MERLINS — THE SASKATOON FALCONS

by LYNN W. OLIPHANT*

High above a busy intersection a lone bird flew in erratic circles, rapidly twisting and diving one moment, soaring on still wings the next. What kind of bird and why was it acting so strangely? A glance through binoculars told the story. An immature Merlin (Pigeon Hawk) was hawking dragonflies. The air was full of the large insects. The Merlin, flying about 250 feet above the Saskatoon traffic, pursued a straight course until within a few feet of a dragon fly; then with a quick twisting stoop she had her prey. It was eaten on the wing as she soared in circles. The entire drama was repeated several times in the space of 10 or 15 minutes, sometimes with a successful catch and sometimes not.

When we hear the word "falcon", most of us picture a large bird of prey circling majestically, high above a steep wilderness cliff. The smaller falcons, however, are regularly found in or near even our largest cities. The city of Saskatoon supports a surprisingly high density of Merlins all year long.

Falcons of North America may be divided into two groups on the basis of size. The large falcons include the Gyrfalcon, Peregrine and Prairie Falcon. The American Kestrel (Sparrow Hawk) and Merlin are our two smaller falcons. The American Ornithologists' Union has recently changed the names of these two falcons. Like the previous change in name of the Peregrine Falcon from "Duck Hawk," this will, hopefully give these birds a more favourable public image.

If one has the opportunity to observe these five falcons in the wild (a possibility in Saskatchewan), it soon becomes evident that the Merlin is more similar to the large falcons than it is to the Kestrel. An aerial hunter of small birds, the Merlin gives an impression of power, size and dash far above what might be indicated by its actual measurements. Although its wing span (about 23 inches) is only slightly larger than that of a Kestrel, it weighs twice as much, all of about 6 ounces for a female. Its feet are also distinctly larger than those of the Kestrel, probably corresponding to the difference in the size of their typical prey.

My first extensive experience with Merlins occurred during the late 1960's while I was a graduate student in Seattle, Washington. The black coastal race of the Merlin was a regular winter resident in the city. Individuals were seen on several occasions pursuing or eating small birds. Upon coming to Saskatoon in September, 1971, I was pleasantly surprised to find Merlins throughout the year at densities far exceeding anything I had previously seen. Between September 1, 1972, and September 1, 1973, my notes record 37 individual sightings of Merlins in the Saskatoon area (not including observations at nest sites).

Merlins have been reported on the Saskatchewan Christmas counts in 11 of the past 20 years (March issues of *Blue Jay*). Saskatoon has had at least

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lult female Merlin with partially eaten English sparrow. Lynn W. Oliphant

one Merlin on 14 of the past 20 counts. Six individuals were reported in the Saskatoon area on the 1972 count which was the high for all of North America.

During the past 4 years (1971-1974) there have been a minimum of eight nesting attempts by Merlins within the city limits of Saskatoon. Five of these nests successfully fledged young. One unsuccessful attempt was apparently destroyed by a storm which blew down the nest and eggs. It is believed that the other two nests were climbed during the early stages of incubation (perhaps several times) which may have been responsible for the nest failure. As far as is known, the successful nests were not climbed prior to hatching of the young.

Many observations were made at several of these nests and two nestings were followed in detail. The advantages of studies at an urban nest site are extraordinary. The adult birds are accustomed to people, dogs, cars, etc. directly under the nest. They will, therefore, carry out their normal activities while being observed without the constraints and encumbrances of a stationary blind.

Pairs of Merlins were observed in several parts of the city during April and May. At this time the birds were often highly vocal, screaming as they flew around a prospective area. In seven of eight cases, the nest was high in a large spruce with tall deciduous trees nearby. The nest itself was in what appeared to be an old Crow's nest. Laying and initiation of incubation generally occurred during the first half of May. Definite dates were not obtained since an effort was made not to disturb the birds by climbing the nest.

One of the most striking differences between Merlins observed nesting in Saskatoon and other accounts of this species is the very low intensity of nest defence. The extreme aggressiveness of nesting Merlins has often been em phasized.[1] [2] [3] Fox states that he wa frequently met by the screaming ma a half mile from the nest site.[2] Two the nests that were closely observed i Saskatoon were in densely populate areas. Neither the male nor female these two sites engaged in defence the nest against humans or othe animals to any extent. The adult bird tolerated humans, dogs, cats and larg birds, including crows and gull without any apparent concern vocalizations. The exceptions to th low level of defence were when th nests were climbed to band the your and when crows (twice) and grackl (once) came within 20 feet of the ne site. At least one and probably tw pair of crows successfully reare young within 200 feet of one nest wi remarkably little interaction with th Merlins. After fledging at one nest, th adult female falcon appeared t recognize me and began screaming if looked at her. Other people in the ar were generally ignored. It is estimate that between 5,000 and 10,000 peop passed within 50 feet of these two nes while they were occupied. Only handful of people realized there wer birds nesting there. This low level defence is probably highly adaptive i an urban setting, if for no other reaso than the adults would be spendin nearly the entire day simply defendin the nest site.

The two Merlin nests in high populated areas were close to maj arterial roads with a heavy traff load. Although the Merlins seemed a customed to even large trucks a motorcycles, on several occasion they were disturbed by cars or truc backfiring. When this occurred th adults would immediately fly fro their perches with a start and circle th nest site, returning within a minute to perch. No vocalizations accompani these disturbances.

At least three distinct adult cal

Urban habitat of one nest site. View about 100 feet from nest.

ere distinguished. The loud "*ki-ki-ki-i-keee,*" typical of nest defence, was eard during most interactions be-ween the male and female, especially hen prey was being brought to the est by the male. The male generally itiated this by calling as he flew ward the nest. A much softer version f the same call was heard when the dults alternated incubation duties at e nest or transferred prey while per-ed on a limb. The male appeared to ll the female off the nest during in-ubation by a series of single soft *hups.*" This call was similar to the ll used by the female at the nest uring the first week or two after hat-ing and was described by Lawrence a series of sharp "*ticks*".[3] The young ere heard just prior to and after dging, especially at feeding times. ey called in a series of single rising tes or "*chee's.*" Within a week of dging, the single calls were more closely spaced and began to be grouped into calls more like the adults.

At one nest the male was definitely observed to participate in incubation duties. The male typically spends much of the day perched within 50 feet of the nest during incubation, occasionally preening or changing perches. This particular male generally left to hunt between 9:30 and 10:30 a.m. and soon returned with prey. Generally this was a whole, unplucked sparrow. The female was soon called off the nest by the "*chup*" calls of the male. After circling the nest site, the female alighted facing the male and each grasped the prey in their beak. They spread their wings, pulling and uttering soft "*ki-ki-ki-ki-kee's.*" The male then let go and the female flew to one or another of her favourite plucking trees to eat. The male went directly to the nest and remained on

Adult male Merlin

Lynn W. Olipha

he eggs until the female returned to he nest. The time spent off the eggs robably never exceeded 2 or 3 inutes. The longest single time I ecorded for the male on the nest was hours. The female often perched ear the nest, preening and sunning fter eating before relieving the male. do not know if the male brooded the oung.

The method of prey transfer after e female stopped brooding the young as much different. The female spent early all her time perched within 50 et of the nest when not brooding the ung or plucking prey. She was never bserved to do any of the hunting, lying solely on the male for her food d food for the young. As the male turned to the nest area, calling with ey in his talons, the female left her rch to meet him. After several aerial aneuvers, the prey was taken from e male in the air and carried to a tree r plucking.

The prey species differed signifintly from reports in the literature, doubtedly because of the different undances of possible prey species in urban environment. All prey obserd were sparrow-sized birds. At one st an attempt was made to identify species taken. Frequently the prey uld be positively identified through noculars. Alternatively feathers were llected as the birds were plucked, or thers and other parts collected unr favourite plucking trees. House arrows were common: 23 were sitively identified through noculars; 14 other small birds were ught to be this species; another 12 rrows were identified from feathers d body parts collected near the nest . Three other species were iden-ed from remains: Cedar Waxwings , Tree Swallows (2), Horned Lark , and one fledgling was observed ing a Cedar Waxwing. It is mated that fully 90 per cent of the y taken at this nest consisted of House Sparrows. It is well known that predators will take advantage of unusual prey densities. The urban environment obviously provided a very good population of House Sparrows which were heavily preyed upon.

The hunting efficiency of the male was notable. On several occasions he was seen to leave his perch and return within minutes with prey. On at least two occasions he was observed bringing prey to the female and returning with a second sparrow before she had plucked the first. There is a possibility that some prey may have been cached and then retrieved. This tendency to stash food away is well known in captive falcons and could lead to erroneous ideas of their hunting efficiency. The male was observed to pursue birds unsuccessfully on four occasions (two House Sparrows and two American Robins) from his normal perch near the nest site. There has been a tendency to assume that predatory birds do not hunt near their nest. Although the male generally hunted at some distance from the nest (possibly as far as 2 or more miles), he obviously was not inhibited near the nest if the opportunity presented itself.

The female was largely ignored by potential prey species. Robins, blackbirds, sparrows and warblers were all observed perching within 10 feet of the female on different occasions. As noted before, the female was never observed hunting. She was actively molting during this time while the male apparently had not yet begun to molt. She alone fed the young as far as could be determined and, generally, prepared the food (some plucked, partially eaten birds were brought in by the male). The female invariably ate the head of the prey before plucking and presenting it to nestlings. Prior to their hatching she ate the entire carcass and after hatching she was seen occasionally to eat more than the head if the young were well fed.

Juvenile male Merlin nine days after fledging, with sparrow. Lynn W. Oliphan

Fledging takes place when the young re about a month old. Their flight athers are still actively growing at is time and down still adheres to the w feathers. For the first few days the ung remain close to the nest, attemping short flights to neighbouring trees.

At one nest, the first young to atmpt a flight landed in a backyard vimming pool. Luckily it was fished t and a very bedraggled young erlin was resuscitated through the forts of Drs. Jan Brigden and Rhea hite, veterinarians at the Western ollege of Veterinary Medicine. This ung male was released at the nest e at noon the same day and was able make a rather strong flight of about 0 feet. His perching ability and stance judgment were not terribly od however. After missing the roof a house he hung clinging to the cco side for several minutes before unching off into space again. His imaries and tail feathers were imated to be about three-quarters own at this time.

During the first 1 to 2 weeks, the ung move farther afield but remain the general vicinity of the nest. They not attempt to hunt during this e. They seem to totally ignore or ply watch with interest potential y that fly very close to them.

After a week out of the nest, their wers of flight are considerable. Often the whole brood will fly off to meet the adult female as she flies in with prey. They all scream loudly attempting to snatch the prey from the female, who often leads them around a short while before letting one take the prey.

The young began to disperse during the second week out of the nests. Presumably they began hunting on their own about this time or at least accompanying the adults to their hunting areas. In late summer immature Merlins were often seen hunting singly in the fields north of the University and in Saskatoon itself (hawking dragonflies).

This small "city falcon" has much to offer the urban bird watcher. They are well enough adapted to man and the urban environment to allow close observation of their nesting behaviour. During the winter they can often be seen pursuing prey such as Bohemian Waxwings through residential areas in our large cities. Once you positively identify your first "city falcon," you'll probably notice they are around all year.

[1]CRAIGHEAD, F., and J. CRAIGHEAD. 1940. *Nesting Pigeon Hawks.* Wilson Bull. 52:241-248.

[2]FOX, G. A. 1964. *Notes on the western race of the Pigeon Hawk.* Blue Jay 22: 140-147.

[3]LAWRENCE, L. de K. 1949. *Notes on nesting Pigeon Hawks at Pimisi Bay, Ontario.* Wilson Bull. 61:15-25.

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MAKING MILK FROM SAWDUST

Most folks might think sawdust proper food only for the little wooden cows in aby's toy Noah's Ark, but the United States Forest Products Laboratory at Madison, Vis., finds that really high-producing dairy cows give just as much milk when ydrolized sawdust forms a third of the feed mixture.

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