

## The swifts in the tower

The European swift, *Apus apus*, spends virtually its entire life in flight. It feeds, sleeps, and collects nesting material on the wing, and can sometimes even mate without alighting. Normally the only time a swift stops flying is when it is breeding. The Museum tower is a nesting site for European swifts and they are a familiar summer sight here. When the young leave the Museum they may never stop flying until three years later when they return as adults to nest themselves.



The European swift, *Apus apus*

The swift or 'devil bird' has a forked tail and a high-pitched screaming call, perhaps explaining its nick-name.

### What is 'Learning more'?

'Learning more' presents a series of articles about the Museum and its collections. It is designed for older students, teachers, researchers, and anyone who wants to find out more about particular aspects of the Museum's work and its history.

This article introduces the swifts that nest in the Museum's tower, and the Oxford Swift Research Project.

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## Life on the Wing

Swifts are migratory birds. European swifts from Britain winter in Zaire, Tanzania or Zimbabwe. They have long, thin wings for efficient gliding flight over long distances. Their beaks have a wide gape to catch a variety of insects and tiny spiders while on the wing. Swifts will fly hundreds of kilometres a day while feeding. Their short legs and strong feet are used for hanging on to vertical surfaces, crawling into their nests or fighting an intruder.

### Fact

12 nestling meals collected near Oxford contained over 300 different species!



The swifts circling the Museum's tower

During the summer months visitors to the Museum are transfixed by the sight of the swifts swooping and turning in the air gathering the thousands of insects they feed to their chicks.

### What do swifts eat?

Swifts feed on nearly all types of flying insects, from minute thrips, to large hoverflies. They also eat spiders, who, although terrestrial, can be found at great heights, as they often travel by launching themselves in the breeze and may be whisked up into the air. The chicks await their parents return to the nest, when they too receive an insect meal in the form of regurgitated mass or 'bolus'.

### Fact

On a fine day a pair of swifts feeding young may catch some 20,000 insects and spiders.

## Life in the tower

Swifts have an exceptionally long life span for their size. Once they reach adulthood they usually live for about 6 years; one individual was 18 years old when last seen! They are extremely faithful to their nesting site, returning to the Museum tower year after year. They start to arrive in the last days of April and the fledglings usually leave around the beginning of August, followed by their parents a week or so later.



The swifts' nest is a simple shallow bowl which is used year after year. Each season it is renewed with fresh material. Swifts use anything available to them: feathers, leaves, grass, seeds, flower petals and even scraps of paper or tinfoil! Both male and female take part in building the nest.

The males usually arrive first and take possession of the nest box. Mating takes place and two or three eggs are laid, normally in the last week of May, about a fortnight after the female's arrival. Both parents brood the eggs, and the incubation takes about 19 days. The eggs hatch around the middle of June and both parents feed the naked nestlings. They bring them small balls of food, packed into their throat, which consist of hundreds of tiny insects and spiders held together by saliva. The nesting period of swifts at Oxford varies from five to eight weeks. The young swifts leave the nest independently of their parents when their wings have reached full or nearly full length.

### Fact

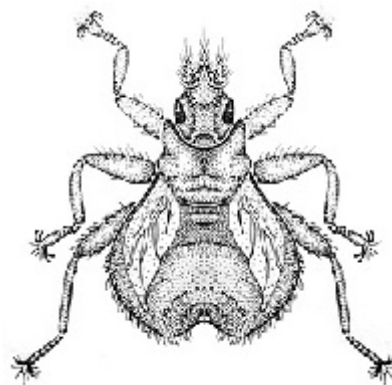
When the chicks leave the nest, they set off, almost immediately, for Africa.

## Parasites

Whilst the swift is nesting it is attacked by a parasitic louse-fly *Crataerina pallida*. This fly spends its entire life in and around the swifts' nest. The adults produce larvae in the late summer which immediately pupate and lie dormant all winter. They then hatch out when the first swift eggs are laid and feed on the nestlings and adults, sucking about 25mg of blood every 5 days. They can be a serious pest of both adults and nestlings.

### Fact

The fly is about a third of an inch; an equivalent-sized human parasite would be six inches long!



*Crataerina pallida*

This disturbing looking creature can look even more alarming when caught in 'close up', crawling over one of the nest box cameras.

## Coping with the cold

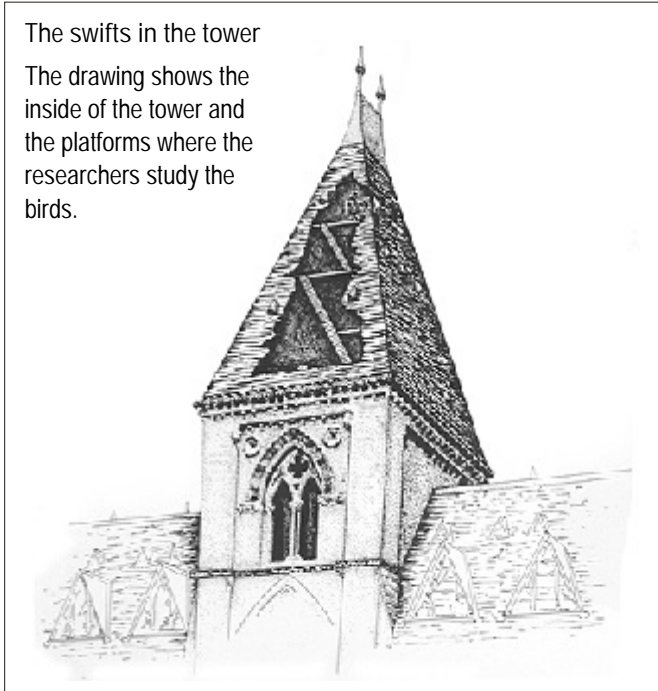
Swifts are restricted to areas where the temperatures allow insects to keep flying in some numbers. This can be a problem in the northern part of their range, including Britain, when the weather turns cold, wet and windy, and food become scarce. Swifts have a number of adaptations to cope with this. Adult birds can store considerable subcutaneous fat and can roost at the nesting site for several days in torpor, slowing their metabolism and lowering their body temperature. Swift eggs can also withstand considerable chilling, and observations at Oxford have shown that chicks can survive fasts of up to 10 days and a weight loss of up to 50%.

### *The Oxford Swift Research Project*

The colony of swifts which nest in the Museum has been the subject of a research study since May 1948. It is one of the longest continuous studies of a single bird species in the world, and has contributed much to our knowledge of the swift.

The swifts in the tower

The drawing shows the inside of the tower and the platforms where the researchers study the birds.



Swifts had been nesting inside the ventilator shafts of the Museum tower for many years when David Lack, the head of the Edward Grey Institute at the Department of Zoology, began the swift research project. Swifts use nesting sites which are inaccessible to predators to safeguard the eggs and chicks. The parents are also quite vulnerable when nesting. Swifts had proved a difficult species to study as they spend most of their lives in the air, but Lack realised that the swift colony in the Museum would be ideal for long term research.

The book *Swifts in a Tower* was first published in 1956 and details David and Elizabeth Lack's work on the colony of swifts in the Museum. It describes the setting up of the project and reviews other swift species.

#### Fact

There is room for 147 pairs of birds in the tower and about 60 breeding pairs arrive each year.

### *Viewing the swifts*

The swifts' nest boxes are well hidden within the tower and accessing them is near impossible to all but the most intrepid researcher. So, to let everybody take a peek at the growing chicks, cameras have been installed in three of the nest boxes. The images from the cameras are relayed to a monitor in the Museum, and are available on the Museum's website at:

[www.oum.ox.ac.uk/swifts](http://www.oum.ox.ac.uk/swifts)



This series of images was taken by one of the cameras trained on the nest boxes in the tower; the webcam is available on the Museum's website from April to August.