

distinctiveness of bird communities of different forest habitats in Sariska. We found that it would be necessary to cover different vegetation zones in any bird-monitoring programme as these zones were quite distinct in their bird compositions. Certain species were identified as possible indicators of habitat change, using simple presence-absence data, such as Hume's Warbler, Oriental White-eye, Indian Robin and Great Tit. Various species were found to respond to specific changes in vegetation structure such as reduction in canopy cover, height of trees, and density of understorey vegetation. An important finding of our study is the tremendous change in bird species composition even from week to week, making it difficult to comprehensively cover entire bird communities through brief snapshot surveys, a feature that may be common to many other forests of northern India.

Our study has also brought to light the physical extent and scale of habitat degradation over large parts of Sariska Tiger Reserve. We have estimated that forests in as much as one-third of the proposed National Park area (Core Zone I of the Reserve) may be highly degraded. Observations on vegetation reveal that there may be severe limitations in regeneration of tree and shrub species almost everywhere in Sariska. In addition, signs of lopping of trees and overgrazing were seen in most places apart from a few well-protected valleys.

We hope that our study will help to inform the ongoing debate in India on the ecological impacts of biomass extraction and provide

justification for appropriate management steps that can be taken to save this area from further degradation. There is an acute need for providing alternatives to various biomass and livelihood needs of the villagers residing inside the Reserve, who are mainly dependent on livestock rearing for their income. Interviews indicate that many of the local people are willing to relocate outside the Reserve, but only on the basis of an equitable rehabilitation plan that is prepared and executed jointly with them. Tourism activities also have to be controlled and managed better if continuing habitat degradation is to be stalled in this prime biodiversity conservation area of the Aravallis.

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- (Copies of the technical reports for the project described here are available with Dr Ghazala Shahabuddin at [ghazalafarzin@yahoo.com](mailto:ghazalafarzin@yahoo.com)).

## Additional site records of Green Avadavat *Amandava formosa* (Latham, 1790) from Mount Abu, Rajasthan, India.

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Mount Abu (24°36'N and 72°45'E; 1,219 a.s.l.) is situated at the south-western limits of the Aravalli Hills in Sirohi district (Rajasthan, India). Though 328km<sup>2</sup> of Mount Abu are declared protected, officially only 112.98km<sup>2</sup> are notified as the Sanctuary area (R.F.S. 2003). This hill station comprises of chains of hills with altitudes ranging from 300m to 1,700m. Its unique habitat, in a state where the desert predominates, has attracted many ornithologists over the years: Butler (1875-1877), Devarshi and Trigunayat (1989) and Prakash and Singh (1995). Sharma (2002) prepared a complete list of fauna, including birds, for this Sanctuary. Butler (1875-1877), Prakash and Singh (1995) and Sharma (2002) listed the Green Avadavat *Amandava formosa* as a common resident of Mount Abu. They identified Oriya village as the main site for this species. Tiwari and Varu (1999) and Lodhiya (1999) added two more sites, namely Adhardevi Temple Forest and Delwara Temple area. At every instance, either a pair or flocks of up to four individuals were seen.

During our survey (15 February-15 June 2004) we located this species at two new locations: Palanpur Point and Achalgarh. Achalgarh had more than 50 individuals of this species. Palanpur Point had only two. Beside these, we saw six individuals on agricultural land near Pandu Caves and four individuals behind Teachers Training Centre. Both of these sites are close to Delwara or Kanyakumari Temple from where the species was earlier reported.

#### Sightings of Green Avadavat on Mount Abu

Important areas in Mount Abu where confirmed sighting of this species is possible, include:

**Palanpur Point:** It is located 3km from the bus stand of Mount Abu, on a small hill. The terrain is an undulating plateau, with open areas of sparse vegetation including bushes of *Lantana camara*. Two birds were seen here on the evening of 11 June 2004. The two, probably male and female, were feeding on the ground. As we approached they flew towards the *Lantana* and not were not seen afterwards.

**Behind Teachers Training Centre:** This area is near the Kanyakumari Temple, south of the Delwara Temples. The rear portion of the center is full of *Lantana* along with the semi-evergreen trees of Mango *Mangifera indica*. Around 11:00 hours we sighted one male on a branch of a mango tree. Due to some disturbance it flew towards the *Lantana* bushes, accompanied by three other birds, where all disappeared.

**Pandu Caves:** These lie behind the Kanyakumari Temple. In front of these caves there are small holdings of agricultural fields, that have a small seasonal *nallah* in the south, tall grasses interspersed with bushes in the north, semi-evergreen trees with ascending hills on the west and open land with pathway on the east. On 12.vi.2004 at 08:30hrs we saw 5 pairs of small birds flying in to the grasses in the *nallah*. In flight, the barring on their sides and black tips of their tails were clearly visible. We returned to the same spot

in the evening at 16:30hrs. We observed three pairs of Green Avadavats feeding on the spikes of tall grasses inside the *nallah* for 10min. Their red beaks and zebra-striped flanks looked beautiful. On our approach, they hid inside the tall grasses for a short time then flew towards the big trees on the eastern side of fields.

**Achalgarh:** It is about 11km from Mount Abu city and is famous for its Shiva Temple. The open area in front of the temple has some abandoned construction. Lantana bushes and grass cover the rest of the unobstructed ground. At 06:45 hrs we sighted a flock of more than 12 Green Avadavats, flying towards the *Lantana*. At 07:30 hrs, to our amazement we sighted a large flock of 50 Green Avadavats feeding on the ground. On our approach the feeding group broke up in to several smaller flocks, ranging from a pair to more than 10 individuals. We observed their activity till 09:15 hrs by which time the birds gradually and in varied sized flocks, flew towards the patches of semi-evergreen trees around Achalgarh.

The importance of this bird lies in the fact that it is listed as *Vulnerable* in the C1 and C2a categories (C1 = continuing decline in population, C2a = severe fragmentation) (Collar, et. al. 1994). According to Ali and Ripley (1968–1998), the Green Avadavat is very locally and unevenly distributed.

#### Threats and conservation issues in Mount Abu

Trade is considered a major threat to Green Avadavat (Ahmed 1997, 1998). Owing to its relative fearlessness it can be trapped very easily (Ahmed 1997), and as a result of continued trapping, its populations appear to have been wiped out in certain areas (Bhargava 1996). The second major threat is habitat loss, but due to utilization of broad range of regenerating and open habitats, the species is not thought to suffer from this threat (BirdLife International 2001).

In Mount Abu, habitat loss is the predominant threat to the Green Avadavat. Although construction activities are banned in the sanctuary area, illegal clearing of land takes place. Being a tourist spot, development of hotels and other temporary activities like camping or parking of vehicles near or on the feeding areas of this species, threatens the species. Beside this, unconfirmed reports exist, of killing the bird for traditional medicinal purposes by tribal and local residents of the foothills. The birds are apparently located and stoned to death.

To our astonishment we found that local people are unaware of the rarity of the Green Avadavat. They consider it a common resident of the area and so its status is unimportant to them.

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## Puttanahalli Tank, Bangalore (India), and surrounds

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Puttanahalli Tank is a shallow waterbody located on the Bangalore-Hyderabad road, about 16km due north of Bangalore. The site, maintained as part of a nursery by the Karnataka State Forest Department (KSFD), is a veritable bird paradise, the like of which has not been recorded during nearly 200-year ornithological history of Bangalore [as defined by George (1994)]. The tank is basically a shallow basin with an area of 11.89ha. At present, the northern and southern boundaries of the tank have been walled-up by existing residential areas. On its eastern side, the Bangalore-Hyderabad road passes over what was once the main bund of the tank.

Over the last four years, more than 126 bird species belonging to 50 bird families have been recorded at the site (see Annexure), indicating that the site supports over 30 per cent of the bird species recorded in Bangalore (George 1994). Also, this site is an important nesting and roosting site for a large number of waterbirds in Bangalore area (see Annexure). Ten large waterbirds nest on the trees growing on the two islands created by the KSFD. The nesting of Darter *Anhinga melanogaster* and Painted Storks *Mycteria leucocephala* at the site are the first ever records for Bangalore. Several thousand birds including egrets (Ardeidae), herons