

Bird observations from Valmiki Tiger Reserve, Bihar

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Abstract

Valmiki Tiger Reserve, in Bihar, is a relatively poorly known bird area. Observations from a recent visit (16 October to 06 November 2015) are documented here. Noteworthy records include some globally threatened, and near-threatened species such as Lesser Adjutant *Leptoptilos javanica*, Swamp Francolin *Francolinus gularis*, Oriental Darter *Anhinga melanogaster*, and River Lapwing *Vanellus duvauceli*. There were records of White-backed Gyps *Gyps bengalensis* and Slender-billed Vultures *C. tenuirostris*, and Sarus Crane *Grus antigone*. Historical records of the Bengal Florican *Houbaropsis bengalensis*, from the general area, also exist. A large roost of migratory Amur Falcons *Falco amurensis* was also discovered just outside the reserve. Several species could have been reported as new for Valmiki Tiger Reserve, but lack of published materials has made it difficult to identify these. Altogether 246 species of birds were listed in this work although there could be more than 300 species. Most of the summer visitors, such as cuckoos, and winter visitors, such as ducks, and waders, could not be observed owing to the time of visit. Details of some important observations are presented. Conservation issues are discussed briefly, and recommendations are made for the protection of habitats, and birds.

The Valmiki Tiger Reserve (27.33°N, 84.16°E; henceforth VTR) (Fig. 1) in Bihar, India, is poorly covered in ornithological works. It lies at the edge of the Himalaya global biodiversity hotspot (Mittermeier *et al.* 2004). It is in West Champaran District, and to its north is the Chitwan National Park of Nepal. Together, these contiguous tracts of protected areas (including Parsa Wildlife Reserve of Nepal) form a large wilderness area that is home to a variety of wildlife. Being at the edge of the Himalaya, the physiography of VTR comprises low hills with small valley plains along the rivers. The hills are part of sub-Himalayan ranges, i.e., the eastward extension of the Siwalik Range (its eastern end), known here as Churia Hills. The highest point is 874 m asl in Someshwar on the Nepal border. The lowest elevations are in the riverbeds near Madanpur (less than 140 m asl). Gandak, and Pandai are the main rivers, into which innumerable streams, and rivulets merge.

VTR extends over an area of 898.9 km² (589.8 km² being the core area, and 309.1 km² the buffer zone). It has a tropical 'monsoon' type of climate, with a hot wet summer, and a cool dry winter (annual precipitation 900–1300 mm; annual temperature

06°C–40°C). The main vegetation types are tropical moist deciduous with small patches of semi-evergreen forests, and grasslands.

Owing to its relative remoteness, and also its past history of insurgency, very few ornithological studies have been carried out in VTR. In fact, there is no checklist or paper on its ornithology in any scientific journal or well-known magazines. Some information on a few species is found in synoptic reports on other species, or on the tiger reserve such as Javed & Rahmani (1991), Director (ed. 1998), Sinha (2012), and Anon. (undated). It is listed as an Important Bird & Biodiversity Area by Islam & Rahmani (2004).

The reserve has a rich diversity of birdlife, evident from the list in the Appendix: 246 species including a few from published sources, which included two Critically Endangered, four Vulnerable, and five Near Threatened birds. The information added from published sources were those that were considered reliable and authentic (i.e., within known range, identification not difficult or proper description given).

Methodology

I made direct observations using 10x40 binoculars, noted the calls of some species, and interviewed forest staff, villagers, and other knowledgeable persons (mainly researchers and conservation workers). Observations were made on foot, along existing paths and roads, from vehicles along roads and tracks, and from a raft. I made 15 field trips from 16 October to 06 November 2015 during which at least 198 species of birds were recorded. My surveys included parts of all the forest ranges of VTR: Manguraha, Gobardhana, Raghia, Chiutaha, Harnatar (only its fringes), Gonauli, Valmikinagar, and Madanpur.

Significant records

I provide below details of the more interesting, and significant records, including regional rarities, and Threatened, and Near Threatened species that I observed. Records of Galliformes, and large raptors (Accipitridae) are included, given the high hunting pressures on these species in the past, and even today

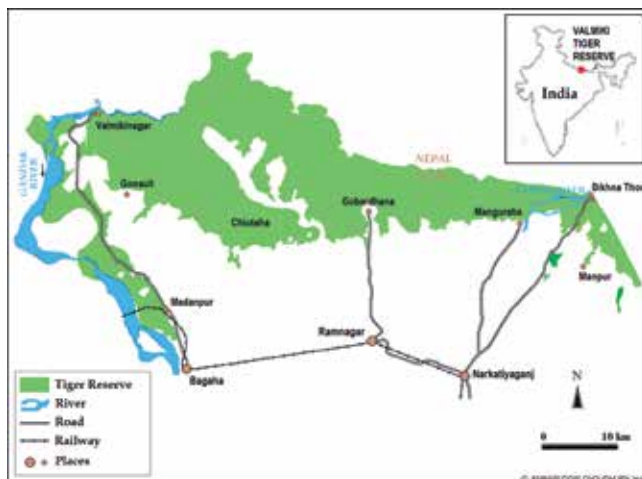


Fig. 1. Map of Valmiki Tiger Reserve. © Anwaruddin Choudhury–2015.

(outside the protected area). The Red List status follows BirdLife International (2015), which is also followed by IUCN (2015). An annotated list of all the birds recorded can be found in the Appendix.

Large Cormorant *Phalacrocorax carbo* A flock of five birds was seen on a small islet in the Gandak River on 04 November 2015 near Valmikinagar.

Oriental Darter *Anhinga melanogaster* (Near-threatened) A single bird was seen in flight near the Gandak River on 04 November 2015 near Valmikinagar.

Asian Openbill *Anastomus oscitans* About 15–16 seen in flight above the Madanpur Range grasslands (south of the railway track), in the evening of 05 November 2015. More than 20 birds were seen on 06 November 2015, also in the Madanpur Range, but north of the railway track in a waterlogged area.

Lesser Adjutant *Leptoptilos javanicus* (Vulnerable) One bird perched on top of a simul *Bombax ceiba* tree on 05 November 2015 near Lakhia *nullah* in Madanpur Range (south of the railway track).

Swamp Francolin *Francolinus gularis* (Vulnerable) This is a grassland specialist occurring in tall wet savanna grassland. Several coveys were seen, and heard in the grassland area of Madanpur Range (south of the railway track) on 05–06 November 2015. A lone bird was seen when it took a short flight, and then three others were seen feeding on 05 November 2015. On 06 November 2015, two coveys, of three birds each, were seen, one in the same general area, while the other near Lakhia *nullah*. Calls were also heard from three different sites of the same grassland. Forest staff reported that it also occurred in the grassland north of the railway track [82].



Photos: Anwaruddin Choudhury

82. Swamp Francolin.

Kalij Pheasant *Lophura leucomelanos* Two males, and two females of the nominate subspecies were seen on 03 November 2015 near the watchtower, located within three kilometers of Gonauli forest rest house. Four more (one male, two females, one unsexed) were seen towards Valmiki Ashram (Nepal), but just inside Indian Territory on 04 November 2015.

Red Junglefowl *Gallus gallus* Several sightings in all the ranges of the reserve: lone birds, as well as twos, threes, and up to eight to nine birds together.

Black-winged Kite *Elanus caeruleus* Single birds seen on several occasions just outside the reserve, and in the Madanpur

Range (south of the railway track; on 06 November 2015). Two birds were seen, once, at Rampurwa, outside the reserve on 18 October 2015.

Oriental Honey Buzzard *Pernis ptilorhynchus* A bird was seen perched in a leafless tree within two kilometers of Gonauli forest rest house on 03 November 2015 [83].



83. Oriental Honey Buzzard.

[Himalayan Buzzard *Buteo refectus*] One was seen in the Manguraha Range on 18 October 2015. It flew low through a patch of deciduous forest, and then repeatedly perched in trees, allowing good views. In flight, its pale creamy-buff throat, cheeks, and underparts with a brown belly/thigh-patch, were clearly visible. There was heavy dark streaking on its breast, and prominent dark carpal patches on the underwings. The upperparts appeared brownish, with white edges to feathers. The tail was paler grey. The bird was in all probability a Himalayan Buzzard *Buteo refectus*. The taxonomy of *Buteo buteo* was debated for quite some time (Kruckenhauser *et al.* 2004) but now there is much concurrence in treating the Himalayan birds as *B. refectus*. However, status of Himalayan, and Steppe Buzzards *B. b. vulpinus* in peninsular India is unclear (Grimmett *et al.* 2011). The buzzard observed in VTR looked like a *refectus* but is treated here as tentative. It appeared noticeably smaller than Upland Buzzard *B. hemilasius*. It was distinguished from Long-legged Buzzard *B. rufinus* by its smaller size, and the lack of any rufous on the underwing, lower breast, and belly [84].



84. Himalayan/Steppe Buzzard *Buteo refectus* / *B. buteo vulpinus*

Amur Falcon *Falco amurensis* Five to six birds were seen flying over the Pandai River in the Manguraha Range on 31 October 2015. As I watched them, they flew, one after another, towards the south-west. Enroute Gonauli on 02 November 2015, around 10000 birds were seen roosting in shrubs, and on power lines in the cultivated fields of Bholapur–Kharhat. The site is about three to four kilometers from the boundary of VTR. A few birds flew

towards the reserve but most roosted there at night. Such large gatherings, and a roost of this magnitude are perhaps unreported from Bihar (Naoroji 2007) [85].



85. Roosting Amur Falcons.

Peregrine Falcon *Falco peregrinus* [race *peregrinator*, or *calidus*] A single bird was observed in a tree on the banks of the Gandak River, at the edge of hills, on 04 November 2015. The streakings (not barred as in adults) on its under parts indicated that it probably was an immature *F. p. peregrinator*. It had darker brownish-grey (not slaty, like adults) upper parts, feathers edged rufous (darker than immatures of typical subspecies). Its black moustachial stripe was conspicuous. Greyish-brown tail had buff or pale tips. Its chin and throat were whitish. These characteristics indicate that it could have been a juvenile / immature of either of the subspecies. Naoroji (2007) also mentioned that there are significant individual variations among the juveniles of these two races [86].



86. Peregrine Falcon, *F. p. peregrinator*.

Osprey *Pandion haliaetus* A single bird was seen and photographed in a tree on the banks of the Gandak River on 04 November 2015.

Grey-headed Lapwing *Vanellus cinereus* I saw a few birds (calls of many birds were heard; at least two to three flew up, when identified, and then again settled down) in the grassy bed of the Mashan River in Chiutaha Range on 25 October 2015. Enroute Gonauli several birds (not counted) were also seen, in the fields outside the reserve on 02 November 2015.

River Lapwing *V. duvaucelii* (Near-threatened) Two birds were seen near a stream at Bikhna Thori on the India–Nepal border

on 16 October 2015; two more on the Mashan River in Chiutaha Range on 25 October 2015; and 12 on the bank of a stream of the Pandai River in Manguraha Range on 31 October 2015.

Spotted Redshank *Tringa erythropus* I observed two birds on the Mashan River in Chiutaha Range on 25 October 2015. They were resting, and then flew to the other bank. It is apparently a local rarity as is evident from the map in Grimmett *et al.* (2011) [87].



87. Spotted Redshank.

Stint *Calidris* species. Two birds were seen on the sandy banks of the Mashan River in Chiutaha Range on 25 October 2015. The presence of a white supercilium, and greenish-yellow legs pointed towards Long-toed Stints *C. subminuta*. However, their stance was not visible, as they were resting, and the legs were not fully visible. Hence, there remains a doubt about their identity, vis-à-vis Temminck's Stint *C. temminckii*.

Vernal Hanging Parrot *Loriculus vernalis* Apparently uncommon. I heard its call just once, and saw one bird, in flight, near the watchtower close to the Gonauli forest rest house, on 03 November 2015.

Alexandrine Parakeet *Psittacula eupatria* (Near-threatened) Uncommon in the reserve; heard its call only once (more than one bird) in the Manguraha Range on 18 October 2015.

Plum-headed Parakeet *Psittacula cyanocephala* I observed several noisy flocks in the Chiutaha Range on 25 October 2015. Birds were also observed in the Raghia, Gobardhana, Manguraha, and Gonauli ranges.

Red-breasted Parakeet *Psittacula alexandri* (Near Threatened) Rarer than the preceding species. I heard it twice, and once saw a few from a flock, fly through foliage, in the Manguraha Range on 18 October 2015, and in the Gobardhana Range 29 October 2015.

Indian Nightjar *Caprimulgus asiaticus* Single birds observed twice on the road, before they flew away, in the Raghia Range on 27 October 2015.

Savanna Nightjar *C. affinis* I observed a single bird on the road, from where it took off several times showing its colour patterns, in the Gobardhana Range on 29 October 2015.

Dollarbird *Eurystomus orientalis* Two birds were observed in a small grassy opening by the side of the Paknaha *nullah* in the

Raghia Range on 23 October 2015. The range map in Grimmett *et al.* (2011) indicates that this is the second record for Bihar, and may be the first published for Valmiki.

Indian Grey Hornbill *Ocyroceros birostris* At least four birds were seen in the Madanpur Range (south of the railway track) in trees in tall grassland area on 05 November 2015.

Oriental Pied Hornbill *Anthracoceros albirostris* Four birds seen near the Madanpur Forest Rest House on 05 November 2015. Calls heard in the Raghia (near Paknaha *nullah*), and Manguraha Ranges on 21 October 2015, and 31 October 2015 respectively.

Chestnut-capped Babbler *Timalia pileata* Two groups were observed in the tall grassland of Madanpur Range (south of the railway track) on 06 November 2015. They were located following their call [88].



88. Chestnut-capped Babbler.

Rufous-rumped Grassbird *Graminicola bengalensis* (Near Threatened) A single bird, carrying food, was seen twice in the grassland near Lakhia *nullah* of the Madanpur Range (south of the railway track) on 06 November 2015. Its larger size than Ashy Prinia *Prinia socialis* (which were nearby), black streaks on its upper parts, and whitish under parts were conspicuous. Its wings, mantle, and flanks were rufous, while the tail was blackish. Due to the grass, I could not see the white tips of its tail. It is always very rare in its range (Birdlife International 2015). Even in Assam's Manas National Park, an important habitat of this species, its sightings are few and far between (Choudhury 2006). Although recorded in nearby Chitwan National Park, Nepal (Baral *et al.* 2007), this could be the first record for VTR.

Puff-throated Babbler *Pellorneum ruficeps* A single bird was photographed near a stream in the Raghia Range on 21 October 2015. It was located following its call. Perhaps a few more birds were present, as foliage movement indicated. Although it is a common bird in its range, for Bihar it is a rare species (see map in Grimmett *et al.* 2011) [89].



Photos: Anwaruddin Choudhury

89. Puff-throated Babbler.

Scaly Thrush *Zoothera dauma* A lone bird was observed beside the forest road, whence it flew to a dark *nullah* in the Raghia Range on 21 October 2015.

Orange-headed Thrush *Zoothera citrina* A bird was seen bathing in a small pool of rainwater on the forest road in the Gobardhana Range on 27 October 2015. It was already past dusk, and the bird flew away when our vehicle approached too close. The range map in Grimmett *et al.* (2011) indicates that it is a rarity in Bihar.

Black-backed Forktail *Enicurus immaculatus* A single bird was seen near a stream, about two-and-a-half, to three kilometers from the Gonauli forest rest house on 03 November 2015. It is a local rarity for Bihar, with very restricted habitat.

Plumbeous Redstart *Rhyacornis fuliginosa* A single male was seen flying, and then, settling on a pier of Gandak Barrage on 04 November 2015 at Valmikinagar. It is also a local rarity for Bihar with very restricted habitat.

Jungle Prinia *Prinia sylvatica* At least two birds were seen in grass in the Madanpur Range (south of the railway track) on 06 November 2015. I photographed one. Its grey-brown upperparts, buffy-whitish under parts, lack of rufous edges to tertials, and greyish-white lores and supercilium were pointers. Although there is a possibility of confusing it with the Plain Prinia *P. inornata*, these features in the bird that was photographed are generally absent in the latter. Although not a rare species in its range, its sighting was significant as there are no records from most of Bihar, although there are records from east (northern Bengal), and west (Uttar Pradesh) (see maps in: Kazmierczak 2000; Grimmett *et al.* 2011). It is apparently a first for VTR.

Plain Prinia *Prinia inornata* At least three were seen, as singles, in the grassland of the Madanpur Range (south of the railway track) on 06 November 2015. In contrast to the Jungle Prinia *P. sylvatica*, its supercilium extended well beyond its eye, its tertials had prominent rufous edges and rufous-brown upper parts.

Discussion

The paucity of historical ornithological fieldwork in VTR as well as insurgency in the recent past, and the absence of even an authentic checklist, mean that trends in its avifauna are hard to discern. A list in a report by the Zoological Survey India (henceforth ZSI) (Director 1998) did not include many of the commoner species, raising doubts on its robustness. It had to be carefully gleaned, as it even listed the White-cheeked Barbet *Megalaima viridis*, the Western Ghats species, from VTR! The paper also tries to visually identify races of pipits, which is always questionable. Samir Sinha (verbally, 04 November 2015) also felt that the short list in the ZSI publication lacked many of the common species which are seen almost every day all over the reserve.

There are past records of the Bengal Florican *Houbaropsis bengalensis* from undivided Champaran District (Mukherjee 1986), most likely from around the grasslands along the Gandak River, and of the White-throated Bushchat *Saxicola insignis* from Raxaul (a female specimen is in British Museum of Natural History), which was collected in 1937 (BirdLife International 2001a,b). The latter site is located towards south-east of VTR.

From the adjacent Chitwan National Park in Nepal, there are recent records of Grey-crowned Prinia (Gurung 1983; Wheeldon 1995; Baral 2000), Jerdon's Babbler (Baral & Eames 1991), and Slender-billed babbler (Inskipp & Inskipp 1980; Baral 1996c).

Although 246 species have been listed here, it is possible that more than 300 exist there, in view of its location at the foot of the Himalaya, with some hill forest, grasslands along the Gandak River, and small areas of forest on the plains. Further surveys will no doubt add many more species. There is the possibility of many more waders, and ducks being sighted, during passage, along the Gandak, and Pandai Rivers.

The main threats to the reserve are biotic pressures from the fringe villagers, which include firewood collection, grazing of domestic stock in the grassland, presence of all-weather road, and railway inside the reserve (especially in the Madanpur Range), and fragmentation of the Madanpur Range, and parts of Valmikinagar Range from other areas. The construction of a railway, without bridges, on two perennial rivulets, namely Rohua *nullah*, and Kotrahiya *nullah*, and the subsequent construction of a wall along the railway line has resulted in waterlogging in excellent grassland north of the railway in Madanpur Range.

Demolition of the wall near the railway track, two bridges on the track, as well as alongside the highway for natural drainage, which will also act as an underpass for wildlife (hence, should be at least 250 m wide), detailed bird surveys, environmental awareness programmes in the fringe villages, and development of eco-tourism that involves local villagers, are highly recommended.

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Appendix

Annotated list of birds recorded in Valmiki Tiger Reserve, during this study, with inputs from Sinha (2012), and Director (1998). Status based upon Ali & Ripley (1987).

Species	Status
Lesser Whistling Duck <i>Dendrocygna javanica</i>	R
Common Merganser <i>Mergus merganser</i>	W
Ruddy Shelduck <i>Tadorna ferruginea</i>	W
Gadwall <i>Mareca strepera</i>	W
Indian Peafowl <i>Pavo cristatus</i>	R
Common Quail <i>Coturnix coturnix</i>	R (?)
Black Francolin <i>Francolinus francolinus</i>	R*
Grey Francolin <i>Francolinus pondicerianus</i>	R*
Swamp Francolin <i>Francolinus gularis</i>	VU/R
Red Junglefowl <i>Gallus gallus</i>	R

Species	Status
Kalij Pheasant <i>Lophura leucomelanos</i>	R
Little Grebe <i>Tachybaptus ruficollis</i>	R
Rock Pigeon <i>Columba livia</i>	R
Yellow-legged Green Pigeon <i>Treron phoenicopterus</i>	R*
Oriental Turtle Dove <i>Streptopelia orientalis</i>	R
Spotted Dove <i>Streptopelia chinensis</i>	R
Red Collared Dove <i>Streptopelia tranquebarica</i>	R
Eurasian Collared Dove <i>Streptopelia decaocto</i>	R
Emerald Dove <i>Chalcophaps indica</i>	R
Grey Nightjar <i>Caprimulgus indicus</i>	R, L*

Species	Status
Indian Nightjar <i>Caprimulgus asiaticus</i>	R, L
Savanna Nightjar <i>Caprimulgus affinis</i>	R, L
Crested Treeswift <i>Hemiprogne coronata</i>	R
Asian Palm Swift <i>Cypsiurus balasienis</i>	R
Indian/Nepal House Swift <i>Apus affinis/nipalensis</i>	R
Greater Coucal <i>Centropus sinensis</i>	R
Lesser Coucal <i>Centropus bengalensis</i>	R
Sirkeer Malkoha <i>Taccocua leschenaultii</i>	R*
Green-billed Malkoha <i>Phaenicophaeus tristis</i>	R
Pied Cuckoo <i>Clamator jacobinus</i>	M*
Asian Koel <i>Eudynamys scolopacea</i>	R
Common Hawk Cuckoo <i>Hierococcyx varius</i>	R
Indian Cuckoo <i>Cuculus micropterus</i>	M*
White-breasted Waterhen <i>Amauromis phoenicurus</i>	R
Purple Swamphen <i>Porphyrio porphyrio</i>	R
Common Moorhen <i>Gallinula chloropus</i>	R
Common Coot <i>Fulica atra</i>	W
Sarus Crane <i>Grus antigone</i>	VU/O ±
Lesser Adjutant <i>Leptoptilos javanicus</i>	VU/R
Asian Openbill <i>Anastomus oscitans</i>	R
Black Stork <i>Ciconia nigra</i>	W**
Cinnamon Bittern <i>Ixobrychus cinnamomeus</i>	R
Black Bittern <i>Ixobrychus flavicollis</i>	R
Black-crowned Night Heron <i>Nycticorax nycticorax</i>	R
Striated Heron <i>Butorides striatus</i>	R
Indian Pond Heron <i>Ardeola grayii</i>	R
Cattle Egret <i>Bubulcus ibis</i>	R
Grey Heron <i>Ardea cinerea</i>	R
Purple Heron <i>Ardea purpurea</i>	R
Great Egret <i>Ardea alba</i>	R
Intermediate Egret <i>Ardea intermedia</i>	R
Little Egret <i>Egretta garzetta</i>	R
Little Cormorant <i>Microcarbo niger</i>	R
Great Cormorant <i>Phalacrocorax carbo</i>	W
Oriental Darter <i>Anhinga melanogaster</i>	NT/R
Eurasian Thick-knee <i>Burhinus oedicnemus</i>	R
Little Ringed Plover <i>Charadrius dubius</i>	R, W
Northern Lapwing <i>Vanellus vanellus</i>	W
River Lapwing <i>Vanellus duvauceli</i>	NT/R
Yellow-wattled Lapwing <i>Vanellus malabaricus</i>	R*
Grey-headed lapwing <i>Vanellus cinereus</i>	W
Red-wattled Lapwing <i>Vanellus indicus</i>	R
Pheasant-tailed Jacana <i>Hydrophasianus chirurgus</i>	R*
Bronze-winged Jacana <i>Metopidius indicus</i>	R
Temminck's Stint <i>Calidris temminckii</i>	W
[Long-toed Stint <i>Calidris subminuta</i>]	W
Common Snipe <i>Gallinago gallinago</i>	W
Common Sandpiper <i>Actitis hypoleucos</i>	W
Green Sandpiper <i>Tringa ochropus</i>	W
Spotted Redshank <i>Tringa erythropus</i>	W, P
Common Greenshank <i>Tringa nebularia</i>	W
Wood Sandpiper <i>Tringa glareola</i>	W
Small Buttonquail <i>Turnix sylvatica</i>	R*
Barred Buttonquail <i>Turnix suscitator</i>	R
Little Pratincole <i>Glareola lactea</i>	R
River Tern <i>Sterna aurantia</i>	R
Osprey <i>Pandion haliaetus</i>	W
Black-winged Kite <i>Elanus caeruleus</i>	R
Oriental Honey Buzzard <i>Pernis ptilorhynchus</i>	R
Crested Serpent Eagle <i>Spilornis cheela</i>	R

Species	Status
Short-toed Snake Eagle <i>Circaetus gallucus</i>	R*
Red-headed Vulture <i>Sarcogyps calvus</i>	CR/R*
Himalayan Vulture <i>Gyps himalayensis</i>	NT/W**
White-rumped Vulture <i>Gyps bengalensis</i>	CR/L**
Slender-billed Vulture <i>Gyps tenuirostris</i>	CR/L ±±
Changeable Hawk Eagle <i>Nisaetus cirrhatus</i>	R ±±
Booted Eagle <i>Hieraetus pennatus</i>	W*
Western Marsh Harrier <i>Circus aeruginosus</i>	W*
Eurasian Sparrowhawk <i>Accipiter nisus</i>	R
Shikra <i>Accipiter badius</i>	R
Brahminy Kite <i>Haliastur indus</i>	L*
Black Kite <i>Milvus migrans</i>	R
[Himalayan Buzzard <i>Buteo refectus</i>]	W
Brown Hawk Owl <i>Ninox scutulata</i>	R
Asian Barred Owllet <i>Glaucidium cuculoides</i>	R
Jungle Owllet <i>Glaucidium radiatum</i>	R
Spotted Owllet <i>Athene brama</i>	R
Collared Scops Owl <i>Otus bakkamoena</i>	R*
Brown Fish Owl <i>Ketupa zeylonensis</i>	R*
Oriental Pied Hornbill <i>Anthracoceros albirostris</i>	R
Indian Grey Hornbill <i>Ocyroceros birostris</i>	R
Common Hoopoe <i>Upupa epops</i>	R
Northern Wryneck <i>Jynx torquilla</i>	W, P*
Lesser Golden-backed Woodpecker <i>Dinopium benghalense</i>	R
Streak-throated Woodpecker <i>Picus xanthopygaeus</i>	R
Grey-headed Woodpecker <i>P. canus</i>	R
Great Slaty Woodpecker <i>Mulleripicus pulverulentus</i>	VU/R ±
Fulvous-breasted Woodpecker <i>Dendrocopos macei</i>	R
Yellow-crowned Woodpecker <i>D. maharattensis</i>	R
Brown-headed Barbet <i>Psilopogon zeylanicus</i>	R*
Blue-throated Barbet <i>P. asiatica</i>	R
Coppersmith Barbet <i>P. haemacephala</i>	R
Green Bee-eater <i>Merops orientalis</i>	R
Chestnut-headed Bee-eater <i>M. leschenaulti</i>	R
Blue-tailed Bee-eater <i>M. philippinus</i>	M
Indian Roller <i>Coracias benghalensis</i>	R
Dollarbird <i>Eurystomus orientalis</i>	R
Common Kingfisher <i>Alcedo atthis</i>	R
Crested Kingfisher <i>Megaceryle lugubris</i>	R
Pied Kingfisher <i>Ceryle rudis</i>	R
Stork-billed Kingfisher <i>Pelargopsis capensis</i>	R
White-throated Kingfisher <i>Halcyon smyrnensis</i>	R
Collared Falconet <i>Microhierax caeruleus</i>	R±
Common Kestrel <i>Falco tinnunculus</i>	W
Amur Falcon <i>Falco amurensis</i>	P
Laggar Falcon <i>Falco juggar</i>	NT/R*
Peregrine Falcon <i>Falco peregrinus</i> [ssp. <i>peregrinator/calidus</i>]	W, R
Plum-headed Parakeet <i>Psittacula cyanocephala</i>	R
Red-breasted Parakeet <i>Psittacula alexandri</i>	NT/R
Alexandrine Parakeet <i>Psittacula eupatria</i>	NT/R
Rose-ringed Parakeet <i>Psittacula krameri</i>	R
Vernal Hanging Parrot <i>Loriculus vernalis</i>	R
Indian Pitta <i>Pitta brachyura</i>	M
Small Minivet <i>Pericrocotus cinnamomeus</i>	R
Scarlet Minivet <i>Pericrocotus flammeus</i>	R
Large Cuckooshrike <i>Coracina javensis</i>	R
Black-headed Cuckooshrike <i>Lalage melanoptera</i>	M
Indian Golden Oriole <i>Oriolus kundoo</i>	R, M
Black-hooded Oriole <i>Oriolus xanthornus</i>	R
Ashy Woodswallow <i>Artamus fuscus</i>	R

Species	Status
Common Woodshrike <i>Tephrodornis pondicerianus</i>	R
Common Iora <i>Aegithina tiphia</i>	R
Black Drongo <i>Dicrurus macrocercus</i>	R
Ashy Drongo <i>Dicrurus leucophaeus</i>	R, W
White-bellied Drongo <i>Dicrurus caeruleus</i>	R*
Bronzed Drongo <i>Dicrurus aeneus</i>	R
Hair-crested Drongo <i>Dicrurus hottentottus</i>	R
Greater Racket-tailed Drongo <i>Dicrurus paradiseus</i>	R
White-browed Fantail <i>Rhipidura aureola</i>	R
Brown Shrike <i>Lanius cristatus</i>	W
Bay-backed Shrike <i>Lanius vittatus</i>	R, L*
Long-tailed Shrike <i>Lanius schach</i>	W
Grey-backed Shrike <i>Lanius tephronotus</i>	W
Grey Shrike <i>Lanius excubitor</i>	R*
Rufous Treepie <i>Dendrocitta vagabunda</i>	R
Red-billed Blue Magpie <i>Urocissa erythrorhyncha</i>	R*
House Crow <i>Corvus splendens</i>	R
Large-billed Crow <i>Corvus macrorhynchos</i>	R
Black-naped Monarch <i>Hypothymis azurea</i>	R
Indian Paradise Flycatcher <i>Terpsiphone paradisi</i>	M*
Thick-billed Flowerpecker <i>Dicaeum agile</i>	R
Pale-billed Flowerpecker <i>Dicaeum erythrorhynchos</i>	R
Little Spiderhunter <i>Arachnothera longirostra</i>	R*
Purple Sunbird <i>Cinnyris asiaticus</i>	R
Crimson Sunbird <i>Aethopygia siparaja</i>	R
Golden-fronted Leafbird <i>Chloropsis aurifrons</i>	R
Black-breasted Weaver <i>Ploceus benghalensis</i>	R
Streaked Weaver <i>Ploceus manyar</i>	R
Baya Weaver <i>Ploceus philippinus</i>	R
Red Munia <i>Amandava amandava</i>	R
Indian Silverbill <i>Euodice malabarica</i>	R
Scaly-breasted Munia <i>Lonchura punctulata</i>	R
Black-headed Munia <i>Lonchura malacca</i>	R
House Sparrow <i>Passer domesticus</i>	R
Yellow-throated Sparrow <i>Gymnoris xanthocollis</i>	R
Olive-backed Pipit <i>Anthus hodgsoni</i>	W
Paddyfield Pipit <i>Anthus rufulus</i>	R
Western Yellow Wagtail <i>Motacilla flava</i>	W
Grey Wagtail <i>Motacilla cinerea</i>	W
Citrine Wagtail <i>Motacilla citreola</i>	W
White Wagtail <i>Motacilla alba</i>	W
Grey-headed Canary Flycatcher <i>Culicicapa ceylonensis</i>	W
Grey Tit <i>Parus major</i>	R
Ashy-crowned Sparrow Lark <i>Eremopterix griseus</i>	R*
Bengal Bush Lark <i>Mirafra assamica</i>	R
Indian Bush Lark <i>Mirafra erythroptera</i>	R*
Oriental Skylark <i>Alauda gulgula</i>	R
Zitting Cisticola <i>Cisticola juncidis</i>	R
Grey-breasted Prinia <i>Prinia hodgsonii</i>	R
Jungle Prinia <i>Prinia sylvatica</i>	R
Ashy Prinia <i>Prinia socialis</i>	R
Plain Prinia <i>Prinia inornata</i>	R
Common Tailorbird <i>Orthotomus sutorius</i>	R

Species	Status
Striated Grassbird <i>Megalurus palustris</i>	R
Red-rumped Swallow <i>Hirundo daurica</i>	W
Wire-tailed Swallow <i>Hirundo smithii</i>	M ±±
Barn Swallow <i>Hirundo rustica</i>	R, W
Plain Martin <i>Riparia paludicola</i>	R, L
Black Bulbul <i>Hypsipetes leucocephalus</i>	W
Black-crested Bulbul <i>Pycnonotus melanicterus</i>	R*
Red-whiskered Bulbul <i>Pycnonotus jocosus</i>	R
Himalayan Bulbul <i>Pycnonotus leucogenis</i>	R
Red-vented Bulbul <i>Pycnonotus cafer</i>	R
Yellow-browed Warbler <i>Abromis inornata</i>	W
Dusky Warbler <i>Phylloscopus fuscatus</i>	W
Tickell's Leaf Warbler <i>Phylloscopus affinis</i>	W
Greenish Leaf Warbler <i>Seicercus trochiloides</i>	W
Aberrant Bush Warbler <i>Horornis flavolivacea</i>	W, L
Yellow-eyed Babbler <i>Chrysomma sinense</i>	R
Oriental White-eye <i>Zosterops palpebrosus</i>	R
Chestnut-capped Babbler <i>Timalia pileata</i>	R
Puff-throated Babbler <i>Pellorneum ruficeps</i>	R
Rufous-rumped Grass Babbler <i>Graminicola bengalensis</i>	NT/R
Striated Babbler <i>Turdoides earlei</i>	R
Common Babbler <i>Turdoides caudata</i>	R*
Jungle Babbler <i>Turdoides striata</i>	R
Chestnut-bellied Nuthatch <i>Sitta cinnamoventris</i>	R
Indian Nuthatch <i>Sitta cinnamoventris castanea</i>	R
Asian Pied Starling <i>Gracupica contra</i>	R
Brahminy Starling <i>Sturnia pagodarum</i>	R
Chestnut-tailed Starling <i>Sturnia malabarica</i>	R
Common Myna <i>Acridotheres tristis</i>	R
Bank Myna <i>Acridotheres ginginianus</i>	R
Jungle Myna <i>Acridotheres fuscus</i>	R
Hill Myna <i>Gracula religiosa</i>	R
Indian Robin <i>Saxicoloides fulicatus</i>	R
Oriental Magpie Robin <i>Copsychus saularis</i>	R
White-rumped Shama <i>Kittacincla malabaricus</i>	R
Pale-chinned Blue Flycatcher <i>Cyornis paliogenys</i>	R
Verditer Flycatcher <i>Eumyias thalassinus</i>	W*
Black-backed Forktail <i>Enicurus immaculatus</i>	R
Blue Whistling Thrush <i>Myophonus caeruleus</i>	R
Siberian Rubythroat <i>Calliope calliope</i>	W*
Red-breasted Flycatcher <i>Ficedula parva</i>	W
Little Pied Flycatcher <i>Ficedula westermanni</i>	W
Plumbeous Water Redstart <i>Rhyacornis fuliginosa</i>	R
White-capped Water Redstart <i>Chaimarrornis leucocephalus</i>	R*
Black Redstart <i>Phoenicurus ochruros</i>	W*
Blue Rock Thrush <i>Monticola solitarius</i>	W
Common Stonechat <i>Saxicola torquatus</i>	W
Pied Bushchat <i>Saxicola caprata</i>	M
Grey Bushchat <i>Saxicola ferrea</i>	W
Scaly Thrush <i>Zoothera dauma</i>	W
Orange-headed Thrush <i>Geokichla citrina</i>	M, R(?)
Black-throated Thrush <i>Turdus atrogularis</i>	W
Brown Rock Chat <i>Oenanthe fusca</i>	R*

Abbreviations, legend, and note.

Status: R= resident; W= winter visitor; L= Local movement; M= migrant including summer visitor; P= passage migrant.

Legend: * Director, ed., (1998); ** Sinha (2012); ± Samir Sinha, verbally, 04 November 2015; ±± photo by Samir Sinha in *Birds of Bihar* (Anon., undated).

NB: Director, ed., (1998) included the White-cheeked Barbet *Megalaima viridis* but its range is far away in the Western Ghats, and it is unlikely to occur in the Valmiki Tiger Reserve. Moreover, the following out-of-range-species were also included, in the same work, without sufficient supporting evidence, and hence, are not included here: Green Imperial Pigeon *Ducula aenea*, Singing Bush Lark *Mirafra cantillans* (listed as *M. javanicus*), Rufous-tailed Lark *Ammomanes phoenicura*, Dusky Crag Martin *Ptyonoprogne concolor*, and Spotted Creeper *Salpinctes obsoletus*. The records of Mountain Scops Owl *Otus spilocephalus*, and Rosy Starling *Pastor roseus*, although recorded from not very distant areas, are not included in this list, as relevant details are not published. Both Tawny Pipit *Anthus campestris*, and Long-billed Pipit *Anthus similis* were also listed with sub-specific identification: considering the difficulty in identifying these species, they are intentionally excluded from the list.