

## Changing nest site preference for holes in earth cuttings in Spotted Owllet *Athene brama*

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### Introduction

Spotted Owllet *Athene brama* is a common, crepuscular and nocturnal, resident, Indian raptor occurring south of 20°N latitude (Ali & Ripley 1969). It usually breeds in natural hollows in tree trunks, holes in dilapidated walls, between ceiling and roof in deserted or occupied dwellings (Ali & Ripley 1969); in eaves of houses (Jerdon 1862); in nest-boxes (Naik 2004, Jadhav & Parasharya 2003); or in holes in stone wall of open wells (Kumar 1985). A niche in the porch of a house has also been reported as a rare nest site (Dewar 1929). Other odd and rare nesting sites reported are pillars of a verandah and holes in banks and rocks (Baker 1930). Such diverse nest sites indicate the adaptive ability of the Spotted Owllet.

In this paper we describe the changing pattern of the nest site preference of the Spotted Owllet. We have studied the nesting of the Spotted Owllet in and around Saswad (18°15'N-18°21'N 73°57'E-74°09'E), in Pune district, Maharashtra, from January 2003 to March 2005. The habitats in this semi-arid and low rainfall area comprise of semi-urban residential zones, mixed scrub and agricultural cropland, dry riverine areas and groves.

### Observations and results

Nests were located by surveying the area at dawn and dusk, when Spotted Owlets are most vocal. Inputs were also obtained from local people. Altogether, 41 nest sites were observed during the study period. Of these, 23 sites were used only for nesting whereas 18 were occupied for nesting as well as roosting. 31 nests were in groves, scrub, agricultural and riverine habitats; while the remaining 10 were in semi-urban localities. Various nest site preferences were categorized and tabulated along with their number, relative percentage in each category, their height from ground level (Table 1). Table 1 also shows the maximum and minimum nest height for each category of nest site preference. Interestingly, the minimum nest height of 1 m from the ground was a hole in a constructed wall under a bridge, where human activity was absent. Inaccessible nests in vertical earth cuttings of walls in wells were also just 1.5-3 m below the ground level. The trees used for nesting

were *Ficus religiosa* (n-3), *Tamarindus indicus* (n-2), *Mangifera indica* (n-2), *Ficus bengalensis* (n-2), *Moringa oleifera* (n-1) and *Melia azaderach* (n-1).

Table 1 also shows an equal preference given by Spotted Owlets to tree holes (26.8%) and earth cuttings (26.8%), followed by occupied residential premises (21.9%). A 9.8% nest site preference was for crevices and holes in ruins and abandoned buildings and a similar 9.8% preference was for hole in the wall under a bridge. A 4.9% preference was for hole in constructed wall in well. Kumar (1985), in his studies at Hyderabad, found that preference for nests in holes in constructed wall of open wells was 2.4%, as compared to tree holes (56.7%) and man made structures (39.7%). He has further stated that the Spotted Owllet bred in all nest sites. He has not reported nests in earth cuttings.

Our study revealed that Spotted Owlets have a higher preference for holes in earth cuttings and tree hollows, followed by residential, occupied premises and holes in other man made structures. This indicates a possible changing pattern in nest site preference to holes in earth cuttings in banks, cliffs or the walls of open wells.

Holes in earth cuttings in well walls are created to support bamboo scaffolding while digging a well. These walls were not finished with stone masonry and were left as they were. Such wells were found in small villages like Kodit, Garade, Chamli and Hiware near Saswad and near Jejuri townships, in Pune district. It was also found that some larger holes in earth cuttings in earth banks and vertical cliffs were dug by bandicoots (*Bandicota* spp.) or birds like White-breasted Kingfisher *Halcyon smyrnensis*. Spotted Owlets did not occupy shallow natural holes or holes with narrow entrance, dug by birds like Small Bee-eaters *Merops orientalis*. Spotted Owlets occupied deep holes with broad entrances (minimum diameter 15 cm.). Incidentally, in one nest hollow in the trunk of a *Ficus bengalensis* tree, an active 10 cm sized beehive of *Apis* sp., was present along with eggs of a Spotted Owllet. This association is probably not reported earlier. These eggs were subsequently predated and the hive was also not seen.

Ali & Ripley (1969) do not mention

Spotted Owlets nesting in earth cuttings and record only the Little Owl *Athene noctua bactriana* nesting in holes in earth cliffs, amongst the various species of owls from the Indian subcontinent. Nesting of Spotted Owllet in earth cuttings is an interesting observation, which may justify further discussion, especially since it appears to be an increasing preference, and is not reported after Baker's observation in 1930. Owlets use only such holes in earth cuttings in walls of open wells or vertical cliffs and banks that are at a gradient of almost 90 degrees. The access to such nests by ground predators is difficult. The loose surface soil and the steep gradient make even human approach far from easy. Most nests in wells are quite high from the bottom of the well. Less rainfall in the study area usually does not flood the nests. We have observed the flooding of a few nests in August 2004, a year of plentiful rain, but this occurred outside the nesting period of the Spotted Owlets. A land-slide could however adversely affect the nest hole in an earth embankment. Such an incidence, for the nest of a Small Bee-eater has been reported by Pande et al. (2003). Our study revealed that the horizontal depth of nest tunnels in earth cuttings in wells or in banks was about 45 cm. The tunnels were often curved one way or the other preventing easy extraction of their contents. The vertical depth of holes in trees was up to 60 cm. Chicks easily climb the inner walls of tunnels to emerge at its mouth. Nest holes are often filled with pellets, bones, insect elytra, feathers and other debris (Pande et al. 2004).

It is quite likely that felling of not only *Acacia* spp. trees, but also of larger and older trees of *Ficus* spp., mango and other larger species, has resulted in a scarcity of natural hollows that can be used for nesting in the study area. Avian nest hole excavators in the study area are Yellow-fronted Pied Woodpecker *Dendrocopos mahrattensis* and Coppersmith Barbet *Megalaima haemacephala*, which make holes much smaller in diameter than are required by the spotted owlets. Spotted Owlets do not excavate nest holes but occupy existing hollows and holes.

We have recorded instances of people killing Spotted Owlets, either for fun or due to various superstitions attached to them.

Increasing intolerance towards Barn Owls (Pande et al. 2005) and Spotted Owlets, is gradually driving them away from human habitation. Utilization of holes in earth cuttings in cliffs, banks or well walls, which are often away from human activity, appears to be an adaptive response to such disturbance.

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**Table 1: Nest site preference and nest height in Spotted Owllet**

S. No.	Nest Sites	No. of Nests (n=41)	%	Nest height in meters
1	Tree hollow	11	26.8	2.5-8.0
2	Occupied residential premises: under roof, holes, niches, etc.	9	21.9	4.0-8.5
3	Abandoned buildings & ruins: crevices, holes, etc.	4	9.8	3.0-8.0
4	Earth cuttings: a) In walls of wells b) In earth banks, cliffs	11 (7) (4)	26.8	1.5-3.0
5	Under bridge in constructed wall	4	9.8	1.0-6.0
6	Well walls with stone masonry	2	4.9	3.0-6.0

### Some interesting bird records from Manali, Himachal Pradesh

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In autumn 1996 I spent one month (15.x-12.xi) birding in Manali, Himachal Pradesh. I returned in the following winter from 10.xi.1997-10.i.1998 and 22.ii-25.iv.1998.

This gave me the opportunity to observe the autumn, spring and altitudinal migration. Some of my observations, which were at that time considered vagrant or rare, have since been accepted as regular winter or passage migrants. However one record of a Gold-naped Finch *Pyrrhoplectes epauletta* stands out as unique.

I had visited camp Lamadukh (3,400 m) to the west of Manali on a couple of occasions and had found it especially interesting as it was at the edge of the tree-line and at that time also the snow-line. The climb up from

Manali is 1,400 m, and steep, which does not leave much time for birding. Consequently I decided to camp up there for three days from 3-6.xi.1996.

On 5.xi.1996 I was exploring the hill above Lamadukh, which is above the tree-line, comprising grassland with scattered bushes. At this particular time the snow-line was at about 3,500 m altitude. At dusk I was descending to camp when I startled a small sparrow-sized passerine from a rhododendron type shrub at about 3,500 m altitude. The bird flew deeper into the bush but was still so close that I had to step back to focus my binoculars. The bird must have felt that it was well hidden and therefore safe and so it allowed me to spend a few

minutes observing it. Although I could not see the whole bird at one time by changing my position I managed to get a good description of the very distinctive features and took notes on the spot and then continued downwards as it was getting late.

The bird was overall a brownish colour, except the crown which was yellowish-green; the mantle and nape were grey; the primaries and tail were blackish; and on the perched bird with closed wings there was one very clear long broad strip of white along the centre of the 'back', created by the broad white inner webs to the tertials. Because of the foliage I did not get a view of the bill. The strong contrast between the ear-coverts and throat shown in the