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Ron Pittaway, Box 619, Minden, Ontario K0M 2K0.

Notes

Double-brooding in Ontario Loggerhead Shrikes

by
Ron Pittaway

Introduction

The **Loggerhead Shrike** (*Lanius ludovicianus*) is well-known to be double-brooded, and even triple-brooded in the southern part of its range (Bent 1950). Double-brooding is defined as the laying of a second clutch of eggs after the fledging of the first brood (Campbell and Lack 1985). Peck and James (1987) reported that in Ontario "the protracted breeding season indicated the probability of double broods, although none were reported". In this note, I report the first evidence of double-brooding by the Loggerhead Shrike for the province.

Observations

On 8 May 1992, I observed a Loggerhead Shrike on a nest in a hawthorn (*Crataegus* sp.) in Carden Township, Victoria County. When checked the next day, the nest was found to hold six eggs (Isabelle Bisson, pers. comm.). The young left the nest sometime before 11 June 1992, and at least three fledged young

were observed being fed by the adults near the nest site for several weeks afterwards.

On 24 June 1992, Stan Flemming and I found a newly built nest near the location of the first nest. Nearby we observed three juveniles from the first nest following and noisily begging for food from the adults. This observation followed three days of unusually cold, wet weather which had greatly reduced insect numbers.

On 2 July 1992, a female shrike flushed from the second nest. The nest contained three eggs. Nearby the male and three almost independent juveniles were observed hunting for insects. One of the juveniles was pecked hard several times by the adult male when it attempted to beg for food. This was an indication that the young from the first nest were nearly fully weaned.

On 8 July 1992, I noted that the female was incubating four eggs in the second-clutch nest while nearby the male still attended three young

from the first nest (Ridout 1992). Bent (1950) reported that "second nestings are begun while the adults are still feeding young from the first brood, but not all pairs undertake a second brood. One pair had a new nest with fresh eggs when the young of the first brood were 46 days old".

Unfortunately, the second nest was empty when checked on 11 July 1992, by Doug Tozer, Ron Tozer and the author. The cause of the nest failure was not apparent. However, previously it had been discovered that cattle regularly cause nest failures by rubbing and pushing against nest trees, causing the eggs to shake out of the nest (Pittaway 1991; Marie-Christine Paquin, pers. comm.). Five shrikes (two adults and three juveniles) were still present near the second nest on 15 July 1992.

When I next checked the area on 17 August 1992, I was astonished to find an adult tending a recently fledged young. I estimated that the young shrike had been out of the nest a few days at the most. This was based on its half-grown tail, bright yellow gape, dull black mask, and heavily barred woolly plumage. This juvenile exhibited concealment behaviour (Pittaway 1993). I concluded that the pair must have re-nested after their second nest failed. I noted that insect prey in the form of grasshoppers and moths was abundant. My last sighting of a Loggerhead Shrike in the area was on 22 August 1992.

Summary

The above observations constitute the first recorded evidence of double-brooding in Ontario of the Loggerhead Shrike. In 1992, Amy Chabot (pers. comm.) of McGill University also reported evidence of double-brooding in shrikes in the Napanee area. I believe that Loggerhead Shrikes are regularly double-brooded in Ontario.

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Ron Pittaway, Box 619, Minden, Ontario K0M 2K0.

Winter Roosting Behaviour of the Three-toed Woodpecker

by
Don Shanahan

At approximately 1415h on 9 December 1992, Sid Hadlington phoned to tell me that he and daughter, Elaine, had encountered a Three-toed Woodpecker (*Picoides tridactylus*) in Jobe's Woods, Presqu'ile Provincial Park, near Brighton, Ontario. Investigating an unfamiliar call at 1400h, the Hadlingtons had discovered a sawdust and woodchip-covered Three-toed Woodpecker beginning to excavate a hole in a dead tree (S. Hadlington, pers. comm.).

I raced to Jobe's Woods and found the Hadlingtons. The woodpecker, a female, was energetically digging a hole approximately 0.8 m from the top on the east side of a 7-8 m American Beech (*Fagus grandifolia*) snag. When I arrived at approximately 1430h the hole was just large enough to admit the woodpecker. The cavity was sufficient for the bird to crawl inside and toss out wood chips. The woodpecker regularly emerged from the hole to crawl about adjacent bark.

During this time, the Three-toed frequently gave a chirpy "peet" or "peek" call. This call was comparable to that of a Downy Woodpecker (*Picoides pubescens*) but was higher in pitch, livelier and more emphatic. The call also resembled the monosyllabic squeaks given by resident Red Squirrels (*Tamiasciurus hudsonicus*). At times, the Three-toed called in paired syllables emphasizing one of the two syllables.

During the Three-toed's digging, both a Downy Woodpecker and a White-breasted Nuthatch (*Sitta carolinensis*) landed in nearby trees and, in the case of the nuthatch, on the beech snag. Both birds eventually departed after being vigorously pursued by the calling Three-toed Woodpecker. After 20 minutes of observation, the woodpecker flew away to the north.

From the first sighting through to mid-March 1993, the most reliable way to see the Three-toed Woodpecker was to wait near the roost before dawn or dusk. For example, on 30 December 1992 at 1725h, I heard a short episode of tapping from the top of a dead Eastern Hemlock (*Tsuga canadensis*) immediately southeast of the roosting snag. Moments later the Three-toed flew down to perch for a few seconds on a smaller hemlock. Seconds later, in waning light, the woodpecker flew to its hole and quickly entered the cavity. Almost immediately, the bird's head appeared at the opening. After peering out for 10 to 15 seconds, the bird disappeared. Except for tapping, the woodpecker had been silent.

Despite being the focus of much searching, the Three-toed Woodpecker was rarely reported in Jobe's Woods between 0745h and 1600h. Though Downy, Hairy (*Picoides villosus*) and Pileated (*Dryocopus pileatus*) Woodpeckers

were regularly seen in Jobe's Woods from December 1992 through to mid-March 1993, and a female Black-backed Woodpecker (*Picoides arcticus*) was occasionally reported, it appeared that the Three-toed Woodpecker spent its days elsewhere. During one such absence, probably on 22 January, the north side of the roost snag was pitted by a Pileated Woodpecker.

I often wondered where the Three-toed went, presumably to feed, in the daytime. However, much searching during December and January proved fruitless. On 3 February 1993, following a discussion with Sid Hadlington, I searched a thick, coniferous plantation (*Picea*, *Pinus* and *Tsuga* spp. — approximately 2.5 hectares) adjacent to Jobe's Woods. About to check the final row, I spotted a dead spruce with small bark peelings lying below it on the snow. Entering a dense spruce-dominated area, I heard a faint tapping above me. Looking up, I saw the Three-toed Woodpecker about 3 m from the ground on a spruce trunk. I watched the bird for the next 45 minutes.

Subsequent checks of the same area on 4 and 5 February failed to reveal the Three-toed Woodpecker. However, on 5 February I counted 14 worked areas with fresh bark peelings. I located the Three-toed feeding in this plantation a second time on 9 February. On 19 February, a second spruce/pine plantation located approximately 0.8 km from the roost yielded the feeding Three-toed Woodpecker. I discovered the woodpecker feeding in a third spruce/pine plantation approximately 1.8 km from the roost on 28 February and 14 March.

Discussion

North American Three-toed Woodpeckers are infrequently seen in their boreal forest habitat (Bent 1939) and are considered non-migratory (Yunich 1985). Only occasionally do Three-toeds winter south of their summer range (Bent 1939) and usually as a result of "some forest malady" (Yunich 1985). Unseen by most southern Ontario observers prior to the advent of Dutch elm disease, Three-toeds were seen on blighted elms during 1956-7 and 1963-1966 (West and Speirs 1959). The Three-toed remains a notable sighting on Christmas Bird Counts in southern Ontario (McIlveen *in* Cadman et al. 1987).

While habitat requirements for resident Three-toed Woodpeckers are well documented (Cramp 1985, Bent 1939, Ehrlich et al. 1988), I found little reference to roost and food tree requirements of irruptive woodpeckers. For example, Yunich (1985) reported only six examples of food trees used by irruptive Three-toeds in New York (3 elm, 2 hemlock, 1 tamarack). With this in mind I thought it reasonable to describe Jobe's Woods and surrounding area giving particular attention to characteristics similar to those found in the Three-toed Woodpecker's breeding habitat.

Part of the Great Lakes - St. Lawrence biome, Jobe's Woods is a mature but regenerating forest containing a deciduous/coniferous mixture of beech, maple (*Acer* spp.) and oak (*Quercus* spp.) with hemlock, pine (*Pinus* spp.) and areas of eastern white cedar (*Thuja occidentalis*). Snags as possible excavation sites are always present and will be more

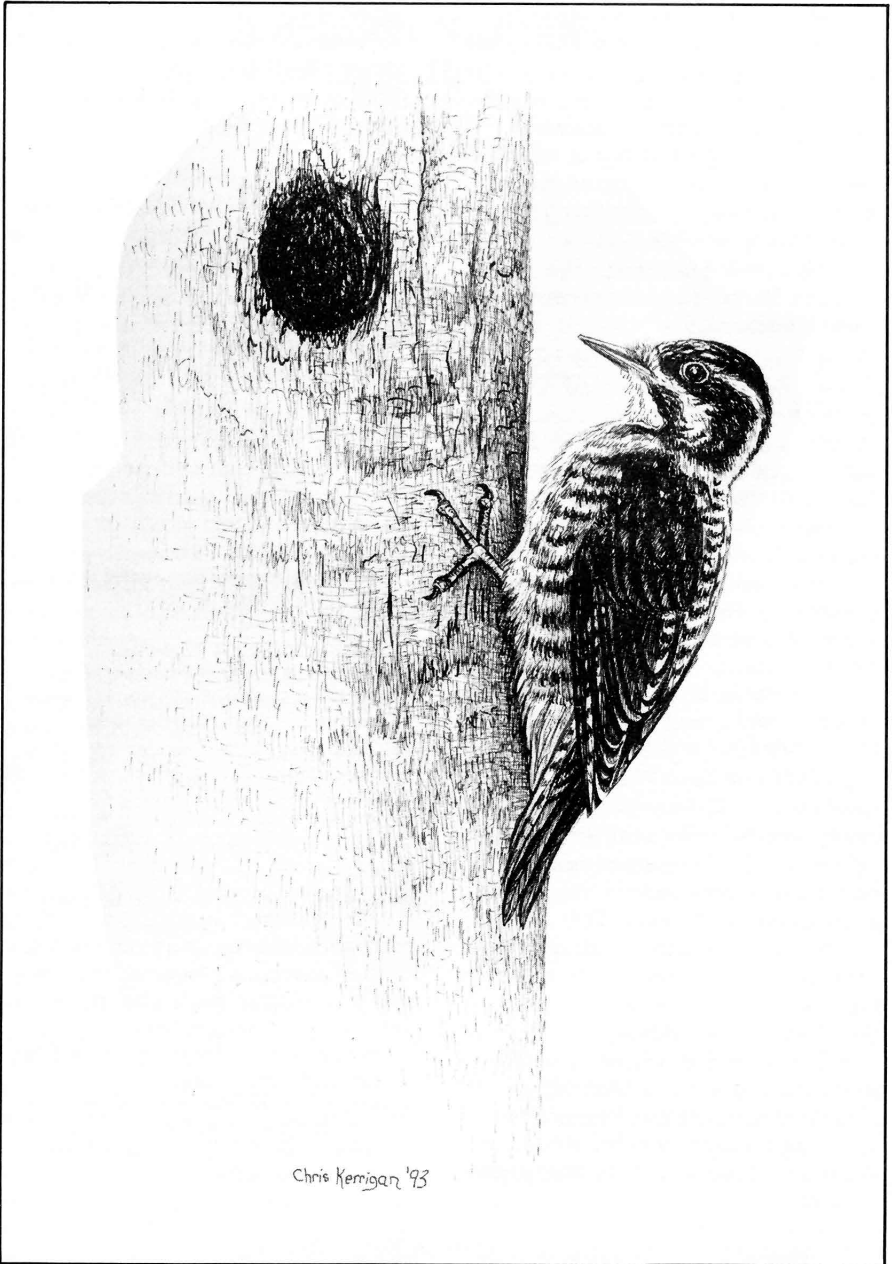


Figure 1: Three-toed Woodpecker. Drawing by *Christine Kerrigan*.

abundant in the future because of considerable storm damage during fall 1992.

Planted areas near Jobe's Woods contain heavier concentrations of spruce (*Picea* spp.), many of which are dead or damaged. Three such areas yielded me the feeding Three-toed. This is consistent in part with Yunich's (1985) statement that resident Three-toeds favor dense spruce-larch stands.

By mid-March 1993 the Jobe's Three-toed Woodpecker had doubled the 45.6 day average stay Yunich (1985) calculated for multiple-day sightings of irruptive Three-toeds in New York State. Yunich also states that because single-day sightings made up 63% of all sightings in his survey it could be inferred that out-of-territory Three-toeds are selective when assessing an area's resources. It follows that the 92-93 Three-toed Woodpecker evaluated Jobe's Woods and area and found it able to provide favourable food and shelter.

The Three-toed Woodpecker excavated its 92-93 winter roost cavity the day before the area was hit by a three-day blizzard considered to be the area's most severe in approximately 50 years. The imminent bad weather may have contributed to the haste with which the woodpecker dug its cavity. As observed by the Hadlingtons, the hole was started at approximately 1400h. By 1430h the agitated bird had excavated sufficiently to enter the cavity and disappear from sight. While not directly comparable, this

interval compares with reported nest excavation time frames of "about 12 days" (Ehrlich et al. 1988) and, with both sexes working, 5 days and 12 days (Cramp 1985).

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Don Shanahan, Box 519, Brighton, Ontario K0K 1H0.

Common Nighthawks foraging in large flocks on migration

by
Peter J. Ewins

Observations

On 23 and 24 August 1992, a flock of at least 110 Common Nighthawks (*Chordeiles minor*) foraged over an area of houses and streets lined with mature deciduous trees (mostly maples) in the west of Toronto, near Keele Street, about 1 km northeast of High Park. From up to two hours before sunset, the first birds appeared, hawking for insects, usually 50-150 m above tree level. Numbers increased until around sunset, and foraging appeared to be maintained until it was too dark to see the birds.

The birds were covering an area of approximately one km², flying in a loose group in a remarkably systematic fashion. The flock would quarter the area in one direction, then turn around and proceed back over the area. This sequence was repeated many times. Some birds appeared to drift away from the edges of this foraging area, but some others were seen arriving. The total number of birds in the foraging group remained at just over 100 during most of the observation period. There was relatively little calling, most individuals seemed to be busy searching for and often catching, insects on the wing. The distance between adjacent foraging birds in the flock was estimated to be mostly about 20 m. The weather was generally fine, calm and warm during both evenings. No raptors were seen in the neighbourhood on either

evening, so it did not appear that the nighthawks were flocking in direct response to predation pressure. I was unable to identify the insects upon which the birds were feeding, but most were too small to be seen with binoculars at 50-150 m. Winged ants were present in the area at the time of the observations.

Within a week of these observations I also saw smaller flocks of nighthawks foraging at dusk in the general vicinity (e.g., four areas within 2-3 km of High Park, as well as the park itself). These foraging flocks usually comprised 10-50 birds, and the pattern of regular quartering backwards and forwards over a restricted area of mature deciduous trees and houses appeared to be adopted in these areas too, although not as markedly as seen in the Keele Street flock. I suspect that in excess of 500 nighthawks foraged within 2-3 km of High Park in late August 1992.

Discussion

Common Nighthawks occur regularly on fall migration, often in considerable numbers, in the lower Great Lakes basin and adjacent states, mostly between mid-August and mid-September (Weir 1984, Bull 1985, James 1991). Large movements, mostly in a southerly or southwesterly direction, and along river valleys or lakeshores, have been noted in many parts of Ontario, usually in the late afternoon or evening. Although feeding behaviour

was normally not noted specifically, some groups may have been actively searching for prey as they migrated. Groups were reported to comprise up to 550 nighthawks; these records are summarized in the following accounts: Mills 1981, Parker 1983, Weir 1984, Bennett 1987a,b,c. The most concentrated passage recorded in the Toronto area appears to be 706 flying over McMaster Avenue in 45 minutes on 31 August 1944 (Parker 1983).

Elsewhere, flocks of up to 1000 have been noted in Manitoba and Vancouver Island (de Graff 1978, M.K. McNicholl pers. comm.), Michigan (Brewer et al. 1991), Wisconsin (Tessen 1987); Texas (Bent 1940), Arizona (Bryant and Bryant 1945), and New York State - 1000 birds between 1800h and 2000h one day (Bull 1985). The highest count known to me is 16,496 passing over a backyard in Duluth, Minnesota, on 16 August 1986 (Tessen 1987). However, care should be taken when interpreting these totals, since my detailed observations of flock foraging behaviour indicate that repeat counting of the same individual nighthawks would be quite possible, particularly if birds adopted a more circular foraging route over an area.

Surprisingly, published accounts of flock foraging during fall migration are scarce. In the Kingston area, Quilliam (1973) mentioned a record of a flock of 40-50 birds hawking flies in the late afternoon of 26 August 1957, the birds moving in a circular motion. In Saint John, New Brunswick, up to 300 circled around, evidently feeding on flying ants, from 1900h until sunset on 20, 21 and 22 August 1980, and again on 19 August

1983 (Bennett 1983c). Elsewhere, Bent (1940) provided two accounts of flock foraging in fall: one being a flock of several hundred feeding on grasshoppers low over a meadow in August, the other group (unstated size) in low pursuit of insects over a clover field. However, the only detailed accounts of flock foraging behaviour were from other times of year, involving "hundreds of nighthawks" preying upon small beetles around a camp fire (Dr. Mearns, quoted by Bent 1940), and "hundreds" flying high, then back again at much lower altitude in the opposite direction, presumably feeding on insects at different altitudes (A.J. van Rossen, quoted by Bent 1940). Foraging over towns and cities is well known (Bent 1940, Godfrey 1986).

I suspect that the nighthawk flock I observed was feeding on flying ants as well as other insects. More than 50 different types of insect prey have been recorded from Common Nighthawk guts; one stomach contained a staggering 2175 ants, another 500 mosquitoes (Terres 1980). Presumably there was an abundance of insects available in the air above the trees and houses near Keele Street on the evening of my observations, making it profitable for the nighthawks to beat back and forth repeatedly over the same area. I think it unlikely that the birds were aggregating as a defence from predators. However, on 1 September 1986, a Peregrine Falcon (*Falco peregrinus*) stooped unsuccessfully amongst a flock of up to 60 Common Nighthawks migrating westward near High Park, Toronto (Bennett 1987a).

Although nighthawks have nested readily on tar and gravel rooves since since the late 1880's in North America (Bull 1985, Andrie and Carroll 1988), including Ontario (Mills in Cadman et al. 1987), breeding numbers have been declining in urban, suburban and rural areas throughout much of the continental range (Mills in Cadman et al. 1987, Andrie and Carroll 1988, Brewer et al. 1991). The flocks seen feeding over Toronto in late August are almost certainly migrants from farther north, since much smaller numbers are seen around the city during the breeding season. Weather conditions and the abundance of flying ants and other insects probably account for unusually large flocks of nighthawks seen over Toronto during the fall migration period.

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Peter J. Ewins, Canadian Wildlife Service (Ontario Region),
Canada Centre for Inland Waters,
Box 5050, Burlington, Ontario L7R 4A6.