the province, and Ross James (pers. comm., 1988) knows of no breeding records. The Ontario Breeding Bird Atlas project yielded three possible and one probable breeding record of Lawrence's Warbler for the province (Mills 1987). Speirs (1985:688) lists only one summer record. Hence, this record appears to be the first confirmed breeding record for the province, but not unexpected in light of the widespread distribution of the parent types in southern Ontario.

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An Enigmatic Case for the Breeding of the Kentucky Warbler in Canada

by

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Introduction

Though not generally accepted as such, Canada's first report of the Kentucky Warbler (*Oporornis formosus*) was recorded at Ste. Foy, Quebec in 1879. In this instance, John Neilson claimed that a pair, "showing every indication of breeding", was observed daily from 2–15 July (Fleming 1937). Because the record was hundreds of kilometres north of the species' known breeding range, it was understandably later discounted by several authors. Still, Fleming (1937) defended Neilson as being a competent observer. The Canadian status of the Kentucky Warbler (KEWA) remains somewhat enigmatic over 100 years later.

Including the handful of occurrences that were summarized by Smith and Devitt (1943) and Stirrett (1945), there are now over 230 records of the KEWA for Ontario. About 90 per cent of these were reported during spring migration, primarily along the north shores of lakes Erie and Ontario. Some unprecedented spring

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influxes (10–28 birds annually) were recently noted (e.g., Goodwin 1976, 1979; Weir 1983, 1984, 1985, 1986).

There are only about 20 fall records, including two hatch-year birds recorded at Long Point, Regional Municipality of Haldimand-Norfolk, on 12 August 1976 and 23 September 1977 (Long Point Bird Observatory files). The "nationality" of these birds is, of course, unknown.

Ontario's first summer record concerns a KEWA found singing on 29 June and 3 July 1966 at Newbury, Middlesex Co. (Goodwin and Rosche 1967). All other summer records have occurred in the 1980s, coinciding with the recent spring influxes as well as with the intensive ornithological coverage associated with the Ontario Breeding Bird Atlas project (see McCracken 1987a).

There is some circumstantial evidence for a northward range expansion. As early as the 1950s, Snyder (1957) felt that the KEWA's status in Ontario had changed from "fortuitous" to "casual". Since then, there has been a dramatic increase in the number of reports (Fig. 1). A large part of this can probably be attributed to heightened ornithological coverage, but it is also consistent with a range expansion.

Although Bull (1974) noted that the KEWA's range had inexplicably retracted in New York, recent northward range extensions have been reported for Erie Co., Pennsylvania (Stull and Stull 1985) and Jackson Co., Michigan (Baker 1984). These two nestings occurred only 60–70km away from the Ontario border.

The most convincing breeding evidence for Canada concerns a male KEWA which returned to occupy precisely the same territory in at least four consecutive summers. Details of this case are summarized below.

1985

In 1985, a KEWA was found singing in an extensive swampy woodland located about 2km northwest of Vanessa, Regional Municipality of Haldimand-Norfolk (McCracken 1987b). Having been ravaged by a

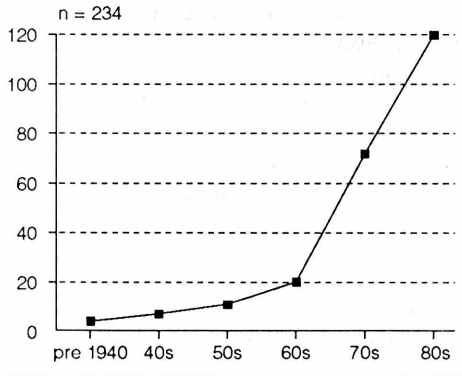

Figure 1: Numbers of published reports of Kentucky Warblers in Ontario (1898–1987).

devastating tornado which struck the area almost a decade earlier, the site provided ideal, dense habitat. Interestingly, the KEWA is likely to profit from gale-damage to forests, due to the subsequent proliferation of shrubs and saplings (Whitcomb *et al.* 1977).

The shrub layer was dominated by a virtually impenetrable growth of raspberry (*Rubus* sp.), dogwood (*Cornus* sp.), large-tooth aspen (*Populus grandidentata*), speckled alder (*Alnus rugosa*), choke cherry (*Prunus virginiana*), willow (*Salix* sp.), and red maple (*Acer rubrum*) saplings. Canopy cover (10–20 per cent) was sparse and was dominated by a few silver maples (*Acer saccharinum*), red maples, and white ash (*Fraxinus americana*). The more open sections supported a dense herbaceous layer composed of various species of sedges, grasses, ferns, and flowering plants. Leaf litter and ferns characterized the ground cover in the more heavily shaded, tall-shrub sections.

First found singing on 11 July (the date of my first visit to the site), the bird remained at least until 19 July (the date of my last visit). It had probably been present throughout the breeding season.

During most of my visits in 1985 and later, it usually sang from the low branches of scattered trees, describing a large, roughly oval territory measuring about 150 x 250m. On some occasions, it responded excitedly to my "pishing". On 12 July, M. E. Gartshore and I observed the male engaged in a heated territorial dispute with a pair of nesting Mourning Warblers (*Oporornis philadelphia*).

1986

I returned to the site on 28 May 1986 and was surprised to find a KEWA singing incessantly at precisely the same spot as in 1985. As in later years, I assumed it was the same bird.

I returned on 17 and 24 June, but did not hear it during each of the two-hour visits, perhaps because of the cool and windy weather. However, it was relocated on 8 July, singing briefly during the mid-afternoon. During a two-hour visit on 14 July, it sang only briefly upon my arrival. It was not heard during a one-hour visit on 15 July and it sang for only about 10 minutes during seven hours of observation on 17 and 18 July.

1987

On my first visit to the site in 1987 (25 May), a KEWA was again found singing repeatedly. It was singing again on 1 June, 7 June (R. Curry, pers. comm.) and during my last visit on 10 June. T. and F. Woodrow (pers. comm.) heard it on 20 and 24 June, the date of their last visit.

1988

I returned to the site on 28 May 1988. There was no sign of the KEWA then or on 4 June. Although it was seen and heard on 6 and 7 June (D. W. Graham, pers. comm.), it was not found during at least

eight subsequent visits made to the site, ending on 6 July. While the bird may have merely fallen silent, I suspect that it vacated the area or succumbed to a predator.

The Cases for and against Breeding

Approximately 60 hours were spent observing and searching for this bird during the years 1985–88. At no time was a female seen by myself or nearly a dozen other competent observers. Breeding evidence consisted of territory maintenance, infrequent aggressive encounters with other species, and occasional alarm calling.

The amount of time spent at the site and the competence of the observers would normally have generated stronger breeding evidence, if in fact breeding occurred. However, the dense nature of the habitat greatly impeded efforts to observe and follow the bird, let alone discover a nest. Also, the KEWA is known for its remarkable abilities to escape nest detection, partly because breeding females are so elusive (e.g., Sprunt 1957; Bent 1963). In a similar case in Michigan, Baker (1984) did not find a female KEWA until the fourth consecutive year of a male's occurrence. Even then, it was only with luck and persistence that a nest was found.

The fact that the Vanessa bird occupied precisely the same territory, in suitable habitat, during at least four successive breeding seasons, is not consistent with behaviour to be expected from an "over-shoot" migrant or a "lost" individual. Rather, such circumstances are more characteristic of a site-tenacious breeding bird. Indeed, I know of no instance of a non-breeding passerine displaying such a high level of tenacity, particularly when on the fringe of its breeding range, though it must occasionally happen.

It could be argued that the remoteness of the site from Lake Erie (30km inland), together with the general rarity of the species in Ontario, makes it improbable that the male could have attracted a female. However, the chances of successful mate attraction are surely heightened given the recent record numbers of spring occurrences in Ontario. Moreover, summer occurrences of singing males in other parts of the region, and the presence of hatch-year birds during fall migration, strengthen the assertion that this species has bred in the Regional Municipality of Haldimand-Norfolk.

Conclusions

Though still unconfirmed as a breeding species in Canada, a Kentucky Warbler probably bred at Vanessa, Ontario sometime during the period 1985–88, and perhaps earlier. There is some evidence to suggest that the Kentucky Warbler's breeding range has been expanding northwards into Ontario over the past decade. Hence, spring occurrences here should no longer be dismissed as involving "over-

shoot" migrants. The Kentucky Warbler is probably now a rare and somewhat irregular breeding species in southern Ontario.

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