestion of pellets.

RESULTS AND DISCUSSION

Most owls were found from 5-10' above the ground in the thick foliage of hemlock. There was a decided preference for locations that provided a canopy (i.e. concealment from above). Selection of roosting places was remarkably consistent. Over the three year period all saw-whet owls were found in a one-acre area at the extreme north end of the ten-acre woodland, although what appeared to be the most suitable habitat (thickest cedar trees and vine overhangs) was located at the extreme south end. Not only did the individual owls choose the same roosting area in the woods; but there was also some consistency in exact roosting positions (within a few cm.). This is rather interesting in view of the great number of apparently suitable places of concealment, and implies a considerable selective ability.

The owls were quite inactive during the day and were relocated

Figure 1. Saw-whet owls banded in spring at Fallingbrook 1968-70 incl., compared with spring Saw-whet owl banding at Toronto Island 1965-69 incl.



in the evening where they had been found at dawn (10 cases), usually with the addition of droppings and a pellet to the roost site. Any prey which was held at dawn had disappeared in the evening (3 cases).

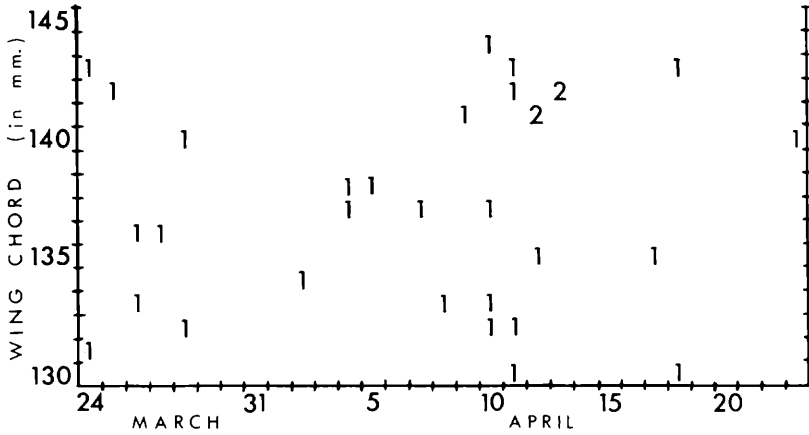
Through banding it was discovered that all saw-whets encountered were transient; there was only one repeat (remained for two days). There were no recoveries or returns.

At Fallingbrook saw-whet owls were found only in late March and during the first three weeks of April. Seven were banded in 1968, 16 in 1969, and 12 in 1970. These data from Fallingbrook are compared in figure 1 with the spring occurrence of saw-whet owls on Toronto Island, based on banding records of the Island Natural Science School, from 1964 to 1969 inclusive. It should be noted that in this latter location, the coverage was neither complete nor continuous, and also that during the period, two saw-whets were banded in early February and five were banded in mid May. However the graph for the six-year period is strikingly similar to that of Fallingbrook.

It is obvious from figure 1 that spring migration of *Aegolius acadicus* at Toronto begins in late March (24th), reaches a peak in mid April (12th-20th incl.), and has ended by late April (25th). There are many other records, from areas receiving very sporadic coverage, which also support a late March - early April migration period. For instance, on 13 April 1969, there was a heavy influx, and I found 10 saw-whet owls in a square mile area south of Ajax, Ontario county. There was none in this area on the previous day.

The spring concentrations on the south shore of Lake Ontario (see Barry 1952) are probably due to a build-up of owls awaiting suitable conditions (i.e. suitable weather and sufficient energy) to cross-over the lake. Saw-whet owl mortality as a result of storms over Lake Huron such as reported by Saunders (1907) and Goodwin

Figure 2. Wing chord measurements of Saw-whet owls (banded at Fallingbrook) plotted against date of banding.



(1970 p. 40), as well as their alighting on ships reported by Taverner and Swales (1911 p. 331), suggests that this species, although perhaps not well equipped, is not averse to crossing over a large body of water. Fallingbrook, Toronto Island, and Ajax are all located on the north shore of Lake Ontario, and I suspect that the spring concentrations in these areas may be explained by an immediate need of food and rest after the more or less direct crossing of the lake from the south side.

While no conclusive factors have been linked with the timing of an immigration, nor with the spring migration period, certain trends are apparent. A major influx occurred on a clear night when there were light winds. Probably of lesser significance is the fact that the local winds (at Toronto) were usually out of the East or Northeast, and a warming trend was beginning with night temperatures well above freezing. The moon was near to first or last quarter phase, and on one occasion visible for only an hour before dawn.

It may be significant that during the spring migration period which I have outlined, many small passerines are also "on the move." Especially notable is the abundance of black-capped chickadees (*Parus atricapillus*), winter wrens (*Troglodytes troglodytes*), brown creepers (*Certhia familiaris*), golden-crowned kinglets (*Regulus satrapa*), ruby-crowned kinglets (*Regulus calendula*) and hermit thrushes (*Hylocichla guttata*). Four of the 35 saw-whet owls banded at Fallingbrook were found holding decapitated prey, which was in each case a passerine bird (1 hermit thrush, 2 winter wrens, 1 unidentified sparrow). Other passerine remains were found in pellets. One of the owls (the only repeat) was banded on the morning of 23 April 1970 and relocated on the morning of 24 April with a winter wren. I have found a similar

predation on kinglets, wrens, and sparrows, during the autumnal migration in many localities other than the main study area.

In figure 2 wing chord is plotted against date of banding. The graph suggests that male and female saw-whet owls migrate simultaneously.

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