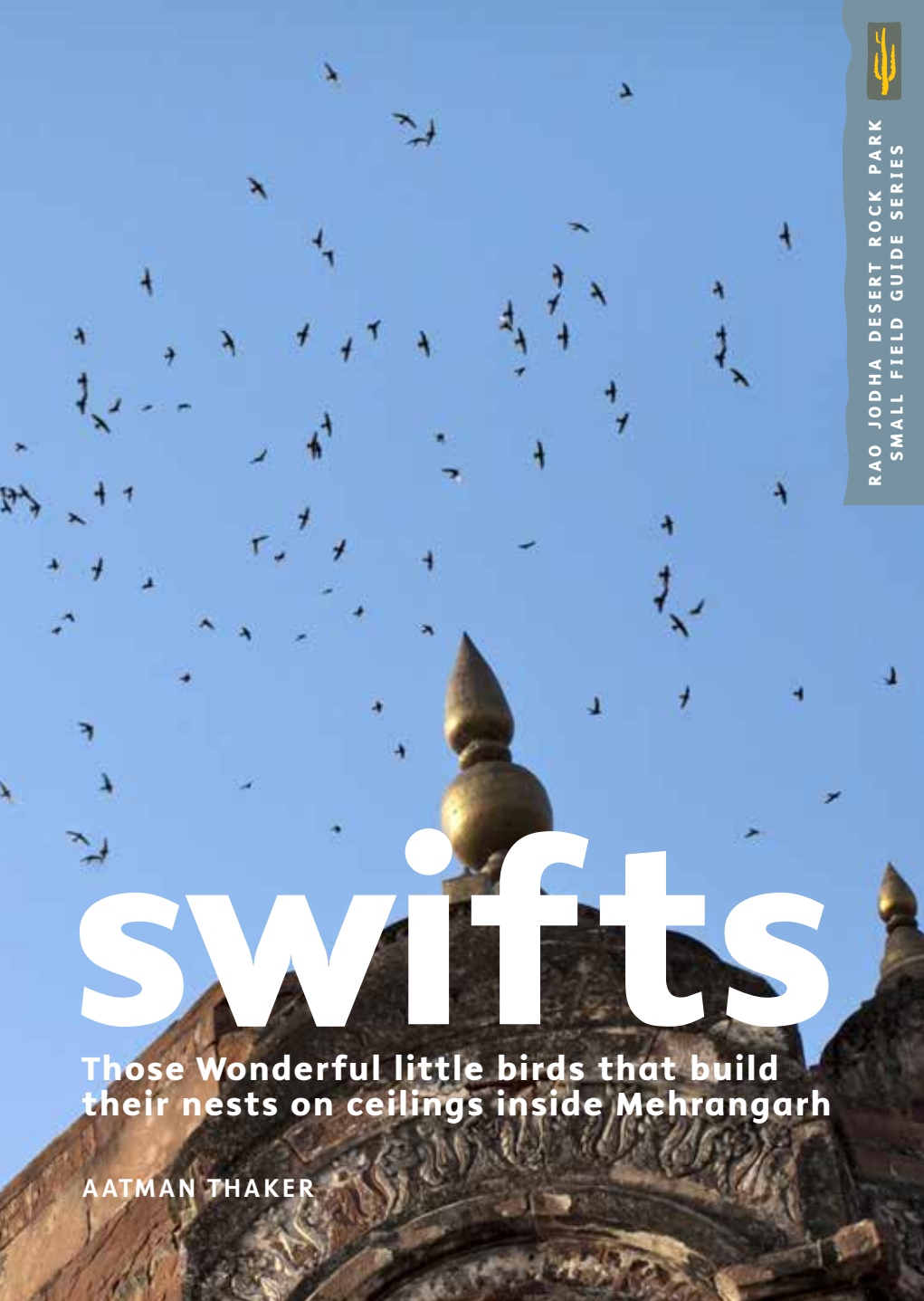

RAO JODHA DESERT ROCK PARK
SMALL FIELD GUIDE SERIES

swifts

Those Wonderful little birds that build their nests on ceilings inside Mehrangarh

AATMAN THAKER

RAO JODHA DESERT ROCK PARK FIELD GUIDES

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A RAO JODHA DESERT ROCK PARK SMALL FIELD GUIDE

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AATMAN THAKER

DEDICATED TO THE MEMORY OF MY NANA,
KISHOR GOHIL, WHO TAUGHT ME ABOUT BIRDS

www.raojodhapark.com

Series Editor's Note

They are always there, the Little Swifts, up in the Fort. Even at night. And at all times of the year.

But what about six or seven centuries ago? Were the swifts *already* up there on Chidiya Toonk hill, before the great Fort was built? And if not, how soon after it was built might they have moved in?

We may never know. It's likely, I think, that some of the tall cliffs of volcanic rock could have offered nesting sites to the Swifts when there was no Fort. But it would need to have been special niches, because Little Swifts don't just make their nests on flat, vertical surfaces. And then the Fort, when it was built, must have seemed like a gift from Heaven because of all the wonderful new nesting sites it provided.

The Swifts look as if they've been here for a long time and it's reasonable to wonder if painters of a bygone age noticed the Swifts. How could they not have? A quick search through Mehrangarh's treasure-house of medieval miniatures has turned up a few possibilities. Sunayana Rathore very kindly sent me photographs of 2 paintings that show little birds winging across the sky, and though it's not absolutely beyond doubt, the flight silhouettes are close enough and I'm tempted to say they *are* Swifts – depicted with a little artistic license.

I want to welcome Aatman Thaker to our growing list of young enthusiasts who have shown great interest in the Park and all the natural treasures that it contains. People like Aatman are the future.

Pradip Krishen

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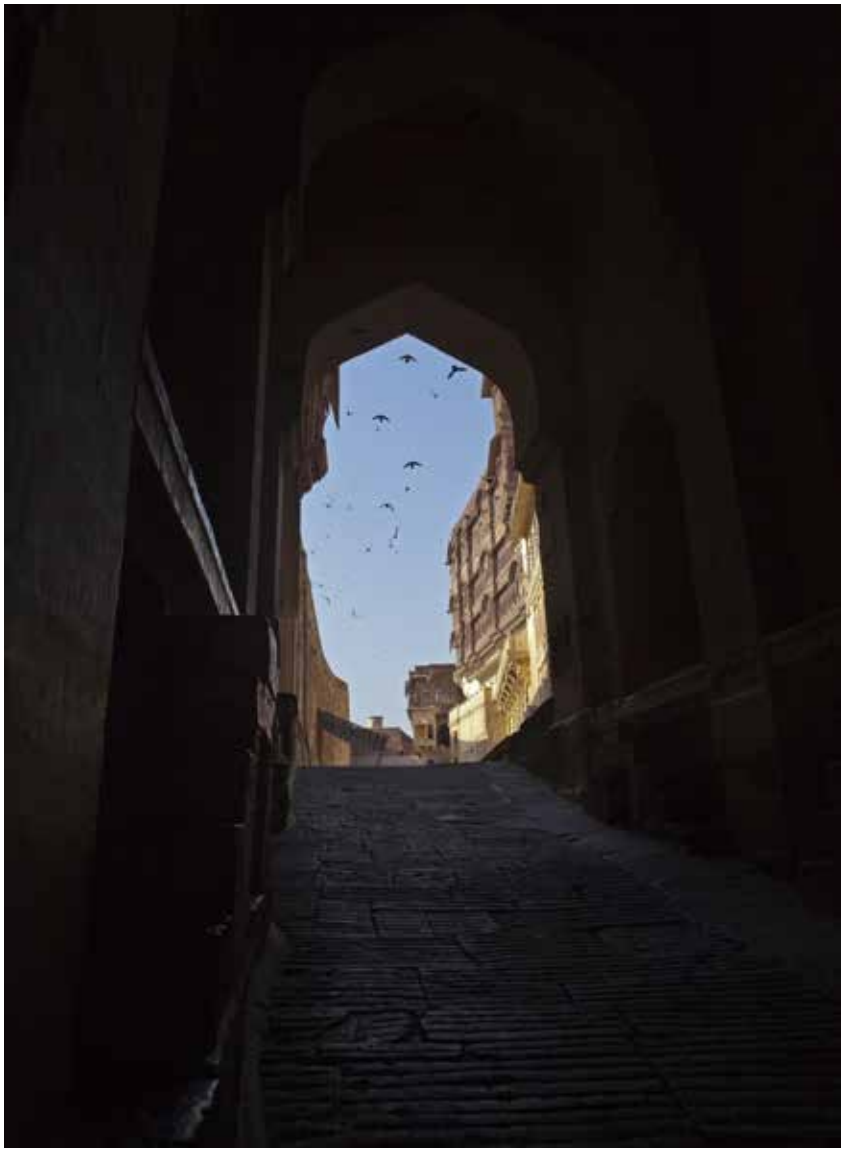


This picture was taken at about 7am in the month of April when there are a lot of hungry nestlings waiting to be fed. Adult Swifts come and go from their nests at high frequency.

The Little Swifts of Mehrangarh

I don't think it's possible to visit Mehrangarh, Jodhpur's magnificent medieval fortress, without noticing the Swifts.

When you look out from the ramparts or the topmost terrace, you can see hundreds of these tiny, dark birds whizzing past at great speed. They always look as if they're in a great hurry and make confused patterns in the sky. If you're huffing up the long ramp, look up under one of the *Pols* or giant doorways and you will see untidy colonies of Swifts' nests glued to the ceiling. The Fort provides nesting sites for more than a thousand of these busy little birds.

There are a number of different kinds of Swifts, and scientists have spent a great deal of time sorting them into different species, and further dividing them into 'races' and 'subspecies'. The differences are sometimes so minor – turning on little details of colouring or home range – that they may seem inconsequential but it all helps to understand this fascinating genus of birds and how it has evolved and spread across the globe.

Ours – the Swifts in Mehrangarh, Jodhpur – are called 'Little Swifts', rendered scientifically as *Apus affinis*. Until quite recently they were lumped together with the House Swift (*Apus nipalensis*) but modern authors now regard them as distinct.

WHERE LITTLE SWIFTS ROAM

Little Swifts are found in a broad range extending across most of Africa, through the Middle East and the Indian subcontinent south of the Himalaya, with a somewhat patchy extension into the Pacific and Western Palearctic regions. Not surprisingly, populations of Little Swifts in this vast theatre exhibit some differences, and scientists divide them into 6 'races' (much like we distinguish between different races or breeds of dogs).

Ours – the one we see in Mehrangarh – is technically *Apus affinis affinis* (in other words: race *affinis* of *Apus affinis*) and its known distribution lies across most parts of India east of Pakistan and south of the great mountains to the north; and in East Africa from southern Somalia to northern Mozambique.

Without Legs

Wherever you find them, Little Swifts nest in tightly-packed colonies and curiously, seem to prefer to make their nests inside manmade structures in urban habitats. Their nest colonies are generally made on the ceilings of tall open archways or pavilions that are located not too far from ponds and still water bodies (rather than flowing streams). Mehrangarh Fort seems tailor-made for them.

Their generic scientific name 'Apus' comes from a Greek word that means 'without legs', and though this is not literally true, Swifts (of all kinds) have tiny, weak legs that are almost useless. Combined with poorly developed breast muscles, their weak legs make it difficult for Swifts to take off from the ground from a perching or standing position. A healthy adult Swift can just about manage to take off from a standing position if it has to – but this is not what they were built to do.

There is no genus of birds in the world that is quite so exclusively aerial in its habits, and their skills in the air have evolved at some cost to their ability to walk, perch or hop on land.

In contrast to their fragile legs, Little Swifts (and all other kinds of Swifts) have strong feet with long toes and sharp little claws that they use as efficient clinging tools. This is what makes it possible for them to find toeholds on the slightest projections on vertical cliffs, buildings, even inside chimneys. It also helps their grip that their 4 toes are arranged in 2 pairs which can point sideways – instead of forward – with a reversible hind-toe. Their tail feathers, with long, stiff shafts, are adapted to help them rest against a wall while they cling, much like a woodpeckers' tail.

So if Little Swifts can't perch or sit, how do they take to the air? Simply by letting go from wherever they are nesting high up somewhere, and flapping their way out of a shallow gravity-dive.

UP IN THE AIR

Swifts hardly ever land – except, of course, when they land at their nests – and manage to do almost everything in flight, eating, drinking, bathing, even mating. Recent research on a closely related species of (European) Swift shows that they can even sleep by gliding passively at high altitude. They hawk in the sky for food, trawling the air for small flying insects (termites, mosquitoes, flying ants) and ballooning spiders. (2 parents and their nestlings may consume 12,000 flying insects a day). Swifts drink by scooping up tiny beakfuls while gliding over lakes and stretches of calm water. If they are not looking after their young in the nest, Swifts may spend all their waking hours in the air.

Built For Speed

Like all of its relatives, the Little Swift is a tiny bird, no more than 12 cm (less than 5 inches) in length and weighing only about 25 gms – about the same as a level teaspoon of salt. Swifts (of all kinds) are built for speed. Being so light helps them aerodynamically. Their long, narrow, slightly curved wings are engineered to scythe through the air to achieve unbelievable gliding speeds of 110 km (70 miles) per hour (some estimates are considerably higher). It's not easy to see but Swifts 'close' their tails to a slim point in flight, which is another adaptation for fast flying. But most of all, their long wings (in relation to their body size) gives them a body-mass to wing-area ratio that is designed for speed and efficient flying. They do flap their wings, but hardly seem to need to do so.

Among birds, only peregrine Falcons – and perhaps Hobbies – can fly faster and these heavier-bodied raptors attain top speed only when they are in a steep dive. In level flight, no other bird flies faster than the Swifts. This means that Swifts don't have to worry too much about predators that can pursue them in the air.

It's not at all easy to tell an adult male Little Swift apart from a female. Both have black, beady eyes – relatively large for their size – and small, weak beaks. Except for a white rump and a white streak extending to their flanks, their plumage is mostly black or sooty brown. They are noticeably paler on their throats, but you can hardly see this as they whizz by at speed against a pale sky. Juveniles are not difficult to spot – their bodies are dark too, but young Swifts have ashy heads and flight-feathers edged prominently with white. Young chicks occasionally fall out of their nests and one of them gave us this opportunity of showing you details of its plumage. (We put it carefully back afterwards!)

A juvenile Little Swift showing the white edging to its flight feathers

Swifts' eyes are deep-set and shielded by a fringe of coarse bristles to protect their eyes when they are flying.

Swifts' Calls

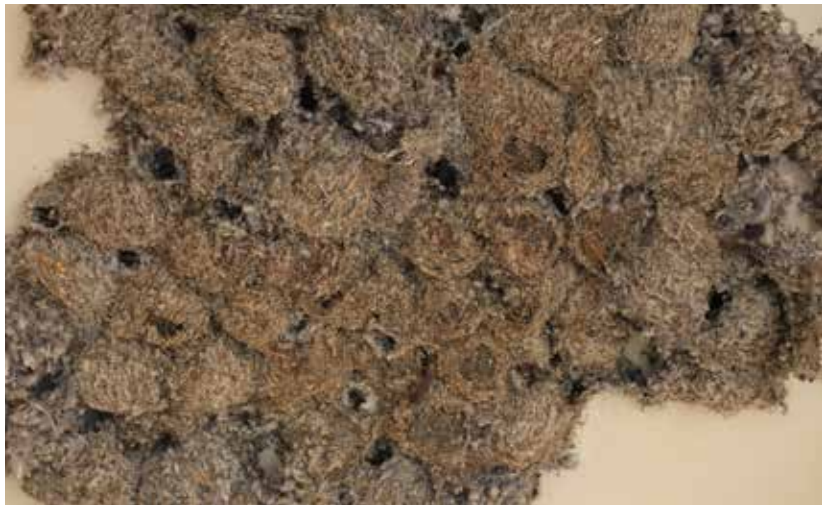
The call of a Little Swift is a high-pitched, twittering *sik-sik-sik* uttered on the wing and when it is at home in its nest. The collective sound of Swifts in the colony can be quite noisy at times – even at night. But when the adults have left for a day of hawking and speed-flying, the colony goes deathly quiet. Juveniles left behind in the nests do not utter any sound, probably because they don't wish to attract the attention of predators.

In the breeding season (which lasts all year round, but especially in the rains when insect populations balloon. It slows down in the coldest months from November to February), adult pairs perform high-pitched duets in the air. Some researchers have noticed that they tend to fly at higher altitudes when it's fine and sunny and lower when it's cloudy.

Colonial

A typical colony of Little Swifts is a collectivity of closely-spaced nests that appear somewhat untidy from the outside. The literature says that a single colony may have up to 30 nests but in Mehrangarh we have counted 40 or so nests in a single colony. The most favoured places to make nests are in the angle made by a roof and wall, and medieval-style cornices are a great boon for Swifts in the Fort.

Loha Pol (the Iron Gateway) holds several colonies in its multiple archways



This is what a typical colony looks like (TOP). Up closer (BOTTOM LEFT) you can see the lined entrance hole . (BOTTOM RIGHT) A chick waiting for its parent.

The nests are a motley collection of feathers, straw, bits of string, with perhaps some dry leaves and tiny scraps of ribbon or paper, too. You have to remember that breeding adults collect all these materials on the wing and carry them back to their nests, and here, layer by layer, using their sticky saliva as a glue, they create their cup-shaped nests. This means that only materials that are light enough to float in the air are collectible, which probably accounts for the high percentage of down-feathers in their nests.

The nests may look messy from the outside, but inside they are neat and smooth. Individual nests are shaped a bit like an igloo – hemispheres with a short funnel-like entrance. There can be up to 3 entrances to a nest.

This youngster was able to cling to the tiniest indentations on a vertical rock long before it could fly.

Young Ones

Eggs are laid (typically, 2 or 3) about 20 or so days after mating, and then both males and females share incubating responsibilities equally. Like most other Swifts, it is likely that males and females form life-long bonds and return to the same nesting sites to breed as long as they live. Swifts are also known for the earnestness with which they defend their nesting sites against predators – remarkable for such tiny creatures.

Once a youngster leaves the nest, he or she will never return, not to that same nest. Before a year is out, fledgeling swifts are ready to find a companion and form a pair though scientists seem to think that this is more like a rehearsal than the real thing because they don't usually nest successfully till their fourth year.

Peak activity time for the Little Swifts of Mehrangarh is close to dusk and dawn. Visitors to the great Fort are only allowed in at 9am, too late to witness the frenetic cheeping and flying about that happens earlier in the morning. It seems as if the adult birds can't make up their minds whether to fly away or not because the day's first activity is full of short forays to and from their nests. But in the evenings and especially when the wind is high – as it usually is in the rainy months – you can see the Swifts having the time of their lives.

Weak legs, strong toes!

Sheer Joy

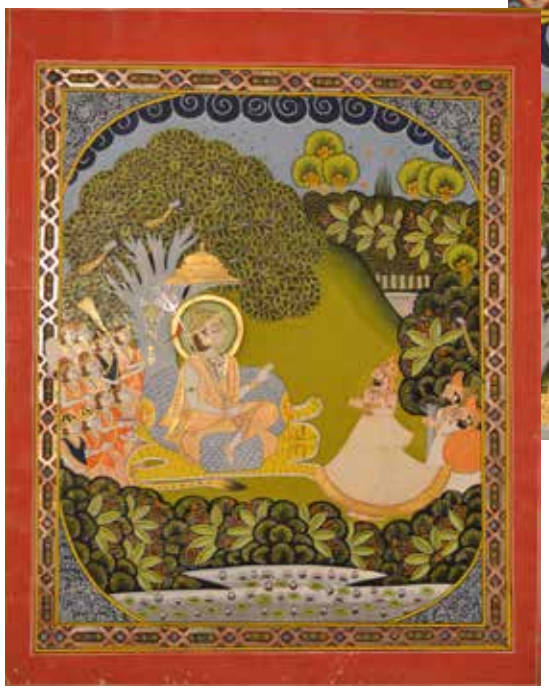
Scientists are forever reminding us that creatures seldom undertake an activity if it does not have survival value, but if you watch the Swifts late on a windy evening in August or September, it is hard to escape the impression that they are flying around for the sheer joy of it. Maybe there is something we don't know about this exultant activity.

Unlike some of our Vultures which are now gravely threatened, Little Swifts are not regarded as particularly vulnerable. But if we continue to destroy natural habitat and poison our world, there is little doubt that our Swifts too, will enter a danger zone, probably sooner rather than later. For now, the great Fort offers sanctuary, but it is, after all, only a refuge for something like a thousand or so Little Swifts.

The people of Marwar will tell you that in days gone by, when someone built a large wall they always provided little stone niches as shelters and nesting sites for birds. They called them *jeev rakha* – which means 'life-giver' – and you can see many of them in the walls of the Fort, used by sparrows, pigeons, silverbills and squirrels. Swifts have no use for them but *jeev-rakhas* remind us that there was a time when we cared so much more for the creatures around us.

We need to remind ourselves today that this lonely planet – our *jeev rakha* – is ours to share.

What makes Little Swifts choose one particular ceiling in an arcade over another one? Only 3 of the ceilings in the middle have Swifts' colonies. Was it considerations of safety that made them avoid making nests at the periphery?



A Rajput painting from 1835 shows Maharaja Man Singh with his Guru. (Artist not known.) There is a reasonable chance that the birds shown here are Little Swifts, though it is hard to be certain.
Courtesy Mehrangarh Museum Trust

Swifts are the fastest flying Birds in the World.

They also have a number of other attributes that mark them out as special - such as the fact that they are uniquely aerial in their habits, eating, drinking, mating, even sleeping in the air. Mehrangarh Fort in Jodhpur is privileged to be home to about a thousand of these wonderful little birds...

Aatman Thaker is a young student of psychology doing his Bachelor's degree at the Maharaja Sayajirao University, Baroda. He has been an avid birdwatcher since he was 8 years old and has trekked and travelled in northern and western India on numerous birdwatching tours. His most notable sighting of Pacific Golden Plovers (in Ghed, Gujarat) in 2012 was published . He is passionate about books, art and nature and aims at doing research in the field of cognitive sciences.

Rao Jodha Desert Rock Park (in Jodhpur, Rajasthan) was created by the Mehrangarh Museum Trust in 2006 as a project to restore the natural ecology of a large rocky tract that abuts Mehrangarh Fort. The Park officially opened in February 2011. Visitors are welcomed and oriented at the Visitors Centre from where they can choose from several walking trails that wind through different aspects of the landscape.

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