

Birds of Mount Abu Wildlife Sanctuary, Rajasthan, India

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Mount Abu Wildlife Sanctuary, Sirohi district, Rajasthan (24°33'–24°43'N 72°38'–72°53'E; 1,158 m above m.s.l.) lies in the southern part of the Aravali Range. A checklist of 146 species of birds, including 23 new records, is presented along with information on status, location, distribution, and breeding. Previous notable records are compared with our study wherever a change in their status or abundance is perceptible.

Study area

The Aravali Range is considered to be the oldest mountain range in India, comprising rocks that date from the Archaean (3.8 to 2.5 billion years ago) to Older Palaeozoic (5.4 to 2.5 billion years ago) periods. Mount Abu stands on an enormous, detached mass of gneissic rock, which rises steeply out of the flat plain, and stands well apart from the rest of the Aravalis. Declared a wildlife sanctuary on 7.iv.1960, Mount Abu Wildlife Sanctuary (Sanctuary) covers an area of 328 km². Altitudinally it varies from 300 m at the foothills to 1,722 m at Guru Shikhar, the highest peak in the Aravalis. The climate of Mount Abu varies according to the altitude. At the top (1,200 m and above) it remains moderate and pleasant in summer. However, in winters the nights are often frosty. Maximum rainfall (av. 1,500 mm) is during July–September, from the south-west monsoon. Temperatures on the plateau range from -2°C to 35°C. The vegetation of the area varies from xeromorphic sub-tropical thorn forest in the foothills to sub-tropical evergreen forest along water courses and valleys at higher altitudes. The flora of Mount Abu consists of 112 plant families comprising 449 genera and 820 species (Mehta 1979). Mount Abu is the only place in Rajasthan where a variety of orchids (Orchidaceae) are found. Three species of wild roses (Rosaceae) and 16 species of ferns (Pteridophyta) have also been reported from here. The south-western part of the Sanctuary is rich in bamboo [Gramineae (Poaceae)] forests.

Earlier ornithological works

Captain E.A. Butler (1875, 1876 & 1877) of HM's 83rd Regiment was the first to publish

a detailed account of the birds of Mount Abu. He seems to have visited Mount Abu from 1874 to 1877, but never stayed for long. Dr George King collected specimens at Mount Abu from December 1867 to December 1868. He sent this collection and his manuscript notes to A.O. Hume who used them to add remarks and comments to E.A. Butler's three-part paper.

In the introductory section of *Indian hill birds*, Ali (1979) tabulated 72 taxa from Mount Abu. He also listed 21 taxa whose occurrence / absence he suspected. *Indian hill birds* was written to meet the needs of the average visitor to an Indian hill station and merely dealt with a representative selection of the commoner birds.

Recent accounts of the birds of Mount Abu, Devarshi & Trigunayat (1989) and Prakash & Singh (1995) are rife with erroneous and doubtful records, which we briefly discuss below. To ignore them would merely perpetuate the errors. Although Devarshi & Trigunayat (1989) have questioned birds listed for Mount Abu in Ali (1979), they appear to have used Ali's uncorroborated records of Alpine Swift *Tachymarptis melba* and Wire-tailed Swallow *Hirundo smithii*, in compiling their checklist. Asian Palm Swift *Cypsiurus balasiensis* has been included in their list, presumably based on Butler (1875), who recorded it only once. Although Streak-throated Swallow *Hirundo fluviicola*, Southern Grey Shrike *Lanius meridionalis*, and House Crow *Corvus splendens* have been listed by them, their occurrence at Mount Abu is unlikely. Moreover, three conspicuous Galliformes of Mount Abu, Indian Peafowl *Pavo cristatus*, Grey Junglefowl *Gallus sonneratii* and Red Spurfowl *Galloperdix spadicea* are strangely not included in their list.

Prakash & Singh (1995) have not only perpetuated erroneous and doubtful records of Ali (1979) and Devarshi & Trigunayat (1989) they have included inaccuracies in their list. They list Short-billed Minivet *Pericrocotus brevirostris*, which is a species confined to eastern Nepal and north-east India. The Short-billed Minivet of Butler has long been erroneously considered conspecific with *P. ethologus*, but the two differ in ecology and

distribution (Rasmussen & Anderton 2005). The specimen of "*P. brevirostris*, Vig.", collected by Butler (1875: p. 465) was actually *P. ethologus*, which is not unlikely to occur in this part of India during winter. They have also described the Jungle Myna *Acridotheres fuscus* as resident, but we did not record this species at all. Rajasthan is well beyond its known distribution range. They have described the Greater Whitethroat *Sylvia communis* as a common winter migrant whereas it is an uncommon autumn passage migrant through north-west India.

The Black Francolin *Francolinus francolinus* recorded by Joshi & Joshi (2004) is also an error. The species is not found on Mount Abu.

In the recently published *Important bird areas of India* (Islam & Rahmani 2004), Mount Abu has been rightly declared an IBA on the basis of its biome assemblage of birds of Tropical Dry Deciduous and relict patches of Tropical Semi-evergreen Forests (Site code IN-RJ-10), but the authors erroneously mention the "presence of [a] good" population of Pied Tit *Parus nuchalis*. The species has never been recorded at Mount Abu.

Thus, for reasons of accuracy and expediency we reject the above records of Devarshi & Trigunayat (1989), Prakash & Singh (1995), Joshi & Joshi (2004), and Islam & Rahmani (2004) from this study.

Methods

Ten trips to Mount Abu were organized in different seasons from 25.iii.2001 to 19.vi.2005. Ornithological observations were made in all habitats represented in the area. An effort was made to spend time in the study area during all seasons so that the true status of the avifauna is reflected. We have also incorporated ten casual records by others. We did not survey forests at the foothills of Mount Abu.

Results and discussion

A total of 136 species during March 2001–June 2005, and ten casual records by others, have been combined to produce a comprehensive checklist of 146 bird species for Mount Abu. The high number of species new to Mount Abu (23) indicates the

restricted nature of recent works (Devarshi & Trigunayat 1989, Prakash & Singh 1995).

While the total number of species recorded (146) may not be impressive, Mount Abu boasts of four Red Data Book species – the Near-threatened Darter *Anhinga melanogaster*, the Critically Endangered Indian White-backed Vulture *Gyps bengalensis* and Long-billed Vulture *G. indicus* and the Vulnerable Green Munia *Amandava formosa* (BirdLife International 2001). The Indian endemics include Grey Junglefowl *Gallus sonneratii*, Indian Blackbird *Turdus simillimus* usually considered conspecific with *Turdus merula* (but see Rasmussen & Anderton 2005), White-spotted Fantail-Flycatcher *Rhipidura albogularis* and Green Munia. Another taxon worth mentioning is the north-western race of the Red Spur-fowl *Galloperdix spadicea caurina* Blanford, 1898, with Mount Abu, southern Rajputana [= south Rajasthan], as its type-locality (Ali & Ripley 1980). Though fairly common and unthreatened, the Aravali race has a very small distribution, with Mount Abu as its principal stronghold.

In winter (December–January) and in early May, when stragglers (e.g. Blyth's Reed Warbler *Acrocephalus dumetorum*) were in transit and summer migrants (Indian Blackbird, Indian Golden Oriole *Oriolus kundoo* and Asian Paradise-Flycatcher *Terpsiphone paradisi*) had already arrived in Mount Abu, maximum number (50) of bird species were recorded (three field days). Minimum bird species count (26) was during monsoon, particularly in August (two field days).

Most records concerning migrants and winter visitors were not unexpected as they occurred within their accepted ranges of distribution. However, some species, like Olivaceous Leaf-Warbler *Phylloscopus griseolus*, Red-throated Flycatcher *Ficedula parva* and Grey-headed Flycatcher *Culicicapa ceylonensis*, each of which was encountered only once or twice, were much rarer than would have been expected.

For certain species noted by Butler (1875), we were constantly on the lookout. In fact we went specifically for Common Cuckoo *Cuculus canorus* and Indian Plaintive Cuckoo *Cacomantis passerinus* in the months of May and June. Common Cuckoo was recorded once although Butler (1875: 460) observed that it arrived “at Mount Aboo [= Mount Abu] in considerable numbers towards the end of May” and “are

remarkably noisy, enlivening the hills” with their notes for at least two months. We did not record the latter species at all, despite its host species being present!

The apparent absence of owls at Mount Abu is probably real for we never saw nor heard any. But in the foothill forests of Abu, owl species will undoubtedly be recorded with additional effort.

It is sobering to note that most of the species recorded by Butler at Mount Abu have declined in numbers. The adjectives used by Butler like “very abundant”, “abundant”, “very common”, “considerable numbers” etc., to describe abundance of the species, seem irrelevant today. Butler found the resident vultures, Indian White-backed Vulture, Egyptian Vulture, Longbilled Vulture “common”, Jungle Bush-Quail *Perdica asiatica* “very common”, Red-rumped Swallow *Hirundo daurica* “very abundant”, Common Cuckoo *Cuculus canorus* in “considerable numbers”, Green Munia “common”, Spotted Munia *Lonchura punctulata* in “large flocks”, and Crested Bunting *Melophus lathami* as “one of the commonest birds”. Although we recorded these species, a considerable diminution of populations has occurred.

Though extensive, our list is not necessarily complete; difficult taxa like *Phylloscopus* warblers probably being under represented.

Physical changes that have occurred in Mount Abu

Large scale changes have taken place in the forest cover of Mount Abu in the last century. Butler (1875) found the Mount Abu jungles “impenetrable” that it was “impossible to explore whole of them”, and consequently doubtless a few species escaped notice. During 1938–1939 Prakash (1997) noted “dense unbroken green of forested hills” and saw “four dead tigers, being carried on bamboo poles on men's shoulders to the kothi [=residence] of the Agent to the Governor General”. The last tiger in Mount Abu was reported in 1970 (Anonymous Undated). Large-scale infrastructural works like the dams, Kodra and Kodra II, and air force radars have probably harmed forests and waterways. Large trees have become scarce. Exotic *Lantana camara* has overwhelmed Mount Abu's forests. In the ‘old days’, as one entered the Dilwara–Achalgarh tract, one was greeted with the fragrance of wild rose *Rosa involucrata* (= *R. clinophylla*), which grew in extensive patches (Prakash 1997) –

which is now replaced by crop fields.

Threats to the area and conservation significance

The threats to Mount Abu's birds come from various sources. The forested areas are under threat from cattle grazing, cutting and lopping of trees, encroachment by labourers, spreading exotic vegetation and summer fires. Mount Abu used to be peaceful except for the two tourist-filled summer months. Now tourists flock to the area all the year round. The increased tourism and population has had an adverse affect on Mount Abu. Hundreds of hotels and guest houses have erupted on the hill slopes. The forest in the foothills of Mount Abu has been largely cleared and even on the top only fragments of good habitat remain. A contributory factor to the above pressures is the weak management of the Sanctuary. While nominally under the control of the D.F.O., Mount Abu, there is little evidence of field activity by forest guards who are poorly equipped, unsupervised and largely unmotivated. Institutional weaknesses are also highlighted by the confusion over the status of the Sanctuary. Though 328 km² of Mount Abu are declared protected, only 112.98 km² are notified as the Sanctuary area (Anonymous 2003).

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Appendix

The following species were recorded by others, but eluded us during our study from 2001–2005. Status of most of these can be described as extremely rare as they are based on only one or two records from Mount Abu. Our comments are given in square brackets [].

Indian Shag *Phalacrocorax fuscicollis*: Occurred on “the lake” at Mount Abu (Butler 1876).

Black Kite *Milvus migrans*: Butler recorded the species as abundant (1875). Even as late as the 1940s McCann (1942) found the species “common”. [Has the food supply depleted due to the closure of abattoirs and butcher shops? The present human population of

- Mount Abu is distinctly vegetarian.]
- Western Marsh-Harrier *Circus aeruginosus*: Not recorded by Butler but one specimen was "obtained" by Dr King at "the lake (Nakki)" (Butler 1875).
- Besra Sparrowhawk *Accipiter virgatus*: A young male was collected "at or near Aboo by Dr. King" but not recorded by Butler (1875).
- Bonelli's Eagle *Hieraetus fasciatus*: Not recorded by Butler but Hume observed it twice, "soaring over the upper plateau of Mount Aboo" (Butler 1875) [Quite possibly occurs occasionally in winter].
- Brown Crake *Amaurornis akool*: Butler (1876) described it as, "by no means common", and "shot a specimen at Mount Abu in the middle of May" [Quite possibly still occurs].
- Eurasian Woodcock *Scolopax rusticola*: Only one record of a bird trapped in a damp spot in the forest near St. Mary's High School (Shivraj Kumar 1949). Not recorded by Butler (1876).
- Common Snipe *Gallinago gallinago*: Butler (1876) observed a few on a small patch of marshy ground at Mount Abu [Although he did not specify the site, the species is likely to occur in winter].
- Indian Skimmer *Rynchops albicollis*: Hume considered occurrence of the species at the "little Lake" (Nakki) utterly abnormal and suspected some mistake. However, Butler included it in his list on the strength of four specimens shot by Dr Newman (1876) [Essentially a species of fluvial habitats. This record, even at that time, was doubted by Hume].
- Indian Plaintive Cuckoo *Cacomantis passerinus*: Described as, "not uncommon at Aboo", and arriving "about the beginning of June", by Butler (1875). [Our visits in May 2001 and 2002 and June 2005 did not yield the species].
- Sirkeer Malkoha *Phaenicophaeus leschenaultii*: Hume did not record "Aboo specimens" and commented about Butler's identification that it "may be correct" (Butler 1875).
- Collared Scops-Owl *Otus bakkamoena*: Dr King shot a bird "at Aboo". Not recorded by Butler and Hume (Butler 1875). [Probably collected from the foothills of Mount Abu].
- Franklin's Nightjar *Caprimulgus affinis*: Not recorded by Butler but Hume commented that it is "very common" at Abu (Butler 1875).
- Asian Palm-Swift *Cypsiurus balasiensis*: A pair was recorded once, "at the beginning of hot weather", by Butler (1875).
- Alpine Swift *Tachymarptis melba*: Although Butler (1875) noted this species arriving in "large numbers", about the beginning of September, and remaining in the "cold weather", we failed to see it. [The specimen of a female, collected during winter from Mount Abu, is in the collection of the Bombay Natural History Society (Abdulali 1972). However, all recent records of this species in Rajasthan are of birds on passage (Sangha et al. 2005)].
- Lesser Pied Kingfisher *Ceryle rudis*: Recorded by Butler (1875), "both in the hills and in the plains". McCann (1944) mentions its occurrence "during the dry season".
- Blue-tailed Bee-eater *Merops philippinus*: "Escaped" Butler, but Hume shot two and Dr King had "several in his list" (Butler 1875).
- European Roller *Coracias garrulus*: Reported by Trivedi (2003), but not seen by us.
- Eurasian Wryneck *Jynx torquilla*: Butler (1875) saw "one on the wing once at Mount Aboo". [Not at all unlikely in winter].
- Eurasian Crag-Martin *Hirundo rupestris*: "Not uncommon" in the cold weather (Butler 1875). [Its presence is likely in winter].
- Eurasian Tree Pipit *Anthus trivialis*: Only "Dr King noted this from Aboo" (Butler 1875).
- Long-tailed Minivet *Pericrocotus ethologus*: Butler (1875) "got two good specimens, male and female". [Has been recorded from Kota in winter (Shantanu Kumar, verbally)].
- Marshall's Iora *Aegithina nigrolutea*: Marshall (1876) noted specimens of two males and one female in Hume's collection, which he thought were suspiciously like this taxon. [We did not meet it during the study and think that the habitat is not suitable for it.]
- Brown Shrike *Lanius cristatus*: Butler (1875) found it "uncommon".
- Common Stonechat *Saxicola torquata*: "Common on the hills and in the plains" (Butler 1875).
- Malabar Whistling-Thrush *Myophonus horsfieldii*: Butler (1875) saw a pair once. [Rare record. Occurrence unlikely in the absence of flowing streams. The present day dams were not there in Mount Abu in the Nineteenth Century.]
- Tickell's Thrush *Turdus unicolor*: Butler (1875) shot a female. [A mere straggler in south Rajasthan].
- Variable Wheatear *Oenanthe picata*: Butler (1875) found it "common".
- Streaked Fantail-Warbler *Cisticola juncidis*: Butler (1875) noted that it was "not very common in the hills".
- Booted Warbler *Hippolais caligata*: Butler (1875) described it as "common" during winter.
- Tickell's Warbler *Phylloscopus affinis*: Butler (1875) found that it was "common on the hills".
- Rusty-tailed Flycatcher *Muscicapa ruficauda*: Butler (1875) recorded it "sparingly at Mount Aboo during the rains and in the cold weather". [This record of Butler is suspect. Instead of rains and cold weather it is likely to occur in Rajasthan during autumn passage. It breeds in the Himalayas from north-east Afghanistan to eastern Nepal and winters in evergreen broadleaved forests of Kerala. The only record in Rajasthan is from Bharatpur during autumn passage (Kannan 1986)].
- Verditer Flycatcher *Eumyias thalassina*: Butler (1875) "observed it on one or two occasions" during "the rains". [Occasionally during winter, east of the Aravalis in Rajasthan].
- Spotted Creeper *Salpornis spilonotus*: Butler did not see "a specimen in the flesh" but Dr King shot one (Butler 1875).
- Striolated Bunting *Emberiza striolata*: Butler (1875) observed it "occasionally at Mount Aboo in the cold weather".
- Black-headed Bunting *Emberiza melanocephala*: Butler (1875) saw "a few small flocks" and "shot specimens there as late as the middle of May".
- Grey-headed Starling *Sturnus malabaricus*: Butler (1875) found it "common at Mount Aboo in the hot weather, congregating in considerable flocks in May and June". [HSS has recorded it in Banswara. It has also been recorded at Sitamata (Shantanu Kumar, verbally). The species was present in small flocks of 3–5 birds during flowering of *Butea monosperma* (February–March) at Phulwari Wildlife Sanctuary (2001–2004) and Kumbhalgarh (2002), Satish Kumar Sharma, verbally].
- Black-headed Oriole *Oriolus xanthornus*: Not recorded by Butler (1875) but Nirmalkumar (1969) recorded the species once. [We have recently recorded it from Phulwari Wildlife Sanctuary, Udaipur].

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Systematic list

146 bird species observed in Mount Abu are treated below. The account includes information on abundance, status, location, distribution and breeding. Previous, notable records of species are briefly compared with our observations, where change in their status or abundance is perceptible. The common and scientific names follow Manakadan & Pittie (2001). In a few cases we have accepted the taxonomic arrangements of Rasmussen & Anderton (2005) and del Hoyo et al. (2005).

Abbreviations used:

* = new record, species not previously reported from Mount Abu.

? = status uncertain / unconfirmed.

Little Grebe *Tachybaptus ruficollis*: Resident. Found on all waterbodies. Observed breeding during December–January.

* **Great White Pelican** *Pelecanus onocrotalus*: Vagrant. Only one sighting of about 15 birds in the sky on 25.iii.2001. Not recorded by Butler (1876).

? **Little Cormorant** *Phalacrocorax niger*: Uncommon. Four sightings at Nakki: on 21.v.2001 (one), 10.v.2001 (one), 15.iii.2003 (five) and 18.vi.2005 (two). Butler (1876) did not record it. Hume comments that Dr King “shot (and preserved) a specimen on the lake at Mount Aboo” (Butler 1876).

Great Cormorant *Phalacrocorax carbo*: Resident? Eight birds on 19.v.2001, two on 11.viii.2001, 11 on 19.i.2002; more than 15 on 6.xii.2002, and 11 on 15.iii.2003 – all at Nakki Lake.

? **Darter** *Anhinga melanogaster*: Uncommon / rare. Only one sighting of an individual at Kodra II on 20.v.2001. Butler (1876) thought that it was common at Mount Abu. The species has obviously declined. Probably there is not enough fish in the polluted Nakki Lake to support it any more.

Little Egret *Egretta garzetta*: Vagrant. One on 7.xii.2002 at Nakki Lake. Five on the drying Bander Mayer Lake (Windor Meyr) on 14.iii.2003. Not recorded by Butler but according to Hume it was “obtained also at Aboo” (1876).

* **Grey Heron** *Ardea cinerea*: Vagrant. One on 6.xii.2002 at Nakki Lake. Not recorded by Butler (1876).

* **Large Egret** *Casmerodius albus*: Vagrant. One on 7.xii.2002 at Nakki Lake. Not recorded by Butler (1876).

* **Indian Pond Heron** *Ardeola grayii*: One on 8.xii.2002 at Shabri Van pond on way to Gau

Mukh. Not recorded by Butler (1876).

? **Black-crowned Night-Heron** *Nycticorax nycticorax*: Five birds were recorded on 25.iii.2001 near Nakki Lake. Not recorded by Butler (1876). However, Hume states that the species was “obtained on Aboo” (Butler 1876).

Little Green Heron *Butorides striatus*: Resident. Not uncommon. Regularly sighted at Bander Mayer, and once in the Salgaon area. A single bird was recorded at Nakki on 19.vi.2005. Butler (1876) also saw it “on a few occasions”.

* **Black Stork** *Ciconia nigra*: Winter visitor? One juvenile was observed catching fish from a drying Bander Mayer Lake on 14.iii.2003. Not recorded by Butler (1876).

White-necked Stork *Ciconia episcopus*: Local migrant? Two were observed on 14.iii.2003 at Bander Mayer Lake. Butler (1876) saw birds “feeding by the side of the Lake” [Nakki]. Dr King “also obtained it at Aboo” (Butler 1876).

Gadwall *Anas strepera*: Winter visitor. Two birds on Nakki Lake (19.i.2002) and one at Oria (20.i.2002).

Northern Shoveller *Anas clypeata*: Winter visitor. More than 40 on 25.iii.2001 and three on 19.i.2002 at Nakki Lake and seven at Oria on 20.i.2002.

Northern Pintail *Anas acuta*: Winter visitor. 21 birds were observed on 19.i.2002 at Nakki lake, 20 at Oria and 21 at Mini Nakki on 20.i.2002 and one at Jawai Talab on 8.xii.2002.

Common Teal *Anas crecca*: Winter visitor. Four at Oria and three at Salgaon on 20.i.2002, eight at Jawai Talab on 8.xii.2002 and two on 15.iii.2002 at Nakki Lake.

Common Pochard *Aythya ferina*: Winter visitor. More than 20 were observed at Mini Nakki on 20.ii.2002.

Tufted Pochard *Aythya fuligula*: Winter visitor. Two birds were observed at Oria on 20.i.2002.

Oriental Honey-Buzzard *Pernis ptilorhynchus*: Resident? All our sightings were during spring and summer. Butler (1875) described it as, “not a common bird, occurs in the jungles of the Aravalli ranges”, and “killed one and saw others at Aboo in the jungles at the foot of the hills”; and according to Hume the species was obtained from “there” by Dr King (Butler 1875).

* **Black-shouldered Kite** *Elanus caeruleus*: Local migrant? Two sightings of single birds on 20.vii.2002 and 6.xii.2002 in the fields near Oria. Butler (1875) did not record it and commented that it does not “ascend the hills”.

? **Egyptian Vulture** *Neophron percnopterus*: Only two sightings of single birds on 25.iii.2001 and 10.v.2002 indicating a decline of the species, for Butler (1875) found it “very common”.

? **Indian White-backed Vulture** *Gyps bengalensis*: Only one sighting of an individual on 26.iii.2003. Butler (1875) found it very common.

Long-billed Vulture *Gyps indicus*: Resident. Usually one / two birds seen except once when five birds were observed on 19.v.2001. Butler (1875) found it very common and breeding.

* **Eurasian Griffon** *Gyps fulvus*: Winter visitor. Only one sighting of an individual on 21.i.2002. Not recorded by Butler (1875). McCann (1942) erroneously noted *G. f. fulvescens* as “a common species breeding in suitable places on the crags” (p. 216), which was subsequently corrected by Ali & Abdulali (1945) to *G. indicus*.

? **Short-toed Snake-Eagle** *Circaetus gallicus*: Two records. A pale bird was observed on 25.iii.2001 at Bailey’s Walk. On 16.iii.2003 one bird was observed soaring at Kodra.

Crested Serpent-Eagle *Spilornis cheela*: Resident. Not uncommon, and spread throughout the study area. On 14.iii.2003 a bird was seen perched on the artificial boat at Nakki Lake, unconcerned about human disturbance.

Shikra *Accipiter badius*: Resident. Common.

Eurasian Sparrowhawk *Accipiter nisus*: Winter visitor. One bird was observed soaring near Peace Park on 6.xii.2002. Butler (1875) observed that it was “by no means common”.

? **White-eyed Buzzard** *Butastur teesa*: Two birds were observed on 10.v.2002. Butler (1875) did not record it in the “hot weather”.

* **Common Buzzard** *Buteo buteo*: Vagrant. Only two sightings, possibly of the same bird, on 14.iii.2003 and 16.iii.2003. Not recorded by Butler (1875).

* **Long-legged Buzzard** *Buteo rufinus*: Winter visitor. Three sightings of separate individuals on 19.i.2002, 21.i.2002 and 8.xii.2002. Not recorded by Butler (1875).

* **Steppe Eagle** *Aquila nipalensis*: Winter visitor. Up to four birds were seen at a garbage dump near Samni Gate of the Sanctuary on 26.iii.2001. One individual was seen regularly from 19–21.i.2002 and one on 6.xii.2002. Not recorded by Butler (1875).

Changeable Hawk-Eagle *Spizaetus cirrhatus*: Resident in the foothills. However, there is a recent record of one bird from Uttarayan, Mount Abu (Shantanu Kumar, verbally.) Hume obtained a “fine adult female” near Anadra, at the foot of the ascent to Mount Abu (Butler 1875).

Common Kestrel *Falco tinnunculus*: Winter visitor. Only one sighting of a single bird on 21.i.2002 at Oria.

Eurasian Hobby *Falco subbuteo*: Winter visitor. Recorded at Uttarayan in 1992 and at Trevor Tank and Sunset Point in the winter of 2001–2002 (Shantanu Kumar, verbally.) Butler (1875) found it “tolerably common at Mount Abu at the end of rains and during cold weather”.

Peregrine Falcon *Falco peregrinus*: Resident. Rather uncommon / rare. Constant vigilance for the resident Shaheen Falcon (*F. p. peregrinator*) was rewarded on 22.ix.2002, when one individual was observed near Gau Mukh. Butler (1875) “shot a fine specimen (female) at Mount Aboo on the 10th April 1875,” of the latter, “and met with it on one or two occasions at the same place”. The Shaheen is known to breed at Mount Abu (Editors 1948).

Jungle Bush-Quail *Perdica asiatica*: Resident. Uncommon / rare. Only one sighting on 20.v.2001 in Bikaner House. Butler (1876)

found it “very common”, and according to Hume, “numerous specimens” were collected by Dr King (Butler 1876).

Red Spurfowl *Gallus spadicea*: Resident. Common. Usually in pairs but once (19.i.2002) more than six birds were observed feeding at Sunset Point on. Dr King found it common at Abu “especially where there is much bamboo” (Hume & Marshall 1879). Butler frequently saw the young broods, varying in number from four to eight, but only once saw the nest at Mahableshwar in the month of April (Hume & Marshall 1879).

Grey Junglefowl *Gallus sonneratii*: Resident. Common. The crowing call of this vocal forest bird was heard throughout the study area and the foothills. The birds are very wary, as they are still hunted by tribals. The forest department regularly feeds them at a few points in the Sanctuary. Dr King noted that “the eggs were found here from the middle of April to the end of May” (Hume & Marshall 1879). Butler (1876) noted that “it is not as common at Aboo, that is, actually on the hill, as ought to be, owing to the merciless way it has been destroyed of late”. McCann (1942) observed in 1941 that it had declined in numbers since 1916 when he first visited Abu and its familiar note was “scarce”.

Indian Peafowl *Pavo cristatus*: Resident. Common. It is quite possible that the loss of tree cover in the recent past forced peafowl to move up from the foothills, for Butler (1876) did not record it at Mount Abu and observed that the species abounds “in the jungles at the foot of Abu”.

White-breasted Waterhen *Amaurornis phoenicurus*: Resident. Not uncommon. The creation of waterbodies at Mount Abu has very likely helped the species. Butler (1876) “shot a fine specimen in a rocky nullah at Mount Aboo on the 21st June”. Hume commented that he had seen many specimens from Abu (Butler 1876).

Common Moorhen *Gallinula chloropus*: Resident. Three at Salgaon on 20.i.2002. Not recorded by Butler (1876) but Hume (*ibid.*) commented that “it was obtained on one occasion at Aboo”.

Common Coot *Fulica atra*: Winter visitor. Common. Observed at Nakki Lake, Oria and Salgaon, in small numbers, of up to five birds. Butler (1876) did not record the species. However, Hume commented that the species had been once seen “on the lake at Aboo” (Butler 1876).

Red-wattled Lapwing *Vanellus indica*: Resident. Common. Breeds at suitable places.

? * **Common Greenshank** *Tringa nebularia*: All sightings during passage of single birds: 25.iii.2001 (Nakki lake), 26.iii.2001 (Mini Nakki lake, 21.ix.2002 and 15.iii.2003 (Nakki lake). Not recorded by Butler (1876).

Green Sandpiper *Tringa ochropus*: Winter visitor. Common. Single birds sighted at all waterbodies.

Wood Sandpiper *Tringa glareola*: Winter visitor. An individual was seen on 26.iii.2001 at Mini

Nakki. Butler (1876) “shot a pair of females in the summer plumage by the side of Lake... on 8th May”, and according to Hume (Butler 1876) it was also “obtained” by Dr King.

* **Common Sandpiper** *Actitis hypoleucos*: Winter visitor. Only two sightings: two birds at Oria on 20.ii.2002 and one at Nakki Lake on 15.iii.2003. Not recorded by Butler (1876).

Black-winged Stilt *Himantopus himantopus*: Resident? 15 were recorded at Mini Nakki on 26.iii.2001, five at Oria on 20.i.2002, two at Jawai Talab on 8.xii.2002, two at Bander Mayer on 14.iii.2003 and more than twenty at Nakki Lake on 15.iii.2003. Butler (1876) observed it “occasionally round the edges of the lake”. Their absence during June indicates that they go down to the plains to breed.

* **River Tern** *Sterna aurantia*: Winter visitor. All sightings were during winter except once, when it was seen on 21.v.200?. Not recorded by Butler (1876).

Blue Rock Pigeon *Columba livia*: Resident. Common.

? **Oriental Turtle-Dove** *Streptopelia orientalis*: Number of sightings: two in Sanctuary and 11 at Polo Ground on 20.ii.2002; two on 11.v.2002; and one on 14.iii.2003.

Little Brown Dove *S. senegalensis*: Resident. Common.

Spotted Dove *S. chinensis*: Resident. Common.

Eurasian Collared-Dove *S. decacotta*: Possibly a straggler. Although quite common in the surrounding plains it is rather rare in Mount Abu. One bird was recorded at Arna (c. 800 m) in September 2004 (Jugal Tiwari, verbally.) Butler (1876) “met with one or two specimens” at Mount Abu.

Yellow-legged Green-Pigeon *Treron phoenicoptera*: Resident. Rather uncommon. Two sightings: five birds on 20.v.2001 and six on 20.i.2002 at Salgaon. Although Butler (1876) did not observe this bird at Mount Abu, Hume (Butler 1876) states that Dr King “obtained” it there.

Alexandrine Parakeet *Psittacula eupatria*: Scarce? Recorded less than ten times during one year (May 2004–May 2005) at Arna (c. 800 m alt.) and Chhipaberi (c. 650 m alt.), and a nest was found on a semul tree *Salmalia malabaricum* during July–August 2004 at Chhipaberi (Jugal Tiwari, verbally). Butler (1875) did not record the species, but was given a specimen by Dr Newman (*ibid.*).

Rose-ringed Parakeet *P. krameri*: Resident. Common. More than 300 birds were observed coming to roost on trees around the Polo Ground on 6.xii.2002.

Plum-headed Parakeet *P. cyanocephala*: Resident. Only two sightings of small flocks on 19.i.2002 and 15.iii.2003.

Pied Crested Cuckoo *Clamator jacobinus*: Breeding monsoon visitor. Two birds were recorded on 13.viii.2001.

Common Cuckoo *Cuculus canorus*: Summer visitor. Butler (1875) observed that it arrived “at Mount Abu in considerable numbers towards

the end of May” and was “remarkably noisy, enlivening the hills” with its notes for about two months. During our visits in May and June the species was heard only once at Trevor Tank on 18.v.2005.

Brainfever Bird *Hierococcyx varius*: Resident? Single birds observed on 20.v.2001, 21.ix.2002 and 20.vii.2002.

Asian Koel *Eudynamys scolopacea*: Rare. One was recorded at Chhipaberi (c. 650 m alt.) in August 2004 (Jugal Tiwari, verbally). Butler (1875) “did not find it very plentiful at Mount Aboo”.

Greater Coucal *Centropus sinensis*: Resident? Recorded on 26.iii.2001 at Salgaon, on 20.v.2001 at Kodra II and, near Sunset Point on 18.vi.2005.

? * **Jungle Owlet** *Glaucidium radiatum*: Although not recorded by us there is one winter record. R.G. Soni photographed a single bird near Gaumukh in December 1999 (verbally). Not recorded by Butler (1875) at Mount Abu. However, he found it “not uncommon in the jungles at the foot of Mount Aboo”.

Indian Jungle Nightjar *Caprimulgus indicus*: Resident? Common. It becomes very vocal towards the spring and in March–April it was heard at several places at dawn. One was flushed from a bamboo thicket on 18.vi.2005 in the Sanctuary.

House Swift *Apus affinis*: Resident. Common.

Small Blue Kingfisher *Alcedo atthis*: Resident. Uncommon.

White-breasted Kingfisher *Halcyon smyrnensis*: Resident. Not uncommon.

Small Green Bee-eater *Merops orientalis*: Resident? Single birds recorded on 26.iii.2001 (Sanctuary), 18.i.2002 (tiger path), 21.ix.2002 (Sanctuary). It is possible that they go down to the plains to breed during summer.

? **Indian Roller** *C. benghalensis*: Only one individual was observed at Oria on 20.i.2002.

? **Common Hoopoe** *Upupa epops*: Only two sightings: one individual was seen on 26.iii.2001 in the Sanctuary and another at Nakki Lake on 15.iii.2003. Butler (1875) also found it uncommon.

Indian Grey Hornbill *Ocyrceros birostris*: Resident? Recorded in the Sanctuary on 20.i.2002.

Brown-headed Barbet *Megalaima zeylanica*: Resident. Common. Butler (1875) “took a nest on 8th April 1875, containing four fresh eggs” and on 4.v.1875 he saw “another nest, with half fledged young ones”.

Coppersmith Barbet *Megalaima haemacephala*: Resident. Common.

Brown-capped Pygmy Woodpecker *Dendrocopos nanus*: Resident. Not uncommon. Three sightings on 20.i.2002, 11.v.2002 and 18.vi.2005, in the Sanctuary.

Yellow-fronted Pied Woodpecker *Dendrocopos mahrattensis*: Resident. Uncommon.

Lesser Golden-backed Woodpecker *Dinopium benghalense*: Resident. Uncommon. Only heard once on 16.iii.2003.

Dusky Crag-Martin *Hirundo concolor*:

Resident. Common. Butler (1875) observed it breeding in June and July.

* **Common Swallow** *Hirundo rustica*: Winter visitor. Three birds were observed on 19.i.2002. Not recorded by Butler (1875).

Red-rumped Swallow *Hirundo daurica*: Resident? Common throughout the study area. Observed breeding in Saint Saviours Church on 13.viii.2001. Butler (1875) found it “very abundant” and breeding in June and July in caves. They appear to leave Mount Abu for the plains by late September and re-appear by early March.

White Wagtail *Motacilla alba*: Winter visitor. Not uncommon.

Large Pied Wagtail *Motacilla maderaspatensis*: Resident? Regularly observed near all waterbodies; up to eight birds at Nakki lake on 15.iii.2003. Not seen during visits in late May and June; possibly moves down to breed. Butler (1875) thought it was “not very common”.

Yellow Wagtail *Motacilla flava*: Winter visitor. Single birds were observed at Oria on 20.i.2002 and 6.xii.2002.

Grey Wagtail *Motacilla cinerea*: Winter visitor. Single birds were observed at Oria on 20.i.2002 and 6.xii.2002.

Oriental Tree Pipit *Anthus hodgsoni*: Winter visitor. Six birds were observed on 19.i.2002 near Sunset Point. Butler (1875) found it “common”.

Black-headed Cuckoo-Shrike *Coracina melanoptera*: Summer visitor. Breeding? Only one sighting of a single male near Sunset Point on 19.v.2001. Butler (1875) found it “not common” and “obtained a few specimens”.

Small Minivet *Pericrocotus cinnamomeus*: Resident. Common.

Common Woodshrike *Tephrodornis pondicerianus*: Resident. Not uncommon.

Red-whiskered Bulbul *Pycnonotus jocosus abuensis*: Resident. Very common. Observed at altitudes as low as c. 480 m above m.s.l. [Mount Abu is the type-locality for this taxon.]

Red-vented Bulbul *Pycnonotus cafer*: Resident. Very common.

Common Iora *Aegithina tiphia*: Resident. Only two sightings on 19.i.2002 and 21.ix.2002 near St Mary’s School. Butler (1875) also found it “by no means common” and “did not often meet with it at Aboo”.

Rufous-backed Shrike *Lanius schach*: Resident. Common. Butler (1875) found it “not uncommon” and observed “nidification at Aboo about the third week of May”.

Blue-headed Rock-Thrush *Monticola cinclorhynchus*: Rare / uncommon passage migrant. One bird was recorded on 25.iii.2001 near Bander Mayer Lake. Butler (1875) found it “rare” and shot one in the month of September. But in his comments, Hume wrote that he knew of “several being killed” (Butler 1875).

Blue Rock-Thrush *Monticola solitarius*: Winter visitor. Not uncommon

Indian Blackbird *Turdus simillimus*: Although considered conspecific with *T. merula*, a formal taxonomic revision is underway (Rasmussen & Anderton 2005). Breeding summer visitor.

Earliest arrival was recorded on 15.iii.2003. A chick was observed on 11.viii.2001 at Trevor Tank. Moves to lower levels with the onset of winter. Usually treated as race of *T. merula*, but differs markedly in plumage, morphological proportions, wing formula, vocalizations and egg colour (del Hoyo et al. 2005).

Bluethroat *Luscinia svecica*: Occasional. One was seen near Achalgarh in December 2004 (Jugal Tiwari verbally). Butler (1875) “met with it on one or two occasions” only.

Oriental Magpie-Robin *Copsychus saularis*: Resident. Common. Butler (1875) found it “not very common”.

Indian Robin *Saxicoloides fulicata*: Resident. Less common than the previous species. Two chicks were being fed by parents on 20.v.2001.

Black Redstart *Phoenicurus ochruros*: Winter visitor. Common.

? * **Pied Bushchat** *Saxicola caprata*: One bird was recorded on 10.v.2002 in the Sanctuary. Not recorded by Butler (1875).

Indian Chat *Cercomela fusca*: Resident. Common.

Indian Scimitar-Babbler *Pomatorhinus horsfieldii obscurus* Hume, 1872, *Stray Feathers* I: 7 (Mount Aboo): Resident. Not uncommon throughout the study area. Mount Abu is the type-locality for this taxon.

Rufous-bellied Babbler *Dumetia hypertythra abuensis*: Resident. Not uncommon throughout the study area. [Mount Abu is the type-locality for this taxon.]

Jungle Babbler *Turdoides striatus*: Resident. Common.

Franklin’s Prinia *Prinia hodgsonii*: Resident. Not uncommon.

Ashy Prinia *Prinia socialis*: Resident. Common.

Blyth’s Reed-Warbler *Acrocephalus dumetorum*: Passage migrant. Not uncommon during spring passage. As late as 10.v.2002, five birds were recorded in the Sanctuary.

Common Tailorbird *Orthotomus sutorius*: Resident. Common.

Common Chiffchaff *Phylloscopus collybita*: Winter visitor. Common.

Olivaceous Leaf-Warbler *Phylloscopus griseolus*: Winter visitor. Uncommon. There is a recent record from Trevor Tank. (Shantanu Kumar, verbally). Butler (1875) found it common during winter.

Greenish Leaf-Warbler *Phylloscopus trochiloides*: Common winter / passage migrant. Arrives as early as first week of August.

Greater Whitethroat *Sylvia communis*: Passage migrant in autumn. Rare / uncommon. One individual was recorded in the shrubs near the main gate of the Sanctuary on 21.ix.2002. Butler (1875) thought it was “not uncommon at Mount Aboo in the rains and at the commencement of the cold weather”. Also collected by Dr King (Butler 1875).

Common Lesser Whitethroat *Sylvia curruca*: Winter visitor. Common.

? **Hume’s Lesser Whitethroat** *Sylvia althaea*: Two on 25.iii.2003 at Bailey’s Walk.

? * **Asian Brown Flycatcher** *Muscicapa dauurica*: Spotted once near Sunset Point, catching insects, attracted to flowering mango *Mangifera indica* on 25.iii.2001 (Sangha & Devarshi 2004).

Red-throated Flycatcher *Ficedula parva*: Winter visitor. Only three sightings on 20.i.2002, 21.ix.2002 and 6.xii.2002. In contrast Butler (1875) described it as the “commonest bird at Mount Aboo in cold weather”.

Tickell's Blue-Flycatcher *Cyornis tickelliae*: Resident. Widespread and quite common.

* **Grey-headed Flycatcher** *Culicicapa ceylonensis*: Winter visitor. Only one sighting on 19.i.2002 near Sunset Point. Not recorded by Butler (1875).

Asian Paradise-Flycatcher *Terpsiphone paradisi*: Summer visitor. Arrives around mid-March and moves down by end of September. A white male was seen at Mini Nakki on 26.iii.2001. Singles (plumage? White?) were seen again on 19.v.2001, 10.v.2002 and 21.ix.2002. Interestingly, Butler (1875) “never met with one in white plumage”.

White-spotted Fantail-Flycatcher *Rhipidura albogularis*: Resident. Common. Counted ten individuals on 20.i.2002, feeding on flies at a garbage dump near the Samni Gate of the Sanctuary. On 7.xii.2002, on the slope facing Anadra, a single bird was recorded at c. 530 m above m.s.l.

Great Tit *Parus major*: Resident. Uncommon. Recorded a few times near Honeymoon Point, Chhipaberi and Sunset Point. One was observed feeding four chicks at Arna (Jugal Tiwari, verbally). Butler (1875) mentions that it “occurs sparingly”.

Indian Yellow Tit *Parus aplonotus*: Resident. Common.

* **Thick-billed Flowerpecker** *Dicaeum agile*: Resident. Four sightings on 21.ix.2002, 7.xii.2002, 15.iii.2003 (courting pair) and 18.vi.2005. Not recorded by Butler (1875).

Purple Sunbird *Nectarinia asiatica*: Resident. Common. Some males assume breeding plumage by mid-January. Nesting begins by the end of March.

Oriental White-eye *Zosterops palpebrosus*: Resident. Common.

Crested Bunting *Melophus lathami*: Resident. Only three sightings of one / two birds on 20.v.2001, 11.v.2002 and 20.vii.2002. Butler (1875) described it as “one of the commonest birds of Mount Aboo”.

* **Rock Bunting** *Emberiza cia*: Vagrant. One bird was seen feeding at Sunset Point on 14.iii.2003. (Sangha & Devarshi *in press*).

Grey-necked Bunting *Emberiza buchanani*: Winter visitor. Uncommon / rare. Only one individual was observed on 19.i.2002 near St Mary's School. Recorded by Butler (1875) as “not very common”.

* **White-capped Bunting** *Emberiza stewarti*: Winter visitor. Uncommon. Five birds were seen at Salgaon on 20.i.2002 and three in the Sanctuary on 21.i.2002. Not recorded by Butler (1875).

Common Rosefinch *Carpodacus erythrurus*: Winter visitor and passage migrant. Up to 13 were seen on 20.i.2002 and six on 26.iii.2003. Butler (1875) noted it as “very plentiful at Mount Aboo in the cold weather”.

Green Munia *Amandava formosa*: Resident. Not uncommon throughout the study area. Two loose flocks (8+5) were observed feeding on grass seeds on the track in the Sanctuary on 20.i.2002, two to three birds near Oria on 20.vii.2002, nine in a lantana-infested area near St Mary's School on 8.xii.2002, more than 24 feeding in the soccer field of St Mary's School on 16.iii.2003 and five on 18.iii.2005 in the Sanctuary. Although from time to time various observers have claimed discovery of ‘new’ sites at Mount Abu, the species is present throughout the study area. At Achalgarh an unusually “large flock of 50” birds has been recently reported (Mehra & Sharma 2004). The species is absent in Mount Abu during August–October. The birds probably descend to the foothills where agriculture is prominent (Tiwari & Tiwari 2005). Butler (1875) found it “common”.

White-throated Munia *Lonchura malabarica*: Resident. Common. Usually in small flocks, but once 30–strong at Salgaon on 20.i.2002. Butler (1875) noted it as “very common”.

Spotted Munia *Lonchura punctulata*: Resident. Not uncommon. Nidification was noted on 13.viii.2001. Two pairs were observed bringing maize leaves and, twice, cloth rags, for constructing nests in date palms (scientific name) near Doodhia Nullah and Gujarat circuit house. Although Butler (1875) noted it as “common, and associating in large flocks in hot weather” we observed it only in small numbers.

House Sparrow *Passer domesticus*: Resident. Common near human habitations.

Yellow-throated Sparrow *Petronia xanthocollis*: Resident. Not uncommon. In spring numbers began to increase. On 14.iii.2003 they were in good numbers on flowering *Erythrina*

indica trees. All but few disappear after autumn. Breeds in April / May. Butler (1875) found it “very abundant at Mount Aboo” and breeding in April.

Brahminy Starling *Sturnus pagodarum*: Summer / monsoon visitor? All our sightings are from summer and monsoon months. Butler (1875) found it “common at Mount Aboo”.

Rosy Starling *Sturnus roseus*: Passage? A flock of about 200 birds was seen flying in the valley near Arna in July 2004 (Jugal Tiwari verbally). Butler (1875) found it “not so plentifully, on the hills”.

Common Myna *Acridotheres tristis*: Resident. Common and usually confined to Mount Abu town.

Indian Golden Oriole *Oriolus kundoo*: Summer visitor. All sightings during May. Once on 11.viii.2001. Butler (1875) noted that it was present, “both on the hills and in the plains,” but was “not plentiful”.

? **Black Drongo** *Dicrurus macrocercus*: Only two sightings on 25.iii.2001 and 7.xii.2002 in the Sanctuary. Butler (1875) found it “somewhat scarce on the hill”.

* **Ashy Drongo** *Dicrurus leucophaeus*: Winter and passage migrant. Irregular and uncommon. Single birds were seen on 26.iii.2001 and 7.xii.2002. Six birds on a flowering Eucalyptus tree in the forest rest house compound, on 14.iii.2003. Not recorded by Butler (1875).

White-bellied Drongo *Dicrurus caerulescens*: Resident. Not uncommon. Commoner than the previous two species.

Indian Treepie *Dendrocitta vagabunda*: Resident. Common.

* **House Crow** *Corvus splendens*: Vagrant. Only one sighting on 7.xii.2002, on the slope facing Anadra at an altitude of c. 860 m above m.s.l.

Indian Jungle Crow *Corvus [macrorhynchos] culminatus*: Resident. Common. A pair was observed incubating near Trevor Tank on 21.v.2002.

Breeding of Long-billed Vulture *Gyps indicus* at Ramanagaram hills, Karnataka, India

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The hills of Ramanagaram (12°07–12°58'N 77°08'–77°25'E) are located to the south-west of Bangalore (Karnataka, India). They stretch for c. 75 km from south of Magadi till a little north of Kollegal and are c. 25 km wide from around Ramanagaram to the west of Kanakapura. This ancient range dates from the Lower Proterozoic, making them c. 2,600–2,000 million years old (Kamath 1982). They are home to a large

variety of flora and fauna, and their forest-covered (Tropical Thorn Scrub and Dry-deciduous) slopes are of great ornithological importance, supporting over 150 species of birds belonging to over 40 families, including the endemic Yellow-throated Bulbul *Pycnonotus xantholaemus* and the critically and globally endangered Long-billed Vulture *Gyps indicus* (*pers. obs.*, Subramanya et al. 2005). They form part of