

## BIRD NOTES



Sketch by Dora Bardal

# The Chimney Swift

By Frank H. Brazier, Regina

At 7:00 p.m. C.S.T. on May 14, 1958, Elmer Fox and I saw what we believe to be the first Chimney Swift recorded for Regina. It was a bright, warm evening with a light wind, and we spotted the swift as it flew over the trees bordering one of the lawns fronting Wascana Lake in the Legislative Grounds. There were Tree Swallows in the air at the time so that the contrasting flickering flight was most noticeable. Also, we both got our binoculars on it when it returned a second time and saw it clearly enough to identify it as a Chimney Swift (*Chaetura pelagica*). The sickle-shaped wings on the cigar-shaped body were clearly visible to both of us.

The Chimney Swift belongs to the Genus *Chaetura* of the subfamily Chaeturinae (spine-tailed swifts) which, with all other swifts, comprise the Family Apodidae and the Suborder Apodi. The Order Apodiformes includes both swifts and hummingbirds. *C. pelagica* is peculiar to North America, breeding in the for-

ested zone from Carrot River, Saskatchewan, southeastward.

All swifts are extremely specialized birds and as their habits tend towards the spectacular they have aroused considerable interest. They are aerial creatures and some species, *C. pelagica* included, need never touch the ground during a normal lifetime. From the moment a swift launches itself on its first flight from the wall space it clung to after leaving the nest, until its death, it would normally catch flying insects for food, drink, and mate, while on the wing, closing its wings only to roost at night..

The American Chimney Swift gathers dead twigs for nesting material by breaking them from trees with its feet in flight while the European Swift (*Apus apus*) finds its nesting material in windblown flotsam floating in the air. Both these swifts have extremely sticky saliva, as do many swifts, and it is used to cement the nest material to a wall. Indeed, the Salangane (*Collocalia*

*esculenta*), a swift of southeastern Asia, makes its nest wholly of saliva; this hardened saliva is the basis of Chinese birds'-nest soup. It has been determined beyond reasonable doubt that *A. apus* even passes some nights resting on the wing. This was taken to be another peasant superstition—after all, they also believed that swifts passed the winter, like swallows, buried in the mud of pond and lake bottoms! The latter legend proved false, but when aircraft came on the scene swifts were seen floating on the wing high in the moonlit skies. While most swifts were observed roosting at night, some (they were believed to be the bachelor yearlings) rode the night skies at rest. Lane (1954: 59-61) cites E. Weitnauer in detail on this.

The flickering flight of the swift has been considered due to alternating wing strokes but, and I quote Tyler (1940: 281): "The question was settled by Myron F. Westover (1932) who demonstrated by motion photography that 'there was no instance where there was any alteration of wing movement; the wings move in unison as do those of other species of birds.'" The American Museum of Natural History confirmed Mr. Westover's findings. However, Lane (1954: 211) quotes John H. Storer: "I have slow motion movies of (Chimney) Swifts in flight which seem to show quite clearly that they do at times fly with alternate wing beats and can readily change from alternating to simultaneous wing beats." It now seems evident that Westover's films did not allow for the fact that *sometimes* they fly with alternating wing beats and his film caught only one part of the show. However, I notice that Peterson (1947: 130) still claims that the alternating wing beats are an illusion despite the slow motion movies.

The very name "swift" recognizes its most characteristic feature—its speed in flight. Certainly the swifts rate among the fastest birds. If the Peregrine is handed the palm for speeds well in excess of 200 m.p.h., perhaps up to 265 m.p.h., the swifts as a group are not far behind, if at all. The Indian Spine-tailed Swift (*C. caudacuta*) has been accurately timed at 219 m.p.h., which puts it in the Peregrine class. Pough (1957: 147) credits the White-throated Swift

(*Aëronautes saxatalis*) with being probably the fastest North American bird, noting that they have been seen to escape from stooping Peregrines.

I do not know if there is a study of *C. pelagica* comparable to the one that Lacks (1955) made of *A. apus*. Some of the Lacks findings are most interesting and may apply partly to *C. pelagica*. Tyler (1940: 284) found the weather to be the greatest consistent hazard that *C. Pelagica* faces, prolonged bad weather clearing the air of insects and starving many swifts. The Lacks (1955) noted that during inclement weather the eggs of *A. apus* may be left uncovered for several cold hours without harm; the naked young were also left unprotected from the cold for extended periods, pointing to an evolutionary adaptation for survival. If sufficient food were not found the young died, but they could survive for a day or more without food, a most unusual adaptation in small birds. The Lacks discovered that young swifts store fat against times of food shortage whereas nestlings of other small birds produce feathers rather than fat. Thus an ordinary small bird nestling was ready to fly on schedule if it survived periods of famine, but the young swifts might be delayed three weeks owing to lack of flight feathers although they stayed alive through periods of hunger.

Hummingbirds and the closely related Goatsuckers (*Order Caprimulgiformes*) are well known among scientists for their ability to revert to a "cold-blooded" state, that is, one in which body temperature is lowered without harm. The naked young swifts, the Lacks discovered, also exhibit this reptilian characteristic as they are often left alone when both parents are away during bad weather hunting food. Webb (1953: 193-195) had some important experiences with South American hummingbirds and South African mousebirds (*Fam. Colidae*) which seemed dead when examined on nights of low temperature, but which revived later—the mousebirds when warmed by the sun and the hummingbirds at daybreak regardless of temperature. Pearson (1955: 93-99) has done some fine work on the rate at which the tissues of hummingbirds consume oxygen and has found that the entire bod

slowed down overnight practically to the edge of death to keep the birds from starving while they slept. He found, as Webb found, that they reverted to normal at daybreak when the flowers open and their nectar is again available. Some such physiological change would apparently account for the resistance of the young swifts.

The birds of these two orders (swifts, hummingbirds, goatsuckers and mousebirds) are thought to be fairly primitive as birds go, and they do have a tenacity for life which is remarkable. It is thought that birds evolved comparatively recently from lizard-like reptiles: perhaps the evolutionary adaptations from survival mentioned above are actually atavisms or holdovers from reptilian ancestors, as we know that reptiles can

survive low temperatures and famine for long periods. These characteristics add some weight to the belief that these birds are quite primitive.

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## Bird Notes from a Farm Shelterbelt

By Margaret Belcher, Regina

Thirty years ago a shelterbelt was planted on our farm at Dilke, with Manitoba maple, ash and Russian poplar spaced four feet apart and bordered with caragana. The ash and poplar have almost all died out, leaving the maples and caraganas. In this shelterbelt in the past thirty years a characteristic birdlife has established itself.

The pattern of birdlife here could be duplicated in practically any shelterbelt in south central Saskatchewan. It is not its novelty that is its attraction—with almost predictable regularity the same birds return each year to build their nests and raise their young. Yet, because the farm shelterbelt is so compact a unit of a particular type of habitat, and because the "edge" of the belt of trees is so well suited to birds and to watching them, the shelterbelt has surprising possibilities for a study of bird behaviour. Even if one is not engaged in a seriously conducted study, it is endlessly interesting to watch the birds each day when working in the garden or going about farm chores in the yard.

This year the shelterbelt has had the following resident birds, presumed nesting: Yellow-shafted Flicker (one pair); Eastern Kingbird (probably two pairs); Western Kingbird (two pairs); Least Flycatcher (one pair); Brown Thrasher (probably two pairs); Robin (one pair); Loggerhead Shrike (one pair); Warbling Vireo (probably two pairs); Yellow Warbler (one or two pairs); House Sparrow; Redwinged Blackbird; Baltimore Oriole (one pair); Common Grackle (two pairs); Brown-headed Cowbird; American Goldfinch; Chipping Sparrow (one pair); Clay-colored Sparrow.

The Yellow-shafted Flicker probably did not nest in the shelterbelt, but in a nearby aspen bluff. The male flicker drummed on the combine in the spring; on July 15 five flickers were observed at one time and following that the young were heard often in the shelterbelt calling for food.

The Chipping Sparrow in the shelterbelt was also something of a surprise. After the spring migration of sparrows, I heard the song only once or twice; the other day (July 15), however, I saw the "Chippie" with