

# Chaetura

Newsletter of the North American Chimney Swift Nest Site Research Project  
SPRING 1998 Volume 3, Issue 1

**Chaetura** is a publication of the **Driftwood Wildlife Association**, a non-profit all volunteer organization supported by tax-deductible contributions. DWA is dedicated to promoting research and providing community education in the areas of wildlife rehabilitation and avian natural history.

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## IN THE BEGINNING...

In January of 1989, Georgean and I built 2 wooden towers which were designed to attract nesting and roosting Chimney Swifts. They are 22' tall, 18" x 18" inside and attached to our 2 story house. In late March of that year a pair moved into one of the towers and raised a family. By October a roost of more than 60 swifts were spending each night in the tower. The next year, both towers had nests and the fall roost contained more than 100 swifts. We now enjoy the company of Chimney Swifts every year.

In 1995 we established the North American Chimney Swift Research Project. The goals of the project are to: identify and monitor existing nest sites; design, construct and monitor new sites; raise public awareness about Chimney Swifts conservation. At this time we have more than 200 individuals and groups on our mailing list and our Research Associates have constructed more than 50 Chimney Swift towers of various designs in 15 states. Paul Kyle, Editor

**SPRING**

## WHAT IN THE WORLD IS THAT SOUND ?

Chimney Swifts create a variety of sounds during their stay with us in North America during the warmer months. There is the "whooshing" sound of their wings as they come and go from the chimney. They utter a gentle "chipping" as they socialize with one another in the roost during nest-building and at night. The most audible sounds are those of the young which have two basic vocalizations: the feeding call which is a very loud, high-pitched "yippering" as they beg for food from the returning parents, and their mechanical, hissing alarm call which they make when disturbed or frightened.

As long as the young are making the loud feeding call, they are incapable of sustained flight and are completely dependent on their parents for food. Homeowners' tolerance during this critical period of the swifts' development is very important. If the young are forced from the chimney during this period, they will perish -- slowly starve to death over a period of several days. The parents are unable to care for them outside of their chimney.

Once the sound of the young becomes noticeable, they are usually only 10 days or so from fledging. Keeping the damper closed and packing the fireplace with insulation can dampen the sound to tolerable levels. If additional incentive is needed to allow the swifts to continue their breeding cycle, consider this: the raucous sound emanating from your fireplace is the sound

of thousands of annoying mosquitoes, biting flies and flying ants being converted into beautiful, graceful migratory avian insectivores which will consume thousands more of the insect pests we swat and curse during the summer months.

Chimney Swifts, like many of our precious Neotropical migrants, are declining in numbers throughout North America. We should all be concerned about their plight and do whatever we can to encourage their survival. They do not require acres of unspoiled wilderness, expansive wetlands or complicated wildlife management plans. They only require 1 square foot of unused column: our chimneys during the summer when we don't need them...and a little tolerance.

### **CHIMNEY SWIFT TOWER DESIGN BASICS**

We continue to experiment with new materials, designs and methods of installation. However, several principals continue to work well in wooden Chimney Swift Towers.

Heavy texture on the inside is essential. 5/8" Textured 1-11 siding is readily available and easy to work.

An air space between the inside chamber and the outside skin will prevent over-heating (a common problem with smaller towers). The space may also be filled with a rigid insulation board or packing peanuts.

To date, 8' seems to be a minimum height and 11" a minimum inside diameter for a successful tower.

A predator guard is highly recommended: metal flashing around the top (or bottom) or an electric hot-wire. Hot wires should be on a timer which turns the power off during daylight hours.

A bottom with small ventilation holes (1/4" to 3/8") keeps the inside darker and more attractive to swifts. It also protects against predation. Fitting it with hinges and a secure latch will allow for easy inspection and clean out.

A free-standing tower on legs is easier to protect against mammalian predators and ants.

Towers which are less than 12' tall should be fitted with a sun shade on the top, south-facing edge.

A concrete foundation will prevent the need for guy wires on free-standing towers. For 8' towers pour 36" x 36" x 6". For 12' towers pour 48" x 48" x 8". Steel rebar or remesh will greatly increase the strength of the foundation.

Towers should be cleaned of droppings and old nests removed at the end of the season.

### **TWIN TOWERS UPDATE**

The Chimney Swifts made a stealthy return in 1997. When we removed the old nests from the Twin Towers on March 28<sup>th</sup>, there were already fresh swift droppings on the floor in both. At 7:00 PM, 4 swifts were seen circling *silently* through the canyon below their towers. Two entered the North Tower to stay for the night.

At 6:00 PM on March 29<sup>th</sup>, 8 swifts circled the canyon in their more typical noisy fashion. They investigated the Castle by repeatedly entering and exiting the cinderblock structure. Three remained to roost.

On April 6<sup>th</sup> the North and South Towers each had a resident pair, and the Castle held a small roost of 10 birds. By the 3<sup>rd</sup> week of April nest construction was underway in the Twin Towers. On May 1<sup>st</sup> the Castle roost had grown to 47 swifts. The experimental Prism and garden mini-tower were both occupied by May 3<sup>rd</sup>.

On June 1<sup>st</sup>, a survey of all 5 structures on the station revealed a nest with eggs or young in each: South Tower - 4 young; North Tower - 6 eggs; Castle - 5 eggs; Prism - 5 eggs; Garden - 4 eggs.

The South Tower family was captured for study on June 16<sup>th</sup>. All 5 of the adults were already banded. One of the 4 eggs failed to hatch, but the 3 nestlings were banded. They fledged by June 29<sup>th</sup>.

The North Tower family was captured on June 26<sup>th</sup>. The adults in this tower were also already banded.

The North Tower pair raised their young without the help of additional birds. Although they hatched 5 of their 6 eggs, only 2 fledged. Their first casualty died when it fell from the nest. The second loss became ill and died shortly after being recovered from hanging on the *underside* of the nest. The following day another nestling was found dead on the floor. The remaining 2 flourished and fledged on July 10<sup>th</sup>.

The Castle family continued to be accompanied by 2 - 4 dozen swifts. In spite of the "crowd", they hatched all 5 of their eggs. On June 29 we opened the door to band the nestlings. We discovered that one had died shortly after hatching (it was mummified and had become an integral part of the nest). Another was found dead on the floor just below the nest. The 3 survivors were fat and healthy. They complained loudly at being handled and banded. They all fledged by mid July.

Because of its relatively remote location, the Garden Tower was not monitored daily. However, enough trips were made down the hillside to know that swifts moved in by May 3<sup>rd</sup> and laid 4 eggs by June 2<sup>nd</sup>. All 4 babies fledged in early July. The nest in this tower is inaccessible, so none of the inhabitants were banded. Modifications were made to this small tower (11" x 11" x 8') following the nest failure in the previous season. A sun shade on the top of the south edge apparently provided the eggs with the necessary protection from direct sunlight.

A similar modification on the Prism Tower was unsuccessful. For a second season, the eggs failed to hatch. Although the nest was protected from direct sunlight, the interior temperature of this single-walled structure may have still been too high.

For the third consecutive year, the South Tower produced a second brood. Before the first brood fledged, a new clutch of eggs was begun. Four eggs were laid, but only one hatched and ultimately fledged. The single nestling was *extremely* well fed by the extended family. On more than one occasion an adult with a full throat of food was unable to rouse the plump, slumbering baby and had to swallow its catch. On July 29<sup>th</sup> the South Tower family was captured for a second time. It was confirmed that the same swifts were the parents of both broods. This time there were 7 swifts – not counting the slug...uh...nestling.

Not to be outdone, the North Tower parents also produced a second brood. By July 16<sup>th</sup>, 4 new eggs were laid and all had hatched by August 4<sup>th</sup>. On August 14<sup>th</sup>, the youngest was found hanging below the nest. The nestling was weak and very pale (presumably anemic). Chimney Swift Bugs (*Cimex nyctalis*) were found in and around the nest. All nestlings were removed from the tower, specimens of the bugs were collected and the corner crevices of the tower were dusted with 5% Sevin. The three older nestlings were then returned to the nest. The youngest

expired shortly after being placed in an incubator.

On August 16<sup>th</sup>, the North Tower family was captured and it was confirmed that both broods were from the same parents. By September 4<sup>th</sup>, 2 of the surviving young had fledged – leaving the third behind. By September 7<sup>th</sup>, the third bird had still not fledged and was often observed roosting near the bottom of the tower. It was captured and examined. It was observed that each of the primary flight feathers was either deformed or underdeveloped.

The Castle flock reached a high number of 76 on August 29<sup>th</sup>, but diminished over the next 3 weeks. By August 21<sup>st</sup> the Castle was empty. As the Castle flock diminished and the South Tower family dispersed, the North Tower roost began to swell: 9/2 - 18 swifts; 9/12 - 40 swifts; 9/20 - 90 swifts; 10/1 - 137 swifts. The North Tower reached a high of 204 Chimney Swifts on October 8<sup>th</sup>. The numbers began to diminish over the next few days. We decided to capture the flock on the morning of October 12<sup>th</sup>. At that time there were 158 swifts in the North Tower consisting of 118 unbanded birds, 26 wild banded birds, 13 hand-reared birds and 2 escapes. On the night of October 12<sup>th</sup>, 2 swifts returned to the North Tower and 5 others roosted in the Castle. This is the first time we have ever had birds return after a fall banding session. The last Chimney Swifts of the season were sited on October 14<sup>th</sup>. In 1997 Chimney Swifts were known to be on the station for 202 days.

## **CONCLUSIONS, SUPPOSITIONS AND SPECULATIONS**

In two previous years, Chimney Swift nests in the cinderblock Castle peeled loose from the wall and fell to the floor. In 1997 a water-based masonry sealer was applied to the interior walls prior to the swifts' return. The product (McCloskey's Man-o-War) stabilized the gritty surface of the cinderblock. The 1997 nest remained firmly attached to the wall throughout the nesting season.

Chimney Swift Bugs make their living by sucking blood from their hosts. It is possible that the parasites contributed to the malformations while feeding on the blood-rich bases of developing feathers. This may explain the condition of the hatchling-year swift which was unable to fledge from the North Tower.

The successful nest in the sun-shaded Garden Tower was particularly gratifying. The small size of this structure makes it ideal for homeowners who wish to provide housing for Chimney Swifts. Construction is relatively straight forward, but we are working to produce an affordable kit for the "mechanically-challenged" conservationist.

The only design disappointment continues to be the Prism Tower. Even with a sunshade and bottom ventilation the interior temperature apparently gets too hot for the eggs to survive. This is the only single-walled structure remaining on the station. Plans for 1998 are to create an insulating air space by adding a second "skin" on the outside of the Prism. We will experiment with a lightweight 1/8" white, tile board. Based on our experience with the Prism, we are discouraging single-walled construction in Chimney Swift Towers.

At least 2 of our Research Associates' towers experienced nest failure due to imported fire ant predation. On towers which are free-standing, fire ants can be successfully excluded by painting a 1" band of "Tanglefoot" insect barrier around each leg. This is usually a once-a-year treatment which is non-toxic. A liberal dusting of 5% Sevin (Brand) at the base of a tower will also work (we use this method at the Castle). However, Sevin dust is water soluble and must be re-applied periodically throughout the season.

## **LIFE HISTORY OF THE CHIMNEY SWIFT**

*an edited excerpt from*

*Rehabilitation and Conservation of Chimney Swifts, Second Edition*

*by Paul and Georgan Kyle*

The Chimney Swift is one of four regularly occurring species of swifts found in North America, and the most common one found east of the Rocky Mountains. As their name implies, they are accustomed to building their nests in chimneys as well as abandoned buildings and occasionally stone wells.

Adult Chimney Swifts are most commonly seen in flight -- usually in groups. When soaring, their long, scythe-shaped wings span about 12.5 inches, supporting a proportionally short body with a squared-off tail. The flickering, bat-like flight when flapping is due to short, massive wing bones. Chimney Swifts' flight is accompanied by a sharp "chipping" or "ticking" call.

At rest, an average 5 inch, .8 ounce adult is sooty-gray to black with the throat slightly lighter or even silvery-gray in color. Both sexes are identical in appearance. The long wings cross by an inch or more over the tail feathers, which are tipped by pointed bristles. Both the claws and tail bristles are used to cling to rough vertical surfaces. Swifts are unable to perch or stand upright in passerine fashion.

Chimney Swifts winter in the Amazon Basin of Peru. They arrive in the continental United States in late March and are gone by early November. Nesting begins in May, and has been known to continue into August. Chimney Swifts are usually single-brooded.

The female normally lays three to five white eggs in a nest of twigs which are broken from the tips of tree branches, glued together with saliva and attached to a vertical surface. Both sexes are involved in nest construction. The eggs are incubated by alternating adults for eighteen to nineteen days when they begin to hatch. Chimney Swifts catch flying insects on the wing. Baby Chimney Swifts are fed by both parents. The feeding continues until the birds fledge from the chimney about 30 days after hatching..

The hatchlings are pink, altricial and completely naked at birth. They have sharp claws which enable them to cling to textured surfaces. Within a few days, black pin feathers begin to appear. The young are able to climb, and they exhibit preening behavior even before their feathers emerge.

By the time they are eight to ten days of age, the babies' feathers begin to unfurl. By fifteen to seventeen days of age, their eyes begin to open.

Shortly after their eyes open, most of the flight and body feathers will be unfurled. However, the feathers around the face and head will stay in sheath for several days -- giving the birds a "frosty-faced" appearance.

By the time Chimney Swifts are 21 days old, they will cling tightly to the nest or chimney wall, rear back and flap their wings furiously until they are panting and out of breath. Twenty-eight to thirty days after hatching, young Chimney Swifts will leave the safety of the chimney for their first flight.

Once an entire brood has fledged, they will fly with their parents in slow, noisy parades around the area of the nest site. The young will return frequently to the roost during the first few days, but may soon begin to visit other roosts in the area.

At the end of the breeding season, the swifts' communal instincts peak prior to fall migration. They congregate in flocks of hundreds and even thousands at suitable roost sites.

Although Chimney Swifts can withstand a few early cool snaps, they will usually ride south on the first major cold-front that blows through in the fall.

## **CORPORATE CONSERVATION**

Sam Houston Park is located in the middle of downtown Houston, Texas. Joe Kolb is taking a “swift’s eye view” of this urban park. Why? First of all because his sky-high office provides a unique view of the site. But more significantly, because the park is home to 9 historical buildings — all with chimneys.

Joe is the Senior Environmental Specialist with Enron Corp’s “Wild at Work” program. When we visited with Joe this winter, we had an opportunity to investigate the 19 chimneys. Four were unsuitable, and 2 showed evidence of past use by Chimney Swifts. The remaining chimneys, although suitable, were covered and therefore inaccessible to the birds. Working with the Heritage Society, Joe is making arrangements to have the screens and caps removed to allow access to swifts.

Each of the 15 chimneys is unique. Once this project is completed, Sam Houston Park will become an important laboratory for studying the nesting and roosting preferences of Chimney Swifts.

Enron Corp’s Sam Houston Park Project also includes plans for the construction of a wetland and the installation of Purple Martin houses.

## **E-MAIL TO THE EDITOR...**

“We, here in Philadelphia, are privileged to have a late summer phenomenon that is nothing less than “amazing,” as one awed observer put it. Quite literally, thousands of Chimney Swifts use a school chimney as a roost in late September prior to their departure to the south. For a number of years, some local birders and I have been trying to determine a technique for estimating their numbers; we are quite sure it ranges anywhere from 2500 to 6000, but cannot come up with an agreed upon reliable counting technique.

We’ve spoken to the school maintenance and administrative personnel, all of whom take great satisfaction and delight in the spectacle. It is a neighborhood party each night as 50-100 people come out with lawn chairs and set picnic dinners in the school parking lot to watch the final, frenzied descent into the chimney. The last bird always disappears to a loud ring of applause. Oh, were it so that everyone enjoyed and appreciated the birds as these folks in the Roxborough section of Philadelphia do.” *Ed Fingerhood, Philadelphia*

This type of fun activity is contagious and beneficial to conservation efforts. Locate a roost in your area and create your own party!

To count of large flocks estimate the number of swifts that enter in one second, and time the entire event. Simple multiplication will then give you a ballpark figure of the numbers. For smaller roosts, an athletic lap counter works really well. *Editor*

## HERE AND THERE...

**Godley, Texas:** Philip Huey had his cinder block swift tower completed in April of 1997. The structure measures 2' x 2' on the inside and stands 17 1/2' tall. Just 2 months after completion, this brand new tower had Chimney Swift nest with eggs.

**Birmingham, Alabama:** Anne Miller, Executive Director of Alabama Wildlife Rescue Service at Oak Mountain State Park reported that their 16" x 16" x 12' wooden tower (erected in March of 1996) had a nest of noisy baby swifts. The tower is located less than 40' from an existing fireplace chimney which has housed nesting swifts for as many years as the organization has occupied the building.

**Pensacola, Florida:** Dorothy Kaufmann, Sanctuary Coordinator for the Wildlife Sanctuary of Northwest Florida, Inc. reported that their 2' x 2' x 12' wooden swift tower was in place by late march of 1997. Although there was no activity in the tower last year, they are optimistic about the coming season.

**Raliegh, North Carolina** Bill Hasse of the North Carolina State Museum of Natural Sciences erected a 12' tall free-standing tower in a pasture. It was built following the guidelines in our brochure, "Providing and Maintaining Nesting Habitat for Chimney Swifts". Construction was completed in mid June of 1997.

**Springer, Oklahoma** Jack Freeman decided it would be a good idea to have "back-up" tower for his original, so he erected an 8' structure. After the nest and eggs were washed out of his original tower in a spring down pour, his swifts apparently moved into the smaller tower. The eggs in their second nest began to hatch in early July.

**Driftwood, Texas:** Don Connell's original wooden mini-tower (11" x 11" x 8') had a successful nest for the second season in a row. Don also has 4 large towers (2' x 2' x 22') located on the corners of his water-collection barn. At least three of these had nests, and one held a roost of more than 100 swifts.

**Austin, Texas:** Madge Lindsay of the Nongame and Urban Program of the Texas Parks and Wildlife Department reported that the double-walled 16" x 16" x 12' wooden tower which was installed at the Department's headquarters in late spring of 1996 had an active nest. Unfortunately this was one of the nests which suffered from imported fire ant predation. This year that problem will be corrected.

**Cedar Creek, Texas** Jim Roecker built his 16" x 16" x 16' wooden swift tower in 1994 before the NSRP was formed. He had his first nesting swifts in July of 1997. Jim used pine planks inside and out with an airspace between. The airspace was filled with Styrofoam packing peanuts for insulation and "to discourage bees". The tower was secured to the rail of an outside deck.

**Blanco, Texas:** Anne Holt completed her single-walled 16" x 16" x 12' wooden tower in March of 1997. A nest was built in it the same year, but an 8" rain washed it from the wall.

## SELECTING A SWEEP

If you use your fireplace, your chimney should be swept after the last fire of the season — before the Chimney Swifts return. This is necessary for home safety and beneficial to the swifts as well. When choosing a professional, be certain to hire one which is aware of and carefully follows all wildlife laws. Responsible companies will not remove nesting swifts, but there are many exceptions. Support the companies which help and not hinder the conservation of Chimney Swifts. For a free brochure, Environmental Tips For Professional Chimney Sweeps, send us a legal-sized SASE.

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