

The birds of the Delhi area:
An annotated checklist
—Sudhir Vyas



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- To promote awareness of birdwatching amongst the general public.
- To establish and maintain links/liason with other associations or organized bodies in India or abroad whose objectives are in keeping with the objectives of the Trust (i.e. to support amateur birdwatchers with cash / kind for projects in ornithology).

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Editorial

In the fifteenth year of its publication, *Indian BIRDS* steps out in a new direction. With the publication of this Delhi Checklist we venture into publishing monographs. These will comprise papers that are longer than normal and so do not fit into the restricted spaces of the regular issues of the journal.

We welcome authors to use this new feature and consider writing longer papers for *Indian BIRDS Monographs*. However, we advise that you discuss your project with the editor before embarking upon it, so as to ensure mutual understanding of requirements.

Please write to <editor.indianbirds@gmail.com>

— Aasheesh Pittie

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FRONT COVER: Sarus Crane *Antigone antigone*
PHOTOGRAPHER: Anand Arya

The birds of the Delhi area: *An annotated checklist*

Sudhir Vyas

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Foreword

More than fifteen years of residence in Delhi, during home postings in the course of a Foreign Service career straddling four decades since the 1970s, offered many opportunities to watch and enjoy the birds of India's capital city and its neighbourhood, and have given me a perspective of the profound changes that have impacted its environment and its avifauna over the years.

Delhi has hosted an almost continuous stream of ornithologists, mostly amateur, recording their observations of its birdlife over the last century and more, their published notes illustrating, in vivid detail, how Delhi's bird life has evolved along with the city itself. Two decades have passed since the publication of the *Atlas of the birds of Delhi and Haryana* by Harvey *et al.*, in 2006, highlighting the need for a fresh look at the birds of the Delhi area, as quality field guides and optical equipment, and the spread of internet-based groups and social media channels have caught the imagination of a vibrant community of bird enthusiasts, old and young, and a great deal of new data has since been collected by these many more eyes-in-the-field. The recent work by Devasar & Suvarna (2018) covers a number of species reported from the area over these last few years.

This monograph is not a field guide. It has a dual objective: firstly, for the growing numbers of Delhi birdwatchers, it attempts to provide insights into a few deeper and broader aspects of the birds they see around them—beyond just identification—to very briefly touch upon other facets, relationships, taxonomy, population, and so forth, issues of 'why' and 'when', to contextualise the presence of the species in the Delhi area within its broader range and movements; in the hope that it will open their eyes to some of these fascinating aspects and encourage them to explore some of these fields in greater detail, whatever catches their fancy. It also includes a brief historical recap of some of the ornithologists who have contributed so much to our knowledge of Delhi's bird life, and a note on conservation.

As a second objective, it develops an updated, annotated checklist of the birds of the Delhi area, based upon a collation of information and data from multiple sources: published literature, 'citizen science' forums such as eBird, the Internet and social media groups for photographs, recordings, and observations supported with field notes—accepted, or rejected after a thorough examination of the species' claimed occurrence. 31 December-2018 has been kept as the cutoff date for inclusion of new records. eBird data have been found useful, particularly for the last five years when the reports are densest and most representative, and these have been used to develop bar-charts to depict the seasonal occurrence of many resident and regular migrant species in the Delhi area. Developing such an updated, annotated checklist would not have been possible without incorporating information from such diverse sources, resulting in its becoming, in effect, a more collaborative effort.

The Delhi checklist now stands at 457 species (depending on the taxonomy adopted) with another 27 that have not been re-recorded since 1970, all records antedating that year being considered historical.

I wish to acknowledge the encouragement, support, and advice given so generously by Aasheesh Pittie, Editor, *Indian BIRDS*, and Praveen J., Associate Editor, and their many insights and expertise that greatly assisted this effort. I am indebted to Praveen J., and Ashwin Viswanathan for contributing their valuable time and effort in preparing the bar-charts, using eBird data, that so vividly depict the seasonal occurrence of many species in the Delhi area.

I owe a debt of gratitude to Bill Harvey for many detailed comments and suggestions drawing on his extensive knowledge of Delhi's birds, which formed valuable inputs in this work. Pankaj Gupta, Yogesh Parashar, Suresh C. Sharma, Surya Prakash, Ramit Singal, Harkirat Sangha, and an anonymous referee provided useful insights and views that greatly improved earlier versions of the text. Ravi Singh, Secretary-General, WWF India, offered help and encouragement, and I am grateful to G. Areendran, Director, Indira Gandhi Conservation Monitoring Centre (IGCMC) at WWF India for preparing the detailed relief maps of the Delhi neighbourhood.

I offer my special thanks to Anand Arya, Debashish Chakravarti, Pankaj Gupta, Suresh C. Sharma, M. Ramgopal, Kavi Nanda, and Rohit Sharma for so generously giving me their concurrence to use their outstanding bird and habitat photographs that illuminate the text. And my sincere gratitude to the vast community of Delhi birders whose records I have drawn upon, and to the many eBird contributors whose uploaded checklists provided the seasonality data on which the bar-charts are based. However, any omissions and errors in this work remain my own. And to my family, my wife, Vasundhara, and son, Rishi, my very special thanks for all the encouragement and support that has been unstintingly offered to me, as husband, and father, over the years.

—Sudhir Vyas
24 February 2019

I. The Delhi area

Take a satellite map of Delhi and its neighbourhood—say within a radius of about 100 km, roughly the area that can be covered in a day's outing from the city—and then, in your mind's eye, peel away the layers upon layers of human impact on this historic city, and the urban sprawl that marks it today. The topography of the land would be thrown up in bold relief.

The Yamuna River would be the most prominent feature, marking the western fringes of the Gangetic plain. To its west a range of low, eroded, quartzite hills, comprising the 'Delhi Ridge', would appear as a crooked 'Y' shaped landform; the main stem of the 'Y' enters the Delhi area from Gurgaon (now Gurugram) District of Haryana where the two arms of the 'Y' diverge; one carrying on past Mehrauli and New Delhi to reach the right bank of the Yamuna, north of Shahjahanabad, while the second branches north-eastwards as a broad belt of rocky, scrubby ravines that extend from Sohna, in Haryana, to terminate at the picturesque ruins of Tughlaqabad. These features are the northernmost outliers of the Aravalli Ranges that extend 700 km across eastern Rajasthan to southern Haryana and Delhi, and here they separate the floodplains of the Ganga-Yamuna basin on their east from the drier, sandier tracts of Rajasthan and western Haryana. (Fig. 1)

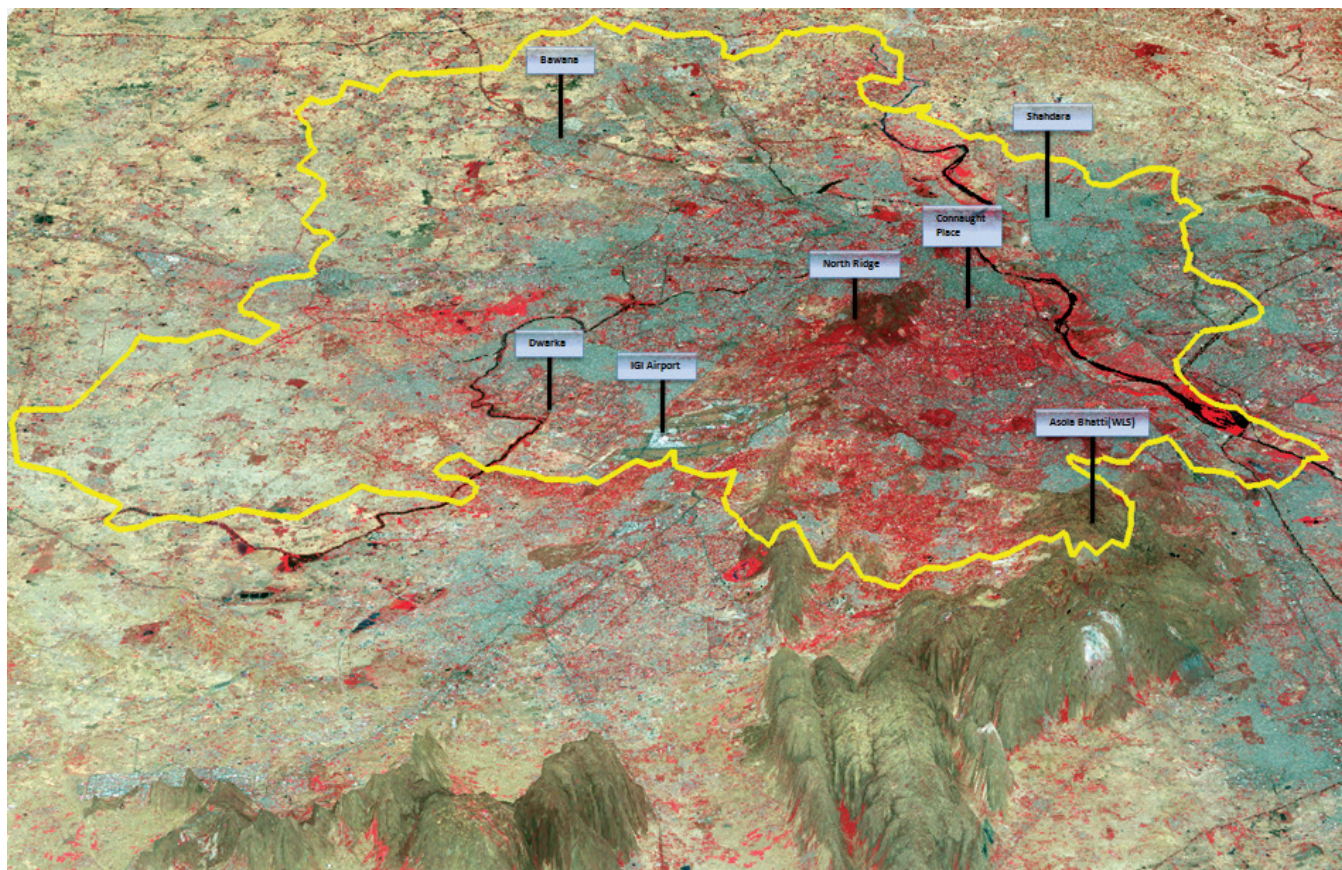


Fig. 1. 3D map of the Delhi area. © IGCNC, WWF India.

The area we are looking at would cover the political extent of Delhi State, with its satellite towns and rural landscapes on both, the Haryana, and the Uttar Pradesh sides of the Yamuna; thus, broadly, the districts of Sonapat and Panipat to the north; Ghaziabad and Gautam Budh Nagar to the east; Gurgaon, Faridabad, Palwal, and Mewat to the south; and Rohtak and Jhajjar, with parts of Rewari, on the west (Fig. 2).

The area has a continental climate with hot, dry summers when temperatures may rise to 46°C in some years, and brilliant, bracing winters with cool, crisp air and skies of unblemished blue—of which Delhi used to be legitimately proud before we lost these pleasures to pollution and smog. It receives about 60 cms. of rain annually, mainly between July and September when the monsoon raises the humidity to uncomfortable levels. The natural vegetation is xerophytic in character and can withstand these fluctuations in temperature and humidity. It has common features with the flora of eastern Rajasthan, the Punjab plains, and the drier upper Gangetic plain, a dry monsoon forest type, sometimes called 'tropical thorn forest', which forms a transition zone from deciduous forest to desert scrub (Krishen 2006).

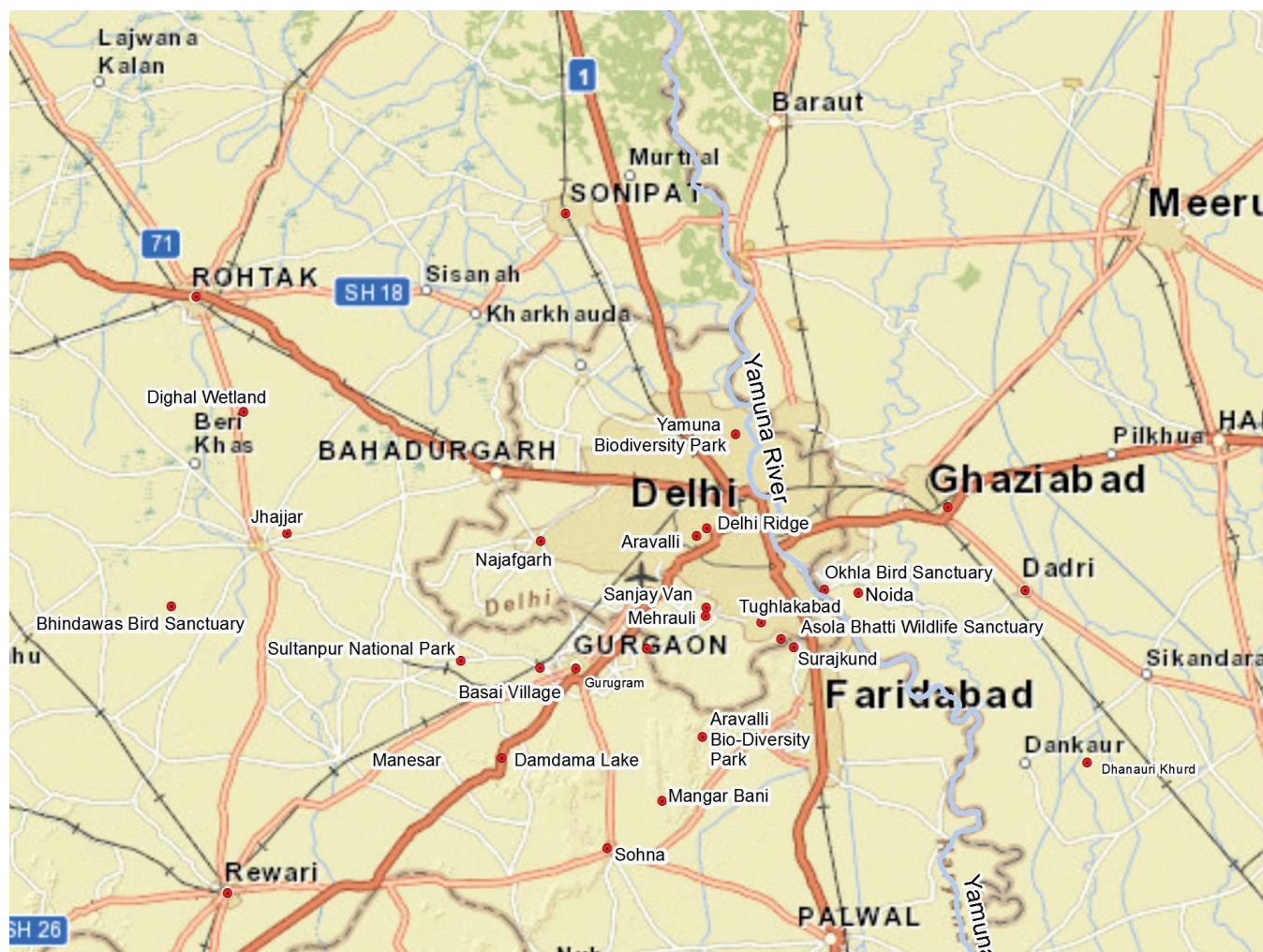


Fig. 2 The Delhi Area © IGCNC, WWF India

Delhi's topography has anchored the many city incarnations of its past, from historic Indraprastha, Lal Kot of the eighth and Qila Rai Pithora of the twelfth centuries, to the seventeenth century Shahjahanabad, and twentieth century New Delhi. These very geographical features have also impacted the composition of its birdlife.

A changing city

As the saying goes, the only constant in Delhi is change; few parts of the world have been subjected to such intensive human impact over the centuries. Even so, the area still holds a diversity of habitats that support a remarkably rich avifauna—a tribute to the ability of wildlife to survive as long as there is some space for them; and to the abiding reverence Indians have for life and nature as well, which has contributed so much to this outcome.

Contemporary photographs from around the time that King George V announced transfer of the seat of government of India, from Calcutta to Delhi in 1911, show much of the country southwards of Shahjahanabad as bare wasteland, where “the eye swept across ‘a vast manworn plain’ littered with crumbling debris of earlier, abandoned Delhis” (Krishen 2006). Northwards of the old city the land was low-lying, subject to inundation by monsoon floods in the wet season.

The making of the new capital, inaugurated in 1931, was a carefully planned affair. Raisina Hill, an outcrop of the Ridge southwards of Shahjahanabad, was chosen as its focal point. S. Basil-Edwardes (1926a,b), one of the early ornithologists who studied the birds of the area in the winter of 1924–1925 when the city was actually being built, describes the landscape thus:

“...Raisina, or New Delhi as it is also called, is a gently undulating, open tract—a city and its environs in embryo, which is developing rapidly. The country round about consists of open spaces, covered either with short grass or low, scrubby bushes, with the babool (*Acacia arabica*) growing freely...Deserted towns and tombs lie in every direction...The banks of the River Jumna (*sic*) are, in winter, bare stretches of sand on which the tamarix or jhow (*Tamarix dioica*) grows in great profusion. At Okla is situated a weir and sluice-gates where the waters of the Jumna are controlled and diverted by canals. Some sort of a park and garden exists here—a pleasing contrast to the bare and rather monotonous aspect of the banks which stretch out on

either side beyond the grounds at Okla. The historic Ridge of Delhi, which is an extension of the Mewat branch of the Aravalli Hills, forms a conspicuous and characteristic physical feature...Off the Karnal Road lies the comparatively large 'Horse-shoe Jheel', so-called on account of its shape."

What a contrast to the present picture! The new capital, planned on the level *bangar* land between the Ridge and the Yamuna, was designed to be a garden city, "in the main a sea of foliage", with tree species selected for their shade and evergreen quality to line its main avenues (Krishen 2006). Most were not native to the area but they, along with the ornamentals and other trees planted after independence, define New Delhi's environment today.

The early planned colonies catering to the urgent institutional and housing needs after Independence were designed for denser habitation than Lutyens' wooded New Delhi. Yet they still provided for recreational public spaces, city forests, and other green areas, opening opportunities for colonisation by bird species adapted to wooded parkland replacing those of the earlier open landscapes.

The green patches within Delhi's urban cityscapes remain a remarkable resource, a sanctuary for people and for wild creatures as well. The trees planted then have now grown to maturity with great spreading crowns and thick trunks, and provide nesting and roosting sites, abundant nectar (the silk cottons and other flowering species), and food (especially the native figs) for birds. They also offer refuge to a host of migrants which, disoriented by city lights as they overfly the sprawling metropolis, seek the dark wooded security of these urban 'islands'—which may teem with warblers, flycatchers, and other species, and host spectacular murmurations of starlings and mynas in season.

The last seventy years, however, have seen the population of the Delhi area explode with, regrettably, poorly planned urbanisation and, consequently, serious environmental damage. Delhi alone has a population of over 19 million, according to 2017 estimates, of a total of 27 million people in the National Capital Territory of 1483 sq. kms., the world's second-most populous urban area after Tokyo. It now envelopes, within its urban sprawl, several villages, agricultural land, historical sites, and a large part of the low rocky landscapes of the southern Ridge.

These green 'islands' in urban landscapes will assume greater significance for biodiversity conservation in coming years. Studies in Delhi demonstrate that maintaining adequately sized green spaces, with high structural and native plant diversity and density, supports and enhances this objective (Khera *et al.* 2009).

II. Birding about Delhi

The Delhi list now stands at 457 species of birds, depending on the taxonomic approach adopted (with another 27 that have not been re-recorded since 1970), which has given India's capital the reputation of being one of the most bird-rich capital cities of the world. Delhi has also had the advantage of having hosted an almost continuous stream of ornithologists, mostly amateur, recording their observations of its birdlife over the last century or more, and especially since the creation of New Delhi. Their published notes comment, to one extent or the other, on the status, populations, and habitat of the various species, and are of interest in their illustration of how Delhi's bird life has evolved along with the city.

A bit of history

An extract from the Delhi Gazetteer of 1883–1884 (Anonymous 1884) gives us a glimpse of the wealth of wildlife in the Delhi area from a century and four decades ago:

"Pig abound all along the banks of the Jamná...Black buck are found almost everywhere. *Chikára* in the range of hills which runs north-east of Delhi...Wolves are not plentiful, but they are to be usually found in the neighbourhood of the old cantonment...The *nilgai* is to be constantly found near the villages of Borari and Khadipur...The mongoose is very common, and so is the hedge hog...Snakes of every kind are plentiful, the cobra especially so. The old Fort called the Kotla is infested with them...Leopards are found in the outlying villages...*Pára* are abundant, especially in the neighbourhood of Borari on the bank of the Jamná...*Mahsír*, *rohú*, and *batchwa* are found in the river Jamná and at Okhlah in the Agra Canal, and the entire river is infested with muggurs, the *gurryál* predominating; but the snub-nosed man-eater is also plentiful...Between the old Fort and Okhlah...

"Ducks of various kinds are found in the ponds in the cold weather; snipe in several places in marshes; quail are not uncommon in the fields; partridges, both black and grey, are abundant, and *kúlan* are fond of the fields of gram when the grain has not yet hardened."

According to a Delhi Government compilation (Sinha 2014), the Ridge still reported sightings of wolf, hyena, leopard, blackbuck, and chinkara in the beginning of the twentieth century, but by 1908 blackbuck had become rare, while wolf and chinkara have not been seen in the wild after 1940.

A number of nineteenth century bird records from around Delhi are scattered across ornithological or sporting writings of the day, and they paint a remarkable picture. Consider this note in the *Journal of the Bombay Natural History Society* (henceforth, JBNHS) (Editors 1950):

In 'Stray Sport' by J. Moray Brown (1893) a chapter is devoted to small game shooting within a few miles of Delhi, from which attention might be drawn to statements which add to or differ from the recent lists of Delhi birds published in the *Journal*...

Botaurus stellaris—The Bittern. Four were bagged in the course of a snipe shoot at Mongolpoor (*sic*—presumably Mangolpuri in West Delhi) where 3 guns got over a hundred couple of snipe on 26th November.

Published in 1893, Brown refers to these notes having been made some years before, but it is interesting to remember that there was a time when a single gun could make a mixed bag of 60 odd head including antelope, hare, common and painted sandgrouse, black partridge, quail, snipe, mallard, teal, pochard and whistling teal, all on and within 3 miles of the Ridge!"

Hume (1889, 1890a,b) has notes going back a century, and more, on the birds around Delhi, notably by Lt Col C. T. Bingham, an Irish military officer who served in India in the 1870s who, amongst his other accomplishments, authored two volumes respectively, on Hymenoptera (1897, 1903), and Lepidoptera (Butterflies) (1905, 1907), in the *Fauna of British India* series.

The first attempt at drawing up a checklist of the birds about Delhi was by S. Basil-Edwards (1926a,b), who studied birds over five months, November–March, of the winter of 1924–1925, mainly in the *babool* jungles about Raisina, when New Delhi was being built. In his words, "Five months is too short a time...The following notes can only be regarded as a nucleus for a more comprehensive paper..." He lists some 202 species and his writing makes for fascinating reading compared with Delhi's bird life today.

Sir N. F. Frome (1948a,b), a former Postmaster-General of India and a keen ornithologist, compiled a second checklist of 300 species from Delhi and its neighbourhood within about 50 kms., based on sight records maintained independently by him and six other observers over the period 1931–1945. Ten additional species recorded by Maj. Gen. H. P. W. Hutson in 1943–1945 (1954), two by Sir E. C. Benthall (1949) who reported on his observations over 1942–1946 while stationed at Delhi as a member of the Viceroy's Executive Council, and 13 more by H. G. Alexander (1949) had raised the Delhi bird list to 325 by 1949.

Horace Gundry Alexander, Quaker, teacher, and ornithologist, spent much of his life in India and was a close acquaintance of Mahatma Gandhi and Indira Gandhi as well. His autobiographical memoir (1974) devotes a number of pages to his time in Delhi. In 1950 he founded the Delhi Bird-watching Society (henceforth, DBWS) along with Lt. Gen. Harold Williams, Engineer-in-Chief of the Indian Army and bird enthusiast, "to encourage the study of birds in and around the capital city," (Badhwar 1972). The announcement in the JBNHS in December 1950 (Anonymous 1950) lists its founding members—a remarkable group of people in diverse positions

and callings but united in their passion for birds and nature—Mr H. G. Alexander (Chairman), Capt. H. C. Ranald (Honorary Treasurer, and the Indian Navy's first Chief of Naval Aviation in 1948), Mrs W. F. Rivers (Honorary Secretary), Mrs Indira Gandhi (destined to lead the country as Prime Minister in later years), Mr F. C. Badhwar (nature enthusiast, first Indian Chairman of the Railway Board till 1954, and first Indian President of the Himalayan Club, 1964–1967), Rev. J. Bishop, Mr C. J. L. Stokoe (of the mercantile firm Messrs. Bird & Co.), and Maj.-Gen. H. Williams (as Committee Members); and counted amongst its membership Dr Sálím Ali, Smt. Usha Ganguli (whose husband was then Vice-Chancellor of Delhi University), Mr Lavkumar Khachar (of Jasdan State, Gujarat), and others, including members of the diplomatic community stationed in the new Capital.

In 1950 itself, the DBWS brought out a Delhi Checklist totalling 356 species based on information available till then, as a working document for its members. It also published Maj. Gen. H. P. W. Hutson's bird notes from the time he was stationed in Delhi from 1943–1945 as Deputy Engineer-in-Chief of the Indian Army, supplemented by H. G. Alexander's records, in book form: *The birds about Delhi* (1954), edited by Lt. Gen. H. Williams, then President of the DBWS. With this publication, the Delhi list stood at 370.

The impressive field work over the 1950s, 1960s, and into the 1970s, even as the city of Delhi itself was changing at a rapid pace, by a galaxy of competent ornithologists—H. E. Malcolm Macdonald, British High Commissioner from 1955–1960; Julian P. Donahue (professional lepidopterist with an interest in Asian birds since his time in India 1958–1962); Victor C. Martin (then with the British High Commission in New Delhi); Peter Jackson (Reuters correspondent in Delhi, and Hon. Secretary DBWS in the 1960s, later of the IUCN); Capt. N. S. Tyabji of the Indian Navy, Smt. Usha Ganguli, and others—produced a flowering of new information about Delhi's birds. Some wrote about their passion with a flair and competence that stands out to this day, such as Macdonald's superb *Birds in my Indian garden* (1960). Much of this material (Anonymous 1967), along with new species recorded till 1970, was collated in Usha Ganguli's *A guide to the birds of the Delhi area* (1975), published posthumously after her untimely demise in 1970, which lists 408 species (including historical records). This was a major addition to the literature on Delhi's birdlife and remains a vital reference for any serious student of Delhi's birdlife today.

Antony J. Gaston conducted intensive research work between July 1971 and June 1974 on the New Delhi Ridge, for his Doctoral thesis, on *Turdoides* babblers, when he recorded, and mist-netted, several species for Delhi some of which have not been reported since. Abdulali and Panday's (1978) *Checklist of the birds of Agra, Delhi and Bharatpur*, published by the Bombay Natural History Society, was another useful resource that appeared around this time.

After a very productive innings over two decades, the DBWS seemed to lose steam sometime in the 1970s, at least as a formal forum. Ali & Ripley's seminal 10-volume *Handbook of the Birds of India and Pakistan* (1968–1974) appeared during these years, and individual birdwatchers, both residents of the Delhi area and visitors from outside, continued to work the field and made substantial new discoveries. Many recorded their findings in articles in the JBNHS, its monthly outreach *Hornbill*, and the more informal, but lively and popular, *Newsletter for Birdwatchers* that began publication in 1960 under Zafar Futehally's keen editorship, and remained a useful platform for birdwatchers across the country for the next four decades and more. Two useful efforts to catalogue the avifauna of Delhi were published, an updated checklist by the NGO, Kalpavriksh (1991), and a compilation of past literature, and field observations during 1994–1995, by Tak & Sati (1997).

Growing interest

Attempts to bring together the growing number of people interested in birds in the Delhi area in the 1990s, under a revived Delhi Bird Club, were rewarded with outstanding success in 2000 with the Club's reformation as an Internet-based forum, Delhibird, for reporting, discussion, and site checklists along with the Northern India Bird Network, and regular field outings organised under its aegis. Alongside the rapidly increasing penetration of electronic media, and Internet connectivity, by the early 2000s, a parallel boom in the ease and affordability of better optical and digital photography equipment and good, affordable, and illustrated field guides of an international standard: Grimmett and the Inskipp's *Birds of the Indian Subcontinent* (1998), Kazmierczak's *A field guide to the birds of India* (2000), and others, fortuitously came together around the turn of the millennium and led to an explosion of interest and infectious enthusiasm, especially among Delhi's educated youth. Rasmussen and Anderton's *Birds of South Asia: The Ripley guide*, first published in 2005, with an updated edition in 2012, is the most recent guide now available for the Indian Subcontinent, its path-setting taxonomic approach and detailed morphological and plumage data being of exceptional value.

To these must be added the journals and biannual bulletins, *Forktail* and *BirdingASIA*, of the Cambridge-based Oriental Bird Club, along with its Internet-based forum www.orientalbirdimages.org, a very comprehensive collection of splendid images from the field; and the South Asia-focused, well researched, peer-reviewed, and widely cited bi-monthly *Indian BIRDS* published since the year 2004 by the *New Ornithological Foundation*, a worthy successor to the former *Newsletter for Birdwatchers*.

Horizons broadened with the several online public forums and social media networks that provide valuable platforms for Delhi's birders to document their records, comments, and conservation issues, provided that the wealth of data being generated from the field can be retrieved in a timely manner, validated, and permanently recorded for appropriate use. Nothing captures the imagination more than the outstanding colour photographs of birds that spread across these forums, and with many more eyes out in the field, growing identification skills, and exposure to the joys of birding, an increase in travel and new birdwatching sites that were hitherto little known were explored, Delhi's birders have produced several remarkable finds. Delhibird's *Official checklist of the birds of the Delhi region* (Harvey 2003) listed 415 species with an additional 47 historical records, seen only prior to 1970. The *Atlas of the birds of Delhi and Haryana* (Harvey *et al.* 2006), was an attempt to bring together this wealth of new data from Delhi's growing birding community and update the information then available, and Devasar & Suvarna (2018) is the latest effort at producing a comprehensive field guide to the bird life of the area.

Citizen Science

Almost eighty years ago, James Fisher commented on the nature of birding in his delightful little book, *Watching birds* (1941, and a revised edition published posthumously by Jim Flegg, 1974), that “the observation of birds may be a superstition, a tradition, an art, a science, a pleasure, a hobby, or a bore; this depends entirely on the nature of the observer.”

With the growing numbers of people interested in birds in and around Delhi, birdwatching is no longer dismissed as a puerile, meaningless obsession. It's a fascinating hobby, bringing to the watcher's consciousness a wondrous world of colour, song, grace, and vivacity. And it can lead us to some of the most wonderful places, freedom from restriction and routine, an excuse to be out in the open air. To many it opens new vistas of investigation and study—professional, scientific, behavioural, biogeographical...and others make a career of it in art, writing, and photography, or by organising specialist birding and nature trips.

Some of the finest contributions to Indian ornithology have been made by amateurs through their observations and writings from the field. These are as good as the reliability of the data on which they are based, and validation of field data is thus crucial. Birders today are fortunate in having tools in the form of top class optical equipment, field guides, sound recordings, and so on, but bird identification is a skill best learnt from field experience, and the habit of keeping field notes is the best training for this. Availability of good digital equipment has led, unfortunately, to a reliance on photographic evidence alone to document records, and the decline in note-taking has resulted in a noticeable decline in field identification skills. While a still photograph of a bird in all its detail is a great learning tool, it can be difficult to identify, or validate, a record from photographs alone without the benefit of field notes on size, shape, behaviour, voice, and jizz.

Most of Delhi's birds are, fortunately, not difficult to identify. Some groups require more scrutiny, and a few others are genuinely challenging, such as raptors, for which individual, sexual, or age-related variation, moult, abrasion, or fading of feathers are all relevant in clinching an ID. But above all, assessment of jizz, a combination of features and behaviour that is unique to a species, is an excellent pointer, and there is really no substitute for this.

Birders are usually keen conservationists: some devote their time and effort to conservation projects, others to advocacy, spreading awareness, and alerting the authorities, media, and relevant institutions about developments in the natural environment around us. Socially conscious, with wider horizons, the growing tribe of birders tends to be more educated, more aware, and more in a position to make a difference. For these birds that give us so much pleasure, the least we can do is help them by protecting them and their habitats, and—as we watch, photograph, and enjoy them, ensure that their interests remain foremost.

III. The Checklist—an overview

Taxonomy

The taxonomy follows Praveen *et al.* (2016; http://www.indianbirds.in/wp-content/uploads/2018/07/India-Checklist_v2_2.xlsx), which is periodically revised, and its current ver. 2.2 is available online at <http://www.indianbirds.in/india/>. This has *The Howard & Moore complete checklist of the birds of the World*, 4th ed. (Dickinson & Remsen 2013; Dickinson & Christidis 2014; henceforth, H&M4; <https://www.howardandmoore.org/>) as its base reference and meets a long awaited need for a standardised bird checklist for India.

Other taxonomies, in particular those followed by IOC World Bird List (updated biannually; <https://www.worldbirdnames.org/>), HBW / BirdLife International (del Hoyo & Collar 2014, 2016; updated annually at <https://www.hbw.com/>), and Clements / eBird (<http://www.birds.cornell.edu/clementschecklist/>) could be considered just as relevant in the regional context. They have the advantage of being revised regularly to reflect latest taxonomic research, although frequent taxonomic realignments can be baffling to the average birder. To strike a middle path between desirable stability and continuing developments in taxonomic classification, since the publication of H&M4 (and in the absence of its regular updates), the *India Checklist* incorporates fresh taxonomic changes as and when they are accepted by all the other global authorities (see above), even as it retains H&M4 as its base taxonomic sequence.

Taxonomic issues may seem to have little practical relevance to the general birding public. However, as one gets to know the birds better, questions beyond 'what is that bird?' begin to be asked, such as, 'why?', 'where?' and 'when?', as one aspect of the birds, or the other, catches one's fancy. Classification becomes relevant as one gets deeper into checklists and lifelists, speciation, identification frontiers, and more. Taxonomic changes reflect our increasing knowledge of the evolutionary history and relationships of the birds involved, and hopefully can open the door for Delhi birders to explore some of these fascinating insights.

All taxonomic classifications have to address the definition of a species. The usual approach used to be the Biological Species Concept, centred on reproductive isolation, and based on a range of phenotypic characters: morphological, behavioural, vocalizations, and ecological. HBW uses an evolved version of this concept that relies on quantitative criteria for species delimitation based on the Tobias *et al.* (2010) approach.

The Phylogenetic Species Concept, on the other hand, attempts to reconstruct the evolutionary ancestry of a species and explore its relationships using morphological, behavioural, and molecular data, and reflect them in its taxonomic approach. In many cases the two concepts yield similar conclusions, though molecular data can highlight genetic divergences and convergences that lead to some very interesting, at times startling, phylogenetic results that upturn conventional taxonomic arrangements.

Genetic studies provide useful data but the results may vary depending on what genetic material is used and what analytical methods are employed. Molecular data should be considered along with other structural and behavioural information in seeking to work out the evolutionary ancestry of a taxon, and are not the final word. Even so, all our conclusions remain hypotheses, which is to be expected as we try to fit a continuous evolutionary process into an artificial taxonomic straitjacket. The laws of nature are premised on change; taxonomies cannot be static if they are to reflect this living, changing world.

The Delhi Checklist

As of date, 23 orders and 76 families of birds are represented in the Delhi area (out of a total of 26 orders and 107 families in India), and 457 species (of 1310) have been recorded over the last half-century or so, since 1970, which I have selected as a cut-off year; any records prior to that being considered historical. These figures are, of course, taxonomy dependent and are based on Praveen *et al.* (2018b). Four records included in the list probably pertain to escapes or released birds; illegal trapping of several species remains rampant for the pet and wildlife trade, or release by the devout as auspicious acts. 27 species have not been re-reported from the Delhi area post 1970: some were accidentals that may or may not reappear; for some no suitable habitat now remains; for others the records are so sketchy that their claimed presence must remain hypothetical. 13 species have been excluded from this Delhi Checklist after examination of their claimed occurrence.

Of this total, the inclusion of 12 species requires comment and reconfirmation, either because of issues with identification or taxonomy, or because their presence about Delhi is highly unlikely on account of unsuitability of habitat, or distance from their normal range. Knowledge of the bird helps; sedentary species are unlikely to wander but a migrant can appear in the most unexpected places. Photographs are useful aids, but field notes and documentation of jizz, vocalisations, and behaviour can clinch an identification with greater certainty, and especially if made independently by more than one observer. By including them here I am not judging the observers; checklists will inevitably be added to or pruned as better and more accurate information becomes available.

Expectedly, high altitude and pelagic bird species, and the diverse pheasants, finches, babblers, laughingthrushes and their allies that are such a feature of the hill forests of the Himalayas, and north-eastern, and southern India, are poorly represented in this checklist; it being more representative of birds of drier, more xerophytic habitats, wetlands, and agricultural zones. Delhi's habitats are rich in waterfowl and waders, storks and herons, raptors, larks, and other dry country passerine species.

In the Annotated Checklist, each family is introduced by a brief comment on its representation in India to place Delhi's avifauna in perspective. The occurrence and abundance of each species in the Delhi area is assessed in a 'status tag', and contextualised within its global/regional distribution and movement patterns. The terms 'South Asia' and 'Indian Subcontinent' are used interchangeably here to denote the area covered by the political boundaries of India and its immediate neighbours viz. Pakistan, Nepal, Bhutan Bangladesh

and Sri Lanka; while ‘southern Asia’ is a wider geographical construct encompassing the area extending from the Persian Gulf across the Indian Subcontinent to South-East Asia. References are cited wherever relevant, and citations of records, for which identifiable photographs are available, are indicated by the symbol .

These ‘status tags’ offer an impressionistic assessment of the bird’s primary seasonal occurrence and relative abundance (in descending order Abundant—Common—Uncommon—Scarce—Rare). Two words of caution are relevant: firstly, the tag ‘common’ will have different connotations for a predator, such as a Shikra, which occurs naturally at lower densities, and a passerine, e.g., a myna, which would be numerically more abundant; and secondly, birds are not spread evenly over the landscape and the tags reflect the bird’s status in its preferred habitat: a jacana tagged as ‘common’ in wetlands with floating vegetation may not be common, if at all present, on a bare sandbank. It should also be noted that a species tagged, say, ‘Breeding Summer Visitor’, or ‘Passage Migrant’, may not be entirely absent from the Delhi area in other seasons, a few individuals remaining behind.

The status of a species in an area is best extrapolated from focused transect counts conducted regularly over a year. eBird, as a ‘citizen science’ forum, offers an alternative approach by amalgamating data from checklists compiled and uploaded by numerous observers in the field. This wealth of data, suitably analysed, can then be used to project the ‘status’ of a species in a given area, including frequencies of its occurrence over the year, in a convenient, graphical form.

The validity of eBird charts and outcomes is naturally dependent on the density and accuracy of the data accumulated from an area. It was planned to use eBird analyses in this checklist, with bar-charts depicting the frequency and temporal variations of observations submitted to eBird for each bird species over the year, to provide a pictorial interpretation of its status. However, available eBird data is most dense for the Delhi area over the last five years, 2014–2018; it is far sparser and ‘lumpier’ for earlier years, and to go further back could distort the picture. Bar-charts for selected, regularly occurring species in each family have therefore been extracted from eBird for the last five years 2014–2018, and collated as part of the introductory note for that family.

Bar chart histogram data were downloaded from <https://ebird.org/india> after combining all the districts covered by this work, the species were aggregated family-wise and charts re-generated from the histogram data. Calibration (Table 1) of the bars was made as close as possible to what eBird uses for ease of comparison and use. While all regularly occurring species (i.e., other than vagrants) have been included in the charts, a very few have been left out as the data for them could potentially provide a distorted picture, either due to identification issues, e.g., for Greenish- or Booted Warblers, or because eBird charts may misrepresent their real status on account of ‘over-reporting’, as news of a rarity (e.g., Spotted Crane) spreads, and many birders upload the sighting of just one bird independently in their reports, or ‘under-reporting’, as birders neglect to report a familiar and abundant species, such as a House Crow, in their checklists!

Table 1

Frequencies	Bar size
(0, 0.0025]	1
(0.0025, 0.01]	2
(0.01, 0.05]	3
(0.05, 0.1]	4
(0.1, 0.2]	5
(0.2, 0.3]	6
(0.3, 0.4]	7
(0.4, 0.6]	8
(0.6, 1.0]	9

It needs to be made clear, however, that these bar-charts are only a snapshot of the most recent patterns of seasonal occurrence and abundance for the species based on eBird uploads, which can provide a different picture depending on the density and quality of data, and may not always reflect the position conveyed in the text paragraph for the species.

The native breeding species about Delhi are of primary interest from a conservation point of view. The Annotated Checklist attempts to assess population and distribution trends for these resident / nesting species, albeit subjectively, and admittedly on data that are sketchy and incomplete. The symbols employed are:

- ↔ Relatively stable, no clear temporal trend
- ↓ Some decline, yet largely stable where habitat is intact
- ↓↓ Marked decline, contraction in range
- ↓↓↓ Severe and rapid decline, in some cases leading to local extirpation
- ↑ Some increase, range extension or new colonisation
- ↑↑ Marked increase, possibly with creation of new habitat
- ↑↑↑ Dramatic increase in population, possibly to detriment of other species

Patterns in Delhi’s avifauna

The core composition of the avifauna of the Delhi region is typical of the plains of northern India, mainly widespread (though not necessarily common) birds of agricultural biotopes that include some spectacular raptors, herons, storks, and cranes. But Delhi’s geography brings in other factors that impart more varied flavours to its birdlife.

(a) Breeding species and residents

This list has 194 species that are believed to breed, or have bred, in the area: their nesting either confirmed by direct observation or on circumstantial evidence (195, if the breeding colony of feral Great White Pelicans, at Delhi Zoo, is included in this category). Where only circumstantial evidence is available, an assessment has been made on whether such evidence is enough to pronounce on status.

This list of 194 includes the following 12 species that probably breed in the Delhi area, for which circumstantial evidence is available, and it is likely that breeding will be confirmed for most of them, hopefully sooner rather than later:

1. Jungle Bush Quail *Perdica asiatica* [Resident; adequate habitat available]
2. Indian Nightjar *Caprimulgus asiaticus* [Formerly bred, but no recent records]
3. Ruddy-breasted Crake *Zapornia fusca* [Present and calling in suitable habitat in breeding season]
4. Brown Crake *Zapornia akool* [Present and calling in suitable habitat in breeding season]
5. Baillon's Crake *Zapornia pusilla* [Chicks photographed, needs reconfirmation]
6. Common Coot *Fulica atra* [Adequate circumstantial evidence available]
7. Glossy Ibis *Plegadis falcinellus* [Adequate circumstantial evidence available]
8. Brown-capped Pygmy Woodpecker *Dendrocopus nanus* [Resident; in pairs in suitable habitat]
9. Great Grey Shrike *Lanius excubitor* [Formerly bred, present in suitable habitat in breeding season]
10. Rufous-tailed Lark *Ammomanes phoenicurus* [Present in pairs in suitable habitat in breeding season]
11. Singing Bushlark *Mirafra cantillans* [Present and singing in suitable habitat in breeding season]
12. Asian Brown Flycatcher *Muscicapa dauurica* [Juveniles seen in suitable habitat in breeding season]

The list also includes 14 species that were formerly known to breed about Delhi, either historically or even until a couple of decades ago (the vultures being the obvious example), but have either been locally extirpated with no evidence (or only weak circumstantial evidence) of their continued nesting. Reconfirmation of breeding for these species would be a valuable addition to our knowledge of Delhi's birdlife.

1. Great Thick-knee *Esacus recurvirostris* [Locally extirpated?]
2. Indian Skimmer *Rynchops albicollis*
3. Little Tern *Sternula albifrons* [Circumstantial evidence; courtship feeding by pair in habitat]
4. Whiskered Tern *Chlidonias hybrida* [Circumstantial evidence; in suitable habitat in breeding season]
5. River Tern *Sterna aurantia*
6. Black-bellied Tern *Sterna acuticauda*
7. Short-toed Snake Eagle *Circaetus gallicus* [Circumstantial evidence; territorial behaviour]
8. Red-headed Vulture *Sarcogyps calvus* [Circumstantial evidence; bird seen on nest]
9. White-rumped Vulture *Gyps bengalensis* [Locally extirpated]
10. Tawny Eagle *Aquila rapax*
11. Pallas' Fish Eagle *Haliaeetus leucoryphus* [Locally extirpated]
12. Laggar Falcon *Falco jugger*
13. Indian Nuthatch *Sitta castanea* [Locally extirpated]
14. Indian Spotted Creeper *Salpornis spilonotus* [Present just beyond the limits of the Delhi area]

There are six species for which data available at present are insufficient; some have only recently been located in the Delhi area. They have been categorised as vagrants, or scarce visitors, as of now, but may possibly breed here, and present a challenge to local birdwatchers to confirm their local status:

1. Yellow-legged Buttonquail *Turnix tanki*
2. Brown Hawk Owl *Ninox scutulata*
3. White-bellied Minivet *Pericrocotus erythropygius*
4. White-naped Tit *Macholophus nuchalis*
5. Tickell's Blue Flycatcher *Cyornis tickelliae*
6. Stoliczka's Bushchat *Saxicola macrorhynchus*

Of this total of 194 breeding species, 31 are mainly summer, or monsoon, breeding visitors from their winter quarters, further southwards, in the peninsula: Blue-tailed Bee-eaters *Merops philippinus* for instance, or even from as far as East Africa, such as Pied Cuckoo *Clamator jacobinus*. Some may not vacate the Delhi area entirely in winter—perhaps increasingly so, with global warming; Common Hawk-Cuckoos *Hierococcyx varius* are an example.

Certain summer movements are yet to be understood fully. Bristled Grassbirds *Chaetornis striata* breed here through the monsoon, but where do they go the rest of the year? Small Button Quails *T. sylvaticus* are recorded very locally in summer; they are known to be nomadic depending on creation of suitable habitat, but the patterns of their local movements remain opaque.

The outliers of the Aravallis, which form the Ridge landscape of Delhi, act as a biogeographical corridor for some 'Aravalli' peninsular taxa that access and establish themselves as breeding species in patches of suitable habitat here, thus introducing a distinctive element

into Delhi's birdlife. Many have been recently discovered nesting in these hitherto poorly studied Ridge habitats, which only serves to highlight how much remains to be learnt about the birdlife of the Delhi neighbourhood.

The birdlife of any given area is in a constant state of flux, evolving with, and adapting to, the changing environment, and exploiting new opportunities as they appear. Of interest are the apparent, and relatively recent, range expansions reflected in Delhi's birdlife. The Yamuna and its associated irrigation canal systems have probably facilitated the spread of some sedentary species of wet 'Indo-Gangetic' habitats such as White-tailed Stonechat *Saxicola leucura*, Yellow-bellied Prinia *Prinia flaviventris*, and Bengal Bushlark *Mirafra assamica*, into the Delhi area in the 1970s, presumably originating from the Hathni Kund Barrage area in the Shivalik foothills—upstream on the Yamuna where they are known to occur; as also Sind Sparrows *Passer pyrrhonotus* of the Indus floodplains from the west. From the other direction, the Bronze-winged Jacana *Metopidius indicus* is an 'eastern' species that has spread in the Delhi area in the last fifty years.

A final comment about Delhi's nesting species; they display the entire gamut of reproductive strategies known in the bird world—lifelong monogamy, seasonal monogamy, simultaneous and successive polygyny, simultaneous and successive polyandry, successive bigamy, casual mating, parasitism, cooperative breeding, etc.

(b) Non-breeding visitors

154 species are non-breeding visitors, most being winter visitors from the Himalayas and further northwards, but this figure also includes some 40-odd species that are 'mainly' passage migrants and a few, such as Greater Flamingos *Phoenicopterus roseus*, whose movements tend to be irregular over the seasons. Delhi lies on the migration path of many birds that breed in western Siberia and central Eurasia and cross the Himalayas through the north-western passes and river valleys—or even directly over the range, as Bar-headed Geese *Anser indicus* are known to do—to winter in the Indian Subcontinent. A flood of migrants sweeps over the Delhi area, in season, over a broad front, but the north–south flowing Yamuna also tends to funnel migrants along its alignment and act as a flyway for many water birds and a host of land birds as well.

The term 'passage migrants' requires elucidation. These species spend the winter southwards of Delhi, in the peninsula and even beyond, and pass through the Delhi area on their way to, and from their winter quarters. Relatively smaller numbers of some species may spend the entire winter in the Delhi area, especially if the season is mild, but far fewer than those recorded on passage. Some species are regular and common on passage, e.g., the Blyth's Reed Warbler *Acrocephalus dumetorum*. Others are irregular and scarce: Rusty-tailed Flycatchers *Ficedula ruficauda* overfly Delhi on passage but are seen here only as straggling migrants. Migratory paths play a role; Tickell's Warbler *Phylloscopus affinis* that breed in the Himalayas take a more easterly route from southern India, then move westwards along the Himalayan foothills, and are unusual here on passage, while the closely related Sulphur-bellied Warbler *P. griseolus* takes a direct route and are regularly seen.

(c) Vagrants

Birds are living creatures with extraordinary aerial mobility and are prone to vagrancy. Migrants can get blown far off course, or compelled to descend and take shelter by bad weather or health conditions. They may overshoot their usual migration path, get mixed up with migrating parties of other species, or wander further southwards from their normal wintering ranges during harsh winters. Some species naturally tend to wander, certain waders or gulls for example, or irrupt at irregular intervals. Others are sedentary, such as woodpeckers or babblers, and records far from their known range would be truly extraordinary.

96 species have been classified as vagrants in the Delhi area (including four that had probably escaped captivity, or were released), but the 12 that require reconfirmation before definitive inclusion in the Checklist are also essentially vagrants, and if they were confirmed and included, the list of vagrants would reach 109. At least four of the 96 may yet be proven to breed, two may turn out to be rare and erratic passage migrants, and one, a regular but rare in winter, rather than a mere vagrant; but information is too sparse and sketchy, or their habitats inadequately explored, to draw conclusions.

A number of species are genuinely exceptional in their occurrence in the Delhi area: many undertake long migratory movements in single hops, Terek Sandpipers *Xenus cinereus* for instance, which have appeared in Delhi on passage, forced down by bad weather or chance mix ups with migrating parties of other species. Almost any migrant that breeds in the western Himalayan region, or further northwards, and winters in the peninsula, is possible here as an accidental waif.

Another set of migrants are those whose main movements are to the westwards or southwards of Delhi but who may stray or get blown off course by storms. Delhi lies on the eastern fringe of the migration paths of a number of species that breed in the northwestern Subcontinent and Central Asia, and migrate through the Indus plains and bordering parts of India in autumn, to winter in Arabia and East Africa. Eurasian Rollers *Coracias garrulus* follow this pattern; they are regular on passage through the Delhi area in autumn, but not on their return journey in spring when they take a route farther to the west. Some occurrences are purely accidental, such as the odd Spotted Flycatchers *M. striata* that have strayed here to inject a desert flavour into Delhi's birdlife. Black-headed Buntings *Emberiza melanocephala* that breed in West Asia and winter in the Deccan, migrate through Baluchistan, Sindh, Gujarat, and Rajasthan; their migratory stream passes largely south of Delhi and they are far rarer here than their sibling species, the Central Asian breeding Red-headed Bunting *E. bruniceps*, that takes a more northern path.

Eastern influences in the Delhi list include a smattering of East Asian breeders that winter in eastern or southern India and may overshoot westwards, as far as Delhi, on their migrations. The vagrant records of Forest Wagtail *Dendronanthus indicus* or Brown-breasted Flycatcher *M. muttui* show this pattern.

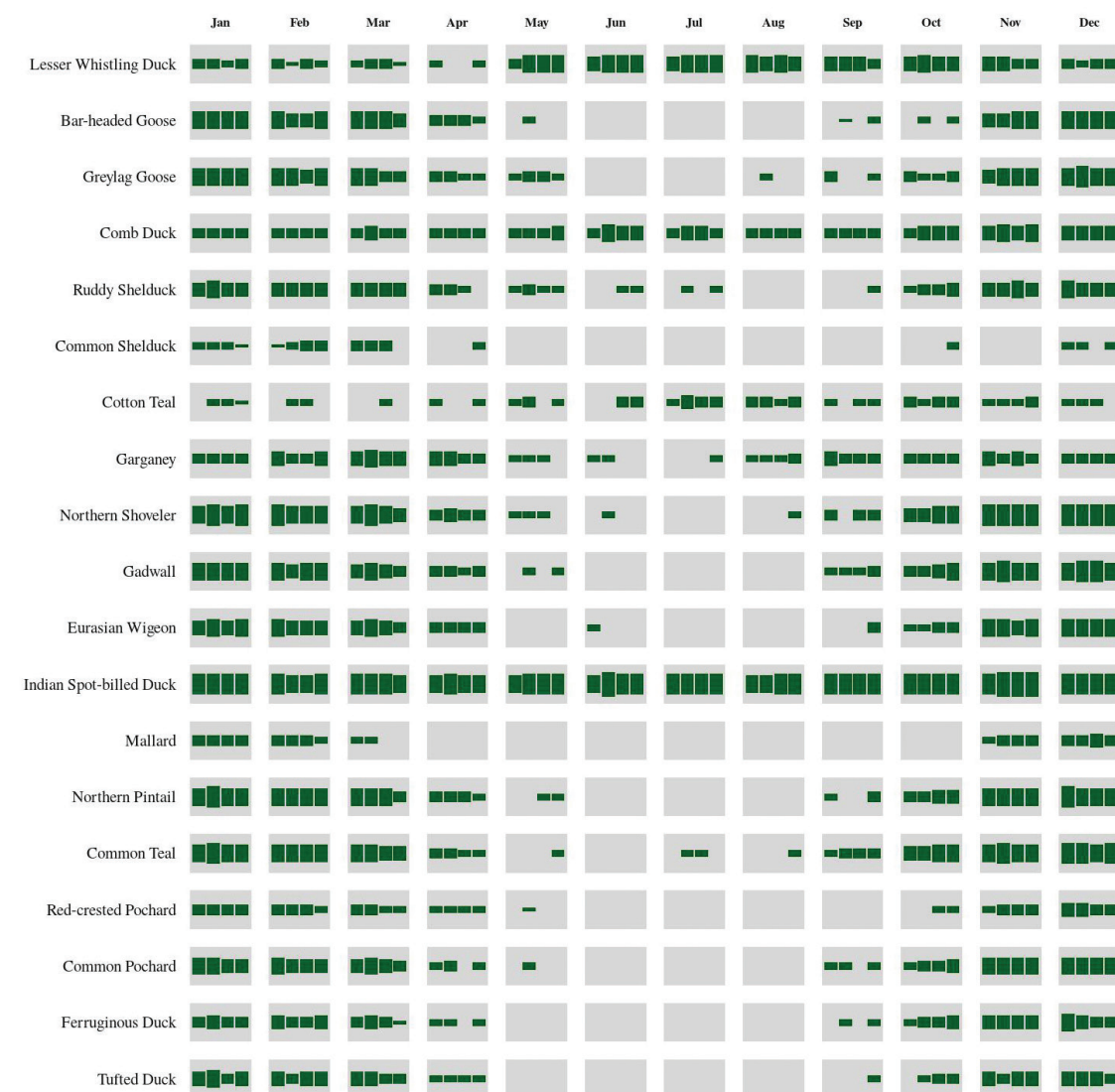
Delhi's proximity to the Himalayan foothills can bring in unusual visitors during heavy snowfall in the mountains. Altitudinal migrants that regularly descend to the foothills, White-capped Redstarts *Phoenicurus leucocephalus* for example, may drift considerably further

southwards during such cold snaps. Some are far more unlikely, even a high altitude Horned Lark *Eremophila alpestris* having nevertheless been reported from Delhi.

Attention should be drawn to a recent flurry of records of two species that would not be considered anything other than vagrants in the normal course. Black Eagles *Ictinaetus malaiensis* that had never been conclusively reported from Delhi earlier, appeared in 2012, followed by no less than five records from the Delhi area between 2014 and 2016; and Oriental Pied Hornbills *Anthraceros albirostris*, a few individuals of which had last been reported in 1973, reappeared in 2013, and then six times in quick succession between 2016 and 2018. Neither the great increase in observers in the Delhi area, nor the possibility of escapes, can fully explain these sudden bursts of records.

Vagrants can appear in the most unexpected places, and Delhi is no exception. But they are, in a sense, peripheral to the local avifauna, accidental strays that provide a chance to 'tick off' a species and add to one's life-list, though they do not really contribute to the intrinsic biodiversity or ecological richness of the area. The lure of the list, the thrill of finding a rarity, is ingrained in most birdwatchers, but how should we interpret these records? Should a species that occurs here rarely on passage, say the Rusty-tailed Flycatcher *Ficedula ruficauda*, be listed as a vagrant or a rare passage migrant? Is the rarity an erratic seasonal visitor to the Delhi area, the Grey-winged Blackbird *Turdus boulboul*, for example, or a genuine vagrant, such as a Mistle Thrush *Turdus viscivorus*? For the purpose of this list, any species that could theoretically occur in the Delhi area, given its range and movements, and has been recorded here, howsoever rarely or irregularly, is still considered a visitor; but one that strays from its usual range or migratory pattern, for whatever reason, is referred to as vagrant or accidental.

The impact of changes in land use, or climate, on bird populations, are also likely to first show up in their unexpected movements. Indeed, this is how new colonisation often takes place. Is the vagrant a harbinger of range expansion or new colonisation? What does a White-naped Tit *Machlolophus nuchalis*, or a Tickell's Blue Flycatcher *Cyornis tickelliae*, unrecorded from Delhi earlier, but now seen in the breeding season in appropriate habitat, indicate—a chance vagrant, a scarce breeder in the Delhi area that has been overlooked all these years, or are they expanding their range into the Delhi area? Are the few enigmatic records of Stoliczka's Bushchat *Saxicola macrorhynchus* from the Delhi area an indication of vagrancy, passage movement, occasional wintering, or an attempt to establish a breeding population?



Lesser Whistling Duck *Dendrocygna javanica* Breeding summer visitor (Common ↑↑)

A widespread Oriental species; mainly a summer/monsoon breeding visitor from about April, when they spread over most reedy wetlands in the Delhi area. They seem to have been scarcer in the past; there are historical records of sporadic nesting, yet they were considered “very uncommon” and mainly winter visitors till the 1960s (Ganguli 1975). They have increased visibly since (though numbers remain in the low tens at a given site). They breed between May and October, sometimes in hollows, or abandoned raptors’ nests in trees, but more often in reed beds—as at Okhla, the river *khadar*¹, and vegetated wetlands in the Delhi area. Pairs or small parties keep separate from other ducks. Most birds leave the Delhi area in winter but those that remain tend to collect at a few favoured localities.

Bar-headed Goose *Anser indicus* Winter visitor (Common)

Bar-headed Geese are distinctively Asian, breeding in Ladakh and Tibet and wintering widely in India. Considered only “fairly common” in the Delhi area till the 1960s (Ganguli 1975), they are presently locally common from November to March; stragglers remaining till May. The larger lakes may hold 150–250 birds each winter, though flocks of a thousand or more are still occasionally reported. Both Bar-headed and Greylag Geese often frequent the same wetlands but do not mix. Bar-heads tend to prefer more open habitats as daytime refuges, flying out in gaggles at dusk to favoured grazing grounds where they may even feed in the close proximity of villages and habitation.

Greylag Goose *Anser anser* Winter visitor (Common)

The Greylag, ancestor of most domestic geese varieties, is a common winter visitor to northern India, including the Delhi area, between October and April–May, while unusually early arrivals have been recorded even in August. They appear to have maintained their numbers, and flocks from the low 100s to 1,000 or more are regularly reported at the larger waterbodies: the impoundments at Okhla, Dhanauri Khurd in U.P., Sultanpur, Bhindawas, and Dighal at Haryana, may hold large concentrations. Flocks spend the day loafing on water and fly out in the evenings to feed in open fields and cultivation. These birds belong to the Asian race *rubrirostris*, with pink bills and legs, recognised in flight by their whitish-grey forewings and deep, bi- or tri-syllabic honking.

Greater White-fronted Goose *Anser albifrons* Winter visitor (Rare, Irregular)

A circumpolar breeder at high latitudes, the Greater White-front’s main winter quarters lie westwards and eastwards of the Indian Subcontinent, in Europe and China. Only small numbers cross the Himalayas, and they occur rarely and sporadically about Delhi. Historical records are few, but there are a handful of recent reports between November and April, including from Sultanpur, Najafgarh, Okhla, Sonipat, and Dighal, usually of singles or parties of up to five. In most years they are absent. Immature White-fronts need to be separated from Greylags with care; their lighter jizz, orange legs, and higher pitched, laughing calls being markers in a mixed flock.

Lesser White-fronted Goose *Anser erythropus* Vagrant

A very rare visitor to the Indian Subcontinent, with three records from the Delhi area: Bhindawas in early 1980s, one with five Greater White-fronts at Sultanpur Lake in March 1981 (Harvey *et al.* 2006), and a well-documented bird at Dighal, Rohtak, which stayed from late November to mid-December 2016 (■ Gupta 2016b).

Smew *Mergellus albellus* Vagrant

The Smew is our sole representative of the merganser tribe, a vagrant in the Delhi area. Ganguli (1975) mentions nineteenth century records from Najafgarh and a report from February 1922. The only two later records are singles at Bhindawas on 16 November 2014 (■ Verma 2014), and 08 March 2015 (S. C. Sharma 2015).

Common Shelduck *Tadorna tadorna* Winter visitor (Uncommon)

These handsome shelducks are irregular winter visitors in small numbers (10–15 birds) to Delhi’s open wetlands. The Yamuna, in its cleaner stretches above Wazirabad, offers suitable habitat, and there are a number of reports from other wetlands including Okhla, Palwal, Sultanpur, Najafgarh, Bhindawas, and Dighal as well.

Ruddy Shelduck *Tadorna ferruginea* Winter visitor (Common)

Ruddy Shelducks breed on inland lakes from North Africa to Central Asia and Tibet, and are well-known and common visitors to the Delhi area between October and April, straggling into May, preferring open margins of rivers, reservoirs, and lakes. They appear to have maintained their numbers; Okhla was a favourite haunt in the past though the Yamuna’s dismal state has taken its toll, but its cleaner stretches above Wazirabad, and most of the larger lakes, still attract this species. They keep in pairs or parties that can build up to a hundred, or more, prior to emigration in March. They are a curious mix of wariness and familiarity, feeding and resting in human proximity, but the first to sound the alarm at any sign of danger.

Marbled Duck *Marmaronetta angustirostris* Vagrant

A Mediterranean and West Asian duck that nests as close as Sindh, but is only a rare vagrant to the Delhi area. Ganguli (1975) details

historical records from January, April, and November, and recent reports include singles at Sultanpur in January 1990 (Warren 1990), Basai in April 2003 (Harvey *et al.* 2006), Dighal, Haryana, in December 2012 and March 2013 (■ Suvama 2013), and two again at that site on 24 February 2014, with one staying at least till 06 April (■ Ahlawat 2014a).

Red-crested Pochard *Netta rufina* Winter visitor (Uncommon)

These striking pochards, with their glowing orange heads and red bills, are uncommon and rather irregular visitors to the Delhi area between November and March, though individuals have lingered on, till as late as 11 May. They prefer open waters where they can feed by diving, the cleaner stretch of the Yamuna above Wazirabad being a frequent haunt. Okhla, Sultanpur, and industrial pondages at Panipat are other sites they frequent. Numbers now are usually in the low tens, compared to counts of a hundred or more from the Delhi area in the 1980s and earlier, which suggests that this species may have declined over the last 50 years.

Common Pochard *Aythya ferina* Winter visitor (Common)

The Pochard is a common wintering duck, arriving in October and leaving again by April/May. They prefer open, deeper waters and are well distributed in the Delhi area in the larger lakes and the Yamuna. Flock sizes are typically in the hundreds, sometimes over 1000, and they are a usual component of the rafts of ducks and coot that while away the day on our wetlands.

Baer's Pochard *Aythya baeri* Vagrant

This East Asian pochard used to winter in eastern India in small numbers but has undergone an extremely rapid population decline that has resulted in its being progressively declared Endangered in 2008, and Critically Endangered in 2012. Vagrants have been reported from Delhi, two in January 2001 at Okhla and one in February 2002 at Bhindawas (Harvey *et al.* 2006; S. C. Sharma, *pers. comm.*), from before their population collapsed. A precautionary note is warranted here: the Baer's population increasingly comprises such a high proportion of hybrid individuals that there may be more Baer's hybrids in the wild now than pure stock. The vagrants in the Delhi area would not have been scrutinised from this angle, as comparison criteria for hybrids had not been developed.

Ferruginous Duck *Aythya nyroca* Winter visitor (Uncommon)

This species is now an uncommon visitor in the Delhi area, November to April, preferring sheltered ponds and lakes deep enough for diving to feed. Their numbers rarely exceed 10 or 20 at a site, significantly less than recorded earlier, perhaps reflecting declining populations across their Eurasian breeding range.

Tufted Duck *Aythya fuligula* Winter visitor (Common)

Common about Delhi, arriving in October/November and leaving in March/April. They prefer deeper, open waters that are free of surface vegetation and mix freely with other pochards that frequent similar habitats. They are well distributed, including on the Yamuna above Wazirabad and at Okhla, the larger lakes, artificial industrial pondages, and sewage treatment plants. There has been no substantive change in wintering populations over the last half century at least.

Greater Scaup *Aythya marila* Vagrant

Greater Scaups, which breed in the Holarctic far north, winter in maritime habitats along the coasts of North America, Europe, and East Asia. Only rare stragglers have been recorded inland in the northern parts of the Indian Subcontinent, and have appeared sporadically in the Delhi area as well, from Okhla in February 1998 (Vyas 2002) and November–December 2002 (Harvey *et al.* 2006), Bhindawas in March 2004, and on the Yamuna in October–November 2004 (Harvey *et al.* 2006). These records are based on the presence of adult males; unaccompanied females are not listed because of risks of misidentification; e.g., my field notes for the first record for Delhi, 22 February 1998 at Okhla, read, "One male, with large rounded, green-glossed black head, no angle or tuft on crown, yellow eye, pale blue bill with black nail, pencilled pale-grey upperparts with black rear, and a probable female with broad face patch; in gathering of c. 4000 duck, including Common, Tufted, and Red-crested Pochards."

Garganey *Spatula querquedula* Passage migrant (Common)

These small ducks are passage migrants through Delhi, wintering farther southwards in peninsular India. They are the earliest ducks to arrive from their breeding areas in central Eurasia, vanguards coming in by early August, with the movement continuing till November. Spring passage is from end February through April/May, with late birds well into June. Numbers are typically in the low hundreds, well distributed in the post monsoon season but in spring, when the country is drier, they concentrate on the larger lakes and the Yamuna.

Northern Shoveler *Spatula clypeata* Winter visitor (Common)

Shovelers are, arguably, our most abundant migrant duck, arriving in September and leaving by April though stragglers may linger till June. They prefer shallow water with floating vegetation and algae, using their broad spatulate bills to sift food items from the surface of the water and mud. They have maintained their abundance, and flocks of a few thousands gather at favoured locations such as Okhla or

¹ *Khadar* is the local hindi term for the low-lying, alluvial land, prone to annual flooding, along the course of one of the great rivers of the Gangetic Plains.

Sultanpur Lake in spring. A few Shovelers sometimes join Spotbills in waterbodies within city limits, such as at the Delhi Zoo.

Baikal Teal *Sibirionetta formosa* Vagrant

Small numbers of this Eastern Palaearctic duck winter irregularly in eastern India. Vagrants have wandered as far westwards as Delhi, with two historical records in November 1879 and May 1947 (Ganguli 1975), and recent reports from Okhla in February 2006 (Harvey *et al.* 2006) and February 2011 (■ Arya 2011), and Sultanpur in April 2013 (many observers; see ■ Dey 2013), and December 2013 (■ Little 2013).

Falcated Duck *Mareca falcata* Vagrant

This handsome duck is an East Asian speciality, like the Baikal Teal, and vagrants have also been recorded from the Delhi area. There are historical records (Hume 1879: 411)² from Sultanpur in February; from Delhi in February (Frome 1948a; this specimen is in the Bombay Natural History Society³ collection); sight record at Badshahpur, Gurgaon, by British diplomat Victor C. Martin on 16 February 1958, and one shot out of six at Sonapat in 1969 (Ganguli 1975). At least one was recorded at Okhla on 02 February 1979 (Vyas 1996) in company with Gadwall: a male in good plumage with deep green and purple glossed head and bushy nape contrasting with white throat crossed by a dark collar, elongated grey feathers drooping over tail at rest, and buff patches on sides of black vent seen as bird flew overhead.

Gadwall *Mareca strepera* Winter visitor (Common)

Gadwalls are amongst Delhi's commonest dabbling ducks, arriving by October and leaving by March/April. They seem to have become more abundant now about Delhi than past reports suggest. They prefer waters with plenty of aquatic vegetation, and are well distributed in the Delhi area at all the larger wetlands. Flock numbers in the low hundreds are typical but maxima of up to 5000 have been recorded in mid-winter and on migration.

Eurasian Wigeon *Mareca penelope* Winter visitor (Common)

Wigeon are common winter visitors to the Delhi area, early October to April, from their breeding range in arctic Russia. They frequent the larger wetlands and the Yamuna River impoundments at Wazirabad and Okhla, and feed by grazing on grass and soft vegetation along the waterside. Counts may reach a few hundred at a given location, these numbers seemingly unchanged over recent decades.

Indian Spot-billed Duck *Anas poecilorhyncha* Breeding resident (Common ↔)

The handsome 'Spotbill' is widespread across South Asia, and a common resident in the Delhi area as well, in lakes, ponds, and wetlands—large and small—breeding even within city limits, as in the Zoo Gardens or at Hauz Khas, as long as there is some waterside cover where it can conceal their nests. It may start nesting as early as March (when its wintering cousins are still around) through the summer and early monsoon; as the breeding season approaches, pairs wander over the countryside looking for suitable sites. It may raise two broods every year. Flocks are normally small, but larger numbers—1000 or more—may collect at favoured locations, such as Okhla, in summer before breaking up into pairs for breeding, though they do not behave as a cohesive flock.

Mallard *Anas platyrhynchos* Winter visitor (Scarce)

Mallards are widespread Holarctic ducks that breed as close to us as Kashmir, and are the quintessential 'wild ducks' from which most domestic breeds are derived. In the Delhi area, however, they are scarce visitors from late November to March, their numbers usually in single digits or the low tens at a site. They appear to have been scarce about Delhi even in the past, so there may not have been any marked change in status.

Northern Pintail *Anas acuta* Winter visitor (Common)

Pintails are common ducks in the Delhi area from September/October till April, even May, but may have become less abundant over recent decades. They were considered the commonest of the migrant ducks in the past, with peak counts of 5000 on the Yamuna and at Sultanpur in 1980s. They remain well distributed, but numbers fluctuate year to year from the low hundreds to a couple of thousand at the major duck refuges. They prefer waters with plenty of submerged vegetation on which they feed by grazing or upending, the males' long tails pointing upwards comically as they do so.

Common Teal *Anas crecca* Winter visitor (Common)

True to their name, these teals are amongst our commonest and most widespread wintering waterfowl in the Delhi area, usually arriving in September (sometimes even July/August) and leaving by April/May. They prefer shallow waters with plenty of surrounding vegetation and marshland. Counts in the low hundreds are typical but peaks of over a thousand have been recorded in mid-winter.

² W. M. Chill sent the fourth specimen for India to Hume (1879: 411), which the latter clarified was from Sultanpur, in his *Game birds* (Hume & Marshall 1881: 231)

³ Bombay Natural History Society (*henceforth*, BNHS).

[illegible]

Indian Peafowl *Pavo cristatus* Breeding resident (Common ↔)

The universally known peafowl is a South Asian endemic and a familiar, semi-feral, resident in Delhi and the surrounding countryside where it is protected by law and religious sentiment. Single males, a cock with a 'harem' of hens, or larger droves of females and immatures frequent fallow ground about villages and temple groves, the Ridge, and the larger urban gardens, where their loud calls can be heard mornings and evenings over the din of traffic. Roost in tall trees, the males fly up in the gathering darkness to perch on large branches with their spectacular trains drooping behind them. Peacocks are polygynous, mating successively with a number of hens. They breed through the monsoon, when females build bulky nests in the undergrowth, in bushes, or even on low roofs of village houses.

Common Quail *Coturnix coturnix* Passage migrant (Scarce)

This migratory quail breeds widely across Eurasia, wintering in the Mediterranean and southern Asia. A century ago it was netted for food on migration in the Delhi area, but now seems to be mainly a scarce passage migrant with sporadic reports of birds calling in wheat *Triticum* sp., fields in February–April, and in autumn, in October–November. It is rarely noted in winter. Its unmistakable tri-syllabic whistle is usually the first indication of its presence, unless accidentally flushed. The few reports are from the Yamuna floodplain and grassy flats near lakes such as Sultanpur.

Rain Quail *Coturnix coromandelica* Breeding summer visitor (Locally Common ↓)

Also called the Black-breasted Quail, these birds are summer/monsoon breeding visitors from May to September, preferring open grassy areas interspersed with cultivation, especially in the vicinity of wetlands and the river floodplain. Their abundance seems to vary, widespread in some years and scarce in others, possibly dependent on the monsoon. The males' loud double-noted whistles are then an unmistakable indication of their presence in a locality, and the fact that these are being heard less often in recent decades suggests that the species' numbers—and suitable habitat—may be declining in the Delhi area.

Jungle Bush Quail *Perdica asiatica* Presumed resident (Rare, data deficient)

There was just one historical record of this bush quail from the Delhi area, of two birds shot in Sohna in November in the 1940s (Bentham 1949). Harvey *et al.* (2006), however, described it as resident in broken scrub country in Haryana and on the Ridge in Delhi, mentioning Asola and Badhkal as specific sites. Extensive coverage of likely terrain, both before and after publication of their work could not reconfirm its presence about Delhi, and its status here remained enigmatic until recently. A covey of eight at Mangar Valley in April 2017 (Mehta & Dogra 2017), and three at Manesar in early March 2018 (■ Kamboj 2018) are evidence of their continued presence on the Southern Ridge, and being a sedentary species, presumably resident. There are unconfirmed reports of its presence on the South-Central Ridge in Delhi, at Sanjay Van. There is no reason why they should not occur more widely in these Ridge habitats, as they are resident and common along the Aravalli Range as close as Alwar, and Sariska National Park. Yet here they seem inexplicably elusive.

Black Francolin *Francolinus francolinus* Breeding resident (Common ↓)

These handsome and well-known birds range from West Asia across northern India, and are common about Delhi (of the Gangetic plains race *asiae*), in their preferred habitat: a mosaic of open ground, cultivation and marsh, of rough grass-and-bush country, damp reedy ground, and the taller crops such as mustard or sugarcane. Though they may be found in the same general area, Black Francolins prefer lush habitats and avoid the dry scrublands beloved of the congeneric Grey; and unlike that species are usually seen singly, or in twos, but not in coveys. Nor do they usually roost in trees as the latter often do, though they commonly call from elevated perches. They breed between April and September when the cock's spirited crow is an arresting feature of its habitat, though these areas have shrunk in recent decades and led to a certain diminution in their numbers.

Grey Francolin *Francolinus pondicerianus* Breeding resident (Common ↔)

This common francolin, a near-endemic to South Asia, is widespread and numerous in the Delhi area in open scrubland and low rocky terrain of the Ridge, in dry cultivation, village outskirts, in the larger rambling city gardens, and even vacant plots within urban limits. Their ringing calls form a familiar backdrop to a morning excursion in the countryside. The birds about Delhi belong to the paler northern race *interpositus*. They are usually in pairs, coveys, and often family parties with half-grown chicks in the breeding season, and are fast runners, only flying with a whirr of wings if necessary. They breed freely throughout the Delhi area, raising, perhaps, two broods from April to October. They have retained their abundance wherever their preferred habitat remains, though overall numbers may be falling as haphazard and unplanned urban expansion takes its toll.

PHOENICOPTERIFORMES - FLAMINGOS

PHOENICOPTERIDAE: FLAMINGOS

(India: 2 species, Delhi: 2)

A small family of six species of unique, specialised water birds found on all continents except Australia, represented by two species in the Old World, both of which occur in India and in the Delhi area as well.



Greater Flamingo *Phoenicopterus roseus* Non-breeding visitor (Locally Common)

Greater Flamingos are widespread across Africa, the Mediterranean region, and India, but their nesting colonies are highly localised over this range. They require specific hydrographic conditions before they will attempt to breed. The nearest large colonies to us are in Kachchh whence flocks disperse widely over western- and southern India, though they have been suspected of breeding opportunistically elsewhere, closer to Delhi, as well. Small to very large flocks may be seen at the larger, open inundations in the Delhi area, often shifting from one site to another depending on local conditions. They were historically considered uncommon winter visitors, but by the 1950s flocks of 500–4000 began to be recorded at the brackish Najafgarh Lakes and elsewhere, with the largest numbers congregating in summer (Ganguli 1975). Sultanpur was a reliable site, hosting upto 2000 birds, till the 1980s when the character of the lake changed from an open brackish jheel to a more wooded wetland, which made it unattractive for flamingos. They were also reported by the Yamuna, and impoundments at Okhla and Wazirabad attracted 200–400 birds in the 1980s and 1990s in late winter when water levels were low. In recent years the largest flocks (1000–1200) have been recorded at inundations along the Najafgarh drainage where they are present through the year, with only smaller parties at wetlands elsewhere in Haryana, including the Sultanpur area, Dighal, and Bhindawas, and, much less frequently now than formerly, the Yamuna, mostly at Okhla.

Lesser Flamingo *Phoeniconaias minor* Vagrant

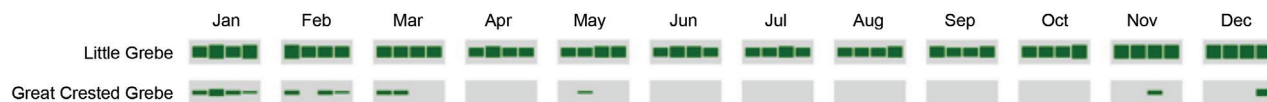
The Lesser Flamingo is a vagrant to the Delhi area, possibly from its nearest regular site at Sambhar Salt Lake in Rajasthan. There are a few historical records of single birds in Greater Flamingo flocks (Ganguli 1975), and a single bird at Basai in September 2003; for a fuller field description of this record, see Prince (2003c). There are also two unverified reports from Sultanpur from June 1991, and Bhindawas from December 2012.

PODICIPEDIFORMES - GREBES

PODICIPEDIDAE: GREBES

(India: 5 species, Delhi: 4)

A cosmopolitan family of highly specialised divers, structurally adapted to a life in the water. Grebes take off from the water clumsily, pattering along till airborne, but can then fly long distances as shown by three of our grebes, of which two are migrants, and one vagrant, from temperate Eurasia.



Little Grebe *Tachybaptus ruficollis* Breeding resident (Common ↔)

Widespread throughout the Old World, Little Grebes are common residents of the Delhi area (belonging to the race *capensis* that extends from Africa to South Asia) in wetlands large and small, river, lakes, and even village ponds. Their only requirement is water that is open and deep enough for their hunting technique or, to dive and vanish underwater when they apprehend danger. They avoid choked waters, though they tolerate open patches amid floating vegetation such as water chestnuts cultivated in village ponds. Single birds or small parties may be found in scattered association. They breed during the monsoons, building a floating nest of weeds attached to pond-side vegetation.

Great Crested Grebe *Podiceps cristatus* Winter visitor (Scarce)

This elegant grebe breeds widely across Eurasia and as close to us as Gujarat, and Ladakh. It is a scarce visitor from about November to March; ones and twos often associate with diving ducks which have similar requirements of deeper, clear waters for feeding. The cleaner stretches of the Yamuna above Wazirabad, and the larger lakes in the Delhi area, are preferred localities, while the river was formerly a regular site. They seem to have been more frequent in the 1950s and 1960s when they were "generally found in small groups of less than a dozen" with peak counts of 30 at Najafgarh and 100 near Faridabad (Ganguli 1975). No dates are mentioned for these large gatherings, which may possibly have been migratory flocks.

Horned Grebe *Podiceps auritus* Vagrant

Horned, or Slavonian Grebes breed in inland lakes in temperate Eurasia but winter mainly in coastal habitats. The nearest regular wintering area to South Asia is the Caspian Sea, probably the source of vagrants to Pakistan (Roberts 1991). Six birds were reported from Dighal, Haryana, on 14 December 2017 with at least two remaining in the area till late January 2018 (Ahlawat 2018a), only the third record from India (Praveen *et al.* 2014).

Black-necked Grebe *Podiceps nigricollis* Winter visitor (Scarce, Irregular)

This small grebe is a scarce and irregular winter visitor with just one historical record from Sultanpur, in late November 1969, and a handful of reports over the last two decades since 2001 from the Yamuna at Okhla, and wetlands of Sultanpur, Bhindawas, Dighal, and the Panipat Oil Refinery. They are not reported from most years but may be overlooked as they can be easily confused with Little Grebe in non-breeding plumage.

COLUMBIFORMES—PIGEONS AND DOVES

COLUMBIDAE: PIGEONS AND DOVES

(India: 32 species, Delhi: 8)

A cosmopolitan family, most diversified in the Australasian Region, whose members show remarkable variations in adaptability to human modified habitats. The Rock Pigeon has gone feral and is totally at home in cities around the world. On the other hand, some of the most dramatic and unfortunate bird extinctions have taken place in this family, the Dodo *Raphus cucullatus*, and the Passenger Pigeon *Ectopistes migratorius*, being two iconic examples.



Rock Pigeon *Columba livia* Breeding resident (Abundant ↑↑↑)

This is a native pigeon of the Indian Subcontinent whose range, as a wild species, is restricted to parts of Europe, and North Africa to India. Feral or domesticated birds are now widespread across the globe. The Delhi population belongs to the dark-rumped Indian race *intermedia*, even as some show evidence of mixed domesticated blood. They are prolific breeders through the year, and have found the perfect substitute for their native rock faces and cliffs in city buildings and other structures. Over and above this capacity to adapt to human modified habitats, pigeons are fed daily at temples, parks, rooftops, public squares, pavements, *etc.*, resulting in the pigeon population growing to pest proportions. Large flocks flying out of the city in the mornings to feed in harvested fields in the countryside used to be a common sight in the past, but are less visible now with birds finding adequate food in the city itself.

Oriental Turtle Dove *Streptopelia orientalis* Passage migrant (Scarce)

The Himalayan nesting populations of this widespread Asian dove winter in the Indian Peninsula, and they are not uncommon on passage through the Delhi area (probably race *meena* that breeds in the western Himalayas). Records are usually of single birds or in single digit numbers, mainly in March–April and September–November, with several mid-winter reports as well, from a variety of wooded

habitats. The pigeon-like, shorter-tailed jizz of these birds is distinct from other Indian doves, even in a distant view.

Eurasian Collared Dove *Streptopelia decaocto* Breeding resident (Common ↔)

Collared Doves show strong dispersive tendencies, having naturally expanded their former range in West and South Asia to colonise much of Europe and North Africa in the course of the twentieth century, and feral birds have spread in parts of North America as well. They are common residents about Delhi, breeding in city parks and everywhere in surrounding rural areas, between March and September. In the non-breeding season, they collect in large flocks that roam the countryside and feed on spilled grain in freshly harvested fields and flats.

Red Collared Dove *Streptopelia tranquebarica* Breeding resident (Locally Common ↓)

This pretty dove ranges from the Indian Subcontinent to China, and is resident, but with marked local movements in the Delhi area. It prefers well-wooded groves surrounded by open country, and till about twenty-five years ago, used to enter New Delhi freely and breed in parks and large roadside trees from March to September, thereafter disperse in the surrounding countryside, mixing freely with Eurasian Collared Doves to feed in newly harvested fields. There are few recent reports from the city, however, but it still nests commonly in groves and orchards in rural areas, as at Sultanpur or Mangar Bani on the Southern Ridge, though they avoid areas overrun by *Prosopis juliflora*.

Spotted Dove *Streptopelia chinensis* Non-breeding visitor (Scarce, Irregular)

This is a familiar dove across much of the Indian Subcontinent (where the well-marked race *suratensis* occurs) and Southeast Asia (various other subspecies), but there are only sporadic records from Delhi scattered over the year, of singles or pairs in parks and woodland. Delhi's natural habitats are probably too dry for its liking, though it seems more regular further northward, as towards Sonapat. It appears that a few birds occasionally wander southwards from the Himalayan foothills where it is a common breeding species.

Laughing Dove *Streptopelia senegalensis* Breeding resident (Common ↔)

A common resident with several subspecies over much of Africa, West Asia, and the Indian Subcontinent (race *cambayensis*). This is the dove of drier country and scrubland, and the Delhi area is perfectly suitable for its needs. Laughing Doves are widespread and familiar birds, breeding freely in the city and villages over much of the year except in the coldest months from November to February. They do not usually flock like Eurasian Collared Doves in rural areas in the non-breeding season.

Orange-breasted Green Pigeon *Treron bincincta* Confirmation Desirable

A red-legged green pigeon, in extremely poor plumage, was photographed on 29 September 2016 (■ Waraich 2016c) at Okhla and identified as this species. This is far from the species' closest known range in the Uttar Pradesh *terai*; further, the angle and quality of the photograph does not show its most conclusive identification features that could convincingly eliminate a female Ashy-headed Green Pigeon *Treron phayrei*, which has occurred as a vagrant in Delhi. Moreover, the state of this unfortunate bird's plumage suggests that it escaped either from captivity, or from a raptor attack.

Ashy-headed Green Pigeon *Treron phayrei* Vagrant

A male in the Delhi cantonment on 14 and 23 December 2015 (■ Kanwarjit Singh 2015) was probably an accidental waif from this green pigeon's usual range in the central Nepal *terai*; pigeons are known wanderers, and this species has appeared as a vagrant as far west as the Uttarkhand foothills in winter (■ Sondhi *et al.* 2016).

Yellow-footed Green Pigeon *Treron phoenicopterus* Breeding resident (Common ↔)

Widespread and resident across the Indian Subcontinent and Southeast Asia, this is a common frugivorous pigeon of the city's gardens and parks, the Ridge, and generally any well-wooded country, even isolated groves of large fig trees in the open countryside. Large numbers may collect at such places when the fig trees are fruiting. They breed between March and June when they are also most visible and very vocal. Birds in the Delhi area do not show the clearly demarcated grey underparts of the nominate race and appear intermediate; an occasional bird may show grey tones on the flanks and belly, but in the main the Delhi population is decidedly closer to *chlorigaster* of peninsular India.

PTEROCLIFORMES—SANDGROUSE

PTEROCLIDAE: SANDGROUSE

(India: 7 species, Delhi: 2)

Two species of these terrestrial birds, of deserts and dry scrubland, are resident in the Delhi area. The Black-bellied Sandgrouse was historically considered an uncommon visitor but appears to have changed its main wintering areas in Rajasthan over the years, possibly because of persecution, and now seems unlikely to reappear here. Sandgrouse commute considerable distances, daily, to favoured pools in the mornings and evenings, converging from all directions at regular times to quench their thirst.

**Chestnut-bellied Sandgrouse *Pterocles exustus* Breeding resident (Uncommon ↓↓)**

This widespread sandgrouse of the African Sahel, Arabia, and India (where our local race is *hindustan*) is a bird of dry open uncultivated country, much of which has been reclaimed or built upon in the Delhi neighbourhood. It is now restricted to fragments of suitable habitat, such as areas of low scrub and fallow ground of the Southern Ridge landscapes, and bare flats near Sultanpur and Najafgarh, where a maxima of 100 have been counted coming to water in a morning. The Sultanpur area is its only presently known breeding site here, but much suitable habitat is still available, especially on the Haryana side, where these sandgrouse doubtless occur; their present restricted distribution perhaps only reflects better coverage of the few sites where it is known to occur.

Painted Sandgrouse *Pterocles indicus* Breeding resident (Uncommon ↓)

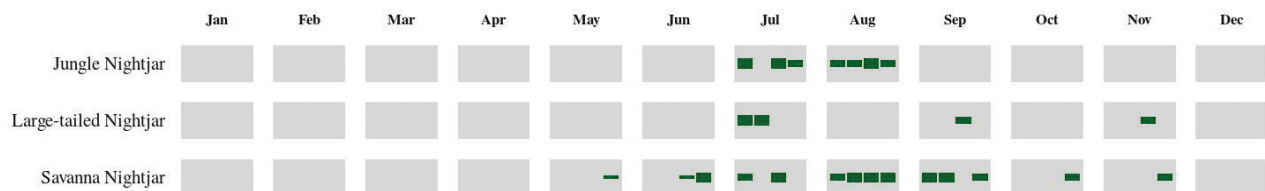
The Painted Sandgrouse is an Indian endemic inhabiting dry, stony, scrubby, hilly, and broken country as is typical of the eroded Aravalli Range as it enters Delhi. It is fairly widely distributed, albeit in small numbers, over the more open portions of the Southern Ridge, from the Aravalli Biodiversity Park, Gurgaon, Surajkund, the Asola-Bhatti Wildlife Sanctuary, and Badkhal, Faridabad, southwards in suitable habitat towards Sohna. Areas further northwards, such as the South-Central Ridge habitats of the Jawaharlal Nehru University Campus (*henceforth*, JNU campus) and Mehrauli, from where they were recorded till the 1980s, are either built upon or too densely over-run with *Prosopis juliflora*, planted in some hare-brained departmental scheme of 'greening' these so-called wastelands, to support Painted Sandgrouse. They are most easily seen as they fly to their favoured watering places to drink at dusk.

CAPRIMULGIFORMES—NIGHTJARS

CAPRIMULGIDAE: NIGHTJARS

(India: 10 species, Delhi: 5)

Nightjars have characteristic loud calls, but high sound levels on city roads makes it difficult to locate them by ear unless one has the opportunity to live, or travel at night, in rural areas. Their cryptic plumage and nocturnal habits make them difficult birds to study, and our knowledge of their status and movements about Delhi is quite incomplete.

**Jungle Nightjar *Caprimulgus indicus* Passage migrant (Uncommon)**

Endemic to peninsular India and Sri Lanka, Jungle Nightjars are resident and breed along the Aravallis, northwards to at least Sariska National Park. Their status in the Delhi area, however, is unclear. The first record from here was a specimen collected in non-breeding

condition in New Delhi in late July 1962 (Donahue 1968). Gaston (1978a) reports birds calling “regularly in the evenings” on the New Delhi Ridge between 20 August and 17 September 1973. There were just two records thereafter, in July 1988 and early October 2011 from the North Delhi Ridge, until 2014 when Aravalli habitats began to be explored intensively by local birdwatchers, and several reports, mostly of nightjars roosting on trees, began to come in from woodland patches along the Southern Ridge. Most records are clustered between July and early October, with a report from Asola in May. Jungle Nightjars breed from March to May, and in the absence of records of birds calling in spring, these dates are best interpreted as representing post-breeding dispersal into the Delhi area; a few may possibly breed in ‘Aravalli’ habitats, as they do at Sariska National Park, less than 200 km away.

Sykes’s Nightjar *Caprimulgus mahrattensis* Vagrant

Sykes’s Nightjars diffuse into western India in winter from their breeding areas in Afghanistan and Pakistan. Vagrants have reached Delhi, usually appearing in dry sandy flats: two historical records from scrub country near the Yamuna in October (Hutson 1954); one was caught below Okhla Barrage in December 1978 (Nigel Redman, in Harvey *et al.* 2006); one on 03 February 2016 at Dighal, Haryana (■ Ahlawat 2016a); and another photographed on 23 November 2018 on the flats near Sultanpur National Park, Haryana (■ Nanda 2018a).



Sykes's Nightjar at Sultanpur, 23 November 2018.

Large-tailed Nightjar *Caprimulgus macrurus* Passage migrant (Scarce)

Widespread in many races from northern India to Australia, these nightjars of moist wooded country seem to be mainly passage migrants in the Delhi area. They spread into the northern plains after breeding in the Himalayan foothills (race *albonotatus*) between March and May. The records for the Delhi area are mostly in late February–March and late June–August. A non-breeding female was collected in Delhi in end-August 1961 (Donahue 1968); Gaston (1978a) mentions birds calling on the New Delhi Ridge in March 1973. Birds have been heard calling in late February and March in woodland patches in New Delhi and at the JNU campus (Harvey *et al.* 2006). There are several recent July–August records of these nightjars roosting on branches or amidst leaf litter in woodland patches on the Southern Ridge, notably Mangar Bani (■ Ritvik Singh 2016b). One was trapped on 19 December 1972 on the New Delhi Ridge (Gaston 1978a), the only winter record from the Delhi area, but it is possible that a few birds do winter here as they do at Keoladeo Ghana National Park, Bharatpur, southwards of Delhi.

Indian Nightjar *Caprimulgus asiaticus* Probably breeding summer visitor (Uncommon ↓)

A small nightjar that ranges from the Indian Subcontinent to Southeast Asia, fairly catholic in its choice of habitat, recorded in stony scrub habitats in the New Delhi, South-Central- and Southern Ridge landscapes, in fallow land adjoining cultivation, rambling gardens, *etc.* Ganguli (1975) considered it an uncommon summer visitor from February to October, which probably still holds true; birds have been heard calling in March–April in past decades but there are very few recent records, and no sign of breeding. Hutson (1954) had noted gatherings of up to a dozen from 20 September till mid-October in New Delhi, probably parties of this locally migratory nightjar in transit to warmer parts of central India.

Savanna Nightjar *Caprimulgus affinis* Breeding summer visitor and passage migrant (Uncommon)

Savanna Nightjars are widely spread across South Asia, in several races that fall into two groups that used to be considered separate species because of differences in size and colour. Subspecies *monticolus* of the northern group (‘Franklin’s Nightjar’) represents the species in India. The bare stony landscapes and outscoured ravines of the Ridge in the Delhi area suit their requirements well. Birds have been observed calling in flight in the breeding season, March–June, on the New Delhi Ridge (Gaston 1978a), and at the JNU campus on the South-Central Ridge (Vyas 1996), but recent reports are mainly from ‘Aravalli’ habitats at Surajkund, Asola, and further southwards on the Southern Ridge. Breeding has been confirmed in recent years at Surajkund, a female with a chick seen on 10 August 2012 (Yogesh Parashar, *pers. comm.*, e-mail dated 23 April 2018) and at the Aravalli Biodiversity Park, Gurgaon (nest with eggs in June 2018).

Savanna Nightjars are also regular passage migrants in autumn in the Delhi area with a noticeable influx in August, presumably from the Himalayan foothills where they are breeding summer visitors. Observers in the past (Whistler 1920; Frome 1948a; Donahue 1968), and in recent years as well, have noted a clustering of records between mid-July and September, loose gatherings of up to 20 nightjars or more roosting in rocky scrub country around Gurgaon with smaller numbers till mid-October. They appear to migrate in parties (Roberts 1991), and communal roosting in the post-breeding period, July to October, has been recorded elsewhere as well (Ganpule 2010). Other nightjars, e.g., Grey, roost singly, and communal roosts are possibly unique to some species, including Indian.

APODIDAE: SWIFTS

(India: 15 species, Delhi: 3)

A cosmopolitan family of entirely aerial birds, with one breeding species in the Delhi area. Powerful fliers, their capacity to range far from their usual haunts enables them to make sudden appearances almost anywhere depending on weather and abundance of flying insect food, disappearing just as rapidly as conditions change.



Asian Palm Swift *Cypsiurus balasiensis* Vagrant

Palm Swifts are inseparable from palms, particularly the Palmyra fan-palm *Borassus flabellifer* of eastern and southern India. Delhi is towards the western fringe of their (and that of the Palmyras) usual range, and they are treated as vagrants. Ganguli (1975) mentioned sightings in 1952–1953 by H. Alexander at Qudsia Gardens in Old Delhi, and the only records since then are of single birds at Okhla and in a New Delhi garden near Palmyras, in March and July 1979 respectively (Vyas 1996). The distinctive twittering calls first attracted attention to the birds. Asian Palm Swifts, in fact, are now noticeably scarce in many parts of the Gangetic plain in Uttar Pradesh, with few recent reports from areas where they used to be much more frequent three or four decades ago.

Alpine Swift *Tachymarptis melba* Passage migrant (Rare and irregular)

Alpine Swifts are widespread in mountainous regions from southern Europe and Africa to India, and Himalayan breeders are known to wander into the plains depending on local weather conditions. Ganguli (1975) mentioned a few August records from the 1950s, and rare parties have been recorded at odd intervals in the Delhi area, such as at Basai in early September 2003 and over the Yamuna, at Delhi, during a very cold February 2005 (Harvey *et al.* 2006).

Pacific Swift *Apus pacificus* Vagrant (Confirmation desirable)

The Himalayan breeding race *leuconyx*, of this widespread Asian species, which some taxonomies raise to species rank as 'Blyth's Swift', is believed to straggle into the peninsula in winter. One was reported from Sultanpur "feeding with House Swifts brought low by a cold front over Sultanpur in February 2001" (Harvey *et al.* 2006). There have been no subsequent reports.

Indian House Swift *Apus affinis* Breeding summer visitor, rare in winter (Common ↔)

These small swifts range from Africa to India; birds from Nepal eastwards to Japan are now split as a separate species—the Nepal House Swift *Apus nipalensis*. They breed commonly about Delhi, but become scarce in the coldest months between November and February. They nest between March and August in small colonies, or singly, in eaves and verandahs of occupied and derelict buildings, historical monuments, under bridges and canal structures, *etc.* Flocks 'ball' in the air in the evenings with high pitched screams that, to quote from Hugh Whistler's description, "so aptly seem to express the fierce joy of an aerial creature in its element."

CUCULIFORMES—CUCKOOS

CUCULIDAE: CUCKOOS

(India: 23 species, Delhi: 8)

Of the eight cuckoos on the Delhi list, two are non-parasitic, a coucal and a malkoha—sedentary, terrestrial birds with short rounded wings and laboured flight; six are brood parasites, of which five breed in the area. These are longer winged, strong fliers that show local, or long range—for the Pied Cuckoo—migratory movements.



Greater Coucal *Centropus sinensis* Breeding resident (Fairly common ↔)

This large coucal is fairly common in the Delhi area in a variety of brushy habitats including gardens and woodland, and often in reed beds. Two races may occur; some birds in city gardens show the brownish forecrowns of the peninsular race *parroti*, while many appear to belong to the northern *sinensis* with all-black heads and purple gloss, and distinctively barred juveniles; the latter, especially from wetter areas and reed beds, as at Okhla, Dhanauri, or Bhindawas. It is unclear whether the two races show different habitat preferences. Rasmussen & Anderton (2012) suggested that *parroti* may be a full species—the ‘Southern Coucal’—separated by morphology and voice, though in Delhi the same individual has been heard uttering both the shorter series of six to seven hoots, and the longer series as well.

Sirkeer Malkoha *Taccocua leschenaulti* Breeding resident (Uncommon ↔)

An endemic malkoha of the Indian Subcontinent, the Sirkeer is an uncommon, local resident of dry thorn and scrub areas about Delhi. The paler race *sirkee* represents the species here. Ganguli (1975) had considered them not-too-common residents, and their status does not seem to have changed materially wherever their habitat is still intact—as on the Central and Southern Ridge in New Delhi and the Aravalli Biodiversity Parks in Delhi and Gurgaon, and even in isolated woodland patches, as at Sultanpur, and Bhindawas. It breeds between March and June when its peculiar courtship calls and displays may be heard and seen.

Pied Cuckoo *Clamator jacobinus* Breeding summer visitor (Common ↔)

The Pied Cuckoo is famous in most of India as the harbinger of the monsoon, arriving just before the rains and withdrawing with the monsoon; this migratory population, race *pica*, is believed to winter in East Africa. It is a common and noisy rains visitor between end May and early November, in a range of habitats including city gardens, open woodland on the Ridge, and the river floodplain, wherever its preferred hosts, *Turdoides* and *Argya* babblers, occur. A. J. Gaston, in his detailed studies on babblers in New Delhi in the early 1970s found Pied Cuckoos parasitising Jungle Babblers *Turdoides striata*, Common Babblers *Argya caudata*, and Large Grey Babblers *A. malcolmi*, in that order of preference, with up to 71% of the first, 42% of the second, and 29% of the third species’ nests cuckolded in his study area; and that cuckoo chicks hatched first, after 11–12 days incubation compared to 14–16 days, for the babblers, to dominate the nest in competition with babbler chicks. Most adult birds seem to leave by September, and birds in October–November appear to be mainly juveniles of the year.

Asian Koel *Eudynamis scolopaceus* Breeding summer visitor (Common ↔)

The familiar *koyal* of Indian poetry and folklore is widespread in the Delhi area in parks, groves of mango or other fruit trees, wooded patches about villages, and so on, but it is far more in evidence and vocal as the weather warms up from March, through the monsoon. It appears that many birds vacate the Delhi area during the coldest part of the year. The Koel is parasitic on crows (Corvidae) in India, though elsewhere it is known to parasitise shrikes (Laniidae) and mynas (Sturnidae) as well. Koel eggs hatch after 13 days incubation compared to 16–17 days for the crows’ eggs, and Koel chicks outcompete the hosts’ chicks for food. This is one of the few cuckoos that is largely frugivorous, though its chicks may be fed on all manner of food by their corvine foster parents, and is a regular visitor at fruiting fig trees along with other frugivores. It is also one of the few birds that relishes the poisonous fruit of the yellow oleander *Cascabela thevetia*.

Grey-bellied Cuckoo *Cacomantis passerinus* Breeding summer visitor (Uncommon ↑)

This small cuckoo appears to have expanded its range into the Delhi area over the last three decades and has established itself as a regular, but local, monsoon breeding visitor between May and October. Ganguli (1975) did not include it in her Delhi list. The first record in the area dates from August 1978 (Gaston & Mackrell 1980). By the 1990s these cuckoos had spread far more widely about Delhi

(Vyas 2002), in woodland in the Southern Ridge landscapes, lightly wooded country, roadside avenues in rural areas and, doubtless, elsewhere. Their characteristic calls are an unmistakable indicator of their presence from early June, soon after their arrival here.

Drongo-Cuckoo *Surniculus dicruroides/ lugubris* Vagrant (specific identity uncertain)

The Drongo-Cuckoos of South Asia are split into two species in the *Indian Checklist*, the Fork-tailed Drongo-Cuckoo *S. dicruroides*, endemic to the Indian Subcontinent, and the Square-tailed *S. lugubris* of the Himalayas and further eastwards. Both appear to breed in the Himalayan foothills, and the only record for Delhi is a vagrant observed on 10 May 1986 on the New Delhi Ridge, a day after a violent storm; possibly a migrant blown off course (Vyas 1996). Some white markings on its vent, and white barring on outer tail feathers, towards their base, were visible, as was its distinctly finer bill. It was silent, but its presence attracted two Black Drongos *Dicrurus macrocercus*, and when it flew, followed by the drongos, its flight style was different in comparison, more flapping and direct. The species cannot now be determined, as the split had not been formalised at that time.

Common Hawk-Cuckoo *Hierococcyx varius* Breeding summer visitor (Common ↔)

Endemic to the Indian Subcontinent, and familiar as the *papiha* of northern Indian poetry and folklore, Common Hawk-Cuckoos are summer visitors to the Delhi area from March onwards till October; common in city parks and gardens, tree-lined avenues, wooded patches, and generally wherever their preferred *Turdoides* babbler hosts occur. Some remain throughout the year, with a number of records from mid-winter too. Like many other cuckoos, they relish the hairy caterpillars that abound in the monsoon, which most birds avoid.

Indian Cuckoo *Cuculus micropterus* Confirmation Desirable

Indian Cuckoos have been reported from the Delhi area as stragglers; a bird seen in July in the 1940s (Frome 1948a), and one in mid-August 2004 (Harvey *et al.* 2006). Plausible records, but risk of confusion in identification is high.

Common Cuckoo *Cuculus canorus* Breeding summer visitor and Passage migrant (Uncommon)

The Common or Eurasian Cuckoo is a widespread Old World species, and in India is known to breed in the Himalayas and the central Indian ranges including the Aravallis. Ganguli (1975) and Harvey *et al.* (2006) considered it a straggler during passage in March–April and August–October, with one report of a bird calling in July. Starting from 2015 however, and annually since, several birds have been heard calling freely, with pair chases and other breeding behaviour, between April and August in the well-wooded valley of Mangar Bani, Faridabad. This site has only lately, since the last few years, begun to receive intensified ornithological coverage, and the Common Cuckoo's breeding status may have been overlooked earlier rather than these sightings representing a range extension. This is another one of the 'Aravalli' species that breeds as close to Delhi as the Sariska National Park near Alwar, and has now been found to extend into the Delhi area along the broadly contiguous landscapes that form the Southern Ridge.

ORDER GRUIFORMES—RAILS, CRANES, ETC.

RALLIDAE: RAILS, CRAKES AND COOTS

(India: 18 species, Delhi: 10)

Small to medium, large-footed wetland birds, adapted for life in the marshes, often elusive, overlooked, and poorly known. Some are thin enough to move easily through dense reed beds, others plump, short-winged, and seemingly weak fliers, but many migrate considerable distances.



Western Water Rail *Rallus aquaticus* Winter visitor (Scarce and Local)

Water Rails, widespread from Europe to Central Asia, breed as close as Kashmir and winter over the Indus floodplains and north-western India (these rails belong to the Central Asian race *korejewi*). They had not been recorded, probably overlooked, before the winter of 2002–2003, when their characteristic squealing calls drew attention to their presence at the Basai marshes. They have since been found to be regular visitors to the Delhi area in winter, November to March, at a number of sites, at Basai, Sultanpur, Dhanauri Khurd, and Sonipat. They must certainly occur at other reed bed habitats as well, but are secretive and easily missed.

Spotted Crane *Porzana porzana* Winter visitor (Rare)

Spotted Crakes breed across Eurasia and winter in Africa and northern India, albeit in small numbers. They are scarce winter visitors to the Delhi area, first recorded in March 1979 at Sultanpur Lake (Vyas 1996). Later records include single birds at the Basai marshes in January 2014 (■ Dachiku 2014), at Dighal in March 2014 (Ahlawat & Jain 2014), and one that stayed at Basai from late November 2015 till the second week of April 2016 (Dey 2016).

Ruddy-breasted Crane *Zapornia fusca* Probably Breeding resident (Uncommon ↑)

A distinctive crane, and a widely distributed resident across much of eastern and southern Asia, but the first record from the Delhi area was only in 1962 from south of Okhla (Donahue 1968), where it was relocated in 1985–1986 (Vyas 1996). Our birds are of the northern Indian race *bakeri*. They have since been found to be more widely distributed at various other reed beds and marshes in the Delhi area, and recorded in most months of the year. They presumably breed, as suggested by birds calling in July, in paddy fields southwards of Okhla.

Brown Crane *Zapornia akool* Probably Breeding resident (Uncommon ↔)

Brown Crakes are rather scarce residents in the Delhi area. They were recorded here for the first time only in 1962 (Ganguli 1975), and may have been overlooked earlier. They are widespread but local, and seem to move around, appearing sporadically even at isolated small ponds and seepage marshes. They have been recorded in most months of the year, and heard calling in the summer, March to June, which suggests they probably breed with us.

Baillon's Crane *Zapornia pusilla* Passage migrant, probably also breeding (Fairly common ↑)

These diminutive crakes breed from Europe across much of temperate Asia; they nest commonly in Kashmir and “very probably also elsewhere within our limits” (Ali & Ripley 1969b), with claims of breeding in several other areas in India, including Uttar Pradesh. Birds in the Delhi area belong to the nominate, paler eastern race *pusilla*. They are common on passage in March–April and September–October in the Delhi area, affecting shallow, well-vegetated pools and swamps with surrounding reedy cover. They are much scarcer and more localised in winter, and a few may also breed in the Delhi area: their presence at Basai as early as 03 August, and very young juveniles netted there with adults in early September suggest breeding (Harvey *et al.* 2006), and a downy chick accompanying a pair of adults photographed at Dadri, Uttar Pradesh, on 29 September 2007 (■ Anand Arya, *pers. comm.* e-mail of 16 January 2018) provides further evidence.

White-breasted Waterhen *Amaurornis phoenicurus* Breeding resident (Common ↔)

This familiar resident of the Indian Subcontinent and Southeast Asia is just as common here as elsewhere, in wet habitats of all sorts, reed beds, ditches, seepage marshes, village ponds, and urban parks, and may make an appearance in all kinds of unexpected places. It nests freely about Delhi with an extended breeding season from March–April to September, and can be very vocal at such time, ascending into bushes and hedges and producing an extended, extraordinary series of grunts, groans, and growls that form its song.

Watercock *Gallicrex cinerea* Breeding summer visitor (Fairly common, Local ↑)

The handsome Watercocks are monsoon visitors to the Delhi area, between June and September: to the larger marshes, preferably with a mosaic of reed beds and open grassy patches or wet cultivation. They were first recorded in northern Delhi only in 1963 (Ganguli 1975), and this was the only known site for many years. But they quickly colonised suitable habitat created, at Okhla, by the building of the barrage in the 1980s, and several other localities are now known for this species including Dhanauri/Surajpur, Basai/Najafgarh, the seepage marshes at Sonipat, and, doubtless, elsewhere. As they settle down to establish territories soon after arrival, the males are active and noisy and their unique three-part booming territorial call is commonly heard in these marshes.

Purple Swampphen *Porphyrio porphyrio* Breeding resident (Common ↑)

Purple Swampphens, in six distinct races, have a very wide range from southern Europe and Africa to Australia. Based on morphological and molecular evidence, some taxonomic authorities now give specific rank to each of these six, including our birds *poliocephalus* as the 'Grey-headed Swampphen' whose range then gets restricted from Iran across the Indian Subcontinent to China. They are common in most wetlands with sufficient cover in the form of reed beds, grassy patches, and hyacinth covered openings. Flocks of 40, or more, may emerge from cover to feed in the open, when their blue coloration glows in the sun and makes them very conspicuous. They breed from May to September, and chicks at various stages of growth may be seen in these months.

Common Moorhen *Gallinula chloropus* Breeding resident (Common ↔)

A widespread species throughout the Old World and a common resident of the Delhi area at most wetlands, large or small, ditches, canal seepages, even artificial ponds in parks, and other urban locations, as long as there are patches of open water with some floating vegetation and surrounding cover in the form of reeds or bushes. Common Moorhens often swim out into the open, and feed while swimming and walking about on open ground, but need cover to retreat into when necessary. They nest in reeds, a creeper-covered tree stump, or in bushes from May to September, but some start much earlier, as downy chicks were seen on 22 March (Vyas 1996).

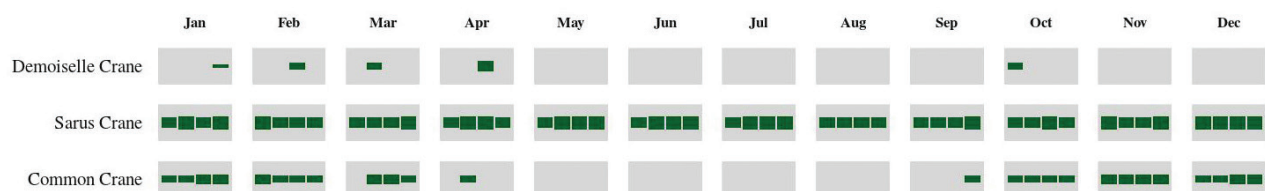
Common Coot *Fulica atra* Winter visitor, Probable breeding resident (Common ↔)

Common Coots breed over much of Europe and Asia to Australia, and winter in Africa and southern Asia. They are primarily winter visitors to the Delhi area between October and March, affecting lakes, the Yamuna, and open waters where they form large rafts mixed with diving ducks. At some of the larger lakes, winter counts may exceed a thousand. A few birds are present in the Delhi area through the summer, with circumstantial evidence of breeding at Surajpur in August 2016 (Yogesh Parashar, *pers. comm.*).

GRUIDAE: CRANES

(India: 5 species, Delhi: 3)

The Delhi area hosts three species of these tall and graceful birds, the resident Sarus with its evocative bugling, and two migratory cranes whose spectacular migratory flight formations are now a regrettably rare sight here. Historically, one of the most elegant of the group, the critically endangered Siberian Crane, has also occurred in the Delhi area.



Sarus Crane *Antigone antigone* Breeding resident (Fairly common ↓)

The pairs of Sarus that grace our countryside impart a charm to the scenery that can scarcely be surpassed. Sarus Cranes are distributed from northern India across Southeast Asia (where they are rare) to Australia. They are declining over much of their Indian range due to loss of habitat, pesticides, and disturbance while nesting. In the Delhi area they may be seen in cultivated countryside both east and west of the Yamuna in the vicinity of wetlands, where they breed from July to November, collecting in family parties thereafter and even larger groups by late winter. These gatherings disperse again as the rains break in June/July. They were considered fairly common about Delhi a few decades

ago (Ganguli 1975), and though still well distributed in appropriate habitats, several former sites no longer hold Sarus. The largest numbers in the Delhi area have been reported from the wetlands at Dhanauri Khurd, Gautam Budh Nagar District, Uttar Pradesh, which may hold up to 15 breeding pairs and over 100 birds annually as they gather at this favoured wetland in the dry season, with a maximum of over 140 counted there in April 2017.



Sarus gather to roost at Dhanauri wetlands, January 2015.

Demoiselle Crane *Grus virgo* Passage migrant (Scarce, irregular)

The main breeding areas of this elegant crane are in Central Asia. These birds winter in northern and west-central India. They are rather scarce and irregular passage migrants through the Delhi area in February/March–early May and September–October. There are historical records of parties near Yamuna in November and mid-April (Frome 1948a; Suresh C. Sharma *pers. comm.*) but passage records in recent decades have usually involved small numbers only, with autumn maxima of 126 at Okhla, Delhi, in end-September 1996 (Vyas 2002), and at least 22 at Rewari, Haryana, on 19 September 2018 (■ Satish Kumar 2018). In spring too, numbers are typically small—in single digits—but larger parties have also been recorded on occasion, with maxima of 11 at Sultanpur in early March 1986 (Vyas 1996), 19 in mid-April 2003 over the Yamuna (Prince 2003b), and 92 in early March 2015 over Asola Wildlife Sanctuary (■ Kohli 2015).

Common Crane *Grus grus* Winter visitor (Uncommon and local)

Common Cranes are local winter visitors to the Delhi area between September and April. The Yamuna seems to act as a migratory flyway with formations of cranes observed high over the river floodplain, flying southwards in late September and October (Frome 1948a; ■ Waraich 2017b) and northwards in March–April (Vyas 1996). This is less evident now as the floodplain has become increasingly hemmed in by urban sprawl, and cranes tend to fly higher as they pass over the city. The larger lakes, such as Sultanpur and Bhindawas, are used as day refuges in winter, the cranes dispersing at dawn, and in the evenings, to feed in the surrounding countryside in fallow land or cultivation. Such flocks involved as many as 200–300 cranes at Sultanpur in the 1960s (Ganguli 1975), through the 1980s (Vyas 1996), but numbers have reduced since to, typically, less than 100, although a maximum of 164 was reported at Bhindawas in 2001 (Harvey *et al.* 2006).

OTIDIFORMES: BUSTARDS

OTIDIDAE: BUSTARDS

(India: 5 species, Delhi 1)

There are historical records of the Great Indian- and Macqueen's Bustards from the Delhi area and the Lesser Florican has been recorded in recent years as a vagrant. Bustards have elaborate territorial and courtship displays, on the ground in the case of open country bustards, or aerial—for better visibility—in those that live in grasslands, such as the floricans.

Lesser Florican *Sypheotides indicus* Vagrant

Lesser Floricans are subject to nomadic movements that are not entirely understood. They arrive to breed in western India as the rains rejuvenate the grasslands, and have reached the Delhi area as rare vagrants in this season. There are anecdotal accounts of floricans seen displaying near Pataudi in the past, but the only recent records are of a female at Sultanpur on 04 June 2006 (Harvey *et al.* 2006); a male at Dadri on 17 July 2014; and a male and at least one female, near Sultanpur, in the second week of July 2018 (■ Sanjay Sharma 2018).

CICONIIFORMES: STORKS

CICONIIDAE: STORKS

(India: 8 species, Delhi: 7)

Delhi is rich in stork species. Adjutants *Leptoptilos* are restricted to Asia and Africa, with two and one species respectively. The Painted Stork is one of four species in the genus *Mycteria* that, between them, inhabit the tropical wetlands of the world. The Openbill *Anastomus* and Black-necked Stork *Ephippiorhynchus* each have a congener in Africa. Two storks, in the widespread genus *Ciconia*, are migrants from Eurasia and one a resident of the Indian and African tropics. Our storks' affinities, thus, are overwhelmingly African.

On the Delhi list are some of the most spectacular, as well as threatened, members of the family. We can justifiably be proud that India's capital offers refuge to such wonderful creatures, but such wealth also imposes a special responsibility on Delhi and the National Capital Region to conserve these remarkable birds and their habitats.

**Greater Adjutant *Leptoptilos dubius* Former non-breeding visitor**

Adjutants are restricted to Asia (two species), and Africa (one). Greater Adjutants are globally endangered with a breeding range now limited to a few localities in Bihar and Assam, and a small population in Cambodia. This population collapse is reflected in their status in the Delhi area as well. They were historically considered irregular visitors, in small numbers, to lakes and rubbish dumps, but flocks of 150 to 250 birds—unimaginable today—were reported in the 1960s, between May and August, at the Najafgarh Lakes (Ganguli 1975). These were presumed migratory gatherings. The only later records are of five at Sonipat in July 1982 (S. C. Sharma, in Harvey *et al.* 2006), and five in July 1985, three in July 1986, and five again in August 1989, all at Okhla (Vyas 1996).

Painted Stork *Mycteria leucocephala* Breeding resident (Common ↔)

The Indian Subcontinent holds the bulk of the global population of these colourful storks. They are still common in our wetlands, nesting in the heronries at the Delhi Zoo and Sultanpur National Park between August and December. The Delhi Zoo colony has been in existence since 1960 (Urfi 2011), and while numbers do fluctuate year to year, with maxima of about 300 nests (Harvey *et al.* 2006; media reports), they may be less affected by water levels and other impacts as the zoo's pools are artificially stocked and food shortage should not be an inhibiting factor. The Sultanpur heronry (Urfi *et al.* 2007) established itself in the early 1990s after the creation of islands planted with *Acacia* sp., as part of the Sanctuary's management plan in the 1980s, which changed the character of the lake from a seasonal saline inundation to a wooded wetland. Nesting has been annual since 2000, with estimated maximum of 150 pairs (Harvey *et al.* 2006). Post-breeding the storks disperse to wetlands in the area. Okhla was a regular foraging site for the Zoo colony, with 200 recorded in the 1980s (pers. obs.), but is too polluted now to attract such numbers.

Asian Openbill *Anastomus oscitans* Breeding resident (Uncommon ↑)

Delhi is westwards of the Openbill's range, possibly accounting for its relatively reduced abundance here, than elsewhere in India. Compared to the 1940s, when Frome (1948a) found them "in irrigated and flooded areas particularly in north and east Delhi", they are now more widely spread in wetlands but still not in large numbers. A maximum of 30–40 birds may be present at favoured sites, mainly between March and August, when birds are in their white breeding plumage; by late August most are in grey out-of-season dress. Numbers decrease in mid-winter, suggesting that some move out of the Delhi region as it gets colder (and perhaps, the populations of their primary food, snails, decrease?). Openbills nest between May and August in the heronries at Damdama (12–15 pairs in a single species colony), Sultanpur (up to 25 pairs), Surajpur, Sonipat (10–20 pairs), and possibly elsewhere.

Black Stork *Ciconia nigra* Passage migrant (Uncommon)

Black Storks are mainly passage migrants through the Delhi area, usually single birds on northward passage in March–April, but more

often in autumn in October–November; sometimes in small parties at this time with a maximum of about 40 birds over South Delhi in mid-October 2017 (Maurya, in S. Prakash 2017). There was just one historical record till the 1970s, from Surajkund in March (Ganguli 1975); and recent records all seem to cluster from the last two decades post-2000, which may reflect better ornithological coverage or a real increase in population. Individuals may winter, as suggested by December reports from Panipat, Dighal, and Asola.

Woolly-necked Stork *Ciconia episcopus* Resident (Fairly common ↓)

Woolly-necked Storks range across much of southern Asia with a race, sometimes split, in tropical Africa. They are fairly common residents near wetlands and the surrounding countryside in the Delhi area where they feed on land, not by wading in water. Pairs nest during the monsoon on tall trees standing in cultivation; not in heronries like many other storks. They usually keep in pairs but gatherings of 15–20 or more have been recorded in past decades. Going by such accounts, this stork may have declined about Delhi as there have been no reports of such numbers in recent years.

White Stork *Ciconia ciconia* Winter visitor (Rare, irregular)

The White Storks that winter in India have probably bred in Central Asia (race *asiatica*), from the eastern limits of their Eurasian range. They used to be considered irregular winter visitors but their rare appearances in the Delhi area now only warrant the status of a vagrant: two at Sultanpur in February–March 1982, and singles at Okhla, and south of Faridabad in mid-winter 2004–2005 (Harvey *et al.* 2006) are the only recent reports.

Black-necked Stork *Ephippiorhynchus asiaticus* Resident (Scarce ↓↓↓)

These magnificent storks range from India to northern Australia, though they tend to be sparse and sporadic across much of this range. Populations in Asia (nominate *asiaticus*) are declining (Rahmani 1989) and may not exceed 1000 individuals, and India, particularly the south-western Gangetic Plain adjoining the Delhi area, may presently hold the largest breeding numbers in Asia. They were formerly considered fairly common with reports of “more than 40 birds” (Ganguli 1975) in summer on the Najafgarh lakes. Their decline, since, is thus strikingly evident, and only single digit numbers are now reported from the Sultanpur-Basai-Najafgarh, Surajpur-Dadri-Dhanauri, and Bhindawas wetland complexes, with sporadic records on the Yamuna at Okhla and elsewhere. Breeds after the monsoon, October to December, with at least three known nesting sites in the Delhi area. A pair nested for a few years near Dadri on a power pylon standing in fields, an unusual site.



Portraits: Black-necked Stork (November 2015) and Black Ibis (February 2015) at Dhanauri.

PELECANIFORMES—PELICANS, HERONS AND IBISES

PELECANIDAE: PELICANS

(India: 3 species, Delhi 2)

Two species of pelicans visit the Delhi area in winter, from their Central Asian breeding grounds, while another, a regional endemic that breeds in eastern and southern India, has been recorded historically. Pelicans feed cooperatively and nest gregariously, and flocks soar effortlessly on thermals with synchronised movements.

Bird classification was earlier based on morphological characters, and pelicans were traditionally clubbed with cormorants and darters, which have feet with all four toes webbed, as against other web-footed birds which have only three toes webbed. Molecular studies, however, have now shown that cormorants and darters are not closely related to Pelicans and, hence, have been shifted to their own order, the Suliformes.



Great White Pelican *Pelecanus onocrotalus* Winter visitor, feral breeding colony (Uncommon)

Great White or Rosy Pelicans breed locally from south-eastern Europe and Central Asia to Africa. Their eastern populations winter in the northern Subcontinent; they are irregular and now uncommon visitors to the larger wetlands in the Delhi area. Historically, pelicans—not specifically identified—were reported occasionally from the Yamuna (Frome 1948a,b) but larger wintering flocks, occasionally as many as 2000, began to be seen from the 1960s at the Najafgarh and Sultanpur lakes (Ganguli 1975). These spectacular winter flocks continued through the 1980s (Vyas 1996) though numbers tended to fluctuate year to year. A peak of c. 800 at Sultanpur in the late 1970s, for example, dropped to less than 100 in the following years, then rose again to 125–200 in the 1980s, possibly reflecting the abundance of some specific food item. In recent decades only small numbers have been reported from wetlands at Palwal, Bhindawas, Dighal, and elsewhere, with a high of 106 at Sonipat in February 2009 (Suresh C. Sharma, *pers. comm.*). The ecological character of Sultanpur Lake has changed over the years, and these pelicans, which were formerly regular here, rarely visit it now. A free flying colony established in the 1980s from pinioned birds at the Delhi Zoo subsists on fish supplied by the Zoo authorities and breeds regularly, its numbers hovering around 30–35 birds. These birds often visit the impoundment at Okhla, though the waters there are probably too polluted to suit their fishing purposes.

Dalmatian Pelican *Pelecanus crispus* Winter visitor (Rare)

A south-eastern European and Central Asian species, Dalmatian Pelicans used visit Delhi's wetlands in far smaller numbers than the Great White. There are historical records, from the 1960s, when they were considered rare (Ganguli 1975). Singles or small parties were regularly reported from Sultanpur and Okhla in the late 1970s and 1980s, with maxima of 17 in March 1979 feeding on fish trapped at the sluice gates of the old Okhla weir on the Yamuna, and three separate groups, totalling 15, at Sultanpur in March 1986 (Vyas 1996). Three were reported at Okhla in late January 1990 (Urfi 2003). There have been very few reports in recent years, usually of single birds with Great White Pelicans.

ARDEIDAE: HERONS, BITTERNS

(India: 21 species, Delhi 14)

The bitterns, a group of small to mid-sized, secretive herons, form a distinct evolutionary subfamily, the *Botaurinae*, within this family. Delhi hosts one widely distributed species, the Eurasian Bittern, as a migrant, and three small Oriental Region bitterns that nest here. Night Herons form their own subfamily, the *Nycticoracinae*, while other herons, all in subfamily *Ardeinae*, are either widely distributed species themselves or have close relatives that range across all continents. In the Delhi region—though with some notable exceptions—herons seem to be maintaining their populations satisfactorily, unlike most storks, whose numbers have declined.



Eurasian Bittern *Botaurus stellaris* Winter visitor (Scarce)

This Old World bittern is a scarce winter visitor to the Delhi area. There are few historical records and the species is not listed in Ganguli (1975), but there are several reports of wintering birds in recent decades and this elusive species may have been overlooked in the past. These records are irregular, mostly of single birds but up to seven have been recorded at a site, between November and April, from wetlands on both the Haryana (Ahlawat & Tiwari 2014) and the Uttar Pradesh sides of the Yamuna, invariably in a mosaic of reed beds, damp grassland, and flooded channels with floating vegetation. A record from Najafgarh in July 2013 is out of season, perhaps an early returning migrant or an over-summering bird.

Yellow Bittern *Ixobrychus sinensis* Breeding summer visitor (Fairly Common ↑↑)

Yellow Bitterns are mainly breeding summer visitors to the Delhi area between May and September, though some linger through mild winters. They were listed as uncommon (Ganguli 1975; Vyas 1996) till the 1980s, when the impoundment of the (then) newly constructed barrage below Okhla created the extensive reed beds that are now a stronghold of this species in the Yamuna's floodplain. Yellow Bitterns are now recorded regularly from several wetlands about Delhi and have become commoner and more widely distributed in the Delhi area in recent decades. In May, soon after they arrive, pairs may be seen in slow flapping courtship flights over the reed beds and are active aurally through much of the day in the monsoon, when feeding young. A maximum of 98 birds has thus been counted at Okhla, flying to and fro over three hours of observation in July (Harvey *et al.* 2006).

Cinnamon Bittern *Ixobrychus cinnamomeus* Breeding summer visitor (Fairly common ↑↑)

These bright little bitterns are summer visitors to the Delhi area mainly between early May and September, with a few records in winter. They are numerous at favoured sites, such as Okhla, but widespread in the countryside too, nesting in small reedy marshes. Normally crepuscular, like Yellow Bitterns, they have similar courtship flights early in the breeding season; pairs flying together over the reeds in the evenings with slow deep wing beats, the male often calling in a long series of low hoots in flight. Yellow Bitterns, on the other hand, are usually silent. Cinnamon Bitterns may be active all day during the monsoon, with an Okhla record of 40 counted in three hours in July (Harvey *et al.* 2006). Fledged juveniles appear by late August. They were believed to be more numerous than Yellow Bittern till the 1990s (Vyas 1996) but the position may have reversed (Harvey *et al.* 2006).

Black Bittern *Ixobrychus flavicollis* Breeding summer visitor (Fairly common ↑↑)

Placed by some authorities in the monotypic genus *Dupetor*, this is a distinctive heron in nearly black plumage with a buff-orange cheek

patch and black-and-rufous striped neck. It too is a breeding summer visitor from early May to October, but in smaller numbers compared to the other small bitterns, with occasional records in winter as well. Black Bitterns were first recorded in May 1962 southwards of Okhla (Ganguli 1975) and this remained the only record from the Delhi area till the 1980s, when they began to be recorded in increasing numbers every year from the Okhla reed beds. They have since been reported from several other wetlands including Dhanauri, the Sultanpur-Basai-Najafgarh complex, Bhindawas, and Sonipat; normally crepuscular and secretive, they do occasionally expose themselves—possibly more often than their smaller cousins—to feed in shallow open water, but never far from the sheltering reeds.

Black-crowned Night Heron *Nycticorax nycticorax* Breeding resident (Fairly common ↔)

With a global range spanning all continents except Australia, these herons are fairly common breeding residents about Delhi by the Yamuna and most other wetlands, even waterbodies in city gardens and parks. Breeding colonies are well distributed, either of Night Herons alone or part of the large mixed heronries at the Delhi Zoo, Okhla, Bhindawas, Sultanpur, Surajpur, Wazirabad, and doubtless elsewhere. These herons can be secretive at their small colonies though they are often active till late in the mornings when feeding young.

Striated Heron *Butorides striata* Breeding resident (Scarce ↔)

Striated Herons are distributed widely, in many races, across Africa and India to Australasia; a closely allied species inhabits the Americas. Here they belong to the Indian Subcontinental subspecies *chloriceps*, and prefer the firmer banks of rivers, canals, and ponds, especially where shaded by overhanging vegetation. There are historical nesting records from canals at Okhla, in July (Hutson 1954). They are scarce, with scattered records from the Hindon River, canals and locks at Okhla and Sonapat, water channels and irrigation impoundments at Surajkund and Sultanpur, and the Zoo where they are also known to nest.

Indian Pond Heron *Ardeola grayii* Breeding resident (Common ↔)

The Indian Pond Heron represents a group of five small Old World herons of the genus *Ardeola* in the Delhi area, and is a familiar bird in ponds and marshes of all kinds, large or small. It may be seen stalking about and hunting for food even in the artificial waterbodies and irrigated lawns of the Central Vista and New Delhi gardens. Small parties commute daily from communal roosts in trees. Pond Herons breed on the margins of the larger heronries in the Delhi area, in small colonies of their own, or mixed with egrets and Night Herons, often near villages.

Cattle Egret *Bubulcus ibis* Breeding resident (Very common ↔)

A cosmopolitan heron with two subspecies—the Western (African) nominate *ibis* and the Eastern (Asian) *coromandus*. Some authorities give specific rank to the two, which differ especially in greater extent and depth of golden-orange in their breeding dress. A commensal relationship with humans and domestic cattle has helped them extend their ranges in the early twentieth century—the Eastern birds to Australia and the Western to the Americas—in one of the most extraordinary natural range expansions of any bird species. Yet, Asian-African plumage differences have persisted; they have not invaded each other's ranges or interbred. Cattle Egrets are ubiquitous in the Delhi area, as elsewhere, attending grazing cattle, feeding in rubbish dumps and ditches, frequenting rural markets for scraps, or hunting insects in irrigated fields. They roost communally in trees near villages or temples where they are unmolested, and breed in small colonies by themselves, or along with Pond Herons and Little Egrets, or as part of the large heronries in the Delhi area.

Grey Heron *Ardea cinerea* Breeding resident (Fairly common ↔)

Grey Herons are widely distributed in Europe, Asia, and Africa, and are fairly common and widespread in the Delhi area. They are present at all the larger wetlands, including the Yamuna; usually less than ten at a site but sometimes gathering in loose parties of 20 or more, which gather, when satiated, to loaf on sandbanks or tall trees. Grey Herons breed locally in trees, up to 10–20 pairs in the mixed heronries in the Delhi area, Sultanpur, Rohtak, Surajpur, and the Delhi Zoo—or sometimes by themselves, in bushes amongst tall grass, as at Bhindawas.

Purple Heron *Ardea purpurea* Breeding resident (Common ↑)

These lanky, colourful herons have an overlapping, but more southerly, distribution than the Grey. Their numbers appear to have increased considerably over the last several decades. They were considered only “fairly common” in the 1960s though commoner than the Grey Heron even then (Ganguli 1975). Today they will be found in all wetlands in the Delhi area with bordering reed beds and vegetation-choked waters. They nest freely in such habitats, between May and September, in large dispersed colonies of their own species, with just-fledged young observed on nests in July and August. Nesting in reed beds is typical, but unusually some 25 pairs have nested on thorn trees in the main heronry at Bhindawas (Harvey *et al.* 2006).

Great Egret *Ardea alba* Breeding resident (Common ↔)

A cosmopolitan species, the distinctive Asian race *modesta* is common and regular at all wetlands in the Delhi area. Great Egrets have maintained their status and abundance over the past decades, when they were “common but numerically scarce compared to other egrets” (Ganguli 1975). Typically, only a few birds are present at a site, but up to 40 have been recorded huddled with other herons and storks, hunting aquatic life stranded in a desiccating pond. Great Egrets breed in all the large heronries in the Delhi area, where they make a striking picture with their diaphanous plumes falling over their backs, their black bills, turquoise-green lores, and red tibia.

Intermediate Egret *Ardea intermedia* Breeding resident (Common ↔)

Intermediate Egrets range from Africa across South and south-eastern Asia to Australia, though some authorities accord species rank to the populations in Africa (*brachyrhyncha*) and Australia (*plumifera*), which have differing bare part colours. They are common and widespread, having maintained their numbers about Delhi over past decades, and breed colonially in the large heronries at the Delhi Zoo, Bhindawas, Sultanpur, Surajpur, and doubtless elsewhere. Breeding birds have black bills, a bright yellow lores, and characteristically, very long and graceful breast and dorsal plumes.

Little Egret *Egretta garzetta* Breeding resident (Common ↔)

A widespread Old World species, this elegant egret is generally common at all the wetlands and wet cultivation around Delhi, in parties and small flocks that mix readily with the other egrets and large wading birds of its habitat. Little Egrets breed freely across the Delhi area in small colonies, often with Cattle Egrets and Pond Herons, and in the large heronries as well, at Delhi Zoo, Sultanpur, Surajpur, and elsewhere. Breeding birds look particularly lovely with their two long crest plumes and ornamental diaphanous feathers on their breasts and backs, while their lores, which are usually yellowish, turn pink-purple in peak breeding condition. Little Egrets, in their rare 'dark' (usually pale grey or pied) morphs have occurred at least once in the Delhi area, with a bird in a patchy lavender-grey phase at Bhindawas that stayed from at least October 2016 to January 2017 (S. C. Sharma 2018).



Great, Intermediate, and Little Egrets—breeding colours.

Western Reef Egret *Egretta gularis* Vagrant

These Reef Egrets, of maritime habitats, from West Africa to India are prone to vagrancy with several claimed records from far inland. There are two historical records of grey phase birds from Delhi in November 1963 and July 1969 (Ganguli 1975), and three white phase birds were seen in March 2003 at Bhindawas, with Little Egrets (Harvey *et al.* 2006) enabling comparative study of bare part colours and morphology. One in the classic grey morph was recorded in Jhajjar District, Haryana in September 2014 (Ahlawat 2014b; Suhag 2014).

THRESKIORNITHIDAE: IBISES, SPOONBILLS

(India: 4 species, Delhi 4)

A cosmopolitan group of medium to large birds, formerly classified with storks in the Order Ciconiiformes, but phylogenetic studies demonstrate that ibises and spoonbills may be evolutionarily closer to the herons and pelicans, in the Order Pelecaniformes.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Glossy Ibis	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■
Black-headed Ibis	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■
Indian Black Ibis	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■
Eurasian Spoonbill	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■

Black-headed Ibis *Threskiornis melanocephalus* Breeding resident (Fairly common ↔)

The Black-headed Ibis is the Asian representative of a group of four very closely related ibis species that extend from Africa to Australia, and is a fairly common resident in the Delhi area. It has, by and large, maintained this status over past decades. It is widespread, but its numbers rarely exceed 10–25 at a site; post-breeding flocks may be larger, and 75–100 birds may be counted between September and November at the Sultanpur-Basai-Najafgarh wetlands complex. Nesting colonies are often small, with 20–30 pairs in the larger heronries

at the Delhi Zoo, Sultanpur, Surajpur, and Bhindawas, and smaller ones at favoured village ponds elsewhere.

Eurasian Spoonbill *Platalea leucorodia* Non-breeding visitor (Fairly common)

Spoonbills are fairly common and recorded through the year in the Delhi area, but with no evidence of nesting. Larger wetlands usually hold up to 20 or 25 birds, but flocks of up to 200 have been recorded at Sultanpur and Bhindawas between December and May–June. Such unusual assemblages have been noted since the 1960s (Ganguli 1975; Vyas 1996; Harvey *et al.* 2006). These may be migratory gatherings, either of birds that have bred locally or further afield as Spoonbills are known to be in part winter migrants from Central Asia. Post monsoon flocks include many immatures, while by April most are in breeding plumage with well-developed crests and yellow-gold chest bands. Spoonbills may be identified far out in a lake by their distinctive silhouettes and jizz, feeding cohesively as a flock, or dozing in the heat of the day with bills tucked under their wings.

Indian Black Ibis *Pseudibis papillosa* Breeding resident (Common ↑)

Also called Red-naped Ibis, this endemic species is a common resident in the Delhi area. Singles, pairs, or parties of up to 10–15 may be seen in fallow cultivation, village precincts, and damp ground in the vicinity of wetlands though it does not actually feed in water. In recent years they seem to have adapted well to human modified habitats and are increasingly seen on lawns in central New Delhi, roosting on bare branches of tall trees in the larger public gardens, even perching on roadside electricity poles, and almost certainly nesting within city precincts. They breed from April to August in trees, appropriating old nests of kites, or constructed one themselves; increasingly on electricity pylons.

Glossy Ibis *Plegadis falcinellus* Probably breeding resident (Fairly common ↑)

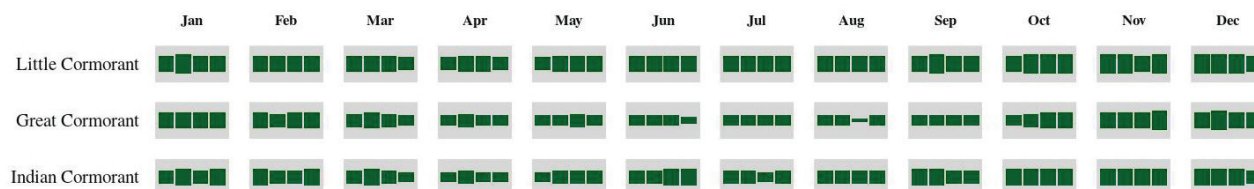
A cosmopolitan species, Glossy Ibises are locally distributed in much of the Indian Subcontinent, but their status in the Delhi area seems to have fluctuated over the decades. Ganguli (1975) considered them irregular visitors in the 1960s, with maxima of 150 in January and 100 in May. There were very few reports then till the 1980s, when their numbers began to build up again. They are now fairly common at the larger wetlands through the year, but the first evidence of breeding in the Delhi area was in July 2017, in tall grass jungle at Bhindawas, Haryana (Poonam Sharma 2017). Numbers increase from September to November, when counts of 120–150 birds at Basai and Najafgarh may represent either post-breeding dispersal from local colonies, or winter arrivals of migrants from beyond our borders. Numbers increase again from March but not to such levels.

SULIFORMES—CORMORANTS, DARTERS, ETC.

PHALACROCORACIDAE: CORMORANTS

(India: 3 species, Delhi 3)

This widespread family is represented in the Delhi area by three species, two largely restricted to southern Asia and the very well-known and widely distributed Great Cormorant.



Little Cormorant *Microcarbo niger* Breeding resident (Common ↔)

This common South Asian species is widespread about Delhi in any wetland area, large or small, even artificial waterbodies in city gardens. It occupies its own ecological niche, keeping singly, or in small parties, and fishing alone, not in coordinated groups as Indian- or Great Cormorants may do. They breed during the monsoon, from June to September, in small colonies alongside Cattle Egrets and Pond Herons, or the large mixed heronries at Delhi Zoo and the larger lakes.

Great Cormorant *Phalacrocorax carbo* Breeding resident (Fairly Common ↔)

Great Cormorants are impressive birds, breeding residents in the Delhi area, though our resident population may be augmented by winter migrants from beyond our borders. Small groups disperse to feed, but gather in numbers to roost; large evening flights have been recorded up and down the river (Vyas 1996) and roosts of over 200 have been reported on pylons at Okhla (Harvey *et al.* 2006) and above Wazirabad in late winter and spring. They breed in the heronries at Bhindawas, between September and December, later than their smaller congener. Many Great Cormorants are in full breeding plumage by April and May, and these may possibly be preparing to

emigrate, since the nesting season in Delhi does not begin until after the monsoon.

Indian Cormorant *Phalacrocorax fuscicollis* Breeding resident (Common ↑)

Indian Cormorants do not seem to have been recorded from the Delhi area prior to 1950 and were considered uncommon even in the 1960s, though they had begun breeding at the Zoo heronry by then (Ganguli 1975). They are now commoner, and more widespread, than these accounts suggest, and can be seen in fair sized groups of 20–150 in any of our larger wetlands where they often fish cooperatively in flocks, like pelicans. They breed freely during the monsoon, between July and October, in most large heronries in the Delhi area, and in smaller numbers near villages with Cattle- and other egrets as well.

ANHINGIDAE: DARTERS

(India: 1 species, Delhi 1)

This unique family is represented in the Delhi area by one species, the Oriental representative of four species in the genus *Anhinga* that, between them, inhabit the tropical and subtropical regions of the world.



Oriental Darter *Anhinga melanogaster* Breeding resident (Fairly common ↔)

Darters, or 'Snake-birds', are widely distributed, and fairly common residents about Delhi. Their numbers may have declined a bit as they were considered "common" some five or six decades ago, "around any large sheet of water deep enough for it to swim and dive in for fishing" (Ganguli 1975). More individualistic than cormorants, they are usually seen singly or in single digit numbers in the Delhi area. They breed in the company of other large water birds in the nesting congregations at Bhindawas (25–40 pairs), Sultanpur (probably less than 15 pairs), Tilyar Lake (no recent data), Wazirabad (at least nine nests), the Sonipat canal systems, and probably elsewhere.

CHARADRIIFORMES—WADERS, GULLS AND ALLIES

BURHINIDAE: STONE-CURLEWS or THICK-KNEES

(India: 4 species, Delhi: 2)

A cosmopolitan family of plover-like birds, whose strong legs and prominent knees (actually ankles!) give them the alternative name of 'Thick-knees'.

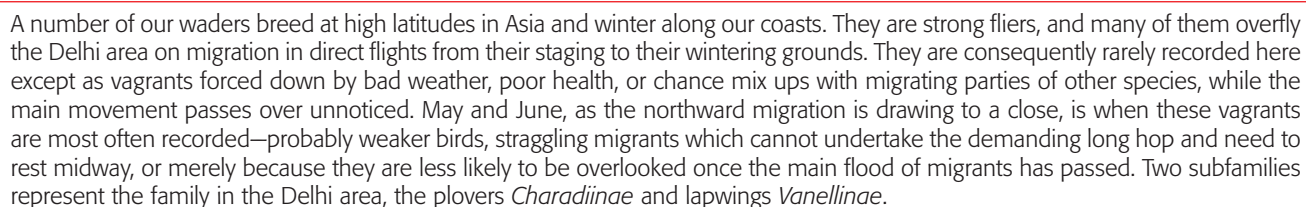


Indian Thick-knee *Burhinus indicus* Breeding resident (Common ↔)

Indian Thick-knees *B. indicus*, split from the Eurasian *B. oedicnemus* on account of differences in proportions, plumage, and voice, are common residents in the Delhi neighbourhood in open semi-arid areas, ideally, with some trees. It matters little whether these are in the countryside, in stony scrubland, fallow grazing ground, or sparse woodland; or within urban limits, in the Zoo, the Ridge, large gardens, even vacant plots in suburban colonies. Pairs and parties (up to 30 together after breeding) pass the day in shade or even in the open on baking sandbanks or ploughed fields. In the breeding season, from March through the monsoon months, their ringing calls resound at dusk and dawn in the darkness. Birds display standing erect, tail spread and depressed, calling continuously and flashing open the black and white contrasts in their wings.

Great Thick-knee *Esacus recurvirostris* Former breeding resident (Rare / Extirpated ↓↓↓)

This charismatic wader was, from past accounts, 'not uncommonly seen' on sandbanks and fields by the Yamuna, with Ganguli (1975) mentioning non-breeding flocks of "20 to more than 50" in the 1960s near Okhla and Wazirabad. Hutson (1954) too recorded flocks of ten to thirty, and found a nest on a Yamuna sandbank in April. Such numbers now sound incredible, but birds continued to be recorded sporadically in ones and twos by the Yamuna in late winter and summer till the 1990s, with circumstantial evidence of breeding, south of Okhla, in May 1996 (*pers. obs.*). It was seen again at that site in August 2004, possibly displaced by flooding further southwards (Harvey *et al.* 2006). Although crepuscular in habit, it is not a secretive bird and may be out in the open in daytime, hiding behind a sand hill with only its head and eye showing. Harvey *et al.* (2006) restricted its current distribution to the Yamuna northwards of Wazirabad, but there have been no reports since even from there. Pollution and sand mining has sadly destroyed its riverine habitat.



Grey Plover *Pluvialis squatarola* Passage migrant (Rare)

With a circumpolar breeding range in the Arctic tundra, Grey Plovers winter widely along coastal habitats across the globe. Inland, they are far scarcer and irregular, but occasional stragglers have been recorded during passages in the Delhi area along with rare winter reports. Historically, Ganguli (1975) noted only four occurrences, in November, December, January, and June, between 1947 and 1969. A smattering of later reports follows the same broad pattern: four at Dighal, Haryana, in November 2018; three mid-winter records in December–January 1998, 2002, and 2016; and six records of single birds, or pairs, in breeding plumage in May by the Yamuna. The characteristic three noted whistle of this bird locates its presence in a large mixed flock of waders.

Pacific Golden Plover *Pluvialis fulva* Passage migrant (Scarce, irregular)

Pacific Golden Plovers breed in Siberia and Alaska, wintering from South Asia across Australasia. They are scarce migrants through the Delhi area in autumn and late spring, with scattered records of single birds or small parties by the river or at wetland margins elsewhere, often with migrating parties of Lesser Sand Plovers and other waders. Ganguli (1975) mentions just two historical records in May 1964 and 1970, but recent observations are more widespread in the Delhi area, mainly in late April through May, with a few between late September and November as well. Most spring migrants are in partial or full breeding plumage.

Common Ringed Plover *Charadrius hiaticula* Vagrant

These plovers breed across northern Eurasia and winter in Africa and West Asia. Only small numbers visit the Indian Subcontinent, mainly on the Gujarat and Sindh coasts. There are two historical records from 1879 and October 1969 (Ganguli 1975) and the paucity of records from the Delhi area in recent years, mainly of juveniles, single birds, or up to three together by the Yamuna, or from wetlands in the Sultanpur area, suggest vagrancy on autumn passage.

Little Ringed Plover *Charadrius dubius* Breeding resident (Fairly common ↔)

Two races occur in the Delhi area, the wintering *curonicus* and the resident breeding *jerdoni*. The Yamuna sandbanks are their preferred habitat, but open expanses of bare mud or short grass in the floodplain and on borders of lakes and ponds are equally patronised. They breed from April to June, before the monsoon breaks, but newly fledged chicks have been recorded as early as March. They normally keep in pairs but small parties of up to ten may assemble after breeding, in June. Increased numbers seen by the Yamuna's sandbanks in September and March are presumably migrant *curonicus*.

Kentish Plover *Charadrius alexandrinus* Winter visitor (Fairly common)

Kentish Plovers, with a breeding range that spans Europe, North Africa, and Asia, winter commonly in India; the nominate race *alexandrinus* also breeds locally in the Indus Plains and Gujarat (and *seebohmi* in southern India and Sri Lanka). Although largely a coastal species elsewhere, they occur commonly inland in India and in the Delhi area as well. Wintering numbers at a site are typically in the tens, but as for many other waders, the river may be an important migration flyway for this species too—numbers increase in March–April, and flocks gather in the late evenings by the Yamuna before taking off for the overnight migratory hop. Pairs of *alexandrinus* in breeding dress have remained on an Okhla sandbank as late as mid-June (*pers. obs.*), defending territory but with no other evidence of nesting.

Lesser Sand Plover *Charadrius mongolus* Passage migrant (Uncommon)

This species has five races that bunch into two groups: one (*atrifrons* group) breeding inland on the Pamirs and Tibet, and the other (*mongolus* group) in north-eastern Siberia; the latter sometimes separated as the Mongolian Plover. Lesser Sand Plovers that winter along our coasts are Ladakh and Tibet nesters, race *atrifrons*. Migrants are reported regularly from the Delhi area—mainly towards the end of the spring passage, mid-May to mid-June, when parties of up to 30 or more are the norm for this species, which may be seen by the Yamuna's sandbanks, and wetlands at Sultanpur and Najafgarh, with most birds in, nearly complete, breeding dress. There are a few records for autumn too, September to November. Even on migration, they seek out bare sandbanks or mud-flats by desiccating lakes and inundations that substitute for their typical habitat.

Greater Sand Plover *Charadrius leschenaultii* Vagrant

Greater Sand Plovers breed on inland lakes in Asia and winter around the Indian Ocean coastline. Passage birds are rarely reported inland in India, but odd vagrants have appeared in the Delhi area at long intervals: historically between April and early June (Alexander 1949), and one in near-breeding plumage in early June 1965 (Ganguli 1965); two at Basai in November 2002 are the only twenty-first century record (Harvey *et al.* 2006).

Caspian Plover *Charadrius asiaticus* Vagrant

Caspian Plovers breed in Central Asia and winter in East Africa. They are accidental in the Indian Subcontinent, with very few records, but one in breeding plumage was observed on short grass flats near Sultanpur Lake on 01 March 1986. Its white face and a dark band extending back from the eye and curving down to meet the dark back of neck, and the rufous band across the breast were features that first attracted attention to the plover. For a fuller field description of this record, see Vyas (1996).

Northern Lapwing *Vanellus vanellus* Winter visitor (Uncommon)

Northern Lapwings breed across temperate Eurasia, wintering in northern India, and China. They visit the Delhi area in small numbers between October and March. While nowhere regular, single birds or small parties of up to 20 (but up to 40 on occasion) may appear at our wetlands, lakes, and in the river floodplain, preferring damp grassy areas and fields in their neighbourhood.

River Lapwing *Vanellus duvaucelii* Breeding resident (Fairly common ↓)

River Lapwings inhabit sandy and pebbly banks of rivers from northern India to Southeast Asia. They are fairly common along the Yamuna from above Wazirabad to south of Okhla, nesting on river islets and sandbanks between March and May–June when water levels are at their lowest. Loss and disturbance of the Yamuna's sandbanks, because of barrage operations and sand mining, has led to a decline in their numbers. Harvey *et al.* (2006) estimated a population of 50 scattered breeding pairs along the Yamuna within the Delhi area.

Yellow-wattled Lapwing *Vanellus malabaricus* Breeding resident (Fairly common ↓)

This is an Indian Subcontinental endemic, and a fairly common resident about Delhi. The semi-arid landscapes of the Delhi area suit this species and it would certainly be commoner were it not for the continuing diversion of its dry short grass habitat to urbanisation and agricultural expansion. When Delhi was smaller, less congested, and less wooded, this plover actually nested on New Delhi's Central Vista in 1942 (Frome 1948a). It may be seen in pairs or small parties in over-grazed flats near villages and bare dry ground in general, even around the international airport.

Grey-headed Lapwing *Vanellus cinereus* Vagrant

An East Asian lapwing that winters in eastern India, occasionally straggling westwards and southwards. The first for Delhi was a bird at Okhla in early December 1972 (Gaston 1978a), and there are a handful of later records: Sultanpur in December 1985 (Harvey *et al.* 2006); Basai in April 2003 (*pers. observ.*); two at the Yamuna *khadar* in September 2006 (Harris 2006); Basai again in October 2012 (Koshy 2012); Sultanpur environs in February 2013, January 2016 (Rowland 2016) and December 2018 (A. Singh 2018); Okhla in September 2014 (Ateesh 2014) and the Yamuna floodplain in October 2016 (Sehgal 2016) and February 2018 (Goyal 2018). The records cluster around passage periods.

Red-wattled Lapwing *Vanellus indicus* Breeding Resident (Common ↔)

A common resident from Iraq to Southeast Asia, this striking lapwing is a familiar species in the Delhi area (nominate race *indicus*) on open ground, preferably near water—pond, ditch, or sewage trickle. It is of little importance whether such habitat is out in the countryside or near villages or within urban conglomerations. It breeds between April and August, building its nest on open ground or even on flat roof tops. After breeding they gather in loose flocks of 15–30 birds; an unusual flock of 142 was seen at Basai in September 2003 (Harvey *et al.* 2006).

Sociable Lapwing *Vanellus gregarius* Winter Visitor (now Vagrant)

The Sociable Lapwing is a Critically Endangered plover that breeds in Central Asia and now winters mainly in the Middle East, the Persian Gulf, and north-western India. It was formerly more widespread, both, globally, and in the Indian Subcontinent, but was considered a scarce and erratic visitor about Delhi even then, recorded between December and March. Frome (1948b) reported small flocks in January; Hutson (1954) saw it between December and February, and Ganguli (1975) mentions two observations of small parties in January and March 1954. There are reports from Sultanpur in winter 1969–1970, in 1974, and 1984, and remarkably, a flock of 55 there in February 1993, which was probably on passage (Harvey *et al.* 2006); it seems to have been last reported in the Delhi area in early March 2012 (Sridhar 2012). In the Delhi area, it has been seen on dry mudflats, and fallow fields in the vicinity of wetlands.

White-tailed Lapwing *Vanellus leucurus* Winter Visitor (Common)

White-tailed Lapwings breed in West- and Central Asia, and winter from north-eastern Africa across to northern India. They are common migrants about Delhi between September–October and April, well distributed in jheels and swamps, water-logged grassland, or exposed mud. White-tailed Lapwings usually keep to themselves, usually singly, or in scattered parties of up to 10–15 birds, and do not mix with other waders.

ROSTRATULIDAE: PAINTED-SNIPES

(India: 1 species, Delhi: 1)

The Order Charadriiformes is remarkable for the number of families and species that exhibit unusual breeding economies. Some, such as painted-snipe, jacanas, buttonquails, and phalaropes, are polyandrous, in which there is a reversal of sexual roles with males performing most parental duties while females compete for mates. Some stints exhibit 'successive bigamy', a 'two clutch system', in which each female lays a clutch of eggs that is incubated by the male, followed by a second clutch that she incubates herself.

The Painted Snipes, a small family of three species of which one occurs in the Delhi area, have a breeding biology based on polyandry, the females mate sequentially with several males during a season but once eggs are laid it is the males that provide all the incubation and parental care.



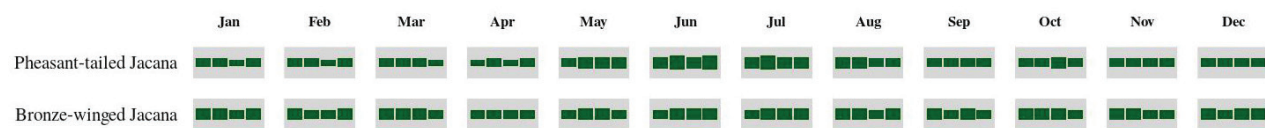
Greater Painted-snipe *Rostratula benghalensis* Breeding summer visitor (Fairly common ↔)

Painted-snipes are most in evidence in the Delhi area as breeding birds in summer, from April to August, and till October. This species is known to make local movements and appears mainly as a summer visitor here, with a few reports in other months too. Their preferred habitat is a mosaic of wet grass, reed beds, open pools, seepage marshes, and even sewage overflows, and they are well distributed though never abundant at any given site. They are most active in early summer in the mornings and evenings, feeding in the open and flying about and calling as the females establish territories. Females are sequentially polyandrous, mating with a number of males in succession. Once eggs are laid, males alone take up responsibilities of incubation and parental care, and have been observed accompanying well-grown chicks in May, June, and even September.

JACANIDAE: JACANAS

(India: 2 species, Delhi: 2)

Jacanas are a remarkable pan-tropical family of which India hosts two species, both of which occur in the Delhi area. Female jacanas practice 'simultaneous polyandry': each female holds a large territorial space that overlaps a few males' individual territories, and she mates with the males of her 'harem' promiscuously. Both sexes may join in nest building as part of courtship, but only males incubate and look after the chicks. They are also well known for their remarkable habit of shifting their eggs, one by one, to a new nest, if the original nest becomes vulnerable due to disturbance or changing water levels. Even chicks are carried away to safety, grasped between the adult's wing and body.



Pheasant-tailed Jacana *Hydrophasianus chirurgus* Breeding resident (Common ↔)

These superb jacanas range from the Indian Subcontinent across Southeast Asia, and are locally migratory, to a degree. About Delhi they seem to be fairly common summer visitors in the main, from April to end-September, with a fair number staying in winter. They affect ponds and marshes with floating vegetation of water lilies, lotus, or hyacinth, and can be quite common in any wetland that meets this primary requirement.

Bronze-winged Jacana *Metopidius indicus* Breeding resident (Fairly common ↑↑)

A resident species of South Asia, these jacanas were very scarce about Delhi half a century ago but have been expanding westwards, and today are much more widespread. Ganguli (1975) lists them as vagrants, and mentions only three records, two in 1953 eastwards of Delhi, and one in 1966 in North Delhi. By the 1980s, these jacanas had already established themselves as a local breeding species, present all year at Okhla, and are presently reported and in larger numbers from diverse wetlands, large and small, across the Delhi area both, eastwards and westwards of the Yamuna, including village ponds. They require waterbodies where floating aquatic vegetation provides the surface for them to walk upon. Interestingly, their westward expansion, into the Delhi area, seems to have been paralleled elsewhere at about the same time (1980s) into parts of Rajasthan, and across the border in Sindh (Roberts 1991).

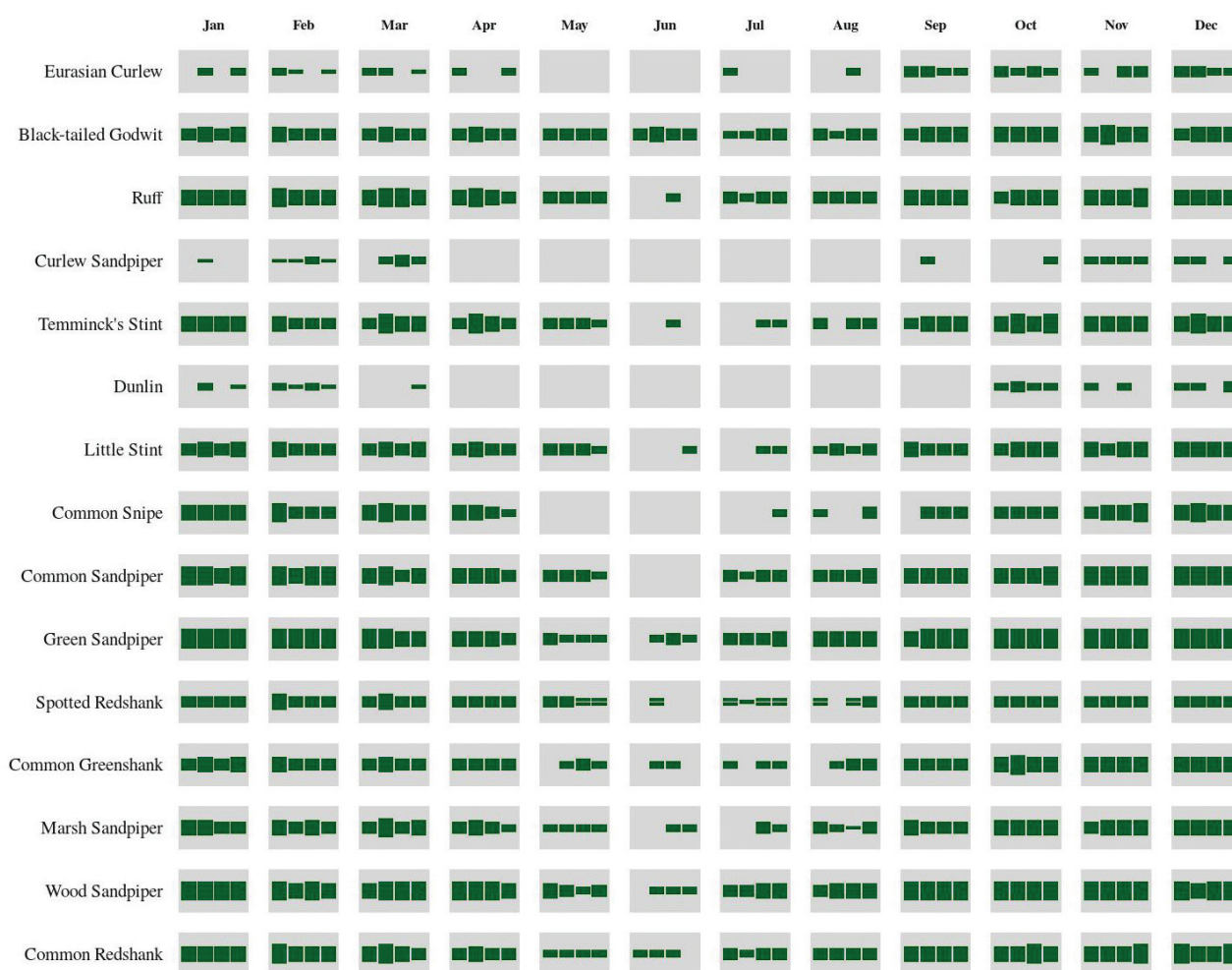
SCOLOPACIDAE: SANDPIPERS, SNIPES

(India: 41 species, Delhi: 21)

A cosmopolitan family whose diversity reflects the adaptations of its members to the range of ecological niches they occupy. It shows up mainly in size, forms, lengths of bills, and feeding techniques that enable a number of species to occupy the same habitat without directly competing for food. There are a number of subfamilies: curlews *Numeninae*, godwits *Limosinae*, turnstones and stints *Arenariinae*, dowitchers and snipes *Scolopacinae*, and sandpipers and phalaropes *Tringinae*.

Some exhibit specialised breeding behaviours, including 'lekking', polyandry, and polygyny. Only five of the 43 species on the Indian list are known to nest within Indian limits, and none in the Delhi area. Most nest in the high Arctic and migrate great distances to winter in the tropics and the Southern Hemisphere. Many arrive early by July–August, often still in breeding dress. Before they leave, many are again in fresh breeding plumage with showy orange and chestnut highlights. In their native marshes and tundra, they advertise their territories with aerial displays and haunting song flights.

Wader migration can be strikingly evident along the Yamuna sandbanks and wetlands in April and May when large numbers of diverse species, in their breeding finery, gather in the evenings, calling excitedly as flocks take off, one after another, northwards for the night's staging hop.



Whimbrel *Numenius phaeopus* Vagrant

Whimbrels breed in the circumpolar Arctic and winter along tropical coasts. They are accidental inland, but vagrants on passage have been recorded in Dighal, Haryana, on 25 August 2012 and 07 August 2016 (■ Ahlawat 2016b), and Najafgarh, Haryana, on 04 September 2016 (■ Anand 2016a) and 14–15 October 2017 (Mehta & Dogra 2018a).

Eurasian Curlew *Numenius arquata* Winter visitor (Scarce)

Curlews range widely across temperate Eurasia and winter southwards in Europe, Africa, and southern Asia. They are scarce winter

visitors, mainly between September and April–May (latest 19 May), affecting open marshes, flooded ground, and the Yamuna. They will typically be seen singly or in small parties of a dozen or so. Ganguli (1975) mentioned 120 collecting on the Yamuna's sandbanks in the evening, but she did not give the date so it is unclear whether this could have been a migrating party in transit. Such numbers have not been recorded in recent decades.

Bar-tailed Godwit *Limosa lapponica* Vagrant

These godwits are essentially maritime in winter and overfly the land mass of the Indian Subcontinent during their passages between their Arctic breeding areas and the South Asian coastline. They are very rarely recorded inland with only odd reports from northern India, from Bharatpur, Rajasthan, and the Gangetic Plain in Uttar Pradesh and Bihar, and a few scattered records from the western peninsula. One such vagrant was photographed at Dighal, Haryana, on 17 September 2015 (■ Ahlawat 2015).

Black-tailed Godwit *Limosa limosa* Winter visitor (Common)

Black-tailed Godwits are common winter visitors to the Delhi area, arriving in late July and early August; most have departed by April–May. A number of non-breeders linger through the summer and small parties may be seen even in end-June. They affect the larger waterbodies, lakes and ponds, flooded grassland, and fields, where typical site counts may touch a hundred or more. Numbers vary from year to year, and up to 2000 have been recorded at preferred locations such as Okhla (Harvey *et al.* 2006). Flocks often fly high, their contrasting wing patterns and graceful flight against a gloriously blue winter sky presenting an unforgettable picture of avian beauty.

Ruddy Turnstone *Arenaria interpres* Vagrant

Turnstones winter along coasts worldwide and are only accidental inland during passage. Vagrants have been recorded from the Delhi area: historically, one at Najafgarh in mid-May 1957 with a party of Curlew Sandpipers *Calidris ferruginea* and Lesser Sand Plovers (Ganguli 1975); two were at Dighal, Haryana, in last week of August 2012 (■ Ahlawat 2012a) and one was photographed there in October–early November 2014 (■ Ritvik Singh 2014).

Ruff *Calidris pugnax* Winter visitor (Common)

Ruffs, well-known for their fascinating polygynous breeding economy, are amongst our commoner migrant waders affecting inundated fields, shallow margins of lakes, and river sandbanks. They arrive early, often by early July, but the peak movement in autumn is in August–September when flocks of a thousand or more may be seen at favoured localities. On outward passage, in April, numbers increase again with 10000 (!) estimated once at Basai (Harvey *et al.* 2006). Lingering males in June are sometimes seen in nearly complete breeding plumage.

Broad-billed Sandpiper *Calidris falcinellus* Vagrant

Broad-billed Sandpipers winter in maritime habitats along Asian coasts and are rare inland on passage. Ganguli (1975) mentions two in Delhi prior to 1963, in breeding dress and presumably in spring. There are two later reports: April 1999 from Okhla (Harris 2001), and May 2003 from the Basai marshes (Harvey *et al.* 2006).

Curlew Sandpiper *Calidris ferruginea* Passage migrant (Fairly common)

Curlew Sandpipers nest in the Arctic north of Eurasia and winter along coasts from Africa to Australia. They are regular passage migrants through the Delhi area between late July and November in autumn, and May–June in summer, usually in small parties of 10–20 birds by the river and shallow margins of lakes, but flocks of 60–80 have been counted at Okhla (Harris 2001) on peak migration days in May and early June. They seem less numerous in autumn, and a number of birds remain all winter. When they arrive, and before they leave in May, most birds are in chestnut breeding plumage. Later in autumn juveniles predominate, with distinctive pinkish buff hues on the neck and breast.

Temminck's Stint *Calidris temminckii* Winter visitor (Common)

Temminck's Stints nest in the Siberian tundra and winter in Africa and southern Asia. They are common in winter in the Delhi area from about the second week of July and mid-May, and are generally more widespread and frequently met with than Little Stint *C. minuta* at inland pools and marshes. Temminck's keeps singly, or in small parties, in mid-winter, but flocks of 20–25 may gather for the spring migration by the Yamuna in April, outnumbered then by Little Stints. In their native tundra, both Temminck's and Little Stints follow a breeding economy based on 'successive bigamy', a two clutch system in which each female lays a first clutch that is incubated by one male, followed by a second clutch fertilised by a second male, which she incubates herself. The first male, having fulfilled his first round of parental duties, then partners with a second female to fertilise another clutch of eggs.

Dunlin *Calidris alpina* Winter visitor (Scarce)

Dunlins, common breeders in the circumpolar Arctic, are scarce winter visitors to the Delhi area where they have been reported from

a variety of wetlands where waders congregate: by the Yamuna, shallow flooded fields, and lake margins. Small numbers may be seen in breeding dress between May and early June, and a few in September and October may show remnants of this plumage, but far less regularly than Curlew Sandpiper. Winter numbers rarely exceed a dozen at a site, and it may be scarcer now than earlier, going by former reports (Ganguli 1975).

Little Stint *Calidris minuta* Winter visitor (Common)

Little Stints breed in the Siberian tundra and winter from Africa to India, between the third week of July and late April–May, in the Delhi area: recorded from sandbanks and muddy inlets along the Yamuna, on the margins of lakes and village ponds. They are usually in small parties in mid-winter but larger flocks of 250 or more may gather on river sandbanks in April and early May, in bright breeding plumage, before emigration. Little Stints have a successively bigamous breeding biology on their nesting grounds, like Temminck's Stints.

Asian Dowitcher *Limnodromus semipalmatus* Vagrant

Asian Dowitchers breed on the Asian steppes and winter mainly in Southeast Asia. They are rare on the Bay of Bengal coasts and merely vagrant elsewhere in India, hardly ever recorded inland. An adult in breeding plumage, however, was sight recorded at Basai in July 2002 with a migrant flock of Marsh Sandpipers (Harvey *et al.* 2006). In breeding plumage, the Asian Dowitcher cannot be confused with the Long-billed *L. scolopaceus* (which has also occurred as a vagrant here) and can be separated from Bar-tailed Godwit in breeding dress (one in non-breeding plumage has been recorded near Delhi as well recently, but was not known from Delhi in 2002) by the godwit's distinctive pink-based, upturned bill as also the dowitcher's 'sewing machine' feeding technique.

Long-billed Dowitcher *Limnodromus scolopaceus* Vagrant

These dowitchers are well-known global wanderers from their breeding areas in north-western America and Siberia, and vagrants have also been recorded in the Indian Subcontinent on rare occasions. The first record for the Delhi area was of two birds at Sultanpur National Park that stayed through most of March 2013 (■ Sharma *et al.* 2013).

Pin-tailed Snipe *Gallinago stenura* Vagrant

Pin-tails are East Asian snipes that winter commonly in the eastern and southern parts of the Indian Subcontinent, but are scarce in the north-western. Ganguli (1975) mentioned old hunting records. One flushed at Basai in March 2003 (Harvey *et al.* 2006), "was identified in flight from Common by dark underwings and lack of white trailing edge. I was very familiar with the species after four years in Madras [=Chennai] and three in Dhaka" (Bill Harvey *pers. comm.*). A couple of later reports cannot be verified.

Common Snipe *Gallinago gallinago* Winter visitor (Common)

Widespread breeders across Eurasia, as close as Kashmir, these snipes are common visitors to the Delhi area from early August to March–April. They affect shallow inundated marshes and fields with squelchy mud where they can probe for food with their sensitive bills, and are usually found singly or in wisps of two to ten. But they can be very numerous on occasion, a hundred or more scattered over the marsh, feeding in the bright winter daylight.

Jack Snipe *Lymnocyrtus minimus* Winter visitor (Scarce)

This little snipe is a scarce winter visitor to the Delhi area between October and March, affecting swampy ground with low vegetation, with recent reports from the Yamuna's floodplain, Sultanpur National Park, Basai marshes (where six to eight birds were recorded in winter 2016–2017), and Sonipat.

Terek Sandpiper *Xenus cinereus* Vagrant

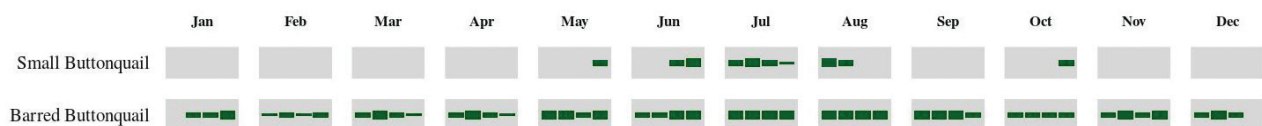
Terek Sandpipers are coastal waders, accidental inland on migration. Vagrants have been recorded from the Delhi area on both passages: single birds on river sandbanks at Okhla in May 1968 (Ganguli 1975), early May 1979 (Vyas 1996), and August 1999 (Harris 2001); Bhindawas in September 2000 (Harvey *et al.* 2006); and a small migrating party on 25 August 2012 at Dighal, Haryana (■ Ahlawat 2012b). This last record was at the same time that two other essentially coastal waders that are also rarely recorded inland, Whimbrel and Ruddy Turnstone, were found at the same site—which suggests that they were probably all compelled to descend by stormy monsoon weather.

Common Sandpiper *Actitis hypoleucos* Winter visitor (Common)

These sandpipers breed widely across temperate Europe and Asia, as close to us as Kashmir, and are with us as winter visitors between the third week of July and mid-May. They avoid marshy areas and will often be seen about human-made structures, weirs, canal locks and bunds, *etc.* They are the least numerous of the regularly occurring sandpipers, and are territorial even in winter. They may collect in small groups, however, on migration.

Green Sandpiper *Tringa ochropus* Winter visitor (Common)

Green Sandpipers breed in swampy forests across northern Eurasia in rather unusual locations for a wader—abandoned nests of forest



Small Buttonquail *Turnix sylvaticus* Breeding summer visitor (Uncommon, local)

Small Buttonquails are widespread in several races from Africa to southern Asia, and the Indian subspecies *dussumier* represents the species about Delhi. Historically they were considered scarce, with reports in April and May from near the river (Ganguli 1975); they are being recorded much more regularly in recent years but mainly from the Sultanpur area, which probably reflects more intensive ornithological coverage. These records include singles in June 2002, October 2006 and August 2007 (Harvey *et al.* 2006); and annually since 2016 between second week June and end October, with maxima of eight together in first week August 2017 (■ Ritvik Singh 2017a) and 11 (including juveniles) in June-July 2018 (■ Ritvik Singh 2018a). A record from Maroudi Jalan, Rohtak District, Haryana (■ Ahlawat 2018c) is the only recent report away from the Sultanpur vicinity. Small Buttonquails are regular but local summer visitors to the Delhi area, breeding in uncultivated grassy patches.

Yellow-legged Buttonquail *Turnix tanki* Vagrant (data deficient)

This pretty buttonquail is a South and East Asian species, as elusive and difficult to see as most of its congeners. The paucity of records make it impossible to assess its status in the Delhi area; they are retained here as vagrant, but they may well be rare, erratic monsoon visitors to suitable grass habitats in the Delhi area. There are pre-1950 reports in May and August (Ganguli 1975) and this species would have been relegated to the historical section were it not for an identifiable photograph of a male crossing a sandy track at Galibpur village near Sultanpur on 23 July 2016 (■ Anand 2016b). The dates of its occurrence fall within the breeding season of the species.

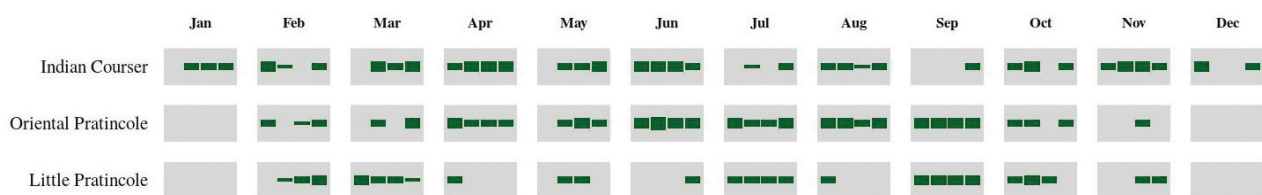
Barred Buttonquail *Turnix suscitator* Breeding resident (Fairly common ↔)

This is a southern Asian species and the most widespread of the group in India, a fairly common resident of the Delhi area (race *plumbipes*) in grass-and-scrub country on the Ridge and in rural areas, even in large gardens, as long as there is some cover into which it can retreat on approach of danger. Buttonquails are sequentially polyandrous, the females mate successively with several males in their respective territories, who then assume all parental duties. They nest mainly in the summer monsoon months though a male leading three well-grown chicks was seen in late May on the New Delhi Ridge (Vyas 1996) and the females' advertising call, a low sustained 'drumming' likened by Salim Ali to the beat of a distant two-stroke motorcycle, is heard till October.

GLAREOLIDAE: COURSERS, PRATINCOLES

(India: 6 species, Delhi: 4)

Widespread in southern Europe, and sub-tropical and tropical Asia and Africa, both the long-legged, plover-like coursers of dry country, and the long-winged tern-like pratincoles of wetland margins show a tendency towards nomadism, and can appear irregularly in unexpected places.



Cream-colored Courser *Cursorius cursor* Vagrant

A courser of the great desert belt that stretches across North Africa to Rajasthan in India, a normally resident species but with marked nomadic tendencies. One was recorded near Sultanpur in late January 2002, apparently having arrived with a party of Indian Coursers that may also have wintered in Rajasthan, and remained for a couple of weeks till it was driven off by the latter species as they settled down to breed. A fuller account of this observation is in Harvey *et al.* (2006).

Indian Courser *Cursorius coromandelicus* Breeding summer visitor (Scarce and local ↓)

This elegant courser is a Indian Subcontinent endemic, and a very local and declining breeding species about Delhi, with its short grass plains habitat increasingly fragmented and lost to agriculture and urban expansion. Ganguli (1975) called a "not-too-common" resident in bare open country in south-western Delhi, near Tughlaqabad and in overgrazed ground across the Yamuna. In recent decades it seems to be largely restricted to degraded flats about Sultanpur, south-westwards of Gurgaon, mainly as a breeding visitor arriving in small parties in October/November, pairing off to nest by March, and leaving before the monsoon rains break in June—probably for drier habitats in Rajasthan. A few birds, however, remain in barer patches over the monsoon months as well.

Oriental Pratincole *Glareola maldivarum* Breeding summer visitor (Uncommon and local ↓)

Oriental Pratincoles breed locally in suitable habitats in eastern and southern Asia, spreading more widely in the non-breeding season.

They are summer visitors to the Delhi area, mainly between late March and October. Parties of 20–25 have been observed moving northwards along the Yamuna floodplain in April and early May, and southwards again in the third week of October. They breed locally in May and June in small scattered colonies, with nesting records from the Yamuna's floodplain, and fallow ground to the south-westwards of Gurgaon near Najafgarh, and possibly other localities in the floodplain (Dhanauri Khurd). A post-breeding influx is noticeable from about June, and both Hutson (1954) in the 1940s, and Ganguli (1975) in the 1960s had recorded flocks of 200–300 birds, including several juveniles, in June and July. Numbers vary from year to year, however, and recent reports of flocks, from July to September, typically involve 50–150 birds (Vyas 1996; Harris 2001) hawking over marshland in the evenings.

Little Pratincole *Glareola lactea* Probably breeding resident, common on passage (Uncommon ↔)

Little Pratincoles, endemic to southern Asia, are local summer visitors to the Delhi area. Though they have been recorded in most months of the year, they are most visible and numerous between February and June, and again in September–October, when large flocks sometimes swarm like swallows at dusk over the Yamuna at Wazirabad or Okhla, or lakes such as Sultanpur, which they also visit on occasion. Ganguli (1975) considered them “not-too-common” residents, breeding on the Yamuna's sandbanks in April and May in small colonies with River Terns *Sterna aurantia*. There is circumstantial evidence of breeding—distraction displays or mobbing behaviour—which suggests some pairs may still attempt to breed on sandbars of the Yamuna, though sand mining and barrage operations probably destroy many nests.

LARIDAE: SKIMMERS, GULLS and TERNs

(India: 38 species, Delhi: 17)

The skimmers, *Rhynchopinae*, form a small distinctive subfamily with one species each in South Asia, Africa, and America. Gulls, subfamily *Larinae*, are cosmopolitan, aggressive, scavenging, and commensal birds that have greatly benefited from the refuse and garbage spread through human agency. Terns *Sterninae*, also geographically widespread like gulls, differ in their agile and very elegant flight and rather than benefiting from human proximity, several tern species have suffered from the disturbance to and loss of their breeding grounds.



Indian Skimmer *Rynchops albicollis* Former breeding summer visitor, now irregular (Rare ↓↓)

Skimmers range across much of the Indian Subcontinent but have declined due to widespread degradation, pollution, and disturbance of their riverine habitat. Ganguli (1975) mentioned breeding records from the 1940s and 1950s in April–May on the Yamuna's sandbars. She added that small groups of skimmers were frequent on the river in summer, which probably represented some post-breeding dispersal. Skimmers continued to be decreasingly reported from the Yamuna till the mid-1980s, but thereafter records have become very scarce with less than a dozen reports over the last three decades from the river at Wazirabad or Okhla. These involve small numbers, just one or two birds, but a party of seven, including juveniles, was reported from Okhla in early August 1998. These records cluster in late February–March and late May–August, except for one in late January (Harris 2001), which suggests that the skimmers may be moving to and from a nesting site somewhere either upstream or downstream of Delhi. The disappearance of this charismatic species from our

riverine landscapes is tragic.

Slender-billed Gull *Chroicocephalus genei* Vagrant

Breeding in inland saline lakes and coastal lagoons in West- and Central Asia, this gull is a winter visitor to the Gujarat and Maharashtra coasts. A vagrant was reported at Okhla on 21 January 1990 (Menon *et al.* 1995), with a possible second record on the Yamuna at Faridabad, southwards of Okhla, on 01 January 2018 (Kirola 2018).

Brown-headed Gull *Chroicocephalus brunnicephalus* Winter visitor (Common)

A purely Asian gull that breeds in Central Asia, Tibet, and Ladakh, and winters in the Indian Subcontinent. It is common on the Yamuna in Delhi between September and March–April, but is outnumbered by Black-headed Gulls *C. ridibundus* in mid-winter. Both these smaller gulls have similar habits while they are here: flocks frequent fishing villages and ghats, living off handouts or scavenging on refuse, food scraps, *etc.*, carried by the current. Small numbers are also seen at lakes and fish ponds, shuttling between them and the Yamuna. Both species were considered “not-too-common” by Ganguli (1975) who noted, however, that numbers had increased since the early 1960s. The increase has visibly continued over recent decades and the gull flocks beating up and down the river all day are quite a sight over the winter months.

Black-headed Gull *Chroicocephalus ridibundus* Winter visitor (Common)

Breeds across Eurasia, wintering to the southwards of that region, and a common winter visitor in the Delhi area between September and April, usually in larger numbers than the Brown-headed, and commonly in mixed flocks—wherein, however, they are separable by jizz and structure alone; this bird being smaller, slimmer, narrower-billed, and with narrower wing-tips than the other. As noted by Ganguli (1975) for this species as well, both have greatly increased since the 1960s and large gatherings of these two smaller gulls above Wazirabad and roosts at Okhla may number 10,000 or more (Harvey *et al.* 2006). This huge increase is not necessarily a good thing, and may only reflect the greater availability of organic waste and garbage in the Yamuna.

Little Gull *Hydrocoloeus minutus* Vagrant

This smallest of the gulls normally winters to the Mediterranean and Caspian Seas. It has been recorded as a vagrant to the Indian Subcontinent with very few verifiable reports. In the Delhi area, one was reported by Paul Holt, from Okhla, in end-December 1992, but no details are available and later references have some conflicting information (Harvey *et al.* 2006; Praveen *et al.* 2014). However, another first winter Little Gull was photographed in a flock of c. 300 Black-headed Gulls on 17 December 2014, also at Okhla, with the observer's comment: “Though photographs are not sharp, the comparative size, in relation with the Black-headed Gulls, black transverse band on upper wings, more round wings, black terminal band, and white on secondaries separate this from other gulls, including first winter Black-legged Kittiwake *Rissa tridactyla*” (Lambert 2015).

Pallas's Gull *Ichthyaeetus ichthyaeetus* Winter visitor (Scarce)

These splendid gulls breed in Central Asia, wintering in West- and South Asia. They visit the Delhi area between September and April, usually singly or in small groups of four to six, but are commoner during spring passage in February–April. They frequent the Yamuna as well as the larger lakes such as Sultanpur and Bhindawas, where they keep to themselves and do not mix with the smaller gulls, except at roosts. Pallas's are readily identifiable by their sheer size, wing-tip and plumage patterns at any stage of plumage, and a bird in full breeding dress, in spring, is a truly magnificent creature.

Mew Gull *Larus canus* Vagrant

Widespread gulls, but mere vagrants to the Indian Subcontinent, with one first winter bird reported from the Delhi area at Okhla on 19 January 1992 (Alström 1994; Praveen *et al.* 2014).

The 'Herring Gull' complex—Large White-headed Gulls (*henceforth*, LWHG)

Three forms in this complex, variously referred to as Caspian Gull (*cachinnans*), Steppe Gull (*barabensis*), and Heuglin's Gull (*heuglini*), have been reported from the Delhi area. The larger gulls can take up to four years to reach full adult plumage, and gull identification is confounded by this variability as well as taxonomic uncertainty. H&M4 includes both *heuglini* and *barabensis* as subspecies of Lesser Black-backed Gull *L. fuscus*, following revision of species limits. *Birds of South Asia* (Rasmussen & Anderton 2012) consider Caspian hypothetical in South Asia, and confirm only the taxa *heuglini* and *barabensis* on the Indian list; Caspian is, however, included in the *Checklist of the Birds of India* v2.2 (Praveen *et al.* 2018b) based on recent records from Gujarat.

Lesser Black-backed Gull *Larus fuscus* Winter visitor (Scarce)

The 'Steppe Gulls' (*L. f. barabensis*), that breed in the Central Asian steppes eastwards to the Altai and winter from Arabia to India, are poorly differentiated genetically from their northern neighbours, 'Heuglin's Gulls' (*L. f. heuglini*) of northern Russia that winter on coasts of East Africa to western India. Some adult LWHGs that winter about Delhi between September and March show light grey mantles,

matching Caspian's tone. However, rather darker-backed, yellow-legged gulls also occur, and these are surely *barabensis*. The darkest, slate-grey backed *heuglini* are the scarcest, perhaps only vagrants, on passage, here as they are mainly coastal in winter. Numbers are small, usually under ten, on the Yamuna or the larger lakes of Sultanpur or Bhindawas.

Caspian Gull *Larus cachinnans* Status uncertain (Taxonomy dependent)

Caspian Gulls breed in Central Eurasia and winter in the Middle East and the Persian Gulf eastwards to western- and northern India, with recent confirmed records from as close as Pong Dam, Himachal Pradesh, in December 2017 (Praveen 2018). A few birds showing characters of Caspian—slender longish bills, sloping foreheads, and pale grey upperparts have been reported and photographed in the Delhi area amongst the small numbers of LWHGs that winter here. Yet these also often show some features typical of 'Steppe Gull' *L. f. barabensis*, deeply coloured legs and bills, more solidly black wingtips and primary patterns. Any Caspian that winters in Delhi would most likely be from the eastern part of its breeding range, about Kazakhstan, which abuts the range of *barabensis*; these 'eastern Caspians' begin to share features of *barabensis* and *vice versa*, and could in fact be Caspian/Steppe hybrids resulting from some genetic exchange between the two. It is moot whether they should be labelled 'eastern' *cachinnans* or the (normally) darker backed *barabensis*.

Little Tern *Sternula albifrons* Former breeding summer visitor (Scarce ↓↓)

Little Terns breed locally on the coasts and inland in Europe, Africa, and Asia. Small numbers are seen regularly on the Yamuna in summer from mid-March through the monsoon months till September. Ganguli (1975) recorded a few pairs nesting in April in the 1950s and 1960s on Yamuna's sandbanks and at Najafgarh, but pollution, changes in river hydrology, and sand mining in the *Khadar* downstream of Okhla render breeding here very unlikely now. However, Little Terns may still find conditions suitable for nesting on river sandbanks above Wazirabad, where courtship feeding by a pair was observed in May 2017 (■ Sunil Kumar 2017a), if protection can be ensured. There seems to be a post-breeding influx into the Delhi area from not-too-distant nesting colonies, with both, adults, and juveniles—up to 20 at a site—being reported between June and September (often at Okhla just after the monsoon), when they also wander to flooded areas away from the Yamuna.

Gull-billed Tern *Gelochelidon nilotica* Winter visitor, more frequent during passages (Uncommon)

These terns range from the Mediterranean to Asia and Australia, wintering to Africa and southern Asia. They are now uncommon in winter in the Delhi area and mostly recorded on passage in August–November (Harvey *et al.* 2006), and singly, or in small numbers in winter on the Yamuna, along the Najafgarh Drain, and at the larger lakes. They do not plunge to feed and often hawk over marshes and even adjacent fields. Their status about Delhi has been changing for reasons that are unclear. Ganguli (1975) first noted a change around 1960; they were earlier considered "uncommon winter migrants seen singly in January, April and May", but then began to be recorded all through the year in the 1960s, occasionally in "large flocks of more than 100" between May and September with birds in breeding plumage from March. A decade later numbers had dropped again, yet parties of 20–25 birds, with many in breeding plumage, continued to be reported between March and June in the 1970s and 1980s, though with no evidence of breeding (Vyas 1996). Their status seems to have changed yet again, with fewer winter sightings now and almost none in summer between March and July!

Whiskered Tern *Chlidonias hybrida* Formerly breeding summer visitor (Common ↔)

Whiskered Terns breed locally in Europe, Africa, and Asia, and are widespread in the tropics in winter. In India, they nest in Kashmir and locally in the Gangetic- and Assam Plains—these plains colonies, however, tend to be unstable, dependent on monsoon conditions, and disturbance levels. They may be seen all year in the Delhi area, but are most abundant during passage from early March to mid-May, when counts—with most in full breeding plumage—may exceed a thousand or more on the Yamuna, and other wetlands and marshes. Ganguli (1975) believed that they had increased since the 1950s, and located a breeding colony at Najafgarh jheel in 1962 that was active between July and September (Donahue & Ganguli 1965). Since then, however, there has been no reconfirmation of nesting though birds in breeding dress are seen throughout the summer months around Okhla and other wetlands where conditions seem suitable. As with other terns, there is a post-breeding influx of birds, and numbers increase in September–October, and then also spread over flooded fields and wetlands in the Delhi area.

White-winged Tern *Chlidonias leucopterus* Passage migrant (Scarce)

White-winged Terns breed across Eurasia, wintering in Africa, and southern Asia. They are scarce and irregular passage migrants through the Delhi area. The few spring records of birds in breeding plumage are all between late April and the second week June—from Najafgarh in 1968, Okhla in 1980, 1986, and 2000. There are a few reports from Okhla, Basai, and Dighal, Haryana—less than a dozen over the two decades from 1996 to 2017—with up to four together between late August till October, when the birds are in juvenile or first winter plumage.

Black Tern *Chlidonias niger* Vagrant (Confirmation desirable)

The occurrence of this tern in India has been a contentious issue. The first report for the Indian Subcontinent was a sight record by H. Alexander in October 1949 on the Yamuna at Delhi (Alexander 1950). Two were reported at Okhla in late September 1998 with detailed field notes (Vyas 2002), and one in July 1999 (Harvey *et al.* 2006). Identification of Black Terns in winter plumage, based solely on plumage, can be problematic, and structural features and behaviour are critical to isolate this species from the other marsh terns. Rasmussen & Anderton

(2012) admitted the tern could be a very rare visitor to the Indian Subcontinent, yet treated it as hypothetical for want of proper corroboration. There is, however, at least one validated later record from Gujarat (Praveen *et al.* 2014), and its status here is retained as a vagrant, requiring confirmation.

River Tern *Sterna aurantia* Formerly breeding resident (Fairly common ↓↓)

Small colonies of this tern used to breed between late March and June on the Yamuna's sandbanks (Ganguli 1975), but there has been no reconfirmation of nesting about Delhi over the last three decades at least. The dismal state of the riverine habitat is no doubt responsible. They probably breed in some, not too distant, stretch of the Yamuna as there is a post-breeding influx of adults and fledged juveniles from about the third week of June, when fairly large numbers, up to 100 or more, appear along the Yamuna. By end-September these flocks begin to disperse and numbers drop again. Only a few remain in the winter. Away from the Yamuna, they occasionally wander to village ponds and other wetlands, and have even been seen hawking over artificial waterbodies at the Central Vista in New Delhi.

Common Tern *Sterna hirundo* Vagrant

Common Terns are widespread Holarctic birds that winter in tropical maritime habitats, and are usually rare inland in the Indian Subcontinent. Ganguli (1975) considered them uncommon and irregular passage migrants in the 1960s and noted records in September, March, and April in North Delhi and Najafgarh. There have been no reports since, other than one photographed recently on the Yamuna above Wazirabad in June 2016 (☑ Sunil Kumar 2016a).

Black-bellied Tern *Sterna acuticauda* Formerly breeding resident (Uncommon ↓↓)

This is a resident river tern of the Indian Subcontinent, now endangered with a declining population, which is reflected in its status in the Delhi area too. It bred on the Yamuna sandbanks until the 1960s at least, and was considered fairly common, though less so, than the River Tern (Ganguli 1975). There has been no report of breeding in recent decades, but till the early 2000s up to 25 birds, including several juveniles, could still be recorded at Okhla during the annual post-breeding influx of river-nesting tern species between about the third-week June till mid-October. A much reduced post-breeding influx is still noticeable, however, with scattered reports of single birds or small parties at Wazirabad and Okhla between June and, particularly, September and early October; a maximum count of 14 at Okhla on 02 October 2016 (Jaswinder S. Waraich, *pers. comm.*) being pleasantly high.

ACCIPITRIFORMES—BIRDS OF PREY

PANDIONIDAE: OSPREYS

(India: 1 species, Delhi: 1)

The Order Accipitriformes is segregated into three families, of which two concern us: Ospreys Pandionidae, with one cosmopolitan species recognised by H&M4, and all the others, comprising Accipitridae. Ospreys are in their own family because of their phylogenetic distance from the others, and their structural adaptations to a piscivorous lifestyle—a reversible outer toe, and soles with prickly projecting scales to enable a firmer hold on slippery prey.



Osprey *Pandion haliaetus* Winter visitor (Scarce)

The Osprey is a winter visitor, in small numbers, to the Yamuna and large jheels, mainly between October and March. The Yamuna is too polluted and opaque now for the Osprey's fishing technique, and it has rarely been seen there in recent decades other than an occasional passage bird in its cleaner stretches above Wazirabad. Most records are of single birds in winter from the larger lakes such as at Palwal, Bhindawas, and Dighal, Haryana. Two or three birds may be seen together on migration, sometimes even over Delhi city.

ACCIPITRIDAE: KITES, HAWKS AND EAGLES

(India: 57 species, Delhi: 34)

Birds of Prey have fascinated and excited the imagination of human beings throughout history. But as apex predators they need space and territory. They are very vulnerable to the pollutants and poisons that we spread over our land. Delhi boasts a rich and diversified assemblage of these lords of the air, but here too, as elsewhere, they are under severe stress, and it is incumbent on us to do what we can to look after these fabulous creatures.



Black-winged Kite *Elanus caeruleus* Breeding resident (Fairly common ↔)

This graceful species (race *vociferus*) is the only Indian representative of the small subfamily of Elanine Kites, *Elaninae*, and is widespread in the Delhi area in all types of lightly wooded country, and cultivation. The open scrub landscapes of the Aravallis are a favoured habitat. It appears to breed mainly in the late summer and monsoon, as juveniles of the year are regularly seen in winter. It has maintained its status and numbers in the Delhi area over the last several decades, wherever spreading urbanisation has not destroyed its habitat.

Oriental Honey Buzzard *Pernis ptilorhynchus* Breeding resident (Fairly common ↔)

Oriental Honey Buzzards, in subfamily *Perninae*, are summer migrants in the north of their Asian range (race *orientalis*), but the race *ruficollis* is resident in South Asia, including in the Delhi area. They are widespread, breeding freely in urban parks and gardens, in woodland patches on the Ridge, and in the countryside. In the breeding season, in March–April, males can be vocal and may display in undulating flights high in the air, characteristically raising and fluttering their wings at the peak of each ascent. As the weather warms up in late winter mornings, single birds, or pairs, may rise to circle above their territories, and then are invariably chiwied by crows (*Corvus* sp.). They frequent areas where the large combs of the rock bee *Apis dorsata* are found under the great arches of monuments such as Humayun's Tomb, or on large trees. Ganguli (1975) called them "not too common" in the 1960s, though today they are one of the more frequently observed raptors in urban areas after the ubiquitous Black Kites *Milvus migrans* and the Shikra *Accipiter badius*.

Egyptian Vulture *Neophron percnopterus* Breeding resident (Uncommon ↓↓)

The 'African Vultures' clade *Gypaetinae* is represented here by the Egyptian Vulture, and DNA studies suggest that this is a separate clade from the Old World Vulture group. They are widely distributed from Africa and southern Europe to India in two races, both of which occur about Delhi. Egyptian Vultures of the race *percnopterus*, with dark beaks, are irregular winter visitors, while the Indian *ginginianus*,

with yellow bills, are resident and breed—January to April—on old monuments and ruins such as Tughlaqabad, rocky cliffs in the Aravalli landscape, and occasionally on trees. They inhabit open country and the Yamuna's floodplain, and are regular visitors to municipal landfills along with the multitudes of Black Kites. They were commoner in the past (Hutson 1954; Ganguli 1975) but their numbers began to decline by the late 1990s (Vyas 1996). It is unclear whether they show the same physiological intolerance to the drug Diclofenac as the *Gyps* vultures, but recent evidence suggests that they may—estimates showed a 80% decline in its numbers between 1991 and 2003 (Cuthbert *et al.* 2006) and also that the decline slowed and even reversed marginally as the ban on veterinary Diclofenac took effect, thus pointing to a direct linkage (Galligan *et al.* 2014). Nevertheless, the species has fared better than Indian *Gyps* vultures. Outside the breeding season they collect at communal roosts, on trees or pylons with kites, whence birds may be seen flying out, one by one, to refuse dumps and other feeding grounds every morning.

Crested Serpent Eagle *Spilornis cheela* Non-breeding visitor (Uncommon, irregular)

Two genera of Serpent Eagles, subfamily *Circaetinae*, occur here: the mainly African, open country *Circaetus* and the Asian, forest haunting *Spilornis*. Crested Serpent Eagles, handsome raptors of well-wooded, well-watered country across South- and Southeast Asia, are uncommon visitors to the Delhi area (these are of the northern Indian nominate race). They may appear in any wooded patch, in city parks or the Ridge, but they also seem to have an affinity for wooded wetlands such as at Okhla, Sultanpur, or Bhindawas. Records, usually of single birds, are scattered between September and May, but appear to cluster between February and April. There are reports of flying juveniles in May (Harvey *et al.* 2006) and September. They breed in the late winter in February–March, and while there are no actual nesting reports from the Delhi area, the pattern of records suggests post-breeding dispersal from not too distant breeding areas. About Delhi, however, we do not hear their characteristic plaintive whistles that are such a feature of their native forests in the breeding season.

Short-toed Snake Eagle *Circaetus gallicus* Formerly breeding resident (Uncommon ↓)

These impressive raptors of open habitats, occurring from the Mediterranean to Central Asia and India, bred near Delhi in the past, and a nest with a half-grown chick had been photographed near Dadri, Uttar Pradesh, in June 1959 (Macdonald 1960). Records come from open country and cultivation, near wetlands, and from valleys and plateaux of the Southern Ridge south of the city. Harvey *et al.* (2006) considered them scarce winter visitors to the Delhi area, possibly from Central Asia, but the several reports throughout the year suggest they may be scarce residents. Their breeding season in India is from January through June/July, and a pair showing territorial behaviour against a solitary conspecific at Dighal, Haryana, in early December 2016 (■ Ritvik Singh 2016a) offers the possibility that it still breeds here.

The once thriving populations of the Old World Vultures, subfamily *Gypinae*, have been decimated by a veterinary drug, Diclofenac, which causes renal failure in the birds, if they ingest it even in small quantities from domestic cattle carcasses. The catastrophic decline in the populations of three of India's commonest vultures—including two on the Delhi list, the White-rumped, and the Indian—by 99% in just a decade and a half, between 1990 and 2005, is perhaps the most rapid and precipitous collapse of any bird species in recorded history. They are all now ranked Critically Endangered.

With growing public awareness of their ecological value and with veterinary Diclofenac banned in India since 2006, there is some evidence that the declines in both species may be slowing and remnant populations stabilising at very low levels as the ban takes effect (Prakash *et al.* 2012). The most recent assessment (Prakash *et al.* 2017) suggests that the decline of the White-rumped Vulture may have reversed since the ban, but “only a few thousand of this species, possibly up to the low tens of thousands, remained in India in 2015”. The Indian Vulture continues to decline, “though probably at a much slower rate than in the 1990s. This remains the most numerous...with about 12,000 individuals in 2015 and a confidence interval ranging from a few thousands to a few tens of thousands.” It is just permissible to hope that these long-lived, but slow breeding, birds that were such our feature of our skies may slowly recover.

Red-headed Vulture *Sarcogyps calvus* Former breeding resident (Rare ↓↓↓)

Red-headed Vultures suffered severe declines over much of their range from India to Cambodia well before the collapse of vulture populations in South Asia. They are naturally sparsely distributed, not commensal with man like other dominant vulture species, and may have retreated because of competitive exclusion from carcasses, as the latter proliferated beyond a point. It is unclear whether the red-heads are as intolerant to Diclofenac as the *Gyps* vultures, but evidence suggests that they may be: they suffered a 91% decline between 1991 and 2003 (Cuthbert *et al.* 2006), but then this appears to have slowed or even marginally reversed as the ban on veterinary Diclofenac took effect, which suggests a direct linkage (Galligan *et al.* 2014). They nest on trees and had historically been recorded breeding in the Delhi area between January and April, even within New Delhi (Frome 1948a; Hutson 1954). Ganguli (1975) considered them “fairly common” in the 1960s and they appear to have suffered a major decline thereafter, with very few records since then (Vyas 1996; Harvey *et al.* 2006). However, after almost two decades, occasional sightings of single, or two, birds together have been reported since 2010 from Mangar Valley and adjacent Asola-Bhatti protected areas in the Aravallis, and a bird perched on a low tree nest has been seen in the latter area but with no other sign of breeding activity (Surya Prakash, *pers. comm.*).

Himalayan Vulture *Gyps himalayensis* Vagrant

A solitary, juvenile, Himalayan Griffon was photographed at Okhla Bird Sanctuary on 27 April 2014 (■ Kalra 2014). It remained perched for a considerable period but showed no sign of injury and warded off a House Crow's *Corvus splendens* attention by flapping its wings.

It did not remain at the site till the next day (Rajesh Kalra, *pers. comm.*). A vulture of the Himalayas and Tibet, juveniles of which (mainly) have taken to wintering in small numbers in the northern Indian plains since the last couple of decades—possibly because of reduced competition after the collapse of resident vultures. Diclofenac has been shown to be toxic to Himalayan Vultures too (Das *et al.* 2011), which largely escaped the 1990s crisis because of their high mountain habitat, and hopefully the ban on veterinary Diclofenac will help these juveniles return safely from their wintering sojourns in the plains.

White-rumped Vulture *Gyps bengalensis* Former breeding resident (Locally extirpated ↓↓↓)

White-rumped Vultures ranged across Southern Asia and were largely commensal with humans everywhere in the Indian Subcontinent. Even before the Diclofenac crisis, they had been all but extirpated from Southeast Asia probably because of persecution, pesticides, and the lack of food. They had proliferated to unnaturally high numbers about Delhi and bred during the winter months in trees along roads and parks in New Delhi and in the surrounding countryside, with a nesting density as high as 2.7 nests/sq. km. (Galushin 1971) within the city itself. Colonial roosts on trees, or on domes of tombs, held over 100 birds at times (Hutson 1954). This situation continued till the early 1990s, when population declines began to be reported, with increasing alarm, through the second half of that decade in the Delhi area (Vyas 2002), as indeed over the rest of the subcontinent as well. With a decline of over 99.9% between 1992 and 2007 (Prakash *et al.* 2007), the White-rumped has been the most seriously impacted of the Indian vultures. A recent assessment (Prakash *et al.* 2017) suggests that the decline may have reversed since the ban but “only a few thousand of this species, possibly up to the low tens of thousands, remained in India in 2015”. Small numbers still bred within New Delhi city limits till 2001 (Harvey *et al.* 2006) but seem to have been locally extirpated by 2005, although an immature *Gyps*, photographed at Asola Wildlife Sanctuary in early January 2017, was identified as of this species (■ Kohli 2017a).

Indian Vulture *Gyps indicus* Non-breeding visitor (now rare)

These cliff-nesting vultures, unlike the White-rumped which nests on trees, were never as common about Delhi as the latter. This species is endemic to peninsular India with a breeding range that extends northwards along the Aravallis at least as far as Sariska and Alwar. Vultures range far in search of food and these birds can appear in areas distant from their breeding colonies. They had not been recorded from the Delhi area till the early 1960s, possibly overlooked, and only rarely in the following years (Ganguli 1975). There were a number of reports, however, in the 1980s in the Aravalli landscapes of Sohna and Damdama Lake, and three were recorded at Sultanpur on 05 July 1998 (*pers. obs.*). Indian Vulture populations were decimated by the Diclofenac crisis, dropping by 97% between 1990 and 2005 when the veterinary drug had its most disastrous impact, and recent assessments (Prakash *et al.* 2017) suggest it continues to decline, even after the ban on veterinary Diclofenac, though “probably” at a much slower rate than over the decade before the ban was imposed. The only recent record from the Delhi neighbourhood is one at Sonipat on 23 May 2009 (Suresh C. Sharma, *pers. comm.*).

Eurasian Griffon Vulture *Gyps fulvus* Vagrant

Griffons range from Southern Europe and North Africa to Central Asia, spreading in small numbers across northern India in winter (these birds are of the eastern race *fulvescens* that breed in the north-western part of the Subcontinent). There are historical records from the Delhi area, when they were considered uncommon (Frome 1948a; Hutson 1954; Ganguli 1975), and there are records of single birds from the 1980s, soaring, or perched with other vultures, enabling comparison of size and plumage (Vyas 1996). The only recent reports are of a dead juvenile collected near Delhi Airport by Wildlife Rescue on 24 April 2014 (■ Puja Sharma 2014), and a distant, ‘possible Griffon’ photographed at Okhla on 15 March 2016 (■ Waraich 2016a).

Black Eagle *Ictinaetus malaiensis* Vagrant

The Black Eagle is in a clade (often designated as subfamily *Aquilinae*) of large birds of prey that most fit the popular conception of an ‘Eagle’, four genera of which—*Ictinaetus*, *Clanga*, *Aquila*, and *Hieraetus*—occur in the Delhi area. Black Eagles have wandered to the Delhi area in winter, probably from the Himalayan foothills. Delhi’s landscapes are not their typical habitat, and a historical record (Basil-Edwards 1926a) could be discounted were it not for a recent, and rather surprising, flurry of records with photographic evidence from Delhi, all between 2012 and 2015: first, one at Aravalli Biodiversity Park, Delhi on 13 February 2012 (■ A. Misra 2012); at Mangar Bani, Southern Ridge, on 20 January 2013 (Soma Ateesh, *pers. comm.*); Surajpur on 06 November 2014 (■ Thareja 2014b); Mangar, again, in September 2015 (Sethi 2015); Andheria More, South Delhi on 01 November 2015 (■ Dabguher 2015), and at Rewari, Haryana, on 09 October 2016. It is unclear whether some records pertain to the same individual. Black Eagles are not listed as residents of the Aravallis, but our records are mirrored by a few reports of vagrants in winter from Ranthambhore and Sariska National Park (November 2018, Pankaj Gupta, *pers. comm.*) as well.

Indian Spotted Eagle *Clanga hastata* Breeding resident (Uncommon)

Indian Spotted Eagles are locally resident in the Subcontinent with relict populations in Myanmar and Cambodia. They are tree-nesting eagles of open woodland, often near water. Historical records (as ‘Lesser Spotted Eagle’, formerly considered conspecific) are vitiated by identification issues but it had been recorded historically near Najafgarh (Ganguli 1975), and in recent years from the same general area at Sultanpur and other sites in Haryana rural landscapes, from the Yamuna *khadar* in North Delhi, and confirmed breeding in *Eucalyptus* along canals in Sonipat (Sharma & Chanda 2010), Rohtak and Jhajjar districts (Sharma 2011), with at least 10 nests reported from Rohtak District (1668 sq. km.) alone and two in a 15 km transect in Sonipat. They probably also breed about Dhanauri Khurd and

along the Agra Expressway from where they have been reported through the year. The only resident eagle here with which confusion is possible is Tawny which is now evidently scarcer than Indian Spotted; an eagle of the *Clanga/Aquila* group seen during summer months in the Delhi area is quite likely to be of this species, and any such sighting should be thoroughly scrutinised and documented.

Greater Spotted Eagle *Clanga clanga* Winter visitor (Fairly common)

These eagles, with their distinctive broad-winged, short-tailed silhouettes, are widespread from eastern Europe across to China, and are winter visitors to northern India. Associated with wetlands, they are now perhaps the most frequently observed eagles near our lakes in winter from mid-September to April. One or two may be present at any of our larger jheels and small parties sometimes gather before migration in spring. Ganguli (1975) had considered them irregular visitors but not uncommon in some years, which seems too parsimonious a description to be applied to this eagle today. Piracy by larger eagles that share its habitat, to rob them of prey, has been observed by Steppe A. *nipalensis*, Imperial A. *heliaca*, and Pallas' Fishing Eagles *Haliaeetus leucoryphus* (the last, formerly, when they were still around!).

Tawny Eagle *Aquila rapax* Formerly breeding resident (now rare ↓↓)

The race *vindhiana* represents this widespread Afro-Asian species in India. Ali & Ripley (1968) had called it 'our commonest and most widely distributed eagle', and this was indeed the situation in the Delhi area half a century ago. Ganguli (1975), writing of the 1950s and 1960s, considered them fairly common in open country and they seem to have bred rather commonly in and around Delhi then: there are historical records of nesting in Old Delhi gardens, and near the Red Fort in July 1959 (Macdonald 1960). Tawnies were regularly observed in the then open country across the Yamuna from Delhi till the late 1970s, but a rapid decline in numbers was evident by the following decade. There are no reports of nesting since and the few convincing records in recent years from the Delhi area come mainly from Sonipat and Dhanauri, with sparse reports at long intervals from elsewhere, especially the Southern Ridge. Tawny Eagles appear to have lost ground in large swathes of their Indian range for reasons that are not entirely clear, and their rarity in the Delhi area today parallels their decline in the riverine landscapes of the Gangetic Plains where they used to be common.

Steppe Eagle *Aquila nipalensis* Winter visitor (Fairly common)

Steppe Eagles breed widely in Eurasia, wintering in eastern Africa and Southern Asia. They are still fairly common migrants about Delhi (Ganguli 1975), from late October to March, but numbers are declining across their range. They were regularly recorded in and around the Yamuna floodplain all through the 1980s, when 10–15 birds, or more, would join larger numbers of kites and vultures at landfills, and gathered to roost on pylons at Okhla. Wintering numbers have dropped since the 1990s, but they remain the eagle most often seen soaring over the countryside in winter, and especially around wetlands, where ones and twos may typically be found alongside similar numbers of Greater Spotted Eagles. Up to ten birds have been seen in recent years, congregating with kites and other raptors, at animal carcass dumps. They gather in small parties before they leave in March–April.



Anand Arya

Steppe Eagle at Dhanauri, January 2015.



Long-legged Buzzard, Dhanauri, November 2014.

Eastern Imperial Eagle *Aquila heliaca* Winter visitor (Scarce)

These impressive eagles breed at low densities across Eurasia and winter in the northern Subcontinent, including in the Delhi area, in small numbers from November to March. There are a number of historical records from refuse dumps (Frome 1948a) and the river floodplain (Hutson 1954), while Ganguli (1975) considered it an irregular visitor to wetlands. The Yamuna *Khadar* about Okhla remained

a favoured area until the 1980s with one or more recorded annually there (Vyas 1996) before urban expansion isolated these sites from the surrounding country. Most records now are from the teeming wetlands at Dhanauri, Sultanpur, Najafgarh, and Bhindawas; usually one or two at a site, but four together have been seen in March, before emigration (Harvey *et al.* 2006). Like several other *Aquilas*, there are several reports of these eagles migrating in loose groups. They are sluggish eagles, usually seen perched on a tree, or low eminence on the ground, for hours.

Bonelli's Eagle *Aquila fasciata* Breeding resident (Uncommon ↑)

Bonelli's are powerful eagles distributed from the Mediterranean to Southern Asia. In the Subcontinent they are resident, nesting on cliffs, ancient forts, and trees between November and March, and non-breeders tend to disperse to wetlands where wintering waterfowl, waders, and other species congregate. They were known to breed in the Delhi neighbourhood historically, at Tughlaqabad (Hutson 1954), and elsewhere on the Southern Ridge, and after a hiatus of over half a century, nesting has been reconfirmed in recent years. A pair nested on a power pylon (an unusual site) in farmland near Sohna, Gurgaon District. Pairing activity was first observed in November 2017, nest building in end-December / January, the female incubating by late January, feeding chicks by late February, and flying juveniles by mid-April 2018, even as they remained in the proximity of the nest site for the rest of the month (Koshy, *in litt.*, e-mail dated 23 April 2018). A second pair built on a *Eucalyptus* in November 2017 at Sultanpur National Park (Rajagopal 2017), though the pair continued to patrol the nest site till late March 2018, it is uncertain whether the chicks fledged successfully.

Booted Eagle *Hieraaetus pennatus* Winter visitor (Uncommon)

These fierce eagles breed from southern Europe across Asia and the Western Himalayas and are winter visitors to most of India. They are uncommon but regular winter migrants with us from September to March, often near wetlands but also elsewhere, including over the city. They are active predators, usually seen singly or in pairs (often in March, before they emigrate) when they may hunt cooperatively, one bird flushing prey while the other, with agile twists and turns, pursues and cuts off its escape. The two colour phases are unrelated to age or sex, and though there is no solid evidence of geographical variation in the proportions of the phases, there seems to be a tendency towards a higher ratio of dark birds in the East. While most Booted Eagles in Europe are pale, dark birds are more frequent here, perhaps in the proportion 3:1.

Western Marsh Harrier *Circus aeruginosus* Winter visitor (Common)

Though they appear very different morphologically, harriers and sparrowhawks have been placed together in subfamily *Accipitrinae*. Western Marsh Harriers breed widely across Europe and Central Asia, wintering in Africa and the Indian Subcontinent. They are common and widespread visitors to the wetlands here, arriving as early as mid-August and staying till mid-May, with odd stragglers remaining till, as late as, June. The approach of a Marsh Harrier causes enormous commotion in a raft of duck and coot on a jheel, the birds rising *en masse*, with a roar of beating wings, to escape its attentions. The larger wetlands may host several individuals each winter, and up to 15–20 may gather at dusk at favourite communal roosting sites, including Okhla.

Hen Harrier *Circus cyaneus* Winter visitor (Scarce)

Hen Harriers winter further northwards in India than their congeners, and have been recorded about Delhi from open country near jheels and light scrub habitats on the Southern Ridge between September and February, from the Sonipat, Bhindawas, and the Sultanpur-Basai-Najafgarh areas in Haryana, wetlands at Dhanauri Khurd in Uttar Pradesh, and from the Mangar Valley on the Southern Ridge.

Pallid Harrier *Circus macrourus* Winter visitor (Scarce)

These harriers breed on the steppes of Central Asia, and winter in East Africa, Arabia, and the Indian Subcontinent. Ganguli (1975) had listed them as uncommon in the 1960s, and though scarcer now, they are still the most likely of the four 'white, grey and black' harriers to be recorded on passage, in September–October and February–April. A few birds overwinter. Most reports are from cultivation and open country near wetlands such as Sultanpur, Najafgarh, and Dhanauri Khurd, or the river floodplain above Wazirabad.

Pied Harrier *Circus melanoleucos* Vagrant

An eastern Palaearctic species that winters in eastern- and southern India, Pied Harriers are vagrants to, as far west as Delhi with just two recent records: Hodal in February 2006 (Harvey *et al.* 2006) and Hailey Mandi near Farrukhnagar, Haryana, in February–March 2008 (■ Arya 2008a).

Montagu's Harrier *Circus pygargus* Winter visitor (Rare)

Montagu's Harriers breed in temperate Europe and Asia and winter southwards to Africa and India. Records from the Delhi area are few; single birds between December and April from open country and cultivation near wetlands and the Ridge.

Shikra *Accipiter badius* Breeding resident (Common ↔)

Widespread in lightly wooded country in Africa and southern Asia, Shikras are common residents of the National Capital Region in both



Anand Arya

Pied Harrier near Farrukhnagar, February 2008.

urban and rural habitats. They nest between March and June, and flying juveniles are regularly seen in June and July. As the breeding season approaches, pairs perform 'sky-dances' in courtship displays with slow, deep, wing beats and are particularly noisy at this season. Shikras are quintessentially bird hunters, though they will catch and eat any small living creature they can lay their talons on, and have even been observed making repeated sallies from a high branch to capture pipistrelles at dusk.

Besra *Accipiter virgatus* Vagrant

Besras breeding in the Himalayan mid-hills may descend to the foothills in winter, sometimes drifting further southwards into the northern plains during a cold wave. Vagrants have been recorded in Delhi as well: single birds at the Delhi Zoo in December 1997 (Vyas 2002); Sultanpur in November 2001 (Harvey *et al.* 2006) and September 2010; Mangar Bani, Faridabad in November 2016 (■ P. Gupta 2016a); and at SanjayVan, on the South Central Ridge, in December 2018 (■ Thankappa 2018).

Eurasian Sparrowhawk *Accipiter nisus* Winter visitor (Uncommon)

Most Eurasian Sparrowhawks that winter in the Delhi area, between October and April, appear to be of the paler Siberian breeding subspecies *nisosimilis*, rather than the well-differentiated *melaschistos* of the Himalayas that also comes down to the foothills and plains in winter. They are regularly reported in these months from the larger city gardens, the Ridge, at Okhla, and the better wooded parts of the surrounding countryside.

Pallas' Fish Eagle *Haliaeetus leucoryphus* Former breeding resident (Locally extirpated ↓↓↓)

The sea eagles, kites, and buzzards constitute the subfamily *Buteoninae*. As a species, Pallas' Fish Eagle summers in Central Asia and Tibet and descends in winter to the northern Indian Subcontinent, where these migrants then breed alongside the resident population. These birds used to be conspicuous denizens of the rivers and lakes of the Indo-Gangetic Plains, but have seriously declined in the last few decades, for which a combination of factors are probably responsible: pollution and reduction of river flows, disturbance at nesting sites, and accumulation of pesticide residues in freshwater fish. They bred in Delhi historically, October through February, with a well-documented traditional nest site at Okhla and possibly another by the Yamuna in North Delhi, till the mid-1950s (Ganguli 1975). There were a few records till the 1980s: single immatures at Okhla in the winters of 1978–1979 and 1985–1986 (Vyas 1996), an adult pair at Sultanpur in winter 1982–1983 (D. Chakravarti, *pers. comm.*), and at Bhindawas in 1987 (Sharma, in Harvey *et al.* 2006), after which there have been no further reports. The extirpation of this magnificent eagle from the Delhi area has been a tragic loss.

White-tailed Sea Eagle *Haliaeetus albicilla* Vagrant

White-tailed Fish Eagles are mainly resident in northern Europe and Asia, but small numbers may cross the Himalayas to winter in the northern and western parts of the Indian Subcontinent. Vagrants have been recorded in the Delhi area on three occasions, at Sultanpur in early December 2007, Bhindawas in early February 2016 (S. C. Sharma 2017a), and by the Yamuna River in North Delhi in late February 2017 (■ Khan 2017).

Grey-headed Fish Eagle *Ichthyophaga ichthyaetus* Vagrant

Delhi is westwards of this fish eagle's normal range but there are rare reports of wanderers reaching it in winter. There are historical records between November and April from the Yamuna River and Sultanpur (Ganguli 1975), and the recent occurrences include one in December 1984 at Rithal, Gohana, and two or three at Barhwasani, Sonipat, Haryana, in January 2001 (Suresh C. Sharma, *pers. comm.*, Harvey *et al.* 2006), at Okhla in early October 2014 (Y. Parashar, *in litt.*, e-mail dated 23 April 2018), one at Asola Wildlife Sanctuary in

October 2015 (■ Madan 2015), and a sub-adult at Bhindawas Wildlife Sanctuary, Haryana, on 29 January 2017 (■ S. C. Sharma 2017b; Banerjee & Prakash 2017) that stayed into February. This last bird was observed well, both from below, at rest, when the underside of its white tail with faint grey bars and a broader blackish terminal band was visible, and from above as it flew low over the water showing a white uppertail with a dark terminal band.

Brahminy Kite *Haliastur indus* Non-breeding visitor (Scarce)

Haliastur kites have feet that are densely covered with spicules for grasping slippery prey, an example of convergent adaptation between these kites, fish eagles, and the Osprey. The status of this kite, which is otherwise widespread from the Indian Subcontinent to Australia, seems to have changed and it is nowhere as regular about Delhi as formerly. In the 1960s Ganguli (1975) had recorded “small numbers throughout the year, but more frequently during the rainy season”, with as many as 50 together in mid-October 1961. Records from recent decades are sparse, mostly in the late monsoon, though regular records from Dhanauri and Haryana wetlands, through the winter, indicate that a few are present in the Delhi area in other seasons too. However, there is no confirmation of nesting in Haryana so far. This change in status is paralleled by similar changes across its northern Indian range; the arrival of Brahminy Kites, juveniles and adults, was a feature of the monsoon along the rivers of Uttar Pradesh till the late 1960s, after which a similar decline set in there too. It appears that Brahminy Kites have largely withdrawn from the upper Gangetic Plain as regular breeders.

Black Kite *Milvus migrans* Breeding resident (Very common ↔)

Widespread across continental Europe and Asia, the Indian race *govinda* is a common and familiar resident of urban Delhi and its satellite towns. These kites breed in winter between November and April, when pairs perform sky dances and chases near their nest sites with much screaming. Black Kites gather at communal roosts outside the breeding season and their daily commutes, a continuous stream of birds strung out singly or in twos and threes, are familiar city sights at dawn and dusk. The migrant race *lineatus*, Black-eared Kite, is a very common winter visitor from the Himalayas and beyond from September to April, at the same time when its resident cousins are nesting. They are less dependent on urban habitations and are common by the Yamuna where they live off floating refuse and offal. Thousands also gather at garbage dumps on Delhi's outskirts.

White-eyed Buzzard *Butastur teesa* Breeding resident (Uncommon ↓)

This South Asian endemic of lightly wooded grassland was considered a fairly common breeding resident in the Delhi area (Ganguli 1975), nesting during the monsoon, July–early September. It is no longer as common as this would suggest as much suitable habitat has been lost to cultivation and urbanisation. There are few recent breeding records from the Delhi neighbourhood, with reports only from Sonipat and Rohtak districts, Haryana (Suresh C. Sharma, *pers. comm.*), and Asola Wildlife Sanctuary on the Southern Ridge. There is, however, a noticeable post-breeding influx of White-eyed Buzzards around Delhi between late July and October, when single birds or small parties comprising both adults and juveniles appear in areas where they are not usually seen during the rest of the year: in areas of rough grass and open woodland in the floodplain and the Aravalli landscapes. These are presumably birds that have bred outside Delhi's limits as breeding records from here are too few to account for the numbers involved. Similar seasonal movements and concentrations have been observed at Tal Chappar and Sariska National Park in Rajasthan, the buzzards arriving soon after the rains and staying until end September (Sangha *et al.* 2012). The post-monsoon profusion of grasshoppers and mole-cricket is exploited during these influxes.

Common Buzzard *Buteo buteo* Winter visitor (Rare)

Only the eastern subspecies *vulpinus* ('Steppe Buzzard') of the widespread Common Buzzard concerns us here. The bulk of the *vulpinus* population winters in Africa, but birds from the easternmost parts of its range ('Eastern Steppe Buzzard') winter in India too. Wintering birds in India are, however, believed to be commonly hybrid *rufinus x vulpinus* (McCarthy 2006; Hans Peeters, *in litt.*, e-mail dated 26 October 2018). Reliable data about their winter distribution in India is lacking, vitiated by taxonomic confusion and identification problems, but they are most regularly reported from south-western India, Punjab, Rajasthan, and Gujarat (Ganpule & Bhatt 2014). These latter records complement the situation in Pakistan, where *vulpinus* is recorded mainly from areas adjoining the eastern borders with India (Roberts 1991). Common Buzzards have been reported from the Delhi area only in recent years, having been possibly overlooked earlier, and are irregular and rare visitors here at best. Confusion with Long-legged is widespread, but the few convincing records are from the Greater Noida area, the Sultanpur neighbourhood, and Najafgarh, all in the last decade and all in mid-winter.

Long-legged Buzzard *Buteo rufinus* Winter visitor (Uncommon)

Long-legged Buzzards breed from North Africa to Central Asia, including in the Western Himalayas. They are winter visitors to northern India, recorded between September and April in the Delhi area. They are often in the vicinity of wetlands and rocky scrub country of the Aravalli landscapes as well. Though well distributed in the Delhi area, wintering numbers tend to fluctuate but have shown a gradually declining trend over the past few decades.

STRIGIFORMES—OWLS

TYTONIDAE: BARN OWLS

(India: 5 species, Delhi: 1)

Barn Owls have a distinctive morphology, a heart-shaped face, with forward-facing eyes that provide excellent binocular vision in low light, and a facial disc which can be adjusted to focus sounds onto the owls' asymmetrically placed ear cavities that enable it to pin point the exact location of the slightest sound.

Common Barn Owl *Tyto alba* Breeding resident (Fairly common ↑)

The Barn Owl, in the broad species limits recognised by H&M4, is one of the most widespread land bird species in the world, occurring in several races in every continent except Antarctica. Three or more subspecies groups are sometimes recognised within this complex, and are given species rank in some taxonomies, including IOC, which additionally considers the race *stertens* of South Asia to be a race of the 'Eastern Barn Owl *T. javanica*' of Southeast Asia and Australia rather than of the 'Western Barn Owl *T. alba*'. Barn Owls are widespread about Delhi but infrequently recorded because of their strictly nocturnal habits. They are most often noticed flying overhead at night, their white underparts illuminated in the city lights. They live around old as well as modern buildings in urban centres, and are also reported commonly from grain storage depots in rural areas, and ancient monuments, and garden tomb complexes. They breed over much of the year in holes and sheltered corners in humanmade structures.

STRIGIDAE: OWLS

(India: 31 species, Delhi: 9)

The owls about Delhi fall into three subfamilies, Hawk Owls *Ninoxinae*, Owlets *Surniinae* (including *Athene*), and Typical Owls *Striginae* (including *Otus*, *Asio*, *Bubo*, and *Ketupa*). Owls, in general, are small- to large sized nocturnal birds of prey, and like their Barn Owl cousins, have large forward facing eyes and facial discs surrounding asymmetric ears, and some have upstanding feather tufts on their heads which make them look 'eared', but those are just adornments. Owls' flight feathers have a velvety structure and edges that enable them to fly silently and stealthily in the dark.

Most owls conceal themselves well during the day, and their calls at night are usually the first indication of their presence. The small scops owls, in particular, are extremely secretive and easily overlooked when not calling.

Brown Hawk Owl *Ninox scutulata* Vagrant (or rare resident?)

Brown Hawk Owls were first recorded from the Delhi area only recently, at Nahar, Kosli, Rewari District, Haryana, in April and September 2012 (Ahlawat 2012b), and Matanhale Bani, near Bhindawas (Suresh C. Sharma, *pers. comm.*). But within the last two years there have been four more reports from wooded areas of Delhi: on the Jawaharlal Nehru University campus from 25–27 December 2016 (S. Prakash 2016); at Asola Wildlife Sanctuary in mid-November 2017 (Kohli 2017b); at Surajpur Lake in the third week of February 2018 (R. Sharma

2018a), and again Asola, where one stayed from February to mid-March 2018 (Madan 2018a). These owls are resident in the Himalayan foothills and more sparsely in the plains, as close to Delhi as Meerut, Agra, Bharatpur, Ranthambhore, and Jaipur, so their occurrence here is not unexpected. They have been categorised here as vagrants, but will probably be confirmed as breeding residents in the near future.

Spotted Owlet *Athene brama* Breeding resident (Common ↔)

A common species over much of southern Asia, Spotted Owlets are widespread breeding residents in wooded parks and city gardens, temple groves and large trees about villages, as also old buildings and ruins such as the Lodi tombs, Tughlaqabad, and the Old Fort where they nest in holes in the ancient walls. Pairs and small family parties live in traditional trees and may be found there day after day.

Pallid Scops Owl *Otus brucei* Vagrant (or rare winter visitor ?)

These are owls of dry, sparsely wooded, country from West Asia to Pakistan, and are known to winter in India in Gujarat, Rajasthan, and Madhya Pradesh, even as far southwards as Kerala (Chandran *et al.* 2016). Singles have been photographed on a few occasions in recent years in mid-winter in the Delhi area: an old record from Tughlaqabad in December 1981 (Robson 1981a); at Najafgarh on 25 January 2015 (■ Thankappa 2015); in woodland at Asola on 12 December 2015 and 30 November 2016 (■ Madan 2016); and at Okhla through much of January 2016 (■ Mehta 2016). They occur, possibly regularly, in small numbers, and have been perhaps overlooked in the past.

Oriental Scops Owl *Otus sunia* Vagrant (or rare passage migrant ?)

Oriental Scops Owls breed in the lower Himalayas and peninsular hills, and are believed to be, mainly, summer visitors in the north-western part of their range. There are only five records from the Delhi area: two specimens collected on 26 February and 22 March 1925, the latter in breeding condition (Basil-Edwardes 1926b); one trapped in a mist net on the New Delhi Ridge on 08 February 1973 (Gaston 1978a) and listed as *O. scops*, of which *sunia* was then treated as a race. There are two recent reports too: one photographed at New Palam Vihar, Gurgaon, on 05 March 2011 (Turaga 2014) and a pair, one in rufous, and the other in grey, phase at Asola Wildlife Sanctuary from 22 February till the second week of March 2018 (■ S. Prakash 2018). The dates show a consistency that suggests this owl is probably best considered a rare and, probably, overlooked passage migrant in spring, from late February to March.

Indian Scops Owl *Otus bakkamoena* Breeding resident (Fairly Common ↔)

The Indian Scops Owl is endemic to the Indian Subcontinent. It used to be considered a race of the Collared Scops Owl, now split into four species of which two occur in India—*O. lettia* in the Himalayas and north-eastern India, and *O. bakkamoena* in the rest of the country. It is a widespread resident in the Delhi area in well-wooded localities, in city gardens, in the quieter tree-lined side lanes of residential New Delhi, in the Aravalli landscapes of the South-Central- and Southern Ridge, in wooded patches, and in mango groves in the countryside. Birds are most vocal from March to May but their soft notes can be easily missed amidst the noises of the city.

Short-eared Owl *Asio flammeus* Winter visitor (Uncommon and local)

This widespread species of northern latitudes is a winter visitor to India, and is mainly a passage migrant in the Delhi area in October–November and in March/early April, in reed beds and grassy flats, where single birds or small parties may often be seen hunting by day. Some remain all winter. With suitable habitat increasingly lost to agriculture or urban expansion these owls are now highly localised, and most recent records come from uncultivated pockets in the vicinity of the larger wetlands such as Sultanpur and open ground in the Yamuna floodplains.

Indian Eagle Owl *Bubo bengalensis* Breeding resident (Uncommon ↓)

Indian Eagle Owls are Indian Subcontinental endemics, and local breeding residents about Delhi: in eroded ravines, abandoned stone quarries, and thorn scrubland as are characteristic of the Aravalli landscape and the Southern Ridge, from the Asola-Bhatti Wildlife Sanctuary and the Aravalli Biodiversity Parks in Delhi and Gurgaon southwards towards Damdama and Sohna, old forts and ruins at Tughlaqabad and (formerly) Purana Qila, and Humayun's tomb. They also affect plantations alongside canals at Najafgarh and Sonipat, large trees surrounding wetlands as at Dighal and Bhindawas, and in cultivated landscapes where excavations and earth bluffs offer resting and nesting sites.

Dusky Eagle Owl *Bubo coromandus* Breeding resident (Rare ↓↓)

Dusky Eagle Owls inhabit wooded plains country, preferring the proximity of water, and can be common at some sites and scarce elsewhere for reasons that are unclear. In the 1960s, Ganguli (1975) had found them "...in small numbers", and quoted Frome, who noted them "in old established parks and gardens...along canals and in riverain tracts", breeding in mid-winter. They were believed to be declining even at that time and were last recorded from the city itself in the early 1970s (Gaston 1978a), but are still regularly reported from tree-bordered wetlands (often *Eucalyptus*) in Haryana, near Jhajjar (Bhindawas), and in particular Rohtak (Dighal and Baland) where a few pairs are known to nest regularly. A pair was resident at Sultanpur between late 2002 and 2005 but with no evidence of breeding (Harvey *et al.* 2006). These are vocal owls, so they are unlikely to be overlooked where present.

Brown Fish Owl *Ketupa zeylonensis* Breeding resident (Rare and local ↔)

Brown Fish Owls are distributed from India to Southeast Asia and very locally as far westwards as Turkey. There are few records from the Delhi area. Historically, Hutson (1954) recorded “one or more of these owls” from the Yamuna at Okhla, presumably in the 1940s, but they have only been reported since then from two other locations; from Surajpur wetlands, Greater Noida, Uttar Pradesh, where one was photographed in September 2014 (■ Thareja 2014a), and from tree-lined canals at Rithal, near Gohana and Sonipat, Haryana, whence the first ever nesting of this species in the National Capital Region was recorded in March 2018 (Suresh C. Sharma, *pers. comm.*).



Suresh C. Sharma

Brown Fish Owl, Rithal, Haryana.

BUCEROTIFORMES—HORNBILL, HOPOES

BUCEROTIDAE: HORNBILLS

(India: 9 species, Delhi: 2)

This family, remarkable for its unique breeding biology, is represented in the Delhi area by a resident species, a Subcontinental endemic, and a widespread forest species as a vagrant.



Oriental Pied Hornbill *Anthracoceros albirostris* Vagrant

Delhi is not in the usual range of this hornbill, and records from the Delhi area could be put down as escapes but for the fact that this species has wandered into the Indo-Gangetic Plains on a few occasions—as far as Lahore, Agra, Chambal, and Kanpur, in both, winter and summer. Historically, Frome (1948a) mentions single birds or pairs in New Delhi in winter, between mid-November and mid-February, in the 1940s, and Gaston (1978a) recorded singles on the Ridge in February and March 1973. A rather enigmatic flurry of recent records are all from spring and summer: single birds in early May 2013 at the Aravalli Biodiversity Park, Delhi (Arafat *et al.* 2015); April 2016 at Okhla (■ Waraich 2016b); mid-March and late July 2016 in a South Delhi garden; early April 2017 and late February 2018 at Hauz Khas Forest, South Delhi (■ Sunil Kumar 2017c; ■ A. Rao 2018a) and mid-March 2018 at Mangar Bani, Faridabad (Surya Prakash, *in litt.*, e-mail dated 19 March 2018). Some of these records may well pertain to the same individual.

Indian Grey Hornbill *Ocyrceros birostris* Breeding resident (Fairly common ↔)

Indian Grey Hornbills are fairly common residents of urban parks and gardens, roadside trees, and groves in the countryside throughout the Delhi area. Their primary requirement is large trees with cavities and holes for nesting. They breed from February to June, and family parties are commonly seen in late-March and April.

UPUPIDAE: HOOPOES

(India: 1 species, Delhi: 1)

This Old World family is represented across Europe, Africa, and Asia by one unmistakable and conspicuous species, which is also a breeding resident in the Delhi area.



Common Hoopoe *Upupa epops* Breeding resident (Fairly common ↔)

Hoopoes are well-known and well distributed in the Delhi area, with a resident race *ceylonensis* that breeds in March-June in holes in walls and buildings, and the wintering nominate race *epops* between September and April. Ganguli (1975) referred to them as common. A slight drop in breeding pairs may have taken place with the creeping loss of open spaces in urban and suburban areas in recent decades. Hoopoes prefer heavily grazed, bald or short grass areas, rural dirt tracks, and village precincts, and in cities, lawns are popular feeding grounds.

PICIFORMES—WOODPECKERS, BARBETS

PICIDAE: WOODPECKERS

(India: 33 species, Delhi: 5)

India is rich in woodpecker diversity but only two or three are resident breeders in the Delhi region. Most woodpeckers—other than the distinctive wrynecks, subfamily *Jynginae*, are sedentary birds, at best dispersing to areas where there is an outbreak of the tree-destroying insects and grubs on which they feed. It is therefore surprising that one species has occurred in Delhi recently as a vagrant.



Wryneck *Jynx torquilla* Winter visitor (Uncommon)

Wrynecks breed widely across temperate Eurasia, as close to us as Kashmir. They are winter visitors to the Delhi area in small numbers, more visible during passage periods from late August till October in autumn, and mainly March in spring when their numbers increase visibly and birds may be vocal, drawing attention to their presence. Wrynecks occur in open woodland, about river and canal embankments, and open grass-and-scrub country in general especially in the vicinity of termite nests.

Lesser Golden-backed Woodpecker *Dinopium benghalense* Breeding resident (Common ↔)

A Subcontinental endemic (as are most Delhi's woodpeckers, other than the Wryneck), the Lesser Goldenback or Black-rumped Flameback is the commonest of the family in the Delhi area, present wherever there are large mature trees. It is immaterial whether these are in urban parks or roadside avenues, in rural areas about villages and temple groves, where their loud screaming calls are a familiar sound. They breed between April and August; noisy flight chases, and birds searching for potential nesting sites, are a feature from the third week of March.

White-naped Woodpecker *Chrysocolaptes festivus* Vagrant

A female of this fine woodpecker was photographed at Okhla Bird Sanctuary on 11 June 2017 (■ Khaira 2017). This normally sedentary bird is resident in the Aravalli Ranges from Mount Abu northwards to Ranthambhore (though not listed for Sariska National Park), and there is just the faint possibility that a stray could reach the Delhi area along the Aravalli outliers—though one vagrant is of little significance, it would be a most welcome addition to our avifauna.

Brown-capped Pygmy Woodpecker *Dendrocopus nanus* Probably breeding resident (Scarce)

Another Subcontinental endemic, these little woodpeckers are resident along the Aravalli Range in eastern Rajasthan, as close as Sariska National Park. Their status in the Delhi area needs to be clarified. The first record appears to have been from the Southern Ridge between Surajkund and Badkhal Lake in 1979 (Suresh C. Sharma, *pers. comm.*), and one was seen on the New Delhi Ridge in March 1996 (*pers. obs.*). They were then observed along canals in Sonipat through much of 2003 till this *Acacia* woodland habitat was destroyed (Suresh C. Sharma *pers. comm.*). Over the last three years, since 2016, they have been recorded, off-and-on, from the Southern Ridge, at Mangar Valley, Faridabad, through much of the year (e.g. ■ Panjeta 2016b). In all likelihood they are scarce residents about Delhi, overlooked so far in these hitherto poorly studied Aravalli habitats.

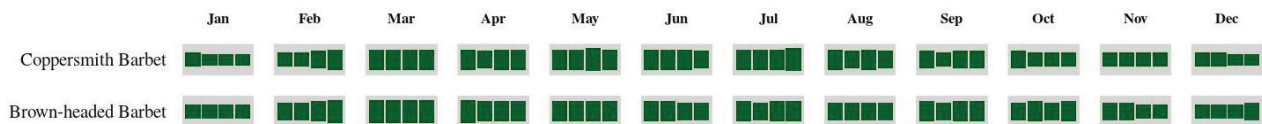
Yellow-fronted Pied Woodpecker *Dendrocopus mahrattensis* Breeding resident (Uncommon ↔)

Native to the Subcontinent, this woodpecker is an uncommon but widespread breeding resident in the Delhi area in some of the larger city parks with remnant patches of native vegetation, on the Ridge, and groves in the countryside. It seems particularly fond of roñh *Acacia leucophloea* and babool *Acacia nilotica* trees but will also be found in other woodland types. It breeds from February to April, often excavating its nest on the underside of a branch.

MEGALAIMIDAE: ASIAN BARBETS

(India: 9 species, Delhi: 3)

Barbets are small to medium-sized, thick-billed, heavy-bodied but colourful relatives of woodpeckers, with loud characteristic calls. They are mainly frugivorous, and unfailing attendees at fruiting fig trees, but will also take nectar, and insects. They excavate their own nest holes in soft wood or appropriate an already available one. Two barbets are common residents of the Delhi area, their loud calls a familiar aural backdrop all summer in gardens and city parks, and a third had been recently recorded here as a vagrant—a very unusual occurrence for a purely sedentary species.



Brown-headed Barbet *Psilopogon zeylanicus* Breeding resident (Common ↔)

Endemic to the Subcontinent, these barbets are common and widespread birds in Delhi in urban gardens, road-side trees, and groves in the countryside. Ali & Ripley (1970) state, "Has become conspicuously common and abundant in New Delhi during the last forty years due to increase in wooded gardens and roadside avenues with large *Ficus* and other fruit-bearing trees...But it is not a new arrival in the area as often believed, being described as 'common' in the (Old) Delhi environs even in 1893...". Brown-headed Barbets begin calling in February, as soon as the weather shows signs of warming up, and may be heard through till October. They breed between March and June, fearlessly contesting nest holes with parakeets and mynas.

Blue-throated Barbet *Psilopogon asiaticus* Vagrant ? (Confirmation desirable)

These colourful barbets are common, sedentary birds of the Himalayan foothills, also widely distributed in Southeast Asia. They do not extend into the adjacent plains except eastwards, in Bengal and Assam where they are resident southwards to Kolkata. There are two reports from New Delhi, one photographed at Sundarnagar in April 2016 and another seen at Kalkaji in April 2017, in the same month in two successive years and both by the same observer (■ Monakar 2017). These are out of range for this non-migratory species, a very unlikely vagrant to the Delhi area. The records are included here pending validation.

Coppersmith Barbet *Psilopogon haemacephalus* Breeding resident (Common ↔)

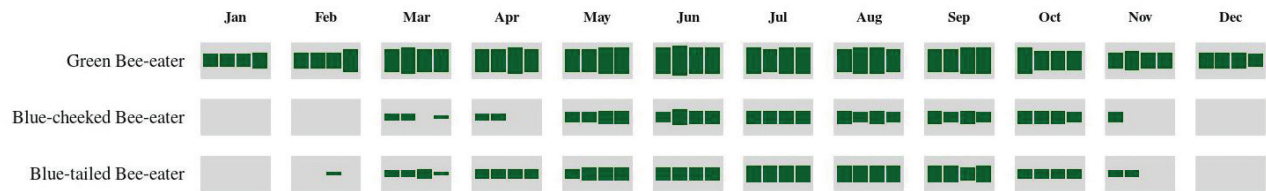
Coppersmiths are very widely distributed barbets, from the Subcontinent across Southeast Asia, and are common residents of the Delhi area in urban parks, gardens, roadside trees, and groves in the rural countryside. Usually singly or in pairs, numbers may gather at fruiting fig trees which are an unfailing attraction, while they are also fond of nectar of silk cotton *Bombax ceiba* flowers when in bloom. They breed between March and June, though they may begin excavating their nest holes much earlier in winter, and use them for roosting. Unusually, for a barbet, they may sometimes collect in groups of several individuals on tree tops in the mornings and evening before dispersing to roost, outside the breeding season.

CORACIIFORMES—BEE-EATERS, ROLLERS, KINGFISHERS

MEROPIDAE: BEE-EATERS

(India: 6 species, Delhi: 4)

Bee-eaters are colourful, gregarious birds of Asia and Africa, with wonderful powers of flight, that hunt flying insects, including dragonflies. Flying insects become scarce in the cold Delhi winter and bee-eaters largely vacate the Delhi area for warmer climes during that season. Three breeding species and one vagrant are on the Delhi area Checklist.



Green Bee-eater *Merops orientalis* Breeding summer visitor (Common ↔)

Green Bee-eaters are a widely distributed species from the African Sahel to Southern Asia, and common birds of the Indian countryside. They are mainly breeding summer visitors to Delhi (race *orientalis*) though a few may linger here through milder winters. Numbers begin to increase in spring, when parties of up to 20 birds may also be seen in the mornings (they are day migrants) in late February and March flying in a north-western direction over the Delhi area. They move southwards again between late September and November, passing through in small parties, feeding as they go, and collecting in large numbers to swarm around roosting trees in the evenings. They affect a variety of habitats, cultivation, parks, marshes and wetlands, canal embankments, etc., and breed between April and June, nesting singly or in loose colonies in tunnels that they excavate themselves in an earth bank, sandy mound, or even in uneven ground.

Blue-tailed Bee-eater *Merops philippinus* Breeding summer visitor (Fairly common ↑)

This species replaces the Blue-cheeked Bee-eaters *M. persicus* to the east of their range, from India to Southeast Asia. These two closely related parapatric species occupy similar ecological niches, but some barrier, morphological, behavioural, or genetic, prevents free inter-breeding and separates the population into two sister species. Instead of migrating south-westwards to Africa as the Blue-cheeked Bee-eaters do, the Blue-tails move southwards and south-eastwards for the winter. They are present in the Delhi area from end March onwards, but numbers visibly increase between late July and October before they leave for their winter quarters. At this time they collect about wetlands and grassy woodland on the Southern Ridge and feed on the post-monsoon profusion of dragonflies and other aerial insect life. They used to be considered passage migrants (Hutson 1954), or mainly rains visitors (Ganguli 1975), but they breed locally in the Delhi area, in colonies of fifty or more pairs, excavating their nest tunnels in earth cuttings and banks in July–August.

Blue-cheeked Bee-eater *Merops persicus* Probably Breeding summer visitor (Fairly Common ↓)

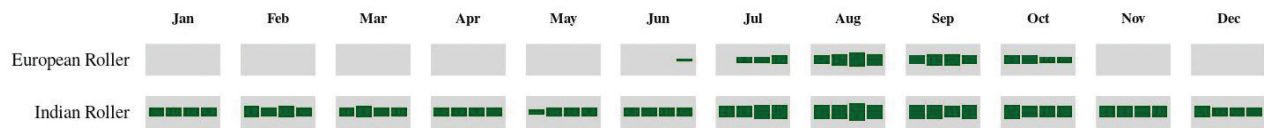
These migratory bee-eaters nest across North Africa, West Asia to western India, the entire population wintering in Africa. Delhi is at the eastern edge of their range and here they overlap with their sibling species, the Blue-tailed Bee-eater. They arrive by late April or early May and prefer the proximity of marshlands or waterbodies where flying insects, especially dragonflies, are abundant. They were recorded breeding "in great numbers" in the late 19th Century at Garhi Harsaru near Sultanpur from mid-May to mid-July (Ganguli 1975), and they still nest, albeit in smaller colonies and numbers, in low earth hills and cuttings in the same general area. They are likely to be confirmed nesting at other sites too, where they are present through the summer and with flying young later in that season, as in the Mangar Valley alongside Blue-tailed Bee-eaters that breed there. From late July to end-September large gatherings collect near marshes and the Yamuna River preparatory to migration. By end-October, all have left Delhi.

Chestnut-headed Bee-eater *Merops leschenaulti* Vagrant

A bee-eater of the Himalayan foothills and forested tracts in peninsular India; one was recorded at Okhla on 08 April 2017 (Waraich 2017a). These bee-eaters are summer breeding visitors to the west Himalayan foothills, and the record probably represents vagrancy during northward passage.

CORACIIDAE: ROLLERS**(India: 3 species, Delhi: 2)**

Two roller species are on the Delhi list: one, a widespread resident whose gloriously blue-banded wings and tail are displayed to best advantage during courtship flights in spring, and the second, a passage migrant whose migration path passes by Delhi in autumn.

**Indian Roller *Coracias benghalensis* Breeding resident (Fairly common ↓)**

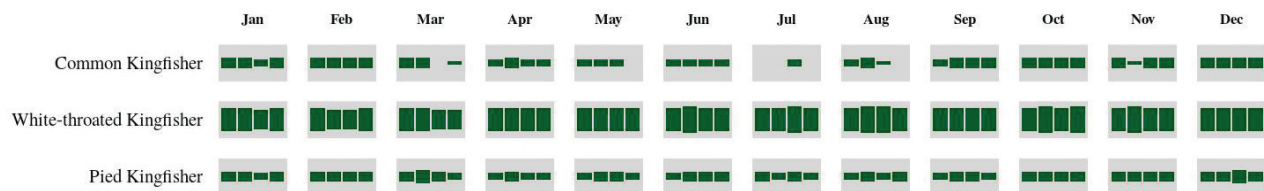
Indian Rollers are common residents over much of southern Asia, but may have lost ground about Delhi in recent decades—they have declined elsewhere in north India as well—for reasons that are not fully clear, though pesticides are a likely factor. Hutson (1954) had recorded pairs breeding in holes in walls of the Lodi Tombs in New Delhi in the 1940s, and till the 1980s a few still used to enter city limits in February–March, searching for nest sites and displaying over parks such as Sundar Nursery and on the Ridge (Vyas 1996). They no longer do so, but breed fairly commonly in rural areas between March and May; though normally considered sedentary, a strong post-breeding influx, or passage movement, is visible from late July through September when birds, including many juveniles, appear in good numbers in areas in and around the city where they are not in evidence in other months of the year.

European Roller *Coracias garrulus* Passage migrant (Uncommon)

Widespread from Europe to Central Asia, the entire population wintering in Africa, Eurasian Rollers breed as close as Kashmir and are regular migrants through the Delhi area on their southward passage between August and mid-October, when many are juveniles of the year. Delhi lies on the eastern fringe of their migration route in autumn, as birds breeding in Central Asia and Kashmir cross the north-western parts of the Indian Subcontinent on their way to East Africa. They travel on a broad front and are reported from floodplain habitats, in cultivated areas, and especially the Southern Ridge. Numbers vary from year to year, but a maximum of 60–70 has been noted in one morning on a late August morning at the Asola-Bhatti Wildlife Sanctuary on the Southern Ridge (S. Prakash 2014).

ALCEDINIDAE: KINGFISHERS**(India: 12 species, Delhi: 3)**

Three species of kingfishers, very handsome birds, are recorded from the Delhi area, all widespread, each with its own different hunting technique, and each in separate subfamilies (*Alcedininae*, *Cerylinae*, and *Halcyoninae*).

**Common Kingfisher *Alcedo atthis* Breeding resident (Uncommon ↔)**

Widespread in Europe and Asia, these kingfishers are not particularly 'common' birds about Delhi. Single birds or pairs may be seen in waterbodies and channels in the Zoo Gardens, where they breed, along canals, weirs, and fish ponds. They are scarce by the Yamuna, though they do occur at Okhla where there is overhanging vegetation along the canals, which provides them the low perches where they wait for small aquatic life to come within range, or briefly hover to locate prey in the water. They breed between March and June in holes they excavate in earth banks.

Pied Kingfisher *Ceryle rudis* Breeding resident (Fairly common ↓)

A widespread species of Africa and South Asia, Pied Kingfishers used to be common on the Yamuna as it passes by Delhi, and a most attractive adjunct to the river scenery. Since the last couple of decades however, they have become far scarcer than formerly in the heavily polluted stretch of the river between Wazirabad and Okhla, which is now too opaque for their method of feeding, hovering expertly above the water and diving into it for fish. They breed in tunnels excavated in sand bluffs left by the receding river, after the monsoons, and are still fairly common residents in its cleaner stretches above Wazirabad, canals of the Western Yamuna System in Haryana, and the larger wetlands. They often wander to village fish ponds, irrigation impoundments, and deeper lakes on the Southern Ridge as well.

White-throated Kingfisher *Halcyon smyrnensis* Breeding resident (Common ↔)

Widespread from West Asia to the Philippines, these kingfishers are common and colourful residents of urban parks, gardens, and the countryside in the Delhi area. Like several other kingfishers of this genus, they frequently hunt over land. They are vocal when breeding between March and June, though birds begin to pair off, 'sing', and court each other, opening their wings and showing off their brilliant contrasts in display, from February or even earlier.

FALCONIFORMES—FALCONS

FALCONIDAE: FALCONS

(India: 12 species, Delhi: 8)

One of the more extraordinary results of phylogenetic DNA studies was the finding that falcons constituted their own Order, Falconiformes, which is closer to parrots Psittaciformes and passerines Passeriformes, and which has an altogether different evolutionary history from the Accipitriformes. Their similarities to the other raptors are the result of convergent evolution because of a common predatory lifestyle, not a shared evolutionary history.

Two falcon species are resident in the Delhi area, but their numbers have been dropping and they need to be watched from a conservation point of view. Past observers had noted that both, the dashing Red-necked-, and the larger Laggar Falcon, of the hierofalcon group, sometimes nested near or even in towns and villages, on minarets, old structures, and so on, but there are no such recent reports from the Delhi area. On the other hand, both, Laggars, and Peregrines appear to have taken kindly to tall electricity pylons as hunting posts or loafing perches.



Lesser Kestrel *Falco naumanni* Vagrant

Lesser Kestrels winter mainly in Africa, but there are several mid-winter records from India too, and it seems that at least some birds from the eastern parts of their Asian range halt for the winter in the peninsula, while others carry on to Africa. In the Delhi area they have been recorded as straggling migrants: one at Sultanpur in March 1982 was the first record, and later reports include a pair at Bhindawas in November 2001, singles at Basai (no dates), and four at Sultanpur on 30 April 2003 (■ Prince 2003d,e).

Common Kestrel *Falco tinnunculus* Winter visitor (Fairly common)

Common Kestrels are widespread in Europe, Asia, and Africa; in India they nest in the Himalayas and the Western Ghats, spreading over the rest of the country in winter. They are migrants to the Delhi area between September and early May, to open grassy country of all sorts, including in cultivation, and often near archaeological ruins and monuments such as Tughlaqabad where they hunt from the ramparts. The neighbourhood of wetlands and the Aravalli landscapes with a mosaic of sparsely scrubbed ravines and cultivated patches are favoured habitats.

Red-necked Falcon *Falco chiquera* Breeding resident (Scarce ↓)

These very handsome falcons are distributed in two races (considered separate species by some authorities) in sub-Saharan Africa and the Indian Subcontinent. Ganguli (1975) considered them uncommon residents in the 1960s with some breeding records. They remain widespread about Delhi in open country with a number of records of single birds and pairs from the Yamuna's floodplain and the bird-rich habitats of Sultanpur, Najafgarh, Bhindawas, and Sonipat in particular. Pairs have been recorded nesting in large palms in Delhi and Bhindawas in recent years, certainly till 2006 (Bill Harvey, *in litt.*, e-mail dated 19 August 2018).

Merlin *Falco columbarius* Winter visitor (Rare and irregular)

Merlins breed across Northern and Central Asia (and in Europe and North America as well) from where birds move southwards in the cold season to as far as the north-western parts of the Indian Subcontinent. Stragglers have been recorded in the Delhi area sporadically since 1992, when a bird of the pale race *pallidus*, which breeds in the Central Asian steppes, was first recorded at Sultanpur

in early February. There were a few reports over the last two decades, mainly of single birds between November and March in open country, including from the floodplain, Sonipat, and Basai (Harvey *et al.* 2006), and in the Sultanpur area in February 2004 (Debashish Chakravarti, *pers. comm.*), in February and November 2008, and in October 2017 (■ A. Sharma 2017b).

Eurasian Hobby *Falco subbuteo* Passage migrant (Uncommon)

Eurasian Hobbies breed across temperate Eurasia, including the Himalayas, wintering mainly in Africa. A few seem to spend the winter in the Indian Subcontinent too. They are regular passage migrants through the Delhi area in autumn, from August to early November, when single birds or small parties may halt at some promising area for a few days. At this season, passage hobbies feed on the then abundant dragonflies, sweeping over the reed beds at wetlands such as Okhla, and elsewhere, in the mornings and evenings, and resting in the surrounding trees in the heat of the day; they are also reported from the Aravalli landscapes of Delhi where they hunt along the ridges and dips. They are less frequently seen on northward passage, mainly in March–April, but records of very late returning migrants are noteworthy; in late May at Mangar (■ Gupta 2017) and Surajpur (■ A. Rao 2018c), and second week June at Basai (■ Gupta 2016d); as also a couple of unusual mid-winter reports (e.g. ■ R. Mishra 2012).

Laggar Falcon *Falco jugger* Former breeding resident (now rare ↓↓)

An Indian Subcontinental endemic, this falcon has been called “the ordinary resident true Falcon of India” (Whistler 1949), and “the commonest and most easily identified of all our falcons” (Ali & Ripley 1968), descriptions that scarcely ring true today over much of its range. Naoroji (2006) noted its decline but added that it remains common in semi-arid Gujarat and Rajasthan. Hutson (1954) and Ganguli (1975) considered them breeding residents, in small numbers, about Delhi. They have become very scarce in the Delhi area since the 1980s, paralleling their decline elsewhere in India. Causes are unclear but pesticides and trapping for the falconry trade may, in part, be responsible. There are few records from recent decades: by the Yamuna in February 2001, a pair at Bhindawas in September 2004, and Sultanpur in August 2005 (Harvey *et al.* 2006); later reports seem to cluster around the Greater Noida/Surajpur area, mostly single birds in February, May, August, October, and November. A recently fledged, apparently weak, juvenile was found on the ground in mid-May in a residential colony in Gurgaon (■ Kundu 2018), and is ominously suggestive of an escaped trafficked bird or, optimistically, a nearby nesting site. The records do not show a pattern, but repeated sightings about Surajpur, over the Laggar’s late winter nesting season, point (hopefully!) to a breeding site in the area.

Peregrine Falcon *Falco peregrinus* Winter visitor (Uncommon)

The Peregrine is an iconic, truly cosmopolitan species with many subspecies, and the pale Siberia-breeding race *calidus* visits the Delhi area between September and March. The Peregrine affects wetlands by preference but some birds take up residence for a while in the city, hunting pigeons from tall buildings, high water tanks, and communication towers. They spend the day loafing on high perches and power pylons, and hunt ducks, waders, doves, and other small birds over wetlands and surrounding areas at dawn and in the evenings. There are a few reports from recent years—it was unrecorded previously—of the ‘Barbary Falcon’ *Falco (pelegrinoides) babylonicus*, or Red-naped Shaheen, which shows clear morphological and ecological differences from the Peregrine but is genetically very close, and retained by H&M4 within that species. This race, which breeds mainly in Central Asia (Bhatt & Ganpule 2017) and eastwards to Pakistan, is a winter visitor to western India, and has straggled in winter to the Delhi area with records of adults at Okhla on 01 January 2008 and at Dhanauri wetlands on 28 January 2015 (■ Arya 2015); one in the Sultanpur area for much of November–December 2017 (■ Ritvik Singh 2017b), and one at Dhanauri again in February 2018. There are unsubstantiated reports of juveniles of the Indian Subcontinental race *peregrinator* (Shaheen) from the Delhi area, but it undoubtedly occurs: an adult was photographed at Raipur *khadar*, Noida, south of Okhla Barrage, where it remained from mid-September at least through November 2018 (■ R. Sharma 2018c).



Anand Arya

Race babylonicus at Dhanauri, January 2015.



Rohit Sharma

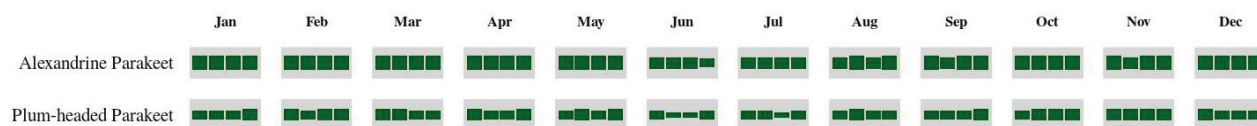
Race peregrinator at Surajpur, November 2018.

PSITTACIFORMES—PARROTS

PSITTACULIDAE: OLD WORLD PARROTS

(India: 12 species, Delhi: 3)

A highly diversified order with an extraordinary variety of forms in South America and Australasia. African and Asian forms are less varied (though the Indian Ocean islands had several extraordinary endemics that are now extinct). India has but two genera, Hanging Parrots *Loriculus* and Parakeets *Psittacula*.



Plum-headed Parakeet *Psittacula cyanocephala* Breeding resident (Locally common ↔)

These colourful parakeets are local residents about Delhi, in wooded areas. Hutson (1954) had considered them occasional wanderers in the Delhi area, and Ganguli (1975) believed they began nesting in Delhi only in the early 1950s. Their numbers have increased since but tend to fluctuate year to year. They are less prevalent in urban habitats than Delhi's other two species, and favoured areas include the New Delhi Ridge where they collect in flocks to feed on grain put out by gardeners, Okhla, and groves of large trees with fruiting figs as at Mangar Bani and elsewhere in the Aravallis. They are resident birds, nesting in holes in trees and walls in winter.

Alexandrine Parakeet *Psittacula eupatria* Breeding resident (Common ↔)

The Alexandrine ranges from the Indian Subcontinent to Southeast Asia and is a common and widespread parakeet in urban gardens of Delhi. Till the middle of the 20th Century, they were considered only spring visitors and even in the 1960s Ganguli (1975) had considered them "not too common residents in small numbers." They now breed freely between December and April—though they begin to explore possible nesting sites as early as October—in tree cavities and, commonly, in holes and crevices in humanmade structures and buildings.

Rose-ringed Parakeet *Psittacula krameri* Breeding resident (Common ↔)

These abundant, adaptable parakeets are native to sub-Saharan Africa and the Indian Subcontinent but have established themselves in many locations across the world, introduced deliberately or escaped from captivity. They are familiar and noisy residents of urban habitats and widespread throughout the Delhi area as well, breeding from early spring in holes in trees, ruined monuments, and inhabited buildings, and commonly adopting nest boxes. They feed on figs and fruit, ripening sunflower seeds, flower petals, and grain, large numbers collecting in orchards and grain storage depots, or at temples where they are fed by devotees. Flocks commute between communal roosts, often located in city gardens, and seasonal feeding areas, and are a feature of Delhi's evening skyline.

PASSERIFORMES—PASSERINES

PITTIDAE: PITTAS

(India: 6 species, Delhi: 1)

A family of stocky, short-tailed, colourful birds with a largely terrestrial lifestyle that are highly diversified in Southeast Asia, but a few species extend northwards to Japan, southwards to Australia, and westwards to as far as Africa. One Subcontinental endemic pitta is a summer visitor to the Delhi area.



Indian Pitta *Pitta brachyura* Breeding summer visitor (Common, but local ↑↑)

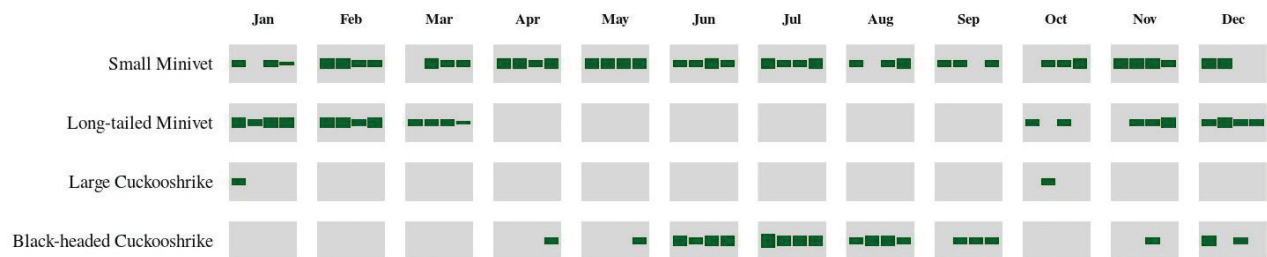
This Pitta is a Subcontinental endemic, a breeding visitor to the forests in its northern half and wintering in the south. Ganguli (1975) mentions 'winter' records in the 1950s and there are a few later reports of single birds from Noida, Sultanpur, Bhindawas, and the Ridge in June, and in August–October. These were believed to be passage vagrants until the summer of 2015, when several pairs were found breeding in forest patches at Mangar Bani, Faridabad, and further southwards near Bhondsi, Gurgaon, where they have been recorded nesting annually since then. They reach these Southern Ridge sites in late May, announcing their arrival with their arresting whistles, and

are feeding young by July and August. These sites are visited by local birders far more often now than formerly so, rather than these discoveries representing a range extension, their breeding in the Delhi neighbourhood was probably overlooked in the past. Pittas breed along the Aravalli Range to as far northwards as Sariska National Park, and Mangar Valley has some of the last intact patches of original habitat as the Ridge enters Delhi—this is one of a handful of 'Aravalli' species that get a toehold in the Delhi area at this magical site.

CAMPEPHAGIDAE: MINIVETS AND CUCKOOSHRIKES

(India: 14 species, Delhi: 5)

The minivets of Asia, subfamily *Pericrocotinae*, are slim, elegantly long-tailed, arboreal birds in bright reds, yellows, greys, and black, with one widespread resident species in the Delhi area, one winter migrant from the Himalayas, and a third thinly distributed species that had so far been considered a scarce and erratic wanderer into the Delhi area in winter, but recent summer records throw up the possibility that it just might nest here. The Cuckooshrikes, subfamily *Campephaginae*, birds of woodlands from Africa to Australasia, are rather thick-set birds in mainly grey, white, and black, not closely related to either cuckoos or shrikes. They are represented by two species in the Delhi area, one occasional, and one breeding visitor.



White-bellied Minivet *Pericrocotus erythropygius* Winter visitor, localised resident? (Scarce)

Endemic to India, White-bellied Minivets are localised and generally uncommon birds of grass-and-*Acacia*-scrub habitats in western and central India. From old observations by Basil-Edwards (1926a), who found them in *Acacia* woodland in parties of up to six, and by Hutson (1954), who considered them "not at all common" in the Delhi countryside, these birds seem to have been uncommon visitors in winter in the Delhi area, between November and March. After the 1940s, as Ganguli (1975) notes, they became very scarce. Most reports since have been in winter, from grass-and-*Acacia* scrub habitats in South Delhi and Haryana: Mehrauli and Tughlaqabad in the 1960s when these areas were less built up, and more recently from various sites on the Southern Ridge, Asola, and Gurgaon south to Sohna, Manesar, and Rewari; with a couple of records from Sultanpur National Park as well. However, parties up to 5 (Devasar 2017; Parashar 2017) have been recently reported from Mangar Valley, Southern Ridge, in May and June 2017, which may be lingering winterers but raise the possibility that these birds may nest in the Delhi area. Their typical habitat, very different from their co-generics, is certainly available aplenty on the Southern Ridge.

Small Minivet *Pericrocotus cinnamomeus* Breeding resident (Fairly common ↔)

Small Minivets are common residents over much of the Indian Subcontinent and Southeast Asia and quite widespread in the Delhi area as well, in patches of original woodland in the larger parks and gardens, and the Ridge. The birds about Delhi appear closest to the intermediate race *peregrinus* of the Gangetic Plains. They breed between March and September, building a tiny cup of soft plant material bound with cobwebs in a fork of a small tree, often an *Acacia leucophloea* or similar thorny one.

Long-tailed Minivet *Pericrocotus ethologus* Winter visitor (Uncommon)

These eye-catching minivets breed commonly along the Himalayas eastwards to China, Himalayan nesters descending to foothills and the northern Indian plains in winter. They are uncommon visitors to the Delhi area between November and March, when small parties may frequent large wooded gardens, forest patches, and the Ridge. Sultanpur is a regular haunt. These minivets are typical constituents of the mixed parties of insectivorous species that roam the jungles, a feature of the Himalayan hill forests, though less in evidence in the plains.

Large Cuckooshrike *Coracina javensis* Non-breeding visitor (Rare)

Taxonomic authorities adopt varying species limits within the 'Large Cuckooshrike' complex. H&M4 includes both races of continental India, *nipalensis* of the north and *macei* of the peninsula, as subspecies of *C. javensis* of Southeast Asia. H&M4 recognise the distinctness of the two Indian races, however, and they may be separated in future—as mooted in Rasmussen & Anderton (2005) and accepted by some authorities—the larger *nipalensis* lumped with the Southeast Asian subspecies as Large Cuckooshrike *C. javensis*, and the peninsular and Sri Lankan races (*macei* and *layardi* respectively) split as the Subcontinental endemic Indian Cuckooshrike *C. macei*. Delhi is located westwards of this bird's usual breeding range in the northern plains, and the scattered records from the Delhi area are all between July and March: in

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Common Woodshrike												

Common Woodshrike *Tephrodornis pondicerianus* Breeding resident (Common ↔)

Common Woodshrikes range across the Indian Subcontinent through Southeast Asia, and are quite common in the Delhi area in open woodland, parks, groves, and gardens. They require tree growth, however, neither too open nor too dense, and will not usually be found in scrubland. They are typical birds of the Ridge habitats and *Acacia* woodland elsewhere, even in areas dominated by *Prosopis juliflora*, where their rising series of plaintive whistles are a characteristic feature of its habitat. They nest between March and June in the Delhi area.

AEGITHINIDAE: IORAS

(India: 2 species, Delhi: 1)

Ioras are a small family of four pint-sized, attractive birds endemic to southern Asia. Breeding males of the two Indian species being largely black-and-yellow but with strong black-and-white contrasts that show to best effect during their acrobatic courtship displays.



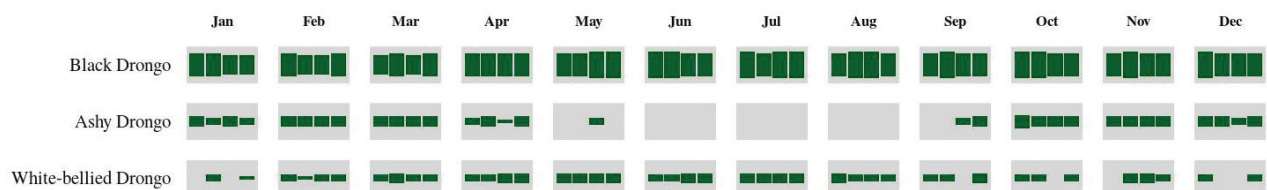
Marshall's Iora *Aegithina nigrolutea* Breeding resident (Scarce and local ↓↓)

Marshall's Iora is endemic to the Indian Subcontinent, a localised and rather scarce bird of the Aravalli Ranges and dry open woodland in Madhya Pradesh and northern Gujarat, with isolated populations in the southern peninsula, and Sri Lanka. It is believed to be declining in some areas because of habitat loss. Basil-Edwards (1926a) found them in babool woodland in the 1920s and Ganguli (1975) recorded them from the New Delhi Ridge, from where they were decreasingly reported until June 1986 (Vyas 1996). There were no reports from the Delhi area for the next 25 years, and they were feared locally extirpated, but two were located in February 2012 at Asola Wildlife Sanctuary; and since 2016 have been recorded through the year at other woodland sites on the Southern Ridge: Mangar Valley, the Damdama Lake area, Bhondsi, and Manesar, with nesting confirmed at the latter locality. Marshall's Ioras may have withdrawn from Central Delhi but are still very welcome residents of the Delhi area.

DICRURIDAE: DRONGOS

(India: 9 species, Delhi: 5)

Drongos are an African-Asian family with their greatest diversity in southern Asia where some species have highly decorative and elaborate tail features. Pugnacious and fearless, they will unhesitatingly mob raptors and larger birds if they threaten or even innocently approach their nests (hence the colloquial 'King Crow' or *kotwal* in Hindi). Milder-natured species such as green pigeons, or orioles, often build in the proximity of a drongo's nest, as is often observed in the Delhi area, to benefit from the protection it offers.



Black Drongo *Dicrurus macrocercus* Breeding resident (Common ↔)

Black Drongos are residents over most of the Indian Subcontinent but tend to vacate the more northern parts of their range in winter. They are common in the Delhi area as well, in open country and cultivation, Ridge habitats, and the larger city gardens, but are subject to some local movements; many that nest in city parks vacate these areas in winter and move to the countryside, returning to their urban breeding territories in March. In addition, Black Drongos that breed north of the Delhi area can be observed overflying the city on passage to and from their wintering grounds farther south. In late March and early April, when many local pairs have established territories and are building nests, others can be seen moving in a north-western direction, singles or loose parties following each other at about 30 m height in the mornings till about 1000 hrs. From late September through October they migrate southwards, moving down the Yamuna's floodplain and over New Delhi city. Black Drongos often attend cattle for the insects they flush, and can be very noisy and obtrusive in the evenings, with their Shikra-like calls.

Ashy Drongo *Dicrurus leucophaeus* Passage migrant (Uncommon)

Ashy Drongos breed from the Himalayas eastwards to China and Southeast Asia, and some of the peninsular Indian hills as well. They spread in winter across most of the Indian Subcontinent, and are regularly seen in Delhi during passage in late March–April and again in September–October, singly, in pairs or small parties in wooded corners, groves, and clumps of large trees in city gardens. A number remain about Delhi in milder winters.

White-bellied Drongo *Dicrurus caerulescens* Breeding resident (Uncommon and local ↑)

White-bellied Drongos are endemic to India and Sri Lanka, and are typical residents of dry and semi-evergreen monsoon forests of the peninsula including the Aravalli Ranges as close to Delhi as Sariska National Park. They were considered vagrants in the Delhi area with scattered records from parks and woodland between October and April. Over the summer of 2015, however, several birds, including juveniles, were recorded at Mangar Bani, Faridabad, and have since been confirmed to nest regularly there; adding to the list of ‘Aravalli’ bird species that have been found breeding at this northern outpost of the range that still retains much of its original vegetation and habitat. They are seen at Mangar Bani through the winter too, so at least some are resident here even if others disperse to account for the vagrancy reports elsewhere.

Hair-crested Drongo *Dicrurus hottentottus* Vagrant

A drongo of well-wooded Himalayan foothills (and forested tracts of peninsular India, to China and Southeast Asia), individuals and small parties are known to have wandered into the northern plains in the cold weather, with a few records from Bharatpur, Lucknow and Kanpur. They are inordinately fond of flower nectar, including of *Eucalyptus*, and numbers gather to feed at these trees when a grove is flowering. One, photographed at Yamuna *khadar*, north of Wazirabad, Delhi, on 09 April 2017 (☑ Sunil Kumar 2017b) represents such vagrancy. This bird was also observed in a *Eucalyptus* clump and seemed at ease, not bothered by the presence of Spotted Owlets nearby (Sunil Kumar, *pers. comm.*).

Greater Racket-tailed Drongo *Dicrurus paradiseus* Vagrant

These superb drongos are residents of semi-evergreen monsoon forests of India and Southeast Asia, and like the previous species, are also known to have wandered into the northern plains as far as Bharatpur, Lucknow, and Kanpur, and the two Delhi records probably reflect this tendency to wander. Alexander (1949) mentions an old ‘doubtful’ 1949 record, but there are two recent well-supported observations of single birds, both of the north Indian race *grandis*: at Sundar Nursery, New Delhi, on 28 June 2016 (☑ Goel 2016), and at Mangar Bani, Faridabad, on 20 May 2017 (Pankaj Sharma 2017a).

RHIPIDURIDAE: FANTAILS

(India: 3 species, Delhi: 1)

Fantails are a family of Australasian origin that extends as far westwards as India, where we have three species. The Delhi area hosts one of these active, attractive birds. They build a tiny, neat nest of cobwebs in an upright forked twig but make little effort to conceal it. As a result, fantails often suffer low nesting success.



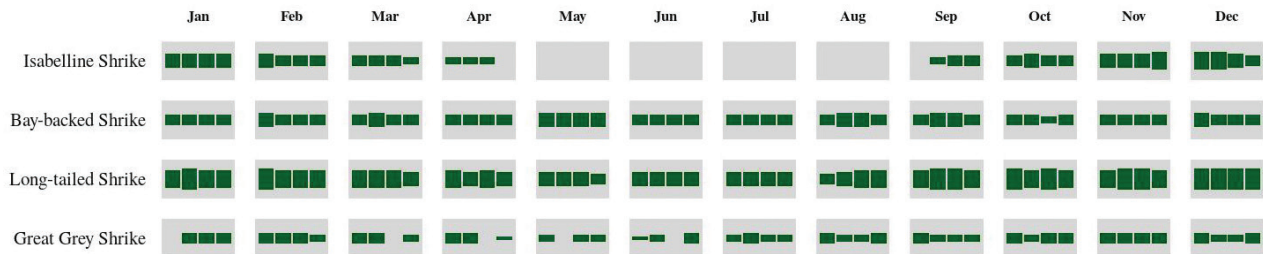
White-browed Fantail *Rhipidura aureola* Breeding resident (Scarce ↓↓)

These fantails were much commoner about Delhi in the past. Ganguli (1975) considered them local residents in small numbers in gardens, groves, and woodland in the 1960s, and mentioned old breeding records in the city itself. She believed they were decreasing in numbers even then, and the decline has accelerated since. Until very recently, they had only been reported in the winter months, that too rarely—from the Southern Ridge and *Acacia* groves in the Haryana countryside. However pairs have been regularly reported in the last couple of years through the summer months, and in song, from a woodland pockets on the Southern Ridge such as the Asola Wildlife Sanctuary, Mangar Valley, and Manesar where they are probably breeding. They seem to have suffered a parallel decline, over the same time frame, over much of the Gangetic Plain. There is still plenty of habitat available for this species, however, and it occupies gardens in urban areas elsewhere, so reasons for its decline remain mysterious. The disappearance of this delightful species from our gardens, nevertheless, is a real loss.

LANIIDAE: SHRIKES

(India: 12 species, Delhi: 6)

A mainly Old World family with two species in North America, these boldly patterned, aggressive birds are represented in the Delhi area by three handsome resident shrikes, one of which appears to have lost ground for reasons that are not quite clear.

**Brown Shrike *Lanius cristatus* Winter visitor (Rare)**

These are eastern Palaearctic shrikes that winter in India mainly eastwards and southwards of Rajasthan, Haryana, and Gujarat. Hutson (1954) called them winter visitors in small numbers between September and March in the 1940s, but may have confused them with Isabelline Shrikes, which he saw just once, but are actually seen more frequently. Nevertheless, Brown Shrikes have been recorded off-and-on since 1985 between October and March from the Delhi area, westwards of their normal wintering range: from Okhla and elsewhere in the floodplain, from Jhajjar and Sonipat (Vyas 1996, Harvey *et al.* 2006), and from the Sultanpur area especially between 2013 and 2018.

Red-tailed Shrike *Lanius phoenicuroides* Confirmation desirable

Formerly considered conspecific with *L. isabellinus*, Red-tailed (or Turkestan) Shrikes nest in Central Asia southwards to Afghanistan and winter in East Africa. Small numbers migrate down the Indus Valley and the border states of Rajasthan and Gujarat in autumn (Grimmett *et al.* 1998; Ganpule 2017). Rasmussen & Anderton (2012) state that "birds reported as this in winter from extreme western India (mostly Kachchh) are closer to Isabelline Shrike; pure *phoenicuroides* winter extraliminally." Vagrants have been reported from the Delhi area eastwards of their usual migratory path (Harvey *et al.* 2006), with "one or two adults most years 2000–2009, particularly at Sultanpur but also at Basai and along the Yamuna", mostly on passage although one or two overwintered some years (W. H. Harvey, *in litt.*, e-mail dated 31 August 2018). Photographs in Prince (2003a) taken at the river *khadar* in February 2004 are possible first winter *phoenicuroides* but cannot be categorically identified. An adult photographed at Sultanpur in January (■ Misra 2013) has been identified as Red-tailed Shrike with a russet crown, but the combination of a white throat and strongly orange-buff underparts excludes both *phoenicuroides* and *isabellinus*. In structure, shape of mask, colour, and lack of a primary-patch, it is a typical Brown Shrike, *L. cristatus*, which can show a russet crown and rump (Worfolk 2000). There are no further reports from the Delhi area.

Isabelline Shrike *Lanius isabellinus* Winter visitor (Uncommon)

Isabelline Shrikes breed in eastern Russia, Mongolia, and west/central China, with three subspecies: the warm buff, well-marked *L. i. isabellinus* ('Daurian Shrike') in the northern parts of its range, which winters mainly in Africa, and the paler, greyer races *arenarius* and *tsaidamensis* ('Chinese Shrike') of Chinese Turkestan, which winter in Pakistan and western India. The latter, apparently mainly *arenarius*, are regular visitors to the Delhi area in small numbers from September to April, affecting dry open country, tamarisk scrub and desiccating flats near marshes. Race *isabellinus* is said to be "not definitely known for our region" (Rasmussen & Anderton 2012) but may actually be a rare vagrant, as *isabellinus* type individuals have been recorded in western part of the Indian Subcontinent in winter (Ganpule 2017), and at least one photographed at Basai in December 2002 (■ Prince 2003a) and another at *Khadar* more recently (W. H. Harvey, *in litt.*, e-mail dated 23 August 2018).

Bay-backed Shrike *Lanius vittatus* Breeding resident (Fairly common ↓)

An Indian Subcontinental near-endemic, this brightly patterned shrike is a fairly common resident, breeding between March and July–August in the Delhi area. It affects open woodland in the countryside, the larger city parks and groves, and the less dense areas of the Ridge. There are concerns that its numbers about Delhi may have declined in recent years, as it is missing from some areas where it was formerly frequent.

Long-tailed Shrike *Lanius schach* Breeding resident (Common ↑)

Long-tailed Shrikes are a widely distributed Asian species, from the Indian Subcontinent to China and Southeast Asia. They are common residents of the Delhi area (race *erythronotus*), and have evidently increased since the 1960s when Ganguli (1975) called them the

least common of the three resident shrikes. Since the 1990s certainly, they are the most frequently encountered shrikes, in bush and grass country, and woodland, and are partial to the vicinity of wetlands. They breed from April to July and fledged young are regularly seen in July and August. Numbers seem to increase in winter, possibly local migrants from outside the Delhi area.

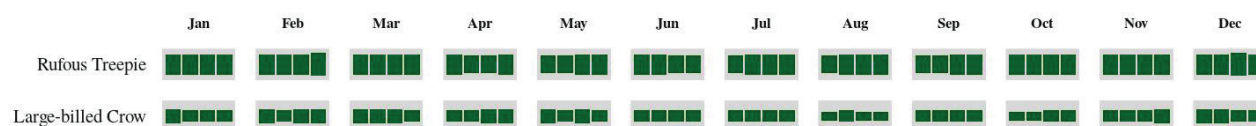
Great Grey Shrike *Lanius excubitor* Probably breeding resident (Scarce)

There is as yet no finality about species limits within the 'Great Grey Shrike' complex. Four subspecies of this complex occur in South Asia, of which only one, *lahtora*, concerns us. A recent genetic study of the complex (Olsson *et al.* 2010) has challenged the approach adopted by a number of taxonomic authorities presently (BLI/eBird, IOC) that splits the complex into two—the 'Great Grey Shrike' *L. excubitor* comprising several northern races, and the 'Southern Grey Shrike' *L. meridionalis*—which, as thus defined, is distributed from south-western Europe and North Africa to India and includes *lahtora* as one of its many races. This classification is now untenable; genetic research has shown that the race in south-western Europe, *meridionalis*, is distinct from all other subspecies of the 'Southern Grey Shrike' group and cannot be lumped with any of them. As to where our birds, *lahtora*, would fit, there is no clear picture yet—they appear to fall within the wider Great Grey Shrike *L. excubitor* clade, and both H&M4, and Rasmussen & Anderton (2012) retain *lahtora* as a race of Great Grey Shrike *L. excubitor*. However, there are arguments to split *L. excubitor* itself into separate species, so a change of name is possible in the future. These handsome shrikes were common breeding residents in the past of open cultivated countryside with scattered *Acacia* about Delhi (Ganguli 1975) and remained so till the 1970s at least. They now seem to be much scarcer, with no recent breeding records. This change in status is a mystery; there is still suitable habitat available, yet today they are the rarest of our regularly occurring shrikes. A decrease in numbers of this species has been noted elsewhere in India too (Ganpule 2016).

CORVIDAE: CROWS AND ALLIES

(India: 21 species, Delhi: 4)

The treepies *Cypselurinae* and typical crows *Corvinae* are both clades in a varied, cosmopolitan family and include some of the most intelligent of birds: adaptable, capable of learning, with a brain-to-body mass ratio said to equal that of great apes. Delhi hosts three familiar Oriental Region representatives of the family, and a local race of the Raven has been recorded as a vagrant.



Rufous Treepie *Dendrocitta vagabunda* Breeding resident (Common ↔)

One of a small group of arboreal magpies of the Oriental Region, Rufous Treepies are the most widely distributed of the genus in the Indian Subcontinent and across Southeast Asia. They are common residents in the Delhi area, inhabiting wooded country of all types, urban gardens, roadside trees, light woodland, and groves of trees in the countryside, where their fluty calls are a familiar sound. They breed in the hot months between April and July.

Common Raven *Corvus corax* Vagrant

The race *subcorax* (Punjab Raven), of this widely distributed corvid, is resident in parts of western India, and seems to have bred sparingly in the drier landscapes westwards of Delhi over a century ago. Frome (1948a) mentions a doubtful sighting from Gurgaon in December and a pair near Hauz Khas in January, probably in the early 1940s; the only later records are of two on the New Delhi Ridge on 20 March 1996, detailed field notes in Vyas (2002); and one at Bhindawas Bird Sanctuary on 15 May 2011 (S. C. Sharma 2011).

House Crow *Corvus splendens* Breeding resident (Abundant ↔)

Essentially South Asian, House Crows have been introduced, deliberately, or as stowaways on ships, to many parts of the world. They are commensal with humans, at home in urban Delhi; they breed between May and August in trees, even power pylons, and roost communally outside the nesting season in groves of large trees. They are cunning, adaptable creatures, omnivorous in food habits; they will scavenge for scraps, kill and eat any living thing they can overpower and be a menace to eggs and young of other birds. In Hugh Whistler's words, that sum up the character of Delhi's House Crows so well, "Yet with all their manifold villainies, there is much that is attractive about the sleek, intelligent, shameless bird that is the companion of our daily life..."

Large-billed Crow *Corvus macrorhynchos* Breeding resident (Scarce ↔)

Some taxonomic authorities (IOC) split the 'Indian Jungle Crow' *C. culminatus* and 'Eastern Jungle Crow' *C. levaillantii* from the 'Large-billed Crow' *C. macrorhynchos* (which then gets limited to the Himalayas and East Asia) on the grounds of vocal, morphological, and other differences. H&M4 recognises these as separate groups within a single species. The 'Indian Jungle Crow' is widespread and endemic to India and Sri Lanka, but scarce about Delhi, which is towards the western edge of its range. It was listed as a vagrant in Delhi prior to

1950 and Ganguli (1975) also mentioned very few sightings in 1960s. They have increased since, albeit slowly, and are best considered scarce residents with a few nesting records in the Delhi area.

MONARCHIDAE: MONARCHS

(India: 3 species, Delhi: 1)

The Monarchids are a family of strong-billed insectivorous birds of woodland habitats in Africa, Southern Asia, and Australasia. Highly diversified in the Australo-Pacific region, we have one of its loveliest members on our list, the Indian Paradise Flycatcher.



Indian Paradise Flycatcher *Terpsiphone paradisi* Breeding summer visitor, Passage (Uncommon ↓)

Indian Paradise Flycatchers range from Central Asia to the Indian Subcontinent, and are mainly uncommon passage migrants through the Delhi area with a few pairs staying through the summer months to nest. They appear to have bred more frequently in the past, with Hutson (1954) mentioning nests in Delhi gardens in the 1940s. By the 1960s, however, Ganguli (1975) had noted that Paradise Flycatchers rarely attempted to breed in Delhi. Nesting has been recorded in recent years, but remains apparently irregular and localised: in woodland habitats on the South-Central Ridge nest-building at Sanjay Van in June and July (*pers. comm.* Surya Prakash) and fledged chicks in August (Bhushan 2017); and in late July on the Southern Ridge at Mangar Valley, Faridabad District (Das 2018; Ritvik Singh 2018b) and Bhondsi, Gurgaon District (M. Kumar 2018). They are more frequent on passage between late March through May in spring and in August–October in autumn, in woodland, gardens and groves, particularly where trees overhang waterbodies.

DICAEIDAE: FLOWERPECKERS

(India: 9 species, Delhi: 1)

An Oriental–Australasian family of small but often brightly coloured birds with tubular tongues addicted to nectar and berries of parasitic mistletoes of the families Loranthaceae and Viscaceae, with which they exist in a symbiotic relationship. In spite of their name they are mainly mistletoe berry eaters but may be seen pecking at other fruit as well, especially guavas (*Psidium* sp.) Of several species in India, one reaches the Delhi area as a rare, irregular visitor.

Thick-billed Flowerpecker *Dicaeum agile* Winter visitor (Rare)

This flowerpecker is in the main a resident, though subject to local movements, in much of India and Southeast Asia, but Delhi is on the western fringes of its normal residential range and it is only an occasional visitor here in winter, between October and February. There are historical records from the Delhi Ridge in April 1950 (Ganguli 1975) and doubtfully in the early 1970s (Gaston 1978a). In recent years, birds have wintered off and on in the woodland in Sultanpur (Harvey *et al.* 2006), and there are one or two reports almost annually from Delhi's parks and gardens. They are possibly more regular but easily overlooked.

NECTARINIIDAE: SUNBIRDS

(India: 15 species, Delhi: 1)

A family of small birds with a large number of species in Africa and southern Asia, and with long thin bills adapted for feeding on flower nectar, of which they are inordinately fond. Small insects are also an important part of their diet. Dressed in bright shades of red, yellow, green, blue, and purple, many have brilliantly iridescent plumage. Of the several species in India only one is resident in the Delhi area.



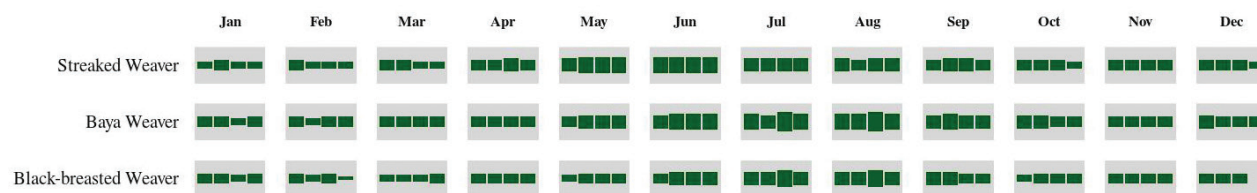
Purple Sunbird *Cinnyris asiaticus* Breeding resident (Common ↑)

Purple Sunbirds are common residents from the Persian Gulf to the Indian Subcontinent and Southeast Asia, and in the Delhi area are familiar birds of urban gardens, Ridge woodland, and generally anywhere that there are flowering trees and shrubs in the countryside. Males begin to moult into their breeding finery from November, and are singing and displaying as soon as the weather begins to warm up in February. Breeding continues till May and June, and by the rainy season, males begin to assume their eclipse plumage again, with many juveniles in fresh and bright female-type plumage around at that time.

PLOCEIDAE: WEAVERS

(India: 4 species, Delhi: 4)

A large Afro-Asian family of sparrow-like seed-eaters of tropical grasslands, famed for their finely woven nests of leaf fibre. Just as remarkable is their polygynous breeding biology, in which males alone weave the nests and then use them as display platforms to lure successive females.



Black-breasted Weaver *Ploceus benghalensis* Breeding resident (Common but local ↑)

These weavers of the Indo-Gangetic grasslands are locally common in the Delhi area along the Yamuna floodplain and wetlands in the countryside, spreading more widely as monsoon rains create areas of suitable habitat. Ganguli (1975) called them “very uncommon”, but they have evidently increased since. Males assume breeding plumage from mid-April; their nests, often in small, loose colonies, are anchored in a canopy of reeds, or tall grasses pulled together, and nest-building may be delayed till monsoon grasses grow tall enough. Females arrive at the colony by May/June, choose mates and lay eggs; the male begins another nest to attract a second female, practicing successive polygyny till September. Post-breeding flocks feed on flowering *Saccharum* grass heads along with Baya Weavers *P. philippinus* and munias in winter.

Streaked Weaver *Ploceus manyar* Breeding resident (Common ↔)

Streaked Weavers range across the Indian Subcontinent and Southeast Asia, and are locally common in the Delhi area. Ganguli (1975) had called them “fairly common” and this description remains valid today. Both Streaked- and Black-breasted Weavers may breed in close proximity as at Okhla or Basai, but the former also occupies another, rather different ecological niche, smaller channels and ponds with overhanging grass and reeds rather than expanses of such habitat. They nest in small, loose colonies or sometimes singly, and males are conspicuous and noisy from April to September with a similar successively polygynous breeding biology as its two congeners. After breeding, they disperse and do not seem to associate with parties of Baya Weavers in mixed flocks in cultivation as the Black-breasteds do.

Baya Weaver *Ploceus philippinus* Breeding resident (Common ↔)

Resident in the Indian Subcontinent and Southeast Asia, Bayas are common birds in cultivation and parkland about Delhi, and their colonies with nests suspended from branches are a familiar rural sight—babools *Acacia*, and palms *Phoenix* overhanging ponds, ditches, and canals are especially favoured. Completed nests are the most exquisite, finely woven structures with pensile suspensions and long entrance tubes, often weighted by mud packs daubed in the ‘chamber’. Males begin building by late April but females do not arrive at the colonies until May or later, and eggs are laid only by July after the rains break. The males practice successive polygyny. There is concern about apparently declining Baya numbers in the Delhi area as elsewhere in India, possibly because of indiscriminate pesticide use.

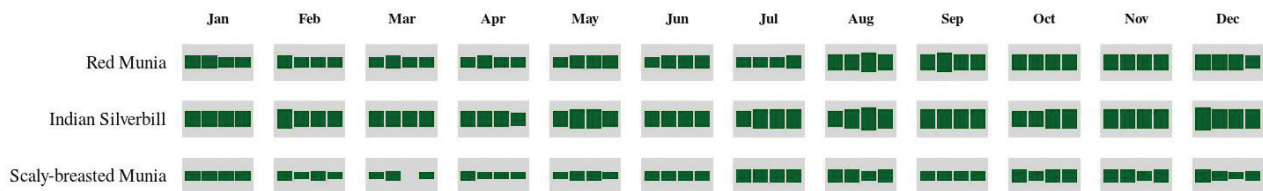
Finn’s Weaver *Ploceus megarhynchus* Vagrant (probable escapes/releases)

Finn’s Weavers are endemic to India with a highly restricted range in the terai grasslands in Kumaon and North Bengal, severely threatened by loss of habitat and illegal trapping. Breeding colonies with a maximum of 35 nests had been reported in June and July in early 1980s at Hastinapur near Meerut (Rai 1986). One was reported from Sultanpur in 1985 and two males were sighted building nests at Okhla in June–July 1993 (Harvey *et al.* 2006). The nests were destroyed by rising water levels and there have been no further records. These records are most likely to have been escaped or released birds, or more remotely, birds that have spread downriver from Meerut, as these weavers have not been reported again from the Hastinapur marshes either.

ESTRILDIDAE: MUNIAS

(India: 8 species, Delhi: 6)

An African, southern Asian, and Australasian family of small finch-like birds adapted for a granivorous diet.

**Red Munia *Amandava amandava* Breeding resident (Fairly common ↑)**

These bright, confiding little birds, native to southern Asia, have been introduced in a number of other countries too. They are locally common in the Delhi area, seemingly more so than in the past when Ganguli (1975) deemed them uncommon. They keep to clumps and patches of tall grass about marshes and wet cultivation, breeding freely wherever such habitats occur between July and October. The Yamuna floodplains about Okhla, seepage marshes along canals, and most wetlands in rural areas hold numbers of breeding pairs. In the non-breeding season, parties of 10–20 birds in female type plumage, accompanied by juveniles, often wander into dry short grass and scrub areas on the Ridge.

Green Munia *Amandava formosa* Vagrant (probable escape)

Endemic to India, this seriously endangered species (Vulnerable) has suffered greatly from illegal trapping for the pet trade, and one observed at Sundar Nursery, New Delhi in October 1978 (Gaston & Mackrell 1980) with a party of Red Avadavats was almost certainly an escaped cage bird, possibly from the adjacent Zoological Gardens.

Indian Silverbill *Euodice malabarica* Breeding resident (Common ↔)

This dry country species ranges from the Persian Gulf to much of the Indian Subcontinent. It is widespread about Delhi, the commonest of the family in all sorts of dry habitats: grass-and-thorn scrub of the Ridge, tall grass and dry waste ground around cultivation and villages, vacant plots on the outskirts of towns, open *Acacia/Prosopis* woodland, and so on. It keeps in small parties, even in the breeding season that extends from April to September. Several females may deposit their eggs in one nest which is usually an untidy ball of dry grass in a thorn tree. They are often seen near Baya Weaver colonies, and heronries, where they may appropriate abandoned weaver nests or build in the large stick nests of herons and egrets.

Scaly-breasted Munia *Lonchura punctulata* Breeding resident (Uncommon ↑)

These widespread munias of the Indian Subcontinent and Southeast Asia are towards the western borders of their range in Delhi, and are rather uncommon here. They frequent gardens, the Ridge, and long grass areas in the floodplain, preferring lush areas than the Silverbill, and appear to have increased in numbers about New Delhi over the last few decades with increasing greenery (and releases?). They breed in July–September, the birds flying to their nest sites holding long green strips of grass that trail behind them like a long green tail. Usually in small parties, but flocks of 25–30 birds, both adults and juveniles, may also be seen.

Tricolored Munia *Lonchura malacca* Breeding resident (Uncommon, probable releases/escapes ↔)

Delhi is well northwards of the Tricolored Munia's range in peninsular India, but small parties, rarely as many as 40 with juveniles, are not infrequently reported from marshy and rank grass areas in the Yamuna's floodplain and about wetlands. Such records go back several decades, and Ganguli (1975) had noted them as uncommon but nesting in reed beds even in the 1960s. Many birds are artificially coloured (by bird dealers), a pointer that these have probably been deliberately released for religious reasons. Though they are breeding in the Delhi area, it is uncertain whether the population would be able to sustain itself were it not for the continuing accretion through fresh releases. Rare individuals with cinnamon-tinged underparts in the Delhi area have been claimed to be hybrids with Chestnut Munias, but other authorities consider them plumage morphs of Tricolored; as such intermediate looking individuals also occur well outside the range of *L. atricapilla* (Restall 1997).

Chestnut Munia *Lonchura atricapilla* Vagrant (or escapes)

Chestnut Munias are widely distributed in Southeast Asia extending westwards along the Himalayan foothills and *tarai* grasslands as far west as the Yamuna River. They have been reported far less often than their Tricolored sibling from around Delhi with no recent reports. It is possible, however, that these munias may wander here from the *tarai* without human agency. There are two historical records, a pair in a New Delhi garden in July 1945 with a party of Silverbills (Benthall 1949) and one in June–July with Streaked Weavers, probably also

in the 1940s (Hutson 1954). Interestingly, till Hutson's time there were only these two records from around Delhi with no mention of the Tricolored; since the latter is most often kept in captivity or for release, it is arguable that these earlier Chestnut Munia records were of genuine vagrants, rather than released birds.

PASSERIDAE: SPARROWS

(India: 12 species, Delhi: 4)

Too familiar to need a description, this Old World family is now represented world-wide through human aided introductions. Some, such as the Spanish Sparrow, are gregarious and migrate in flocks, even breeding communally, while others like the Yellow-throated Sparrow nest individually in tree holes.



House Sparrow *Passer domesticus* Breeding resident (Common ↓)

Native to Europe, Central-, and South Asia, House Sparrows are now present in all continents through deliberate introduction. Adaptable and commensal, they are, or perhaps were, familiar birds of urban Delhi and village precincts, breeding freely in houses and buildings from April to August by when insect life is abundant to feed their chicks. Outside the breeding season, they gather in flocks to feed and roost. Local declines in urban House Sparrow populations have attracted attention, including about Delhi where these birds are no longer such a feature of urban areas as they were earlier, in parks, bazaars, bus and railway stations, etc. Pesticides and exotic garden plants have led to a general decrease in insect populations, and steel-and-glass architecture styles that have replaced traditional brick-and-mortar have all been cited as causes but may not be the only factors. But they remain locally common where they do occur; the House Sparrow is Delhi's State Bird.

Spanish Sparrow *Passer hispaniolensis* Winter visitor (Uncommon)

Spanish Sparrows breed from the Mediterranean region to Central Asia and locally, erratically, elsewhere, wintering southwards as far as Western India. Delhi is near the eastern limits of their wintering quarters, and their appearances and numbers here tend to be irregular, mainly between November and March. Ganguli (1975) mentioned just one historical record from Sultanpur from 1969 but it certainly occurs more frequently than that; the Sultanpur area, however, still seems to provide most records though it is regularly reported from other rural areas in Haryana as well. Migrating Spanish Sparrows travel in huge flocks, often with House Sparrows of the migratory Central Asian races, but here they will usually be encountered in small parties feeding with Short-toed Larks, doves, starlings, and other sparrows in fallow fields.

Sind Sparrow *Passer pyrrhonotus* Breeding resident (Uncommon, local, recent range expansion ↑↑)

Till less than two decades ago, Sind Sparrows were restricted to the Indus's floodplains in Pakistan, just extending across the border into India along the Sutlej River into the Punjab. In an extraordinary, natural eastward expansion of its range, they were first reported in *Acacia* plantations along canals at Sonipat in early 2001 (Harvey & Sharma 2002), followed by discovery of the first nests in May that year. They then spread rapidly across the Haryana plains following the network of irrigation canals and waterways and within a couple of years were recorded nesting in North Delhi, Bhindawas, Sultanpur, and Manesar. They breed in *Acacia* woodland near water, in small loose colonies from February to July, and roost in reed beds in the non-breeding season. At Bhindawas, a small colony was even found nesting in the bases of old egret nests in the heronry (Harvey *et al.* 2006).

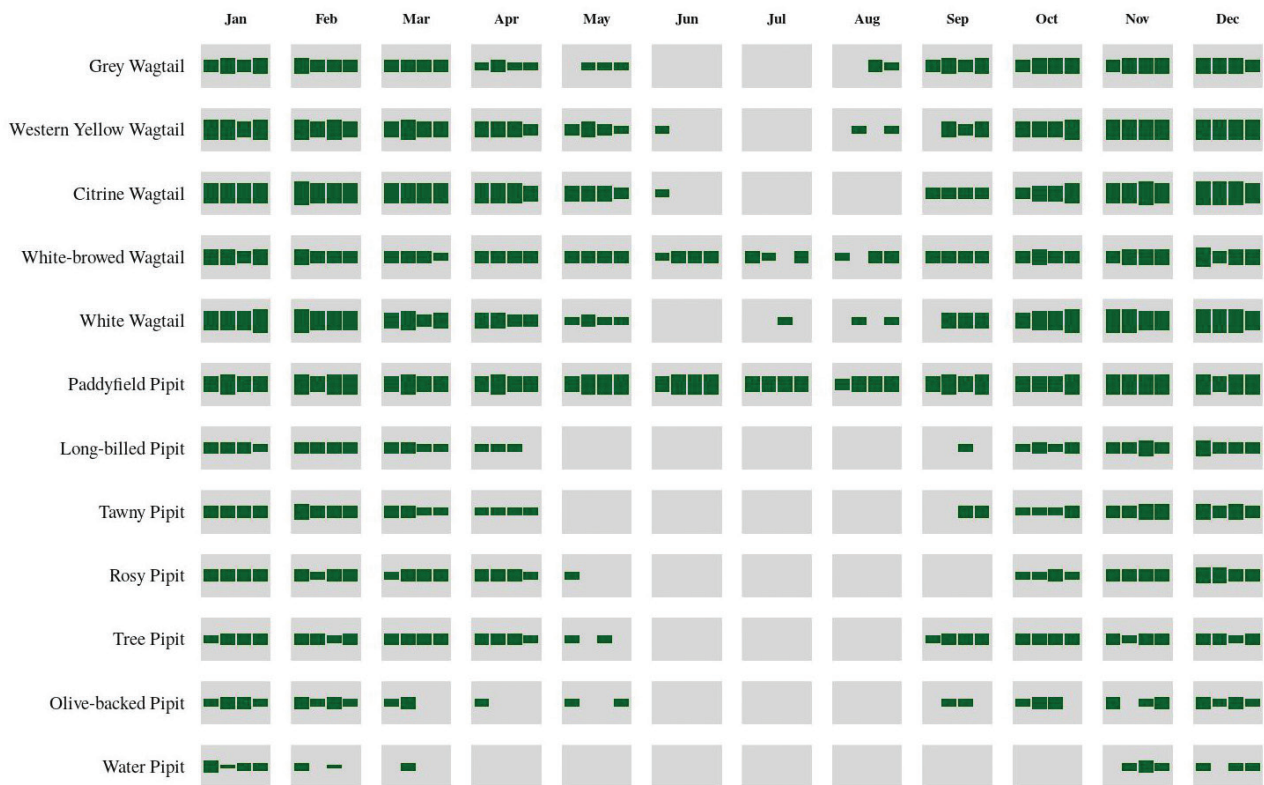
Yellow-throated Sparrow *Gymnoris xanthocollis* Breeding Resident (Locally Common ↔)

Distributed from the Persian Gulf to the Subcontinent, Yellow-throated Sparrows (also known by an awkward alias, Chestnut-shouldered Petronia) are locally common breeding residents, widespread in the Delhi area. Ganguli (1975) saw them in parks and gardens, but they seem to be commoner in *Acacia/Prosopis* woodland on the Ridge and around villages, and rural groves. They feed on grain and seeds, berries, insects, and commonly, nectar in season. Males become vocal as the weather warms up in March and they breed from April to June in tree holes in such habitat. Larger parties, forty or more, gather in shrubbery in the non-breeding season to roost.

MOTACILLIDAE: PIPITS AND WAGTAILS

(India: 20 species, Delhi: 16)

Represented on all continents, the family is most diversified in the Old World—the wagtails almost entirely so while pipits are more widely distributed. Wagtails' patterns and colours tend to be bright and contrasting and with their vivacity and confiding demeanour they are a delight to watch. Our pipits on the other hand are soberly coloured, but phenotypic characters, structure, size, pattern, voice, and behaviour are useful identification tools (Alström 2018). Smaller pipits, Tree- and Olive-backed, with Rosy, Red-throated, and Water form one group (subgenus *Anthus*), and the larger ones, Richard's, Paddyfield, Blyth's, Tawny, and Long-billed, form another (*Corydalla*). Both pipits and wagtails are well represented in the wetland and open dryland habitats of the Delhi area, which suit them admirably, but most are migrants and only one of each group breeds with us.



Forest Wagtail *Dendronanthus indicus* Vagrant

These aberrant wagtails breed in north-eastern Asia and winter in south-western India, Sri Lanka, and Southeast Asia. Unusually for wagtails, they breed and winter in woodland and even nest in trees. They are known to wander west from their usual migration path in autumn—even reaching the Persian Gulf—and there are two such records of vagrants from the Delhi area, both at Okhla: one historical, by H. Alexander in September 1949 (Ganguli 1975), and one recent, on 16 October 2016 (Arora 2017).

Tree Pipit *Anthus trivialis* Winter visitor (Locally Fairly common)

Tree Pipits breed very widely across temperate Eurasia southwards to the Western Himalayas, migrating in winter to Africa and India. They are common in the Delhi area from September to April, but tend to be localised in suitable habitats, grassy areas with some tree and shrub growth. Passage movements are most in evidence in September–October and from March to mid-April, when large numbers may collect in the evenings to roost in reed beds, as at Okhla, or areas of tall grass at the Aravalli Biodiversity Park, Gurgaon.

Olive-backed Pipit *Anthus hodgsoni* Winter visitor (Locally Fairly common)

These pipits are essentially Asian in distribution, breeding from Siberia southwards to the Himalayas and wintering in India, China and Southeast Asia. They are frequent in the Delhi area between October and March in open *Acacia/Prosopis* parkland or orchards with short grass understorey but no undergrowth, and regular sites include the woodland patches at Sultanpur, Bhindawas, Surajkund, the New Delhi Ridge, Lodhi Gardens, and the Delhi Zoo every winter. Most birds that winter here appear to be of the plainer backed Siberian race *yunnanensis*.

Red-throated Pipit *Anthus cervinus* Vagrant

Red-throated Pipits that nest across northern Europe and Asia winter mainly to the west and east of the Indian Subcontinent—in Africa, West- and Southeast Asia—but do not enter South Asia in any numbers. Ganguli (1975) called them rare passage migrants but mentioned only two historical records from Okhla, in May 1949 and April 1965, of birds in breeding plumage. Several claimed sightings from the Yamuna floodplains in 1970s are vitiated by confusion with Rosy Pipits (Harvey *et al.* 2006), and the very few recent reports include singles at Okhla in December 1998 (Robson 1998b), a probable at Basai in December 2010 (Singal 2010), and two in distinctive breeding plumage there in early April 2016 (Panjeta 2016a).

Rosy Pipit *Anthus roseatus* Winter visitor (Locally common)

Rosy Pipits breed abundantly in soggy alpine meadows of the high Himalayas, wintering in northern India. They are locally common in the Delhi area from October to April, though numbers seem to fluctuate year to year. They keep singly or in small loose parties about margins of lakes and marshes, canal banks, and bunds by the river; large numbers collect to roost in marshes, milling about in the darkening sky at sunset and suddenly dropping like rain to disappear in the vegetation, as may be seen at the Basai and Okhla marshes. They begin to moult into breeding plumage in March and many are in fine breeding dress by the time they leave.

Water Pipit *Anthus spinoletta* Winter visitor (Scarce)

Water Pipits that breed in the mountains of southern Europe and Asia winter as far southwards as north-western India and China. Delhi is near the eastern edge of their winter range in India, and they are rather scarce here. Ganguli (1975) mentioned observations between October and April in the 1960s. There have been almost annual records of single birds or small parties between November and February in recent years, mainly from the Yamuna's floodplain, the Sultanpur neighbourhood, and from the Basai and Dighal wetlands.

Richard's Pipit *Anthus richardi* Vagrant

These large pipits winter from the Indian Subcontinent—mainly its southern and eastern parts—to Southeast Asia, but are known to wander west of their usual wintering areas fairly frequently. Such vagrants have been recorded in the Delhi area, usually on damp ground near wetlands and seepage marshes. Identification issues confound claimed reports, and criteria cited by observers rely on large size, erect stance, pale lores, heavy dark streaking on crown and back, and strong dipping flight with loud rolling 'shreep' calls. The few reliable records are from the Sultanpur neighbourhood and Greater Noida wetlands (Gupta 2016c), from as early as September.

Paddyfield Pipit *Anthus rufulus* Breeding resident (Common ↔)

The Paddyfield Pipit of the Indian Subcontinent and Southeast Asia is our only resident pipit, represented here by the paler and less heavily streaked race *waitei* of the north-western India, which is generally common in the Delhi countryside in areas of dry short grass and overgrazed pastures near villages, and bare sandy tracts in the floodplain. Males show territorial behaviour and start aerial song displays from March; they breed between April and July building nests on the ground in a hoof print or depression. They will normally be seen in pairs or singly, never in flocks.

Blyth's Pipit *Anthus godlewskii* Winter visitor (Rare)

Blyth's Pipits breed in the Mongolian steppes and winter mainly in eastern and southern India and Myanmar. Field identification is a challenge, and most records are difficult to pin down with certainty unless backed by good photographs and behaviour, voice, and jizz have been assessed competently. Ganguli (1975) did not include this species in her Delhi list, but as identification criteria have been developed and more clearly understood lately, a growing number of convincing reports in recent years suggest that Blyth's Pipits may have been overlooked in the past and a few probably do visit the Delhi neighbourhood off and on, seemingly preferring localised grassy patches that are less bare and dry than the Paddyfield's typical habitat. Most records are from open ground in the Sultanpur neighbourhood (e.g., Nanda 2018b), Tughlaqabad (Harvey *et al.* 2006), and the Yamuna's floodplain, between mid-September and February.

Tawny Pipit *Anthus campestris* Winter visitor (Uncommon)

Tawny Pipits breed across Europe to Central Asia, wintering southwards to north-western India. They are uncommon winter visitors to the Delhi area from October to April, found typically in scattered parties on open scrub country, bare sandy flats, and overgrazed ground.

Long-billed Pipit *Anthus similis* Winter visitor (Uncommon)

These large pipits range widely, in several races, over much of Africa and West Asia to India and Myanmar. They visit Delhi in small numbers between October and April and are locally distributed, favouring the broken stony ground and low scrub of the Southern Ridge, where such habitats at Tughlaqabad, Surajkund or the Aravalli Biodiversity Park, Gurgaon, suit their requirements perfectly. They may also be found at times in sandy flats, as about Sultanpur, or stone clad embankments by the Yamuna and canals. Our wintering birds belong to the paler, greyer race *decapus* of the north-western Subcontinent.

Western Yellow Wagtail *Motacilla flava* Winter visitor (Common)

Yellow Wagtails, in diverse subspecies, breed across temperate Europe and Asia, and winter in Africa and India. They are common visitors to the Delhi area between late August and May, even swarming during passage in spring, and affect damp grazing grounds and short grass areas, wet mudflats, marshes, and irrigated fields. Three races occur regularly, the males of which are identifiable as they assume breeding dress in spring: the grey-headed *thunbergi* (that breeds in Siberia), and blue-headed *beema* (Central Asia) are the commonest, while black-headed *melanogrisea* (Turkestan) is the last to depart in spring—birds in May are mostly of this striking race. The white-headed *leucocephala* (breeding in Mongolia) is a rare migrant with just three records from the Delhi area, in April 1965 near Okhla (Jackson 1965), January 2003 at Sonipat (S. C. Sharma 2005), and 12 April 2009 at Okhla again (■ Arya 2009). Spectacular numbers of Yellow Wagtails gather to roost in reed beds at Okhla and elsewhere.

Grey Wagtail *Motacilla cinerea* Passage migrant, scarcer in winter (Uncommon)

These graceful wagtails breed by woodland streams in Europe and Asia southwards to the Himalayas, wintering in North Africa and South Asia. They are mainly passage migrants through Delhi in small numbers, passing through in September/October and again in March/April. Some spend the winter here as well, in ones or twos, by artificial ponds and channels in Delhi Zoo and in parks such the Lodhi Gardens, but are noticeably fewer than during passage periods. They prefer shaded streams and running water instead of the open marshes beloved of the Yellow Wagtails.

Citrine Wagtail *Motacilla citreola* Winter visitor (Common)

Citrine Wagtails breed in Eurasia, Central Asia, and the Western Himalayas, wintering in Southern Asia. Two races winter commonly in the Delhi area, arriving by late August and remaining till April/May. They are identifiable in breeding plumage in spring: the northern, grey-backed *citreola* leaves by March/April, while the striking black-backed Himalayan breeding *calcarata* passes through between mid-March and late May. They prefer wet muddy margins of the Yamuna, ponds, and marshes, even wading in shallow water on occasion, being more aquatic than the others, and roost in large numbers with other wagtail species in reed beds at Okhla.

White-browed Wagtail *Motacilla maderaspatensis* Breeding resident (Locally common ↔)

These handsome wagtails are Subcontinental endemics and common breeding residents about Delhi. They are not birds of marshy ground and prefer flowing watercourses with rocky banks; or, in their absence, bridges and canal sluices, weirs, barrages, riverside ghats, and artificial waterbodies in the larger gardens, where they breed freely between March and June. Males advertise territories through their spirited songs which may be heard through much of the year.

White Wagtail *Motacilla alba* Winter visitor (Common)

White Wagtails are very widespread birds, breeding—in several very distinct races—across Europe and Asia southwards to the Himalayas, and wintering in Africa and Southern Asia. They are common here from late August till May, affecting open ground both near water and away from it, and commonly irrigated lawns and garden paths. Two grey-backed subspecies, the black-faced Central Asian *personata* and the white-faced Siberian *dukhunensis* winter commonly and in large numbers in the Delhi area. Two black-backed subspecies, the black-faced Himalayan *alboides* and the white-faced East Asian *leucopsis*, are both far scarcer—there are just a couple of reports of the former in spring, while *leucopsis* is rather more often met with. White wagtails, like their co-genera, collect in numbers at communal roosts in reed beds at Okhla and elsewhere.

FRINGILLIDAE: FINCHES

(India: 44 species, Delhi: 1)

This widespread family of small to mid-sized, often colourful, songbirds is well diversified in the Himalayas, and though a few species do drop down to the foothills and plains of the northwest in winter, just one, the Common Rosefinch, winters widely in India.



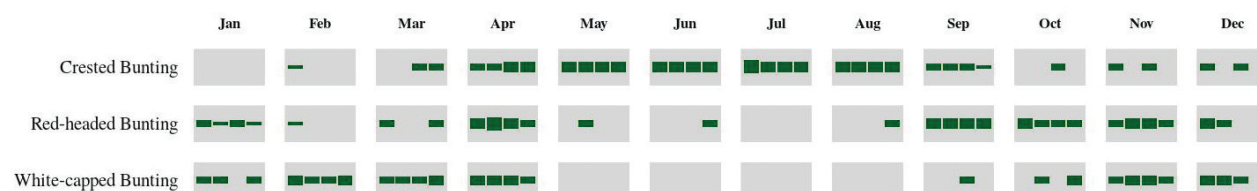
Common Rosefinch *Carpodacus erythrinus* Winter visitor (Uncommon, common during passages)

Common Rosefinches have a wide breeding range in Central Europe and Asia, including the Himalayan ranges, and winter in the Indian Peninsula and Southeast Asia. They are common passage migrants through Delhi in both autumn and spring, with many remaining all winter in woodland on the Ridge. Spring passage is conspicuous from mid-March to early May, when parties of Common Rosefinches frequent city gardens, the Ridge, and groves and orchards in the countryside. At this time they are especially fond of mulberries and flower nectar. At least two races occur in the Delhi area; wintering birds are much duller with restricted pink in the males and diffusely streaked females and are presumably of the nominate race, while spring passage is dominated by the brilliant Himalayan-breeding *roseatus* with deep carmine males and darker, well-marked females, which winters farther southwards.

EMBERIZIDAE: BUNTINGS

(India: 19 species, Delhi: 9)

Genetic distances between the heterogeneous bunting species on our list are small enough for all to be placed in a single genus, *Emberiza*, including the very different, and our only resident species, the Crested Bunting, which was hitherto placed in its own genus *Melophus*. Buntings are well-known wanderers; of the other buntings on our list, only the Himalayan-nesting White-capped is a regular winter visitor, two that breed north-westwards of the Indian Subcontinent migrate through the Delhi area to their wintering grounds in the peninsula, and no less than five are vagrants.



Crested Bunting *Emberiza lathami* Breeding resident (Uncommon and local ↔)

Crested Buntings are largely resident, though subject to local movements, in the lower Himalayas and parts of peninsular India. They had been considered scarce passage migrants in the Delhi area with scattered records from the Yamuna's floodplain in September-October and March-May (Ganguli 1975; Harvey *et al.* 2006), and odd reports in the winter months as well, possibly Himalayan breeders that disperse into the plains in winter. However, in recent years they have been found to nest in small numbers in open woodland and scrub on the Southern Ridge (environs of Mangar Valley, Faridabad), present in such habitat between late March and September with males in song in June and July. They are probably breeding residents in these northernmost outliers of the Aravalli Range, as they are at Sariska National Park, Alwar, 150 km further south.

Red-headed Bunting *Emberiza bruniceps* Passage migrant (Fairly common)

Red-headed Buntings breed in Central Asia and spend the winter in west-central India, Rajasthan to Madhya Pradesh, and southwards to Karnataka. They are fairly common on both passages through Delhi, in autumn between August and November, and in spring between mid-March and April when they feed on ripening wheat in rural areas and the floodplain. They are usually in parties of 20–50 but there are reports of larger flocks too which are, in fact, more typical of these buntings on migration. There are scattered records in mid-winter too.

Black-headed Bunting *Emberiza melanocephala* Vagrant

These buntings breed from south-eastern Europe and Turkey east to Baluchistan, and winter in west-central India. Delhi is on the fringe of their migration path through Gujarat, Rajasthan, and Sindh, and their main passage movement certainly passes just southwards of the Delhi area. They are rare here; Ganguli (1975) mentioned two historical records of single birds in flocks of Red-headed Buntings, in April 1944 and 1962. Recent autumn records include singles at Basai in September 2001 and November 2002 (Harvey *et al.* 2006); and a few in spring in April from Sultanpur and Okhla. A sole winter record is from Yamuna *khadar*, Faridabad, in December 2016 (K. B. Singh 2016).

Chestnut-eared Bunting *Emberiza fucata* Vagrant

The race *arcuata* of the Chestnut-eared Bunting breeds in the Himalayas, wintering in the *tarai* grasslands in the foothills. Some wander farther southwards along the Yamuna's floodplains and vagrants have thus reached the Delhi area twice: a small party at Garhi Bala village, Sonapat, Haryana on 02 November 2002 (Suresh C. Sharma, *pers. comm.*) and one (photographed but not verified by the author) by the Yamuna at Delhi in November 2005 (Harvey *et al.* 2006).

Grey-necked Bunting *Emberiza buchanani* Passage migrant (Scarce)

These buntings breed in Central Asia southwards to Afghanistan and winter in Central India and the Deccan Plateau. They are occasional about Delhi on northward passage but there are rare autumn records as well. Ganguli (1975) recorded just three observations of small parties in stony scrubland till the 1960s, while Gaston (1978a) considered it "a not uncommon spring passage migrant" with one record in October 1971. Recent reports have been frequent but irregular, from Ridge landscapes in South Delhi and Haryana in old quarries and stony scrub habitats, mainly on northward passage in March except for a couple of reports in September and November.

Ortolan Bunting *Emberiza hortulana* Vagrant (Confirmation desirable)

Ortolans breed in Europe and Central Asia and winter mainly in Arabia and Africa. They are rare vagrants to India, with hardly three or

four reports of stray migrants in Kashmir and Gujarat. Ganguli (1975) documented an observation of a party of five seen on 18–19 April 1970 at Mehrauli, South Delhi, by Peter Jackson, A. J. Gaston, and herself (Jackson & Gaston 1973). The Grey-necked Bunting is the main confusion species, and her detailed comparison with BNHS skins of Grey-necked is suggestive but still leaves some scope for doubt in identification. There have been no further records, and the record is retained here as requiring reconfirmation.

White-capped Bunting *Emberiza stewarti* Winter visitor, commoner on passage (Uncommon)

These buntings nest on open mountain slopes in Central Asia and the Western Himalayas and are uncommon but widespread winter visitors to Delhi in the drier thorn scrub habitats of the Central and Southern Ridges, along canal embankments, patches of native *Acacia* woodland as at Sultanpur, and elsewhere. Gaston (1978a) considered them “numerous winter visitors” to the New Delhi Ridge between October and May in “flocks of up to 20”, though they are usually recorded in small parties of two to five birds in recent decades. They are most frequent and more widely distributed during passages in October–November and especially March–April, when the males are in their striking breeding dress.

Striolated Bunting *Emberiza striolata* Vagrant

Striolated Buntings are residents, subject to local movements, of dry, stony country from Arabia to India, eastwards and southwards to Madhya Pradesh and Maharashtra. The Delhi area is on the fringe of their range, but they have been reported from just beyond our limits in Haryana, about Hisar and Bhiwani—with a recent record from the latter site on 17 October 2018 (Ahlawat 2018d). Ganguli (1975) mentioned two historical records in March from Delhi itself, Mehrauli in 1952 and Tughlaqabad in 1958. Two recent reports from the Delhi area are singles photographed at Kanonda, Jhajjar District on 04 December 2014 (Chhikara 2014) and at Faridabad, Haryana on 22 April 2017 (Rohit Singh 2017).

Eurasian Reed Bunting *Emberiza schoeniclus* Vagrant

Reed Buntings are rare visitors to north-western India, with a few records from Kashmir, Punjab, and Haryana, but have been recorded from Delhi historically. A sight record of a female or first winter bird was reported from Sultanpur in November 2003 (Harvey *et al.* 2006), “It was observed from very close quarters in a grazed clearing in the tall grass/reeds at Sultanpur. I am very familiar with the species in Europe” (W. G. Harvey, *pers. comm.*).

STENOSTIRIDAE: FAIRY FLYCATCHERS

(India: 2 species, Delhi: 1)

This recently set up Afro-Asian family of small insectivorous birds represents a clade comprising of a few African flycatchers and three Asian species: two Canary-Flycatchers in the genus *Culicicapa* and one aberrant fantail, *Chelidorhynchus*. We are concerned with only one species in Delhi.



Grey-headed Canary-Flycatcher *Culicicapa ceylonensis* Winter visitor (Uncommon)

Canary-Flycatchers breed in forested hills from the Indian Subcontinent through Southeast Asia, and spread into the foothills and plains in winter. They are uncommon winter visitors to the Delhi area between October and March, when single birds, or in twos, and threes together frequent the better wooded corners of parks, gardens, and groves. They are active, lively flycatchers that often join mixed hunting parties of small insectivorous birds, and their loud and cheerful calls are unmistakable indicators of their presence.

PARIDAE: TITS

(India: 14 species, Delhi: 3)

An Old World and North American family of small birds with generalist lifestyles and broad uniformity in structure and habits, with exception of four aberrant species—of which one has appeared as a vagrant in Delhi.



Fire-capped Tit *Cephalopyrus flammiceps* Vagrant

Fire-capped Tits are aberrant members of the family, formerly classified with the Penduline Tits but their nesting biology is like the true

Tits. They breed along the Himalayas and winter in Central India, and have been recorded in the Delhi area as vagrants on spring passage; a party in March 1957 (Ganguli 1975) and a group of five at Sundar Nursery, New Delhi, on 29 March 1986 (Vyas 1996). The latter record included two males with diagnostic bright orange-red forecrown and chin/upper throat merging with yellow breast and belly. A male sang “*tsi-tsi-tsi-tsi*” while foraging; their flight call was a serin-like twitter, “*ri-ri-ri-ri*”. Both records were in shisham *Dalbergia* clumps, which these birds seem to frequent regularly during migration.

Cinereous Tit *Parus cinereus* Breeding resident (Common but local ↑)

The Cinereous Tits of southern Asia, as split from the Great Tit, breed in the Himalayas and the peninsular hills, including the Aravallis (race *stupae*). They were considered vagrants in the Delhi area with just a few winter reports from Southern Ridge habitats, urban gardens, and woodland patches in rural areas. In 2015, however, several pairs were discovered nesting in holes in *Acacia* trees of Mangar Bani, Faridabad District, Haryana, and have since been found to be common breeding residents at other locations on the South–Central and Southern Ridge landscapes as well. Since they are resident at Sariska National Park in the northern Aravallis, 150 km southwards, it was only to be expected that they would be discovered nesting here—this is yet another species of ‘Aravalli’ biotopes whose breeding range extends into the Delhi area along the Southern Ridge.

White-naped Tit *Machlolophus nuchalis* Vagrant (or local resident? data deficient)

White-naped Tits are endemic to India with a restricted and fragmented range in dry deciduous and thorn forest in the western and southern parts of the country. In Rajasthan it is known from the Jaipur and Sikar neighbourhoods, less than 200 km from the limits of the Delhi area. Records in October 2016 and July 2017 from Manethi, Rewari District, in February 2017 from Madhogarh, Mahendragarh District (■ Ahlawat *et al.* 2018) and again near Rewari the following year in August 2018, have extended its range further to the borders of the Delhi area. The temporal spread of these observations suggests a range extension into the Delhi neighbourhood, with the likelihood of these tits breeding in the thorn scrub woodland of these Aravalli outliers. Dookia (2007) suggests that this species may colonise *Acacia* forestry plantations in areas where they were not known to occur formerly. Their status, population, and movements, however, need further study.

REMIZIDAE: PENDULINE TITS

(India: 1 species, Delhi: 1)

Tit-like birds of Eurasia, Africa, and North America, that build soft, pear-shaped nests of plant fluff and cobwebs, that hang from twigs (‘penduline’) usually over water.

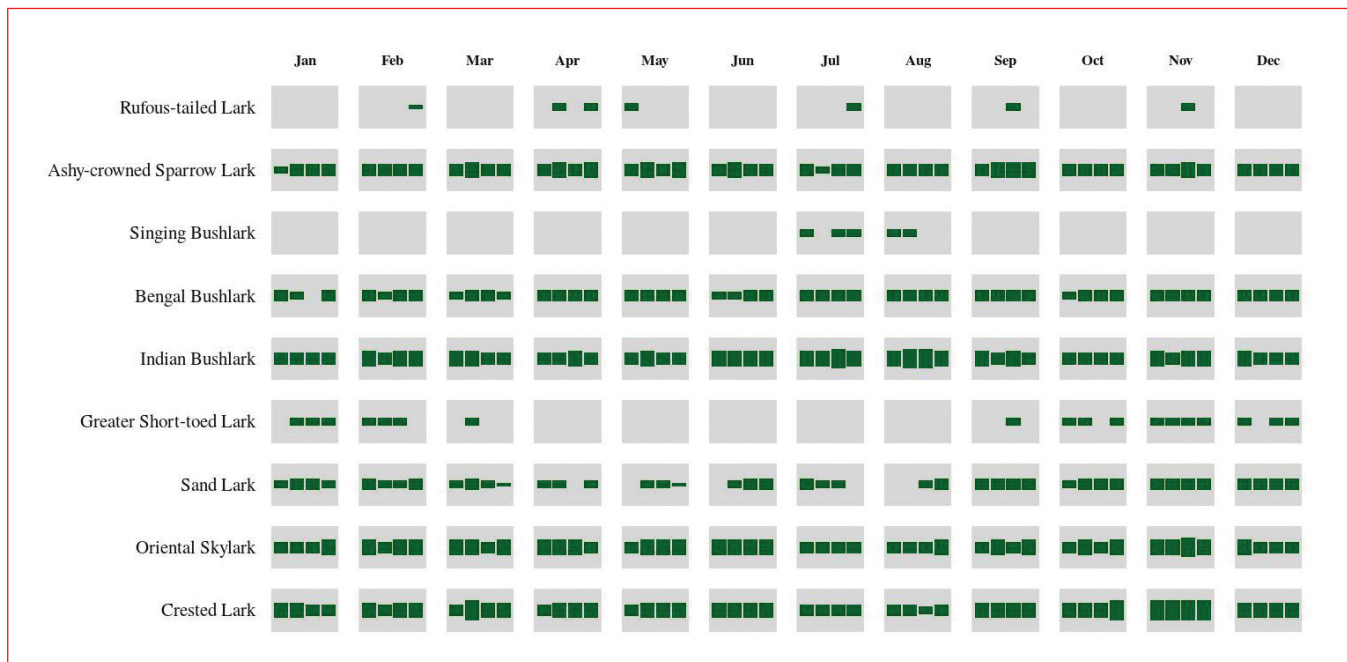
White-crowned Penduline Tit *Remiz coronatus* Vagrant

White-crowned Penduline Tits are winter visitors to the Indus floodplains from their breeding areas in Central Asia. Vagrants occasionally wander further eastwards, with three records from Delhi to date: in December 1981 (Robson 1981b), February 2006 (Harvey *et al.* 2006), and November 2011 (■ G. Arora 2006; Sethi 2011). All these involved parties of four to twelve birds feeding in scrub along the river at Okhla.

ALAUDIDAE: LARKS

(India: 22 species, Delhi: 13)

A predominantly Old World family of open country ground-living birds, superficially similar but actually quite diverse, and their habitat, habits, and song flights are all useful pointers in identification. Delhi’s dry open landscapes suit them well, and the family is well represented in the Delhi area by eight breeding residents and five winter migrants from Central Asia. The local movements of some of our resident species are poorly known.



Rufous-tailed Lark *Ammomanes phoenicurus* Probably breeding resident (Scarce ↔)

A Subcontinental endemic, whose peninsular range in India extends up to the Delhi area along the stony habitats of the Southern Ridge northwards to Tughlaqabad, and the drier open country to the west. It is probably a scarce resident in these areas, with recent records from sandy flats west of the hilly area, near Sultanpur, as well. Most records fall between March and November, and there are observations of small parties of three or four flying in a northward direction in April–July, the significance of which is unclear. Their normal breeding season in March–April, and they almost certainly nest in the Delhi area though there has been no evidence of breeding so far.

Ashy-crowned Sparrow Lark *Eremopterix griseus* Breeding resident (Fairly uncommon ↔)

Another Subcontinental endemic, this small lark is a fairly common resident of the countryside about Delhi, affecting open sandy flats and dry waste ground on the edges of cultivation, rural tracks, and bare overgrazed ground around villages. It is most in evidence in the summer between February and September when birds are displaying, and it is possible that some move out of the Delhi area in the coldest months though they are recorded through the winter. Harvey *et al.* (2006), however, considered them summer visitors, breeding before the rains set in with perhaps a second brood also after the monsoon.

Singing Bushlark *Mirafra cantillans* Probably breeding summer visitor (Local - data deficient)

This is a patchily distributed species of Sub-Saharan Africa, Arabia, and India, "a curiously local bird, restricted in places even to particular fields" (Whistler 1949). Singing Bushlarks had not been reliably recorded from the Delhi area until a singing bird was located at Sultanpur in June 2004 (Harvey *et al.* 2006). There have been several unsubstantiated claims but confirmed records are all recent, mainly from the Sultanpur neighbourhood in Haryana, and display a clear seasonal pattern. An influx of these larks was first recorded in late July 2016 at this site (Anand 2016c), and birds were reported again from the same location in July–August 2017. At least two were photographed and recorded singing in July–August 2018 for the third consecutive year in the same vicinity (Mitra 2018; ■ R. Singal 2018); and one at Greater Noida, Gautam Budh Nagar, Uttar Pradesh in early August 2018 (■ A. Rao 2018b). Singing Bushlarks appear to be localised breeding visitors to the Sultanpur area and possibly other locations too, coinciding with their nesting season that is believed to extend from mid-June to September.

Bengal Bushlark *Mirafra assamica* Breeding resident (Locally fairly common ↑)

These are bushlarks of damp grassland in the northern Gangetic floodplains. The first records from Delhi were in the 1990s, when a number of birds were observed displaying and in song at Okhla and Madanpur *khadar* between March and October. They have since been reported more widely from damp grassland habitats in the Yamuna floodplain and near wetlands. Their structure and jizz are unmistakable, as are their song flights, in which the bushlark flies up about 50 m and then circles in undulating scallops, alternating quick flutters up, and short glides down, with open wings, as it repeats a brief note followed by a buzz, 'pri-eeez', at each peak.



Anand Arya

Bengal Bushlark at Dhanauri, April 2015.

Indian Bushlark *Mirafra erythroptera* Breeding resident (Locally common ↔)

Endemic to India and Pakistan, Indian Bushlarks are common residents of the Delhi area in stony scrublands of the Southern Ridge, sparse grass-and-bush country in the floodplain along river embankments, and uncultivated patches with *Acacia* scrub in the countryside. They may abandon former habitats, such as the New Delhi Ridge, if the vegetation becomes too overgrown, dense, and tall. They breed from March through the monsoon to October, when their display flights are a typical feature of their habitats.

Lesser Short-toed Lark *Alaudala rufescens* Vagrant

Lesser Short-toed Larks inhabit semi-desert habitats from North Africa to Central Asia, in several races. Populations from Central Asia eastwards, formerly treated as races of Lesser Short-toed, have been split as Asian Short-toed Lark *A. cheleensis*. Ambiguity has arisen whether the race *persica*, which breeds in Iran, should be considered a subspecies of Lesser- or of Asian Short-toed Lark. H&M4 kept *persica* within Lesser Short-toed species limits, and this race is known to wander eastwards into the Indus Plains in winter with a very few records from the drier western parts of India as well. The first from the Delhi area (and the easternmost from India) was one, associated with a party of Sand Larks *A. raytal*, at the Yamuna *khadar* near Faridabad on 31 December 2016 (■ Kirola 2016; see ■ Sethi 2017 for identification analysis). Identification criteria for the races of the *rufescens/cheleensis* complex, however, are still unresolved and *persica* is assumed as the one most likely to occur.

Sand Lark *Alaudala raytal* Breeding resident (Common ↔)

These purely South Asian larks are locally common along the Yamuna sandbanks, embankments, and adjacent cultivation on sandy soil in the floodplain. Their silvery coloration can be very obliterative on dry river sand and their tinkling song is a feature of their preferred habitat, background music to the river landscape as it were, all through their breeding season from March–May. Birds sing from the ground, strutting about with raised crest, or in song flight with rapid wing flapping, alternated with pauses, before parachuting down in a series of steps.

Bimaculated Lark *Melanocorypha bimaculata* Winter visitor (Scarce and irregular)

These Central Asian larks winter from north-eastern Africa to India as far eastwards as the Yamuna. Delhi is thus at the eastern edge of their wintering range, and they tend to be rather scarce here. There was just one historical record till the 1970s from the Yamuna's floodplain (Ganguli 1975), but it has since been recorded irregularly—and not every year—in small parties in dry fields and bare ground in rural areas, short grass flats in the neighbourhood of marshes such as Sultanpur, at Sonipat, and in the floodplain. Small parties often associate with Short-toed Larks and in flight may be readily picked out by their larger size and proportionately shorter tails.

Hume's Short-toed Lark *Calandrella acutirostris* Winter visitor (Scarce)

Hume's Short-toed Larks that breed in Central Asia and Tibet are winter visitors to the northern Subcontinent. They had not been recorded historically from Delhi, certainly overlooked, but recent observations suggest that they are scarce visitors from November (with unconfirmed reports as early as September) to mid-March. Identification problems confound records. They are the plainest of our *Calandrellas*, drab grey-brown, weakly streaked, with darker lores on a plainer face, and a yellowish bill with a dark tip. With experience call notes are useful pointers. They have been reported from the well-studied Sultanpur and Sonipat areas, and bare land along the Noida expressway, and seem to prefer sparse grass cover rather than bare ground (Harvey *et al.* 2006).

Sykes's Short-toed Lark *Calandrella dukhunensis* Confirmation desirable

The easternmost populations of the Greater Short-toed Lark, breeding from Mongolia to Tibet, formerly considered subspecies *dukhunensis*, have recently been split as a species, which genetic studies suggest is actually closer to Hume's Short-toed (Alström *et al.* 2013; Stervander 2016). They winter in the Gangetic Plains and the peninsula, mainly eastwards and southwards of the wintering range of the Greater Short-toed (subspecies *longipennis*) and could occur in the Delhi area as passage migrants. Criteria for separating these two species in the field are yet to be clearly defined, and the status of Sykes's vis-à-vis Greater about Delhi cannot be determined with the data available at present.

Greater Short-toed Lark *Calandrella brachydactyla* Winter visitor (Common but local)

These larks breed from the Mediterranean region to Central Asia and winter southwards and eastwards to India, mainly in the north-western parts. They are locally common in the Delhi area between September and April, in fallow land, dry plains, and bare over-grazed ground, in flighty flocks that wheel over the flats in synchrony, settling every now and then to feed. They are frequent in the floodplain and open dry ground near wetlands as about Sultanpur. The subspecies *longipennis* which winters here is close to Hume's in plumage tone and colour, inviting confusion.

Horned Lark *Eremophila alpestris* Vagrant

Horned Larks are cosmopolitan birds of the Northern Hemisphere, and breed at high altitudes in the Himalayas as well. They do not descend below the tree line in winter, and it is extraordinary that one bird should have appeared at Madanpur *khadar* with a party of Tree Pipits on 30 September 2001, when it was seen by several observers (Kelsey 2004). This is the only record of the species south of the Himalayas.

Eurasian Skylark *Alauda arvensis* Winter visitor (Scarce and irregular)

Widespread in temperate Eurasia and wintering southwards to north-western India, Eurasian Skylarks are irregular and uncommon winter visitors to the Delhi area. Historically, Ganguli (1975) mentioned a few records from the floodplain and Gurgaon. In years when they do appear, they have been seen in small parties in mid-winter, December–January, in open flats and stubbles, mainly on the Haryana side of Delhi.

Oriental Skylark *Alauda gulgula* Breeding resident (Common ↔)

Oriental Skylarks inhabit much of the southern half of the Asia and are common birds of the open countryside—in the river floodplain, in cultivation, and damp grassy areas near jheels. The resident race here is the paler *inconspicua* of northern India. Its exuberant and sustained song, delivered from the air while hovering on vibrating wings, is a characteristic feature of such areas in spring and summer, especially between March and June which is the breeding season, less often in other months.

Crested Lark *Galerida cristata* Breeding resident (Common ↔)

Widespread in Europe, North Africa, and Asia, these are common larks of northern India and Delhi as well (the resident Indian race *chendoola*), in urban outskirts, village environs and grazing grounds, wastelands, and open ground in the Yamuna floodplain. They keep in pairs or small loose parties, and breed freely between March and June. A modest song is delivered from the ground or in a short, low display flight that cannot compare with the performances of our other resident larks.

CISTICOLIDAE: CISTICOLAS AND PRINIAS

(India: 16 species, Delhi: 9)

Genetic studies have shown that the former 'Old World Warblers' family, *Sylviidae*, comprises several distinct clades that have now been reconstituted as families. The Cisticolas and Prinias are sub-tropical and tropical, Cisticolas *Cisticolinae* most highly diversified in Africa, while Prinias and Tailorbirds *Priniinae* are well represented in Southern Asia too.



Zitting Cisticola *Cisticola juncidis* Breeding resident (Common ↔)

These little birds range across southern Europe, Africa, and Asia and are widespread in India. They are common residents of rural areas about Delhi as well, in open grassland and fields of wheat and paddy where they breed between March and October, possibly rearing more than one brood. Their aerial display flights, and zitting notes, are a feature of the areas it inhabits at this season.

Rufous-fronted Prinia *Prinia buchanani* Breeding resident (Locally fairly common ↔)

Rufous-fronted Prinias are endemic to India and Pakistan, inhabiting low thorn scrub interspersed with bare ground as is typical of the eroded outliers of the Southern Ridge. They are restricted by this habitat choice, and seem to vacate habitats that get too overgrown, such as the New Delhi and South-Central Ridge areas where they occurred previously but which are now overrun by invasive *Prosopis*. They are usually found in small parties, and their spirited songs enliven their native haunts during their nesting season from April to July.

Grey-breasted Prinia *Prinia hodgsonii* Breeding resident (Locally common ↔)

These prinias, in some ways the counterpart of the Rufous-fronted in better wooded country, range widely from India through Southeast Asia and are common but somewhat local residents in the Delhi area in gardens and groves, and especially *Acacia/Prosopis* woodland with a well-developed scrub understorey on the Ridge. The race in the Delhi area is the northern *hodgsonii*, which has distinct breeding and non-breeding plumages. They breed between April and September, and sing constantly during these months. Like Rufous-fronted, they are usually in parties that work the canopy for insects; they are also fond of nectar.

Graceful Prinia *Prinia gracilis* Breeding resident (Locally fairly common ↔)

This is one of the wider ranging prinias, from Egypt and West Asia across northern India, in several races. In the Delhi area these prinias inhabit sparse grass- and tamarisk-covered sandy banks and flats in the Yamuna's floodplain, sometimes expanding into coarse grass margins of neighbouring cultivation and embankments along canals. Several of their favoured sandbanks are being diverted for melon cultivation or destroyed by sand mining. They breed between April, when birds begin singing their weak reeling songs, and August.

Jungle Prinia *Prinia sylvatica* Breeding resident (Locally common ↑↑)

Jungle Prinias are endemic to India and Sri Lanka. Delhi is well within their range in the Indian Subcontinent, and there are historical records from city environs till the 1960s (Alexander 1949; Ganguli 1975). They then appear to have dropped out of sight for over four decades until recently, possibly because their favoured habitats were not adequately studied in the right season, when it is almost impossible to overlook their presence. In 2012 they were found to be common in grass-and-scrub 'Aravalli' habitats of the Southern Ridge in Haryana, including the Aravalli Biodiversity Park, Gurgaon, and Mangar Valley, Faridabad. Here their loud songs and display flights are a conspicuous feature of their nesting season, June to September. The race about Delhi is *gangetica* of the northern plains, with a marked difference between its summer and winter plumages. This is a resident species like all prinias, but in winter when they are silent, they can be very elusive and easily overlooked.

Yellow-bellied Prinia *Prinia flaviventris* Breeding resident (Locally common ↑)

These colourful prinias are distributed from the Indo-Gangetic plains across Southeast Asia, but were unknown from the Delhi area before the 1970s (Gaston 1978a; Vyas 1979a) when they were first recorded from reed beds by the Yamuna at Okhla. They are distinctive birds, unlikely to have been missed earlier at these well-studied sites—they seem to have expanded their range naturally into the Delhi area in the 1970s, intriguingly about the same time as did two other species that occupy the same reed bed habitat, Striated Grassbirds *Megalurus palustris* and White-tailed Stonechats *Saxicola leucurus*. Our birds have been assigned to the race *sindiana* of the Indus drainage. They are now widespread and common in wetlands and reed beds across the Delhi region, even away from the Yamuna, and breed freely between March and August when their distinctive tinkling song—very different from the ‘jangling bunch of keys’ performances of other small prinias—is a very pleasant feature of its habitat.

Ashy Prinia *Prinia socialis* Breeding resident (Common ↔)

Endemic to the Subcontinent, Ashy Prinias are common, familiar birds of urban gardens, hedges, and shrubbery near villages, grass-and-scrub environs of wetlands, and tall cultivation such as sugarcane. The race in Delhi is the northern *stewarti* with a marked difference between its summer and winter plumages. They breed through the monsoon from May to September in the Delhi area.

Plain Prinia *Prinia inornata* Breeding resident (Common ↔)

A widely distributed species from India to China and in Southeast Asia, Plain Prinias are common birds of the Delhi neighbourhood, and are widespread in various open habitats, in cultivation, along embankments, around seepage marshes, and coarse grass areas near wetlands. The race in the Delhi area is the pale northwestern *terricolor* with distinct summer and winter plumages. They breed between March and September, when their jingling songs are a familiar sound of the countryside.

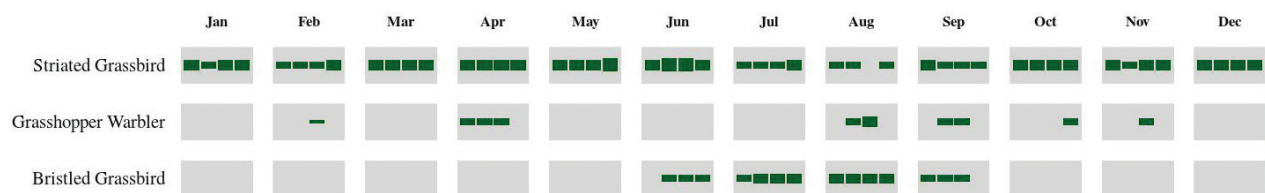
Common Tailorbird *Orthotomus sutorius* Breeding resident (Common ↔)

Tailorbirds range throughout the Oriental region and are common birds of urban and suburban Delhi in city parks and gardens, woodland patches and groves, in fact wherever there is some undergrowth and shrubbery to provide them a modicum of cover. They are noisy, confiding birds, and their far carrying notes are familiar sounds in the city and countryside. They breed from May to September, when males develop very long central tail feathers, and build their famed nests that give the birds their name.

LOCUSTELLIDAE: GRASSBIRDS

(India: 13 species, Delhi: 3)

Grassbirds are another newly constituted family (split from the Sylviidae) of birds of grasslands and reed beds across Africa, Asia, and Australasia, and include some of the largest ‘former warblers’ with loud, distinctive songs, and conspicuous aerial song flights in the nesting season. When not breeding they can be elusive. One of the grassbirds, the Striated, appears to have colonised the Delhi area only in the 1970s at about the same time when a couple of other reed bed-and-marsh haunting species were first reported here. They had not been recorded earlier even though they are not easy to miss in their nesting season, and have now established themselves firmly as part of our resident avifauna.



Grasshopper Warbler *Locustella naevia* Passage migrant, some winter (Scarce)

Grasshopper Warblers nest across Eurasia, wintering in Africa, and India. They are easily overlooked in winter when silent. Ganguli (1975) mentioned four historical records, in August and April. More intensive coverage in recent years suggests that they are probably regular passage migrants in the Delhi area from mid-August through September (at least) and again in April, with a few winter reports in late-October, mid-November and February. They have been noted feeding in hyacinth covered marsh bordered by reeds at Basai, in damp vegetation, in rank grass and reeds in the Yamuna floodplains in North Delhi, Sultanpur, and Bhindawas, and even dry standing millet at Sohna, Haryana.

Striated Grassbird *Megalurus palustris* Breeding resident (Locally fairly common ↑)

The largest of the family, Striated Grassbirds are residents of tall swampy grassland and reed beds dotted with scattered bushes, from India to Southeast Asia. They were unknown from about Delhi before the mid-1970s (Vyas 1996), and presumably expanded their

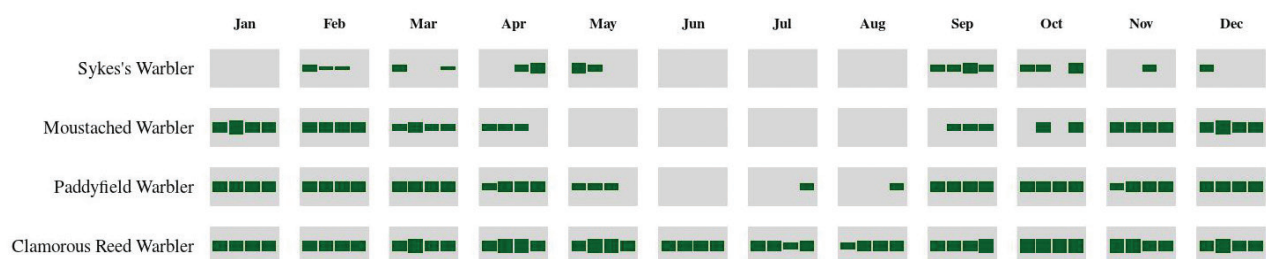
Bristled Grassbird *Chaetornis striata* Breeding summer visitor (Uncommon ↑)

Anand Arya



ACROCEPHALIDAE: REED WARBLERS

Reed Warblers as a family range very widely across the Old World and Australasia, and the Delhi area hosts one locally breeding species and several migrant visitors from temperate Central Asia.



Booted Warbler *Iduna caligata* Passage migrant (Fairly common)

Booted Warblers are the more northerly breeders of the two sibling *Idunas*. They winter in peninsular India and traverse the Delhi area as migrants, in autumn in September–November and on northward passage, when they are more in evidence and singing freely, from early April to mid-May. They affect parkland, gardens, and other lightly wooded habitats, and often seem to migrate in small loose parties. Both this and Sykes's Warblers *I. rama* may be found in the same areas on passage, though Booted often forages in low bushes, and even on the ground, while Sykes' usually feeds in trees.

Sykes's Warbler *Iduna rama* Passage migrant (Fairly common)

This is the southern sibling of the Booted Warbler, of which it was previously regarded a subspecies (the genetic divergence between the two suggests that this treatment is untenable and they nest sympatrically as distinct species in Kazakhstan). Sykes's Warblers breed as close to the Delhi area as Afghanistan and Pakistan, and winter in peninsular India. They tend to precede Booted in autumn, arriving by August or even late July, and have largely passed through by October, while Booted arrive by late August or September and their passage continues till November. In spring, Sykes's main movement takes place in April and first week May while Booted Warblers linger on till late May.

Moustached Warbler *Acrocephalus melanopogon* Winter visitor (Local and uncommon)

Moustached Warblers nest in southern Europe and Central Asia, wintering to north-western India. They are regular visitors to the Delhi area from September to early May, but appear to be highly localised and site specific. There are historical records from the 1940s and earlier (Hutson 1954) but these secretive warblers were missed thereafter until they were located again in *Typha* reed beds at the Basai Marshes in the winter of 2001. They have been found, subsequently, to be regular in winter there and at a few other sites with extensive reed beds, such as Okhla and Sultanpur. Recently fledged birds have been netted in early September at Basai in suitable breeding habitat, and it is just possible that they may nest occasionally (Harvey *et al.* 2006). There is a reference in Ali & Ripley (1973a) to circumstantial evidence of its nesting in the Kumaon *terai*.

Blyth's Reed Warbler *Acrocephalus dumetorum* Passage migrant (Common)

Blyth's Reed Warblers breed from eastern Europe to Central Asia, the bulk of the population wintering in South Asia. They are very common passage migrants through the Delhi area, widespread in parks, gardens, shrubbery, and woodland of all sorts, the southward influx starting mid-August and continuing till October. They are largely absent in winter, but abundant on spring passage again from April to mid-May, even early June, for they are amongst the latest of our warblers to depart. At this time they seem to be in every tree, and are singing freely, a sustained, flowing series of mixed guttural and sweet notes.

Paddyfield Warbler *Acrocephalus agricola* Passage migrant (Uncommon)

Paddyfield Warblers nest in Central Asia, wintering mainly in India. They are passage migrants through the Delhi area in small numbers, from September to November in autumn and end-February to early May in spring, with a few mid-winter reports as well. Passage migrants are regularly reported from reed beds and inundated grassland habitats in the Delhi area. The main passage push in spring takes place earlier than Blyth's Reed Warbler's.

Clamorous Reed Warbler *Acrocephalus stentoreus* Breeding resident (Locally common ↔)

Clamorous Reed Warblers breed widely but very locally, with four subspecies ranging from the Middle East to the Subcontinent and Southeast Asia. Birds from the Persian Gulf and Asia seem to form a separate group, sometimes recognised as Indian Reed Warbler *A. brunescens*. Clamorous Reed Warblers can be common and noisy about Delhi during the nesting season between March and August where extensive reed bed habitat is available, as at Okhla, the Sultanpur area, along canal seepages at Sonipat and other sites. Peak numbers, however, occur in March–April and September–October when they are also more widespread, which suggests that birds that have bred elsewhere also pass through the Delhi area. Few are seen in winter when they are silent, and many possibly move out in the cold months. Indeed, Ganguli (1975) considered them to be mainly a passage migrant, with small numbers remaining to breed.

HIRUNDINIDAE: SWALLOWS AND MARTINS

(India: 14 species, Delhi: 7)

A cosmopolitan family of small, long-winged birds adapted for an aerial lifestyle. Five species breed in the Delhi area while one, the very widely distributed Barn Swallow, is a common winter visitor. The status and movements of another species, Pale Sand Martin, are yet to be worked out.



Common House Martin *Delichon urbicum* Vagrant (Confirmation desirable)

House Martins breed across Eurasia as close as Kashmir, and winter in Africa and Southern Asia. Flocks, sometimes of considerable size, are recorded over the western peninsula and the Central Indian hill ranges during passages and in the winter months as well. There are two reports from the Delhi area: two over the Yamuna in April 1980 and, one, there, with swallows in April 1999, both records by very competent observers, the Inskipps and Clive Harris. There have been no further records, however, and the species is included here tentatively as there is a risk of confusing it with the Himalayan breeding race *cashmeriense* of Asian House Martin *Delichon dasypus* remains.

Streak-throated Swallow *Petrochelidon fluvicola* Breeding resident (Common ↔)

These cliff-nesting swallows are endemic to the Subcontinent and locally common in the Delhi area around waterbodies, the Yamuna, and lakes, and are particularly attached to masonry bridges over canals. They breed between March and May when water levels are low, in large colonies of closely packed pot-shaped mud nests under bridges, at Madanpur *khadar* for example. They congregate in hundreds with Grey-throated Martins *Riparia chinensis* after breeding, May to September, and swarm over the river, marshes or jheels, and at large communal roosts in reed beds.

Red-rumped Swallow *Cecropis daurica* Breeding resident, fairly common on passage (Scarce ↔)

Red-rumped Swallows are distributed in several races over Southern Europe, Africa, and Asia. The resident race in India, *erythropygia*, breeds very locally about Delhi in March–May, with Tughlaqabad being the only known nesting site presently, though it doubtless nests in archaeological ruins elsewhere and in abandoned mines on the Southern Ridge. Numbers of the Himalayan-breeding *nipalensis*, with a paler rump patch and densely, but finely, streaked underparts, appear on passage from late September through November and again in April–May.

Wire-tailed Swallow *Hirundo smithii* Breeding resident (Common ↔)

These beautiful swallows are widely distributed over Sub-Saharan Africa and southern Asia, and are common residents of the Delhi area where they may be seen in agile and elegant flight, their colours flashing in the sun, over waterbodies of all kinds, river, lakes, village ponds or canals, even over wet cultivation. They keep in pairs or family parties through the summer but gather in groups of 10–15 from late September and October, their numbers falling thereafter over the winter months. These larger parties probably involve birds on passage, as these swallows are mainly summer visitors in the north-western Subcontinent. They roost in reeds or twiggy bushes overhanging water and breed between February and June, building their mud nests under small bridges, canal headworks and similar humanmade structures, also usually over water. Parties on migration in autumn, however, may wander some distance from waterbodies, perching on telegraph wires and hunting over open country and cultivation.



Anand Arya

Wire-tailed Swallow at Dhanauri, July 2015.

Barn Swallow *Hirundo rustica* Winter visitor (Common)

Barn Swallows are widespread throughout the Northern Hemisphere, wintering in the tropics. They are common winter visitors to the Delhi area, arriving as early as mid-June and leaving by March. They can be numerous on passage, their numbers increasing rapidly from July onwards. Barn Swallows are attracted by the flying insects that swarm over wetlands in the evenings, and very large numbers may collect to feed over the reed beds before settling in to roost along with other swallow species.

Dusky Crag Martin *Ptyonoprogne concolor* Breeding resident (Common ↑)

A largely Indian species, these are common resident swallows in the Delhi area, about ruins, old forts, even the Secretariat Blocks in central New Delhi, and have adapted well to modern multi-storey structures as in urban Gurgaon. A few birds still inhabit natural features such as the rock cliffs in the Mangar Valley, Southern Ridge. Ganguli (1975) called them resident in very small numbers, much too parsimonious a description in the light of its numbers today. They nest between June and August, building a neat half-cup mud nest under an overhanging natural or humanmade feature.

Grey-throated Martin *Riparia chinensis* Breeding resident (Common ↔)

Grey-throated Martins are common residents of the alluvial river systems of northern India, and about Delhi as well, by the Yamuna, the larger lakes, and canals. They breed colonially in the winter months between November and April when water levels are low, in burrows excavated by the birds themselves in alluvium banks left by the receding river after the rains. Earthen embankments and cuttings around wetlands and canals in rural areas may host colonies, as at Bhindawas. Large post-breeding flocks of several hundreds congregate with Streak-throated Swallows at Okhla and elsewhere from May–October, hunting over surrounding cultivated habitats as well in this season and roosting with other hirundines in reeds and marshes.

Sand Martin *Riparia riparia* Vagrant (Confirmation desirable)

The darker and more strongly marked Asian subspecies *ijimae* of the widespread Sand Martin winters in eastern India, straggling westwards. According to Rasmussen & Anderton (2012), the status of Sand Martins in South Asia is unclear “as range still confounded with Pale”, but a wintering specimen collected south-westwards of Delhi in March 1962 (Donahue 1968) has been assigned to this species. Identification of Sand- and Pale Martins *R. diluta* is a challenge however (Schweizer & Ayé 2007), and none of the photographs from the Delhi area are unequivocally *R. riparia*; some show a sharper line separating brown cheeks and white throat, but other characters are typically *diluta*. Many, if not most, records of Sand Martin prior to the split (e.g., Ganguli 1975), and a few recent reports in October and December from the Delhi area, are probably Pale Martin.

Pale Martin *Riparia diluta* Winter visitor (Scarce and erratic)

Pale Martins, split in the 1990s from the Sand Martins of the Northern Hemisphere on grounds of sympatry and ecological differences, have a more southerly breeding range in Asia that includes the north-western parts of the Subcontinent (local race *indica*). Their status and movements in the Delhi area have yet to be fully worked out. They disperse over the Indo-Gangetic Plains after their nesting season, and are irregular visitors to the Delhi area with scattered reports over the year, mainly between late March/April and January. Two subspecies probably occur: *indica* breeds along loess river banks in drier mountainous regions along Pakistan’s borders (Roberts 1992) from February to May, wintering in the plains, which suggests that records here in mid-summer (e.g., ■ R. Sharma 2018b) represent post breeding dispersal by birds of this race. Records in winter and spring (March/April), however, probably include the Central Asian *diluta* that breeds later, from May to August. Thus both subspecies, *indica* and *diluta*, are probably sympatric in winter about Delhi along with the resident Grey-throated Martins. Records of Sand Martin prior to the split (Donahue 1968; Ganguli 1975) all presumably pertain to Pale Martin, possibly of the darker *tibetana* race, which could conceivably occur here.



Rohit Sharma

Pale Martin at Noida, August 2018.

PYCNONOTIDAE: BULBULS

(India: 22 species, Delhi: 3)

A large Afro-Asian family of small, lively birds. Some are forest species while many others, including Delhi's three resident bulbuls, are familiar garden birds and, with their cheerful calls and demeanour, general favourites.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Red-whiskered Bulbul	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■
White-eared Bulbul	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■

Red-whiskered Bulbul *Pycnonotus jocosus* Breeding resident (Common ↔)

These spritely bulbuls are widespread in India except in the drier north-western parts, and are familiar birds of Delhi's parks, gardens, and woodland areas where they nest between March and July. This, it seems, was not always the case. Delhi is on the fringe of these bulbuls' normal range in the Gangetic Plains, and they appear to have expanded into the Delhi area with the planned 'greening' of New Delhi in the first half of the twentieth century. Frome (1948a) thought it to be a new arrival about 1941, and Ganguli (1975) noted that it expanded into North Delhi only in 1961. Our race is *pyrrhotis* of the Gangetic Plains, not *abuensis* of the southern Aravallis as may be surmised, so it has evidently expanded into the Delhi area from the eastern direction rather than the southern. It was unknown at Sariska National Park, 150 km southwards (Sankar *et al.* 1993; Shahabuddin *et al.* 2006), with the first records there—the subspecies involved is not mentioned—only in 2011 (Sultana 2013).

Himalayan Bulbul *Pycnonotus leucogenys* Vagrant (or escape)

One was photographed at Yamuna Biodiversity Park, North Delhi, in April 2017 (■ H. Gupta 2017). Himalayan bulbuls are largely resident in their range, and this Delhi bird was probably an escape from captivity.

White-eared Bulbul *Pycnonotus leucotis* Breeding resident (Locally common ↔)

These are common bulbuls of relatively drier habitats from Iraq and the Persian Gulf to western India. They are the least common of our three bulbuls and will not, normally, be found in Delhi's greener parks and avenues which are not to their liking, or in the cultivated countryside. On the other hand, they are common and cheerful residents of dry thorn scrub country of the Southern Ridge and other sparsely vegetated parts of the Aravallis, breeding between March and July. When such areas become too overgrown and dense, these bulbuls tend to lose ground to the more aggressive Red-vented Bulbul *P. cafer*, as has happened on the New Delhi Ridge.

Red-vented Bulbul *Pycnonotus cafer* Breeding resident (Common ↔)

Red-vented Bulbuls (race *humayuni* of north-central India) count among the commonest and most conspicuous components of our avifauna. They are adaptable, lively birds, sociable but noisy, and aggressive in demeanour, and breed freely in our parks, gardens, and other lightly wooded and bushy habitats in the countryside. Ganguli (1975), writing of the 1960s, suggested that many birds move out of the Delhi area in the cold months from October to February, but certainly no such movements are noticeable now.

PHYLLOSCOPIDAE: LEAF WARBLERS

(India: 34 species, Delhi: 14)

This is another family hived off from the former *Sylviidae*. None breed in India except along the Himalayas, but a flood of these little birds spreads over the Indian Peninsula in winter, both from the Himalayas and beyond. Similarities in colour and morphology present challenges in field identification, yet field observation will enable an observer to isolate groups of species with distinctive characters within the family. Ground feeders, for example, tend to be browner and plainer above, while canopy dwellers are greener, with wings patterned with bars or prominently edged tertials. Jizz is useful—Hume's compact, shorter-tailed look differs from Greenish's more elongated appearance. H&M4 recognise these broad evolutionary groups by splitting the genus *Phylloscopus* and giving each group its own generic identity.



Brooks's Leaf Warbler *Abrornis subviridis* Winter visitor (Scarce)

Brooks's Leaf Warblers breed in conifer forests in Afghanistan and adjacent Pakistan, and winter in the Indus Plains and north-western India. They are regular but scarce winter visitors in the Delhi area, with most records coming from *Acacia* woodland on the New Delhi Ridge and Sultanpur National Park between October and March. Before emigration in the second half of March, birds are in song on the New Delhi Ridge and then their accelerating trills of high, weak notes, ending in a buzz, are an unmistakable sign of their presence.

Hume's Leaf Warbler *Abrornis humei* Winter visitor (Common)

Hume's Leaf Warblers, which breed in Central Asia, are amongst the commonest of the family in northern and central India in winter. About Delhi they are widespread in any wooded area, city parks and gardens, roadside avenues, and groves in the countryside from mid-September to April. Their loud, distinctly two- or three-syllabled chirps are a familiar roadside sound in the winter months.

Lemon-rumped Warbler *Abrornis chloronotus* Vagrant

These Himalayan warblers are altitudinal migrants to the foothills in winter and are known to have wandered into the plains on rare occasions, exceptionally as far as Bharatpur. Vagrants have been reported twice in recent years from south Delhi: a plausible record at the AIIMS campus in February 2015 (Shukla 2015), but one at the South-Central Ridge that stayed through January 2017 (■ Shukla 2017), which was studied by many observers, is a first for Delhi though distant from the bird's usual winter range.

Smoky Warbler *Phylloscopus fuligiventer* Vagrant

The two 'Dusky Warblers', *P. fuscatus* and *P. fuligiventer*, have both been claimed from the Delhi area but the evidence in most cases is not convincing. Smoky Warblers breed in the Eastern Himalayas and adjoining Tibet, and winter in the foothills from Uttarakhand eastwards. The closely related Dusky Warblers *P. fuscatus* are East Asian breeders, wintering in India (mostly towards the east) and in Southeast Asia. Both are terrestrial in habit, frequenting waterside edges in winter; both have wandered westwards of their usual winter ranges, as far as Bharatpur on rare occasions. Three reports from the Delhi area, however, seem correctly identified as Smoky Warblers: one at Mandnaka *jheel*, Palwal, Faridabad District, Haryana, on 15 February 2015 (■ Parashar 2015); one that spent the 2014–2015 winter (December to early May) at the Basai marshes (■ P. Gupta 2014; Ritvik Singh 2015); and possibly a third on 03 December 2017 at Rabupura, G. B. Nagar District, Uttar Pradesh (■ Ball 2017).

Common Chiffchaff *Phylloscopus collybita* Winter visitor (Common)

The Chiffchaffs that winter in Delhi are the Siberian *tristis*, distinctive in their plumage and vocalisations from the western races, though there is evidence of intergradation. They are common and widespread here from mid-September to April, affecting *Acacia* and open woodland generally, though they are also fond of wet areas where they feed in small parties on damp bare mud or irrigated lawns with bordering low twiggy vegetation. Birds are commonly in song in April before emigration.

Kashmir Chiffchaff *Phylloscopus sindianus* Vagrant

Kashmir Chiffchaffs breed in Ladakh and winter in the Indus floodplain and are only accidental further eastwards, with rare historical records (these are backed by specimens, others are possibly overlooked in the field) from Haryana and even northern Madhya Pradesh. Vagrants were reported from waterside vegetation at Okhla in December 2000 and at the Panipat Oil Refinery in January 2003 (Harvey *et al.* 2006), the identification based primarily on the birds' distinctive vocalisations.

Sulphur-bellied Warbler *Phylloscopus griseolus* Winter visitor (Uncommon)

These distinctive warblers breed in the high plateaux of Central Asia southwards to Ladakh, and winter in broken, rocky landscapes in Central India. Small numbers spend the winter in the Delhi area in suitable habitat on the Ridge, about ancient monuments, abandoned

quarries, and stony ground, but are much commoner during passages in September–October and March–April when they also appear in atypical habitats in gardens, river embankments, *Acacia* woodland, etc. These are ground-living warblers with a unique habit of creeping about rocks, stone walls, and archaeological ruins, even tree trunks if those are not available. They have a distinctive, hard call note.

Tickell's Leaf Warbler *Phylloscopus affinis* Straggling passage migrant (Rare)

These brightly coloured warblers breed in the high Himalayas west to east, but their movements to their winter grounds in the southern peninsula are mainly eastwards of the Delhi area, across the eastern peninsula. In spring they retrace their route northward, often in small parties, and again keeping to the eastern parts and returning via the Himalayas east to west. There are only scattered reports from as far west as Delhi, vagrants in both spring and autumn—old sight records in March 1960 and May 1968 (Ganguli 1975), on the Delhi Ridge in October 1971–1972 (Gaston (1978a) and a few recent claims from Okhla, Sultanpur, and Basai in October/November and in March. Many records, however, are vitiated by confusion with Sulphur-bellied Warblers. Two mid-winter reports would be extraordinary if verified.

Whistler's Warbler *Seicercus whistleri* Winter visitor (Rare)

Whistler's Warblers breed in the Himalayas and winter in the foothills and the adjacent plains; they had not been reported from the Delhi area until the winter of 2009–2010, when two remained at Sultanpur National Park from mid-November to early February, seen by several observers. Reports since then, from Bhindawas in late December 2010, Basai in end-October 2014, Sultanpur for much of January–February 2016, Mangar Bani on the Southern Ridge in end-February 2016, and the South–Central Ridge in late January 2017 (all posted with photographs in eBird) suggest that it is a rare winter straggler to the Delhi area, its presence here being noted by the increasing numbers of observers now in the field yet, surprisingly, unrecorded in the past.

Green Warbler *Seicercus nitidus* Passage migrant (Scarce)

Green Warblers have a disjunct breeding range in the mountains of North Afghanistan and the Caucasus, where they have diverged from the ancestral Greenish Warbler complex, and migrate in winter to southern India and Sri Lanka. They are passage migrants through the Delhi area with a few records in March (Ganguli 1975) and April on the New Delhi Ridge and at Surajkund (*pers. obs.*), and in October. Passage birds in spring and autumn are likely to be in fresh, bright plumage and more easily identified than at other times.

Greenish Warbler *Seicercus trochiloides* Passage migrant (Common)

Greenish Warblers are widespread as a breeding species across Eastern Europe and Asia southwards to the Himalayas, the entire population migrating to Southern Asia in winter. In India, the main winter quarters of race *viridianus* are towards the southern and eastern parts of the peninsula and it is primarily a passage migrant in the north-west, as at Delhi, with no validated records in the winter. Previously recorded (Ganguli 1975) as occurring only on autumn passage, in recent decades it has been recorded commonly on both passages, mid-August to October in autumn and mid-March to April in spring, when birds sing freely. This is a well-proportioned little bird without marked features except for a pale pinkish bill from below, a long supercilium, olive green upperparts with a single wing bar that thins out towards the inner part of the wing, and off-white undersides.

Large-billed Leaf Warbler *Seicercus magnirostris* Vagrant

These relatively large warblers have been recorded in the Delhi area as accidentals during southward passage from their Himalayan breeding areas to southern India, mist-netted on the New Delhi Ridge in September in 1971 and 1972 (Gaston 1978a), and reported again in 2000 (Harvey et al. 2006), and from Gurgaon in 2011.

Western Crowned Warbler *Seicercus occipitalis* Passage migrant (Uncommon)

A West Himalayan breeding leaf warbler that winters in the Indian Peninsula, these are regular but uncommon passage migrants through the Delhi area, and are recorded in urban gardens, in the Ridge habitats, Sultanpur, and other woodland areas in the countryside, between August and October (the movement peaking in first-half September) in autumn, and between end-February and mid-April in spring.

Grey-hooded Warbler *Seicercus xanthoschistos* Vagrant

These cheerful warblers are familiar birds of the Himalayas, wintering to the foothills and extending into the plains during cold snaps. A vagrant was photographed at Sultanpur on 13 November 2015 (📷 Sangwan 2015)

SCOTOCERCIDAE: BUSH WARBLERS

(India: 16 species, Delhi: 1)

The Scotocercidae (or Bush Warblers), yet another clade extracted from the former Sylviidae, brings together a varied group of small, mainly African and Asian insectivorous birds that are diverse in appearance but apparently closely related from an evolutionary perspective. Delhi does not offer suitable habitat for most, but one species has appeared as a vagrant.

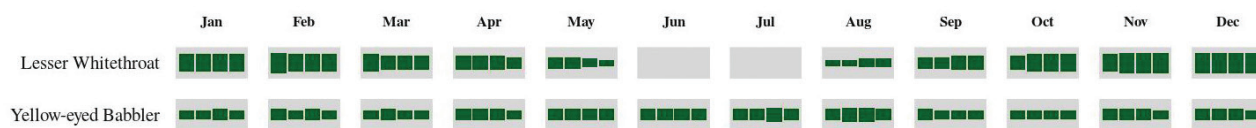
Cetti's Warbler *Cettia cetti* Vagrant

The paler Asian race of Cetti's Warbler, *albiventris*, breeds in Central Asia and spreads as far southwards as the north-western parts of the Indian Subcontinent in winter, mainly in the Indus Plains in Pakistan and in smaller numbers in Punjab, Haryana, and Rajasthan in India. There is a sight record from Hisar, Haryana, in March 2003 (Prince 2003f), a little beyond our limits. A bird that responded to playback in reed beds at Okhla on 07 December 2015 (R. Singal 2015) was the first indication of its presence in the Delhi area; it was recorded, and searched for by several observers over the next few days but fleeting views still remained not entirely convincing as of this species. The explosive notes and staccato rattles captured in the recording match Cetti's, but some distinctive phrases are confusable with Striated Grassbird, which is also calling in the background in the recording. Cetti's Warblers, however, were recently recorded again in December 2018 in Dighal, Haryana (Ahlawat 2018e) and their distinctive song heard by several observers, and can be confirmed for the Delhi area.

SYLVIIDAE: SYLVID 'WARBLERS'

(India: 23 species, Delhi: 5)

The Sylviidae, as reconstituted on the basis of DNA studies, represent a clade containing the former 'typical warblers' *Sylvia*, Parrotbills (earlier in their own family, Paradoxornithidae), and assorted babblers from the former 'Babbler' complex, Timaliidae. *Sylvia* has its greatest diversity around the Mediterranean and a couple of species breed eastwards to Pakistan and Kashmir. Two *Sylvias* are migrant visitors to Delhi, two vagrants on the eastern fringes of their wintering range and migration paths, and one Oriental species of the former 'Babbler' complex, the Yellow-eyed Babbler, is resident here.



Asian Desert Warbler *Sylvia nana* Vagrant

These little warblers breed in the deserts of Central Asia to Mongolia and western China, wintering in similar habitats in West Asia and Arabia southwards and eastwards to the Red Sea and the north-western Subcontinent. In India, their main wintering areas are Rajasthan and Kachchh, wandering occasionally to Punjab, and Haryana. A vagrant, first for the Delhi area, was photographed at Surajpur, Greater Noida, Uttar Pradesh on 10 October 2018 (📷 Lakhera 2018).

Eastern Orphean Warbler *Sylvia crassirostris* Winter visitor (Scarce)

These large warblers breed from West Asia to Baluchistan, wintering in the west-central Subcontinent. They are scarce visitors to the Delhi area between November and March, with a few individuals reported, irregularly and not every year, in *Acacia* woodland on the Ridge and a couple of other sites, with several reports from Asola Wildlife Sanctuary and Sultanpur National Park.

Lesser Whitethroat *Sylvia curruca* Winter visitor (Common)

The taxonomy of the Lesser Whitethroat group is notoriously complex and unsettled, given the intergradations between various forms across their range. Some authorities split the group into three species or species groups, the Lesser-, Desert- *S. minula*, and Hume's *S. althaea* Whitethroats, all of which have been recorded here. H&M4 retain all three groups in one species, Lesser Whitethroat, which breeds from Europe to Siberia and southwards to Central Asia. The Siberian race *blythi* is a common winter visitor from late August to May to the Delhi area, widespread wherever there are trees and bushes, in parks, woodland, and in the countryside. Desert Whitethroats breed in arid Central Asia, wintering from Arabia to Rajasthan and Kachchh. They are vagrants eastwards to Delhi, first identified at Sultanpur in December 2001 and March 2002, perhaps the same bird, and Sonipat in December 2004 (Harvey *et al.* 2006). Hume's Whitethroats breed in the mountains of Iran, Kashmir, and Ladakh, wintering in the Indian Peninsula. Ganguli (1975) considered them to be spring passage migrants, but a few are recorded through the winter too, between October and April.

Common Whitethroat *Sylvia communis* Vagrant

The Central Asian population of these Whitethroats, of the pale *icterops*, cuts across the west of the Indian Subcontinent during autumn passage to their wintering areas in Africa. They are vagrant as far eastwards as Delhi, with rare records in September: mist-netted on the New Delhi Ridge in 1971 and 1972 (Gaston 1978a), and single birds reported from Bhindawas in 2004, Sultanpur in 2002 (Harvey *et al.* 2006), and most recently on 07 October 2018 (📷 Ball 2018a).

Yellow-eyed Babbler *Chrysomma sinense* Breeding resident (Fairly common ↔)

Widespread from India to South China, Yellow-eyed Babblers are fairly common residents in the mixed grass-and-bush country of Aravalli-type habitats on the Ridge (the Aravalli Biodiversity Park in Gurgaon holds a sizeable population), in open woodland with grassy understorey, clumps of tall grasses and scrub on the margins of wetlands and along the canal systems, and tall grass borders and cuttings

in cultivated country. They breed from April to August, when their characteristic songs are a feature of their habitat.

ZOSTEROPIDAE: YUHNAS AND WHITE-EYES

(India: 7 species, Delhi: 1)

White-eyes are a large group of small birds with brush-like tongues adapted for nectar feeding, native to the African, Oriental, and Australasian Regions, that have—a remarkable feat for these tiny, non-migratory species—colonised and diversified in most tropical islands across the Indian Ocean and the Western Pacific. They are represented in the Delhi area by one widely distributed Oriental Region species.



Oriental White-eye *Zosterops palpebrosus* Breeding resident (Common ↔)

These delightful little birds are common and familiar residents of parks, gardens, groves, and woodlands in the Delhi area. They are usually in pairs, and when not breeding in flocks of as many as 30–40 birds, around flowering and fruiting trees and are a regular feature of mixed hunting parties. They breed in the Delhi area between April and July. Macdonald (1960) has an engaging chapter in his book on White-eyes in his Delhi garden.

LEIOTHRICHIDAE: BABBLERS, LAUGHINGTHRUSHES AND ALLIES

(India: 57 species, Delhi: 4)

Diverse birds loosely called ‘Babblers’ had been placed earlier in the Timaliidae, which has been reorganised in a number of families to better reflect the results of genetic research. The family Leiothrichidae is one of these newly constructed families, and includes several colourful laughingthrushes and assorted babblers that enliven the hill forests of the Oriental Region. Delhi’s habitats host only four species of scrub country babblers of India and Africa, which form a familiar part of the Delhi area’s birdlife. They exhibit remarkable nesting habits—they are cooperative breeders that live in groups through the year, each group may have one or more breeding pairs while other non-breeding members or ‘helpers’, possibly of previous broods, assist the parents in rearing their chicks (or cuckoo chicks, sometimes!).



Large Grey Babbler *Argya malcolmi* Breeding resident (Locally common ↔)

These large babblers are endemic to India, and are common but locally distributed residents in the Delhi area. Basil-Edwards, in the 1920s, thought them to be the commonest babbler in the babool jungles of New Delhi, a position that has now been usurped by the Jungle Babbler *Turdoides striata*. Large Grey Babblers inhabit cultivated country with largish trees, open grassy woodland areas, and the Aravalli landscapes of the Southern Ridge, their favoured habitat being intermediate between the dry scrub beloved of the Common Babbler *A. caudata* and the gardens and lush growth preferred by the Jungle Babbler. Gregarious like their congeners, they keep in large, very noisy flocks through the year, often of a dozen or more birds. They breed between April and August, the whole group helping to feed the young of nesting pairs. Hutson (1954) wrote a fascinating account of such cooperative behaviour in a flock of Large Grey Babblers in Delhi.

Striated Babbler *Argya earlei* Breeding resident (Locally common ↔)

Though ranging widely across the northern Subcontinent to Myanmar, Striated Babblers are constrained in their distribution by their choice of habitat, and are locally common in the Delhi area in marshes and reed beds along the Yamuna floodplain. Though normally sedentary, canals, seepage marshes, and temporary marshy habitats created by floods have enabled them to spread beyond the immediate floodplain to wetlands across the Delhi area as far as Sonipat, Bhindawas, and Dhanauri Khurd. They live in parties of 10–20, even while nesting between April and August; like Delhi’s other babblers, they too exhibit a cooperative breeding economy (Gaston 1978b). They are commonly parasitized by the Pied Cuckoo.

Common Babbler *Argya caudata* Breeding resident (Locally common ↔)

Common Babblers are characteristic of the drier thorn scrub Aravalli landscapes of the Delhi area, and grass-and-bush country in the vicinity of villages and cultivation, but will abandon areas if they get too overgrown, such as the New Delhi Ridge. Gregarious birds, they live in parties which do not break up even during the breeding season from March to June, and all members cooperate in rearing the chicks of breeding pairs. Gaston (1978c), in his study of intra-group behaviour in babblers on the New Delhi Ridge, found a number of babbler groups on his study site, each of three to 20 birds but just one pair of breeders, with the others acting as helpers at the nest. Common Babblers are also parasitised by cuckoos, mainly the Pied, and Common Hawk Cuckoos.

Jungle Babbler *Turdoides striata* Breeding resident (Common ↔)

A Subcontinental endemic, these are very common babblers of gardens, woodland, and groves in the Delhi area (of the paler north-western form *sindiana*). They prefer thicker vegetation with denser understorey than Common- and Large Grey Babblers though may co-exist with them where habitats overlap. They are gregarious through the year, occurring in loquacious parties of eight to ten; they are brave birds and value team-work, and will quickly gather to sound the alarm and mob any threat: hawk, cat, snake, or mongoose that ventures into their beat. They breed from March to September with a cooperative breeding economy like the others on our list. They are the usual hosts of Common Hawk Cuckoos.

SITTIDAE: NUTHATCHES, SPOTTED CREEPERS AND WALLCREEPER

Small, very distinctive, tree- or cliff-climbing birds, split by some authorities into three families, Nuthatches, Sittidae, Spotted Creepers (along with tree-creepers), Certhiidae, and the unique Wallcreeper in its own family, Tichodromadidae. (India: 11 species, Delhi: 3)

Indian Nuthatch *Sitta castanea* Former resident (? Locally extirpated ↓↓↓)

These handsome nuthatches are endemic to India, patchily distributed over the northern plains and wooded ranges of the peninsula. It seems, unfortunately, that we may have lost this bird in Delhi, with the last recorded observations being a party of three in Lodhi Gardens in December 1978 and one at Okhla in March 1979 (Vyas 1996). One later report on eBird cannot be validated. Ganguli (1975) considered them scarce residents in the 1960s and mentioned records from gardens and *Acacia* parkland. These nuthatches seem to have inexplicably declined in several areas in the Gangetic Plains where they were formerly found, although suitable habitat is still available, as it certainly is in Delhi too.

Indian Spotted Creeper *Salpornis spilonotus* Former resident (? Locally extirpated ↓↓↓)

Spotted Creepers are a rare and much sought after species, endemic to India and locally distributed across the western and central parts of the country. A pair was recorded nesting in April at Hattin, in Gurgaon District, in the late nineteenth century but since then records from the Delhi area have been sparse and sporadic. Ganguli (1975) presumed them to be scarce residents about Delhi and mentioned records from babool *Acacia* woodland and shisham *Dalbergia* groves in both summer and winter months, in the 1940s (Frome, and Hutson), 1950s and until 1965, when she herself observed one in February at Okhla. One was recorded at Bhindawas in January 1987 (S. C. Sharma in Harvey *et al.* 2006), and thirty-one years later, we have another record in August/ September 2018 at Madhogarh Fort, Mohindergarh, Haryana, which is 140 kms from New Delhi but close enough to raise hopes that they still occur within the boundaries of the Delhi area (■ Ramgopal 2018; Sethi 2018).



M. Ramgopal

Indian Spotted Creeper at Madhogarh Fort, Haryana. August 2018.

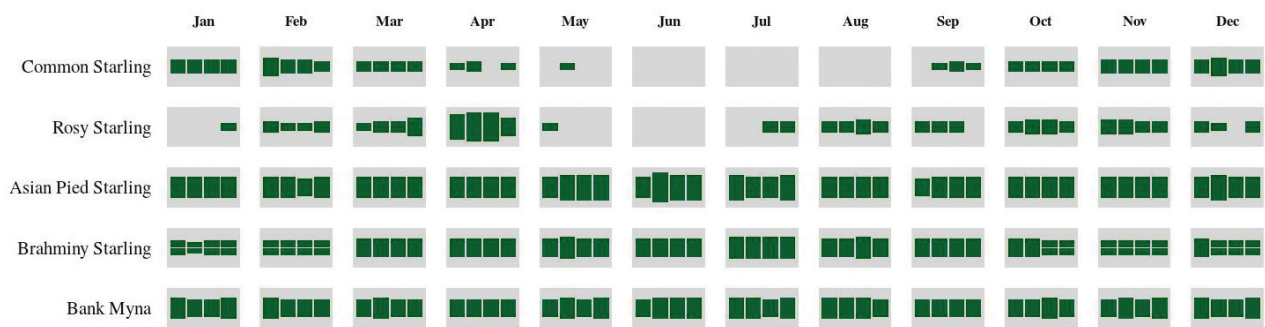
Wallcreeper *Tichodroma muraria* Vagrant

Wallcreepers breed at high elevations in the Himalayas, descending to the foothills or even the adjacent plains in winter during cold waves. Vagrants have reached Delhi at long intervals: Ganguli (1975) mentioned records from New Delhi buildings in the 1940s, Qutb Minar in January 1951 and Tughlaqabad in 1962. The only later reports are from Humayan's Tomb in October 1971 (Gaston 1978a), and Tughlaqabad in 1981 (Harvey *et al.* 2006).

STURNIDAE: MYNAS AND STARLINGS

(India: 19 species, Delhi: 8)

Mynas and starlings are a varied lot, gregarious, commensal, and boisterous birds, and can raise a real cacophony at their communal roosts. Some, especially island endemics, can be rare, and several are extinct, while others are amongst the most adaptable of birds, having spread—with human aid or independently—and aggressively colonised other parts of the world. Common Starlings and Common Mynas would top the list.



Common Starling *Sturnus vulgaris* Winter visitor (Locally common)

Common Starlings are native to temperate Europe and Asia, with two local races breeding as close as Kashmir and Sindh. Adaptable birds, they have been introduced and flourish in North America, Australia, and New Zealand. Three or four races winter in northern India, and at least two, the Siberian breeding *poltaratskyi* and the Central Asian breeding *porphyronotus*, are common in the Delhi area between late-September and early April, when they frequent irrigated cultivation, damp grazing grounds, and rubbish dumps. The races are practically impossible to separate in the field in fresh winter dress, but on close view and in good light, the patterns of green and purple gloss of their plumage are discernible by late winter before they emigrate, when racial identification may be attempted. They keep in single species flocks during the day but gather to roost with other mynas, wagtails, *etc.*, in reed beds, such as at Okhla or Basai.



Anand Arya

Common Starling (race *porphyronotus*) at Dhanauri, February 2017.

Rosy Starling *Pastor roseus* Passage migrant (Common)

Rosy Starlings breed widely across south-eastern Europe and Central Asia and winter abundantly in peninsular India. They are passage migrants through Delhi, where autumn passage begins early, from end July, peaks in August and continues till the end of October. Autumn numbers can be large but cannot match the spectacular passage in spring. This starts in early March, peaks in the first-half of April, and continues till the end of that month. Parties pass over Delhi in a continuing stream each morning, and thousands gather to roost at night in clumps of large trees in New Delhi gardens and temple groves. They do not spend the winter in the Delhi area, with only a few odd records from November to February. Spring flocks feed on figs and berries of *Ficus*, *Capparis*, and *Salvadora* that are fruiting abundantly during their passage period, and *Butea* and *Erythrina* nectar. Hutson (1954) provides an evocative account of Rosy Starling migration in Delhi in the 1940s.

Pied Myna *Gracupica contra* Breeding resident (Common ↑)

A common myna of well-watered country from India to Southeast Asia, Pied Mynas have expanded their range westwards in Rajasthan and Punjab, and seem to have become commoner about Delhi too, compared to past decades. Ganguli (1975) thought them to be unusual within city limits, but today they are frequently seen in gardens and by roadsides in New Delhi, and breed freely in city gardens. They are very fond of marshy, reedy ground in the vicinity of wetlands, and damp village pastures where flocks attend on grazing cattle. They breed between April and July, building a messy globular nest of straw, rags, and rubbish in small trees or even on telephone poles in suburban areas.

Brahminy Starling *Sturnia pagodarum* Breeding resident (Common ↔)

Brahminy Starlings are endemic to the Subcontinent, widespread in gardens, groves, and woodland in the Delhi area. Though common residents and present all year in the Delhi area, at least part of the population seems to disperse to the neighbouring rural countryside for the winter months. Numbers build up again from mid-March when they are still in small flocks, before they pair off in April and begin nest building in a hole in tree trunk or wall. From late August till October, after nesting is over and chicks have fledged, they gather again in small flocks, roosting in trees and thickets by themselves, not with other myna species in reed beds. They feed on insects, fruit, and berries and are exceptionally fond of nectar.

Chestnut-tailed Starling *Sturnia malabarica* Vagrant

These small arboreal starlings breed commonly in the Himalayan foothills (and elsewhere in India), dispersing over the Gangetic Plains in winter. Delhi is rather westwards of their usual winter range but a few do wander into the area during passage movements, the records scattered in the months of September, November–early December, March, and April, typically single birds associated with Common or Brahminy Mynas.

Common Myna *Acridotheres tristis* Breeding resident (Very common ↔)

Common Mynas range from Uzbekistan across the Subcontinent to Southeast Asia and have been widely introduced elsewhere. In the Delhi area they are at home everywhere, in pairs and small flocks, in urban residential colonies and rural habitats, breeding in holes in buildings and trees from March to July. They are omnivorous in the fullest sense of the term, scavenging scraps from marketplaces and refuse dumps, attending domestic cattle for flushed insects, and feeding on flower nectar from silk cotton, *Erythrina*, and *Butea* trees in season. Flocks commute daily to large roosts in trees in the city or reed beds in the countryside.

Bank Myna *Acridotheres ginginianus* Breeding resident (common ↔)

Bank Mynas are endemic to the Subcontinent, an adaptable, gregarious, commensal species and common about Delhi, frequenting railway and bus stations, rural markets, and refuse dumps where it lives off scraps and other edible rubbish. They affect well-watered countryside and grazing land where parties commonly attend grazing cattle. They breed colonially, excavating holes in embankments and in alluvium bluffs left by the retreating Yamuna after the monsoons or adopting weep holes in masonry; even down shafts of wells. They commute daily to large, noisy roosts in clumps of trees in urban city parks and in reed beds by wetlands as well.

Jungle Myna *Acridotheres fuscus* Vagrant (probable escaped/released birds)

A myna of the Himalayan foothills and peninsular India, its odd reports about Delhi probably refer to escaped or released cage birds (Harvey *et al.* 2006). It has, however, been recorded as a local migrant at Hastinapur near Meerut (Rai 1986), so the possibility of genuinely wild individuals being seen about Delhi cannot be set aside.

MUSCICAPIDAE: CHATS AND FLYCATCHERS

(India: 100 species, Delhi: 34)

Relationships among the Turdidae (robins, chats, and thrushes) and Muscicapidae (flycatchers), as earlier constituted, have long been confusing, and phylogenetic analysis has now reorganised them in a redefined Muscicapidae, keeping the thrushes separate. The redefined family is usually considered to comprise four clades or subfamilies, of which three are represented about Delhi: *Muscicapinae* (Magpie-Robins, Old World Flycatchers), *Niltavinae* (Blue Flycatchers), and *Saxicolinae* (Robins, Redstarts, Chats and the rest). The Himalayas have a wealth of breeding species of this family which figure on the Delhi list as migrants or accidentals, while wheatears are dry country species that nest to our north-west and straggle into the Delhi area in winter; there are also some familiar residents of the Delhi area amongst the robins and chats.



Rufous-tailed Scrub Robin *Cercotrichas galactotes* Vagrant

Rufous-tailed Scrub Robins breed from the Mediterranean to Central Asia. Their migration path in autumn traverses western Rajasthan (eastwards to the Aravallis at Mount Abu) and Gujarat, these presumably Central Asian breeders (eastern race *familiaris*) enroute to winter quarters in north-eastern Africa. Vagrants have drifted as far eastwards as Delhi, recorded here in August: single birds on the New Delhi Ridge in 1972 (Gaston 1978a), at Surajpur in 2014 (■ Sethi 2014), at the Aravalli Biodiversity Park, Gurgaon, on 14 August 2017 (■ A. Sharma 2017a), and remarkably, found by the same observer at the same site again on 26 August 2018—suggesting that these robins may not be as erratically accidental in the Delhi area on their southward passage than these few records suggest.

Indian Robin *Saxicoloides fulicatus* Breeding resident (Common ↔)

Magpie-Robins and Shammas *Saxicoloides*, *Copsychus*, and *Kittacincla* form a distinctive group of robins and are close enough genetically

for some authorities to combine them in one genus *Copsychus*. H&M4 separate these genera. Indian Robins are endemic to the Subcontinent, common residents in the Delhi area in grass-and-bush country and rocky scrubland of the Ridge landscapes, and the larger, more open parks in urban locations as well. They tend to desert areas if they get too overgrown and lush and are therefore much less frequent in central New Delhi than previously. They nest between March and August, when males sing and display, flaunting their white wing patches. The birds in the Delhi area belong to the brown-backed race *cambaiensis* of northern India.

Oriental Magpie-Robin *Copsychus saularis* Breeding resident (Common ↑)

Magpie-Robins are common residents of the Oriental Region and seem to be expanding their range westwards. Until the 1950s they were considered to be mainly winter visitors about Delhi with only isolated nesting records, and a 'not-too-common' breeder even in the 1960s (Ganguli 1975). The increase has continued, they are now common residents, widespread and familiar in Delhi and in the National Capital Region in better vegetated corners of gardens and parks, groves, plantations, and orchards. They breed freely as the weather warms up from February till July, when their songs are a familiar feature of city parks.

Spotted Flycatcher *Muscicapa striata* Vagrant

Spotted Flycatchers are another example of a species whose migration path between nesting grounds in Central Asia and winter quarters in Africa traverses the Indus Valley and bordering Indian states. Migrants have drifted further eastwards during passages, and recorded exceptionally on the New Delhi Ridge in September 1972 (Gaston 1978a), Delhi Zoo in October 2004 (S. C. Sharma *in* Harvey *et al.* 2006), Aravalli Biodiversity Park, Gurgaon, in May 2016 (■ Nanda 2017), and at Raisina, Gurgaon, on 17 September 2016 (■ S. S. Rao 2016).

Asian Brown Flycatcher *Muscicapa dauurica* Probably breeding resident (Uncommon and local ↑)

These flycatchers breed in two widely separated areas, one in Eastern Siberia, and the other in the Himalayas and peninsular hills. There is a historical July record from Delhi in the 1940s (Hutson 1954) but then none for the next 65 years or so. Since 2015, however, several individuals are being observed every year, through the summer months from June till at least September at Mangar Bani, Faridabad, and juveniles in spotted plumage are recorded there. They are reported to breed at other woodland locations on the Southern Ridge as well, as at the Asola Wildlife Sanctuary and Bhondsi, Haryana. Their breeding season in northern India is said to be from May to July; recent reports have demonstrated their presence in summer, in May, June, and July, in the Aravallis in Rajasthan, as far westward as Jaipur. Their status and probable breeding at Mangar Bani at this northern outlier of the Aravalli Range, thus calls for closer study. They are unobtrusive birds, crepuscular in habit, and this, along with the fact that Mangar has not been watched intensively until very recently, may explain the lack of previous records.

Brown-breasted Flycatcher *Muscicapa muttui* Vagrant

These flycatchers nest in China and north-eastern India and traverse the eastern parts of the peninsula in autumn enroute to their wintering areas in the Western Ghats. There are records of birds having drifted as far westwards as Kathmandu, Gujarat, and Central India. A vagrant was photographed at Sultanpur National Park, Haryana, on 24 October 2016 (■ S. C. Sharma 2016), the first reported occurrence for Delhi.

Tickell's Blue Flycatcher *Cyornis tickelliae* Vagrant (? or rare breeder)

Tickell's is the most widespread of the Blue Flycatcher genus *Cyornis* in India, westwards to the Aravalli Range in Rajasthan where it is a breeding resident, as close to the Delhi area as Sariska National Park. It was to be expected, therefore, that it should be reported from the Delhi area sooner or later. Tickell's Blue Flycatcher was listed, but without supporting detail, as a passage migrant in the gardens of Rashtrapati Bhavan, New Delhi (Shahabuddin & Baviskar 2016). A male at Mangar Bani, Faridabad, in July 2016 (■ Nanda 2017) was the first documented record for the region, followed in annual succession by observations in March 2017 at Damdama Lake (■ Panjeta 2017a), in May–June 2017 at Mangar Bani, in end December 2017 at a park in Gurgaon (Panjeta 2017b), and again in March and June 2018 at Mangar Bani (■ Gulalia 2018), all sites on the Southern Ridge. Rather than vagrancy, these records suggest a rare, hitherto overlooked resident in localised habitat patches, or early harbingers of this species establishing itself as a breeder in these northernmost outcrops of the Aravallis. The records are still too sparse, however, to reach a definite conclusion.

Blue-throated Flycatcher *Cyornis rubeculoides* Vagrant

A Blue Flycatcher of the lower Himalayan ranges that winters in peninsular India. Gaston (1978) recorded "One female or immature trapped on Oct. 22, 1971 (on the New Delhi Ridge) and sent to the BNHS. Identification per A. S. Cheke." The only subsequent record is a male photographed on 17 April 2018 at Asola Wildlife Sanctuary (■ Madan 2018b). Obviously a vagrant on passage.

Verditer Flycatcher *Eumyias thalassinus* Passage migrant (Scarce)

Verditer Flycatchers breed along the Himalayas to China and spread out in winter over most of India and Southeast Asia. They are scarce passage migrants in Delhi, with records of single birds or pairs mainly in March and October from parks and gardens, woodland patches in the countryside, and on the Ridge. This pattern appears to have remained unchanged over the last several decades (Ganguli 1975).

Bluethroat *Luscinia svecica* Winter visitor (Common)

Bluethroats breed very widely across temperate Eurasia southwards to Ladakh, wintering in Africa, and southern Asia. They are common visitors to the Delhi area from late August / September to April, frequenting damp corners in parks and gardens, near reed beds and waterbodies of all types, small or large, as long as there is nearby cover into which they can retreat. By March, many males are in fresh breeding plumage with glistening blue throats.

Blue Whistling Thrush *Myophonus caeruleus* Vagrant

Whistling thrushes rarely wander beyond the Himalayan foothills in winter, but one in poor plumage reported from Delhi Cantonment area on 22 March 2010 (■ Lakra 2010) may have been an escape; but another, observed and photographed at Rithal, Gohana near Sonipat, Haryana in January 2018 (S. C. Sharma, *in litt.*, e-mail dated 29 October 2018; ■ Chanda 2018), was probably a genuine vagrant.

Siberian Rubythroat *Calliope calliope* Vagrant

These Siberia-breeding robins normally winter in eastern India, but have wandered as far westwards as Bharatpur. Vagrants have also appeared in the Delhi area: Ganguli (1975) mentioned historical records, two by Frome in November in the 1940s, and one in 1952. Later records include single males on the New Delhi Ridge in end-October 1978 and Okhla in March 1979 (Vyas 1996), and at Sultanpur in late February 2014 (■ Arora 2014).

Rusty-tailed Flycatcher *Ficedula ruficauda* Passage migrant (Rare)

Rusty-tailed Flycatchers used to be placed in the genus *Muscicapa*, but genetic studies suggest this is incorrect and they are now included by most authorities in *Ficedula*. They are endemic to the Subcontinent, breeding in the Western Himalayas and wintering in south-western India, and have been recorded in Delhi as straggling passage migrants in both autumn and spring. Ganguli (1975) mentioned just two historical records in April 1957 and January 1970, but there are scattered recent reports of passage birds from New Delhi gardens, Ridge habitats, and Okhla and Sultanpur as well, mostly in April and between late-September and mid-October.

Kashmir Flycatcher *Ficedula subrubra* Vagrant

Records of Kashmir Flycatchers on passage between their nesting areas in Kashmir and winter quarters in the Nilgiris, and Sri Lanka are rare, most birds apparently covering the distance in a single hop. There is one definite record from the Delhi area, a male photographed at Sultanpur on 14 September 2015 (■ Sanjay Sharma 2015b). A couple of other claims cannot be validated.

Red-breasted Flycatcher *Ficedula parva* Passage migrant, uncommon in winter (Common)

Red-breasted Flycatchers breed in Eastern Europe and Russia, with their winter quarters in western and north-central India. In the north-western parts of the Subcontinent, and about Delhi as well, they are common passage migrants with fair numbers remaining through the winter. Autumn passage begins in October and continues into November, but they are especially conspicuous in spring from mid-March through April when males are in showy breeding dress. They are birds of open woodland, parks and gardens, which can teem with these little flycatchers on peak passage days.

Taiga Flycatcher *Ficedula albicilla* Vagrant (? or rare visitor)

Taiga Flycatchers replace their sibling species, Red-breasted Flycatchers, in the East Palaearctic and their winter range is correspondingly more eastward, in eastern and south-central India and Southeast Asia. This is a relatively recent split and they were not specifically distinguished in the past, so their status here is difficult to ascertain. Their main winter range is southwards and eastwards of Delhi, and the scattered records from the Delhi area are probably stragglers on passage or wintering individuals. Many reports, moreover, seem to have been misidentifications.

Ultramarine Flycatcher *Ficedula supercilialis* Passage migrant (Rare)

These handsome flycatchers are a common Himalayan species, wintering in Central India, and are straggling passage migrants through the Delhi area. There are scattered records in March and October, historically in the 1960s and 1970s (Ganguli 1975; Gaston 1978a), and in recent years individuals on passage have been reported from Delhi gardens and parks, Okhla, the Ridge, and various woodland habitats elsewhere, as at Sultanpur National Park and Bhindawas. Individuals may winter occasionally, one at Sundar Nursery, New Delhi, in January–February 2015 and another on the Southern Ridge at Sanjay Van in January 2017.

Slaty-blue Flycatcher *Ficedula tricolor* Confirmation desirable

These flycatchers are Himalayan altitudinal migrants that descend to the foothills and adjacent plains in winter. A male from Nehru Park, New Delhi on 31 January 2015 is far out of range, yet claimed to have been sight recorded during a morning jog in the park by a competent observer (Kanwar B. Singh, post on social media, but without supporting details). The record is treated here as subject to confirmation.

Blue-capped Redstart *Phoenicurus coeruleocephala* Vagrant

These untypical redstarts breed in the Western Himalayas and are altitudinal migrants, wintering at mid to low elevations in the lower hills in open pine forest and scrub covered slopes. They do not normally venture farther southward into the plains, yet an adult male was observed closely on the stone edge of the dam at Badhkal, Faridabad, in November 2000 by an experienced observer (Harvey *et al.* 2006), an unusual record of vagrancy for the Delhi area. A first winter male has been recorded at Bharatpur too in early October 2017 (Chandra 2017).

White-capped Water Redstart *Phoenicurus leucocephalus* Vagrant

These lovely redstarts of fast flowing Himalayan streams are altitudinal migrants, descending to the foothills in winter. Like the Plumbeous Redstarts *P. fuliginosus* that share their habitat, individuals may wander further southwards in severe winter weather, and have been reported from Sariska National Park and even as far as the Indira Gandhi Canal in Rajasthan. Vagrants have wintered at least twice near Sonipat, remaining at the same stretch of canal during their stay from December 2001 to February 2002 (S. C. Sharma *in* Harvey *et al.* 2006), and another from mid-November 2016 till January 2017 (■ S. C. Sharma 2017c); seen by several observers on both occasions.

Plumbeous Water Redstart *Phoenicurus fuliginosus* Vagrant

These Redstarts are Himalayan altitudinal migrants that regularly descend to the foothills in winter, and are known to disperse further southwards into the plains during cold spells. Individuals have reached the Delhi area, with three records to date: from Okhla in the 1990s, one near Sonipat that stayed December 2001 to February 2002 (S. C. Sharma *in* Harvey *et al.* 2006), and a female/ juvenile at Okhla again on 17 February 2018 (■ Sinha 2018a,b).

Black Redstart *Phoenicurus ochruros* Winter visitor (Common)

Black Redstarts are distributed, in several very distinct races, from Europe across to the Himalayas and China, wintering southwards of this breeding range. Two subspecies winter in India, the West Himalayan greyer-crowned *phoenicuroides* and the eastern *rufiventris*. The former is a common winter visitor to the Delhi area between September and April/early May, when it may be seen in city gardens and generally in lightly wooded country.

Blue-capped Rock Thrush *Monticola cinclorhynchus* Passage migrant (Rare)

These colourful rock thrushes breed in the Himalayas in summer and winter across much of central and southern India. They are rare and irregular as passage migrants through the Delhi area with only two historical records in September from Delhi gardens (Ganguli 1975), while Gaston (1978a) recorded a female on the New Delhi Ridge in mid-April 1974. There is just one recent report from spring in April 2000, but a number of scattered records in autumn, mainly in October, from woodland at Sultanpur, Okhla, and the Southern Ridge.

Blue Rock Thrush *Monticola solitarius* Winter visitor (Scarce)

Blue Rock Thrushes have a wide distribution from the Mediterranean region to the Himalayas, China, and Japan, and winter in Arabia and Southern Asia. They are scarce visitors to the Delhi area between October and April, frequenting historical monuments and ruins, abandoned quarries and rock formations on the Southern Ridge.

Stoliczka's Bushchat *Saxicola macrorhynchus* Vagrant (? or passage migrant, data deficient)

Stoliczka's or White-browed Bushchats are an Indian endemic, rare and local in Rajasthan and Kachchh. There are century-old records from Haryana too, mostly in winter (Rahmani 1997) and over the last two decades they are again being reported from near Hissar, westward of the Delhi area between late January and March (Sharma & Sangwan 2005), and other locations where they were known to occur in the past. In the Delhi area, three were first located in early February 2001 at two sites near Sultanpur National Park and seemed to be establishing territories, but disappeared by early April (Harvey *et al.* 2006). A male reappeared on 11 November 2014 on bare flats near Sultanpur (■ Sanjay Sharma 2014). Then one was recorded in the Yamuna *khadar* in North Delhi on 25 August 2016 (Sunil Kumar 2016b), possibly a dispersing juvenile of the year in seemingly untypical habitat. One, or perhaps 2, documented by many observers, stayed from 24 October till end December 2017 at the flats near Sultanpur (■ Arya 2017; P. Sharma 2017b), and about the same period, in the third week of November, in the following year and in the same general area (■ S. C. Sharma 2018). The breeding biology of this bushchat is poorly known, but juveniles have been reported in August–September, and evidence suggests that the breeding season may extend from March to July. Their status in the Delhi area remains enigmatic—the dates suggest passage movements to and from some breeding sites in the vicinity of Delhi.

Siberian Stonechat *Saxicola maurus* Winter visitor (Fairly common)

Siberian Stonechats are widespread across Asia from the Caspian region to Siberia and southwards to the Himalayas, and winter from India to Southeast Asia. They are fairly common visitors to the Delhi area from late-August to April–May, though numbers increase during passage periods, and in spring they can be abundant in the Yamuna's floodplain which offers an ideal mix of cultivation, dry grass and bush country, and rank reedy patches to suit their requirements. They also affect reed beds and the vicinity of marshes, alongside White-tailed Stonechats *S. leucurus*.



Anand Arya

Stoliczka's Bushchat, characteristic posture, at Sultanpur, November 2017.

White-tailed Stonechat *Saxicola leucurus* Breeding resident (Uncommon and local ↓)

White-tailed Stonechats are restricted to the floodplains of the Indus, Ganga, and Brahmaputra rivers across the northern Subcontinent. They were not listed for Delhi prior to the 1970s and were first recorded in the Yamuna floodplain only in 1978 (Vyas 1996)—around the same time that two other species, which occupy the same grassland/ reed bed habitat, Striated Grassbird and Yellow-bellied Prinia, were also first recorded in these same areas. They remain limited to remnant patches of such habitat in the *khadar*, resident and breeding in the mosaic of reeds and open damp ground at Wazirabad and Okhla. Males begin singing by late January with song flights in March; by March end, some pairs are building, a few already feeding young. Over the last decade, with the changes in the character of the habitat at Okhla its numbers appear to have declined at this site.

Pied Bushchat *Saxicola caprata* Breeding resident (Common ↔)

These striking bushchats are widespread from Iran across the Subcontinent to Southeast Asia, and are common residents in the Delhi area in grass-and-bush country, often near wetlands and marshes, along canal embankments, fields, and thorn hedges near villages. They nest between February and May, but males have been seen singing and performing song flights again in late September (a second brood?). Males can be pugnacious towards conspecifics in their territory, announcing their ownership by song, and with slow flapping flight when their white wing patches are prominently displayed.

Grey Bushchat *Saxicola ferreus* Winter visitor (Rare and irregular)

Grey Bushchats are Himalayan altitudinal migrants, breeding at mid-elevations and wintering to the foothills, sometimes extending further into the plains during cold spells. Ganguli (1975) considered them accidental in Delhi and mentioned only two “doubtful” records by Hutson, presumably in the 1940s. They may have been overlooked, as there have been a few reports scattered across the Delhi area in recent years, between October and February: from New Delhi gardens, the Yamuna floodplain at Okhla, Sonipat, and woodland areas at Sultanpur, Bhindawas, Surajpur and the South-Central Ridge.

Isabelline Wheatear *Oenanthe isabellina* Winter visitor (Rare)

Most of our wheatears breed in desert habitats westward and northward of the Subcontinent and winter in the drier parts of north-western India. The dry bare flats favoured by Isabelline Wheatears are being increasingly lost to expanding agriculture and urbanisation, and wintering numbers of these chats have come down. Ganguli (1975) had noted historical winter records from Tughlaqabad and Sultanpur. The few recent reports, all between end-September and February, are mainly from the environs of Sultanpur and Bhindawas in Haryana. They are the most terrestrial of our wheatears, with a distinctive habit of running, rather than hopping, on the ground.

Desert Wheatear *Oenanthe deserti* Winter visitor (Uncommon)

Desert Wheatears are widespread from North Africa to Central Asia (breeding in Ladakh), and winter south-east to India. They are recorded in the Delhi area between October and March in small numbers, perhaps most frequent in the latter month during spring passage. They affect fallow ground in the Yamuna floodplain and countryside, bare sandy flats, and overgrazed ground near villages. Ganguli (1975) had considered them “not too common” in the 1960s, and this would still be an appropriate description today wherever suitable habitat remains.

Brown Rock Chat *Oenanthe fusca* Breeding resident (Common ↔)

This species was formerly placed in the mainly African genus *Cercomela*, but molecular studies have concluded that it is actually nested within the wheatear genus *Oenanthe*. Indeed, as Whistler (1949) observed years ago, "It is a regular wheatear in its habits..." Brown Rock Chats are endemic to northern and central India, and are common and widespread residents in the Delhi area. They seem to have largely abandoned their natural habitat of rocky cliffs and similar features for human modified environments, living and nesting in buildings, old and new, archaeological monuments, forts etc., and are tame, familiar birds that may even enter inhabited houses on occasion. Males begin singing from March and they breed between April and August.

Variable Wheatear *Oenanthe picata* Winter visitor (Scarce)

Variable Wheatears breed from Central Asia to Pakistan, wintering in the Indus Plains and western India east to the Delhi neighbourhood. They are scarce winter visitors between late-October and March, affecting dry flats and stony waste ground. With such habitat becoming increasingly restricted around Delhi, these wheatears are now scarcer and less widespread since the 1960s, when Ganguli (1975) considered them 'uncommon.' Recent reports are mostly from the Sultanpur area and the barer parts of the Southern Ridge. They occur in three morphs, *picata*, *opistholeuca*, and *capistrata*, all of which have occurred here, but *picata* is most frequently reported. These morphs are not treated as valid taxa, they seem to have diverged rather recently possibly as a response to environmental factors, and intergrades are common.

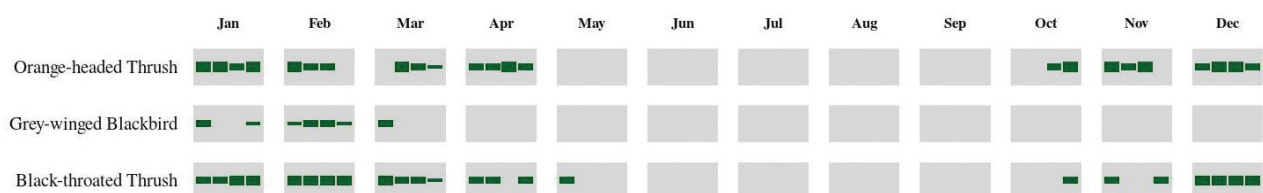
Red-tailed Wheatear *Oenanthe chrysopygia* Vagrant

Red-tailed Wheatears breed in Iran and Afghanistan, wintering eastwards to the Thar Desert and Kachchh. Vagrants have been recorded as far east as the Delhi area, with sparse documented records from arid habitats around Surajkund, Delhi, and Sultanpur, Bhindawas, and Badkhal Lake, Haryana: historically, an old record from the 1920s (Ganguli 1975), then in December 1977 (Sridharan & Bikhchandani 1981), between 2000-2006 (Harvey *et al.* 2006), and more recently in October 2008 (Arya 2008c) and November 2017 (Mehta & Dogra 2018b).

TURDIDAE: THRUSHES

(India: 29 species, Delhi: 7)

Three genera of thrushes occur about Delhi. *Turdus* are arboreal but feed on the ground, while *Geokichla* and *Zoothera* are terrestrial, living and feeding in leaf litter and undergrowth. Most of Delhi's thrushes are rare, irregular visitors that breed in the Himalayas and further north, or vagrants driven so far south during cold waves.



Scaly Thrush *Zoothera dauma* Vagrant

Scaly Thrushes are altitudinal migrants along the Himalayan range, with some also wintering in Central India, mainly on the eastern side. Rare individuals have wandered westward to Bharatpur and the Aravallis, and two such vagrants have been recorded in 'Aravalli'-type habitats of the Southern Ridge, at Mangar Bani, Faridabad, on 05 December 2016 (■ Gupta & Srinivas 2017), and the South-Central Ridge at Sanjay Van, South Delhi, on 26 October 2018 (■ Ball 2018b).

Orange-headed Thrush *Geokichla citrina* Winter visitor (Scarce)

These colourful thrushes are widely distributed across the Oriental Region in several races. The nominate race, which breeds in the Himalayan foothills, disperses over the Gangetic Plain and eastern peninsular India in winter. They are scarce winter visitors to the Delhi area, affecting shady damp spots in well-wooded areas. Ganguli (1975) mentioned observations in winter months in the 1960s in New Delhi gardens, and there are a number of scattered reports in recent years from Sultanpur, Bhindawas, Okhla, and damp wooded depressions with undergrowth cover in South-Central and Southern Ridge habitats.

Mistle Thrush *Turdus viscivorus* Vagrant

Though the Mistle Thrushes of the Western Himalayas show strong seasonal altitudinal movements, they rarely enter the plains. A vagrant, however, was recorded with Black-throated Thrushes *T. atrogularis* at Sultanpur in February 2002, probably driven southwards with the latter flock by harsh weather (Harvey *et al.* 2006). This is one of just four records in India outside its Himalayan range: Lahore,

Punjab in January 1903; Sultanpur, Haryana in February 2002; Pachmarhi, Madhya Pradesh in February 2003; and Kachchh, Gujarat in December 2010 (Mishra 2015).

Song Thrush *Turdus philomelos* Vagrant

Song Thrushes breed in Europe eastwards to central Siberia, migrating in winter to North and West Asia. There are very few records from the Subcontinent of birds accidentally straying eastwards of their usual winter range, but one was reported as close to the Delhi area at Bharatpur in 1981. Two at Mangar Valley, Faridabad, on 11 December 2016 (Chhabra *et al.* 2017) is perhaps the third record from India.

Grey-winged Blackbird *Turdus bouboul* Winter visitor (Rare)

These fine Himalayan blackbirds nest at mid-elevations along the range and are altitudinal migrants, dropping to the foothills in winter with a few dispersing deeper into the plains in cold winters. They had not been recorded from the Delhi area historically, but as scattered records in recent years demonstrate, individuals do appear here occasionally between January (at peak winter) and early March. In most years, however, they are absent. They have been reported from city parks, woodland patches as at Sultanpur, in the Yamuna's floodplain at Okhla and above Wazirabad, and from the Southern Ridge at Asola, Damdama Lake, and Gurgaon.

Tickell's Thrush *Turdus unicolor* Passage migrant and winter visitor (Rare)

Tickell's Thrushes are a purely Himalayan species, wintering southwards and south-eastwards in Central India. They are irregular and rare on passage or winter in the Delhi area. Ganguli (1975) mentioned just three historical records in February, March, and April from Delhi gardens. Gaston (1978a) recorded one on the New Delhi Ridge in late November 1971. The few recent reports are from urban gardens, rural woodland patches at Sultanpur and Bhindawas, Haryana, or the Ridge habitats, between early November and March, with one report as late as May.

Black-throated Thrush *Turdus atrogularis* Winter visitor (Uncommon)

Black-throated Thrushes breed in Western Siberia and winter along the Himalayas and their foothills, extending into the northern plains as the winter really sets in. They are present most winters in the Delhi area, though rarely before December, and stay till February–March when they are actually most often reported. They may be seen in gardens, woodland, on the Ridge, scrub, and groves in the rural countryside as at Sultanpur National Park or Bhindawas Bird Sanctuary.

V. Pre-1970 historical records

Twenty-seven species that had been reported from the Delhi neighbourhood in the past have not been recorded again since 1970.

The National Capital and its neighbourhood have seen enormous, accelerating ecological change over the past half century or so with dramatic expansion of urban areas, altered patterns of irrigation and agriculture, loss of wetlands, changes in river hydrology, and deterioration of air and water quality. This has naturally resulted in the local extirpation of some birds that figure in this list, while several accidental vagrants recorded in the past may or may not reappear in Delhi's neighbourhood. Additionally, some old sight records are unverifiable today in the absence of details—often even the year of the sighting is not mentioned in the primary source. The risk of misidentified records remains in the absence of sufficient documentation.

White-headed Duck *Oxyura leucocephala*

This endangered species breeds very locally from the Mediterranean to Central Asia, a few wintering to Pakistan, very rarely farther into India. Three were obtained in 1882–1883 near Delhi (Baker 1921; Ganguli 1975).

Tundra Swan *Cygnus columbianus*

These are swans of the far north whose usual wintering range in Asia includes the Caspian, China, and Japan, but which have been recorded as very rare vagrants from the Subcontinent; there is a record from "Sutana, about 45 miles north of Delhi" (near Panipat) from December 1937 (Lewis 1938), but the specimen itself in the BNHS museum is labelled as from "Rajpur" near Delhi (Praveen *et al.* 2014).

Common Golden-eye *Bucephala clangula*

Golden-eyes breed in temperate Eurasia and North America, straggling as far southwards as northern India in winter. Ganguli (1975) mentioned two historical observations from Delhi, in March 1957 and November 1963.

Pin-tailed Sandgrouse *Pterocles alchata*

Pin-tailed Sandgrouse breed from Spain and North Africa to Central Asia, the latter populations migrating to the northwestern part of the Subcontinent, mainly Pakistan, in winter. Blewitt (1875) mentioned large flocks, exceeding 300, near Najafgarh, with a specimen deposited in the Hume Collection (BMNH). There have been no further reports from the Delhi area, and this may have been an episodic influx of this species which is known to exhibit nomadic behaviour. See also detailed note posted on eBird (Praveen n.d.).

Black-bellied Sandgrouse *Pterocles orientalis*

This large sandgrouse ranges from Spain to Central Asia and winters eastwards to western Rajasthan. Its wintering patterns in India may have changed over recent decades and it seems to have become far less common and more localised than in the past. Ganguli (1975) called it an uncommon winter visitor in southern and south-western Delhi, and mentioned mid-winter records, the last however being an unusually late bird in early May 1968.

Slaty-breasted Rail *Lewinia striata*

Hutson (1954) recorded observations from reedy pools about Delhi "in March, April and May"; the years were not specified but presumably from the 1940s. No subsequent record.

Siberian Crane *Leucogeranus leucogeranus*

The western population of the Siberian Crane, whose last winter refuge in India used to be Keoladeo National Park, Bharatpur, Rajasthan, stands effectively extirpated now. Wintering numbers at Bharatpur fell from, perhaps, 75 in the early 1970s to two by 1998, with the last birds seen there in 2001–2002. They were also reported from elsewhere in northern India in the past, and Hume & Marshall (1879) stated that it was recorded "at least once" in Najafgarh about 1875.

Great Indian Bustard *Ardeotis nigriceps*

The fate of this spectacular endemic bustard hangs by a slender thread today. There are nineteenth century records from near Delhi (Hume & Marshall 1879), and Basil-Edwards in the 1920s was informed that "it used to be found about Delhi." There is no habitat left today to support this species in the Delhi area, even if it were not so rare.

Macqueen's Bustard *Chlamydotis macqueenii*

This West and Central Asian species, split from the North African Houbara, is a winter visitor to the north-western drier parts of the Subcontinent. There are anecdotal reports of its presence about Delhi in the early 1900s, and "one [was] obtained about 60 miles from Delhi on the road to Jaipur" about 1950 (Ganguli 1975).

Lesser Adjutant *Leptoptilos javanicus*

These large storks range from the eastern and southern Subcontinent across Southeast Asia. They may wander beyond their breeding range, and vagrants have been reported from Delhi historically "occasionally in company with Greater Adjutants" (Ganguli 1975).

Spot-billed Pelican *Pelecanus philippinus*

Spot-billed Pelicans occasionally wander from their localised breeding colonies in eastern and southern India, apparently much less often now than formerly, and Ganguli (1975) recorded observations at the Sultanpur lakes in the winter of 1969–1970. It has not been reported since.

Little Bittern *Ixobrychus minutus*

These are widespread bitterns of Europe, Africa, and West-Central Asia, southwards to Kashmir where they breed commonly in the vale. Ganguli (1975) mentioned breeding observations, by Peter Jackson and herself, from Delhi in July/August between 1964 and 1968. They have not been recorded at all from the Delhi area, let alone found breeding, either before or since. Adventitious breeding further southwards in the Subcontinent has, however, been recorded from Lower Sind, and recently from Gujarat. Either that was a temporary colony established during those years, or a suspicion of mistaken identity (vis-à-vis Yellow Bittern) must rest on these records.

Caspian Tern *Hydroprogne caspia*

Widely distributed globally, this is mainly a coastal species in India, much scarcer inland. Alexander (1964) and Ganguli (1975) both mentioned the only record of this large tern, in November 1963, on the Yamuna at Delhi.

Cinereous Vulture *Aegypius monachus*

These huge vultures breed locally from Spain to Central Asia, the eastern populations wintering in West Asia to north-western India and the Himalayas. Ganguli (1975) called them uncommon winter visitors to refuse dumps about Delhi and mentioned several observations from the 1940s till 1969, but none have been reported since.

Long-eared Owl *Asio otus*

A widespread owl of the temperate Northern Hemisphere, wintering southwards to the plains of north-western India. Ali & Ripley (1969b) included 'Delhi District' in a list of localities from where it was recorded.

Saker Falcon *Falco cherrug*

These large falcons of Eastern Europe and Central Asia winter mainly, and sparsely, in the north and west of the Subcontinent. Frome (1948a) collected a specimen on 21 November (no year mentioned!), and Ganguli (1975) mentions one seen by H. Alexander in January (again no year!).

Rosy Minivet *Pericrocotus roseus*

Rosy Minivets breed in the Himalayan foothills and locally in the Eastern Ghats, straggling southwards into the peninsula in winter. There are two old observations from north Delhi: Frome (1948a) saw one in December (no year mentioned! 1940s?), and Ganguli (1975) mentioned "a few" seen by Alexander in "1946 or [19]47".

Pale-billed Flowerpecker *Dicaeum erythrorhynchos*

A South Asian endemic, Delhi is just beyond the normal range of this flowerpecker, which is known, however, from as close as 250 kms., about Kalesar, Hardwar, and Bareilly. Ganguli (1975) mentioned observations by H. Alexander in "Qudsia Park, North Delhi, Lodi Gardens and possibly in other localities" but with no details. It has not been reported since from the Delhi area, however, and Alexander's records are unverifiable today from such vague statements. The historical records are retained here but require reconfirmation.

Gold-fronted Chloropsis *Chloropsis aurifrons*

A bird that stayed for much of August 1944 at Alipur Nursery near Safdarjung, New Delhi, was evidently an escape (Hutson 1954).

Trumpeter Finch *Bucanetes githaginea*

A desert finch of North Africa and West Asia, ranging southwards to Rajasthan in winter. Ganguli (1975) reproduced Hume's note (Hume 1878) on one obtained at Hattin in Gurgaon District, Haryana, on 16 December 1877.

Rock Bunting *Emberiza cia*

These buntings breed from the Mediterranean to the Himalayas, where they are common altitudinal migrants with small numbers entering the plains of the north-western Subcontinent in winter. Ganguli (1975) mentioned one collected in late February 1925 in north Delhi and "doubtful records" from the Ridge in December and from Tughlaqabad in November 1945. There are no further records, but four birds were photographed on 24 February 2018 at Kaithal, which is a little beyond our limits (■ C. Sharma 2018), so they may as well be found in the Delhi area in the future.

Black-crowned Sparrow Lark *Eremopterix nigriceps*

A common sparrow lark of deserts from the Sahara across the Arabian Peninsula and West Asia eastwards to the Thar, that appears to have been recorded once in the Delhi area, a single bird in February at Najafgarh (Frome 1948a).

Black Bulbul *Hypsipetes leucocephalus*

These are common Himalayan bulbuls that descend to the foothills and adjoining plains in winter, but would be very unusual as far south as Delhi. The only records are by Gaston (1973, 1978a), who saw two or three on the New Delhi Ridge on 12 and 24 February and 07 March 1972. He notes that these records followed heavy and unseasonal late snowfalls in the hills of Himachal and Uttar Pradesh, and large numbers of Black-throated Thrushes were also seen at the same time.

White-browed Bulbul *Pycnonotus luteolus*

A bulbul of peninsular India, unlikely to occur in Delhi, but Ganguli (1975) mentioned sight records on 16 September (no location or year—1950s?), and at the Begumpuri Mosque, South Delhi, on 02 January 1952.

Plain Leaf Warbler *Phylloscopus neglectus*

These tiny warblers breed in Central Asia and winter in the Persian Gulf and riverine thorn forest in the Indus Plains, mainly in Sindh. A few have been recorded in the desert areas of western Rajasthan. Ganguli (1975) mentioned observations by H. G. Alexander in March 1928, November 1946, and January 1950, but without further detail. It has been claimed since, especially from Tughlaqabad, but in the absence of more detailed data these historical records are retained here tentatively, subject to reconfirmation.

Tawny-bellied Babbler *Dumetia hyperythra*

A South Asian endemic, placed in the redefined babbler family Timaliidae, widespread in undergrowth and forest habitats in India including the Aravallis, northwards at least to Sariska National Park. Ganguli (1975) mentioned a party seen at the New Delhi Golf Links on 22 September 1942 and "about a dozen birds seen singly and in small parties of 2 or 3 in the shrubbery in Lodi gardens on 12 November", probably in 1961 (Tyabji 1962).

Bar-tailed Treecreeper *Certhia himalayana*

A west Himalayan treecreeper that is known to extend short distances into the adjoining plains in winter. Hutson (1954) is credited with seeing one in light woodland about Delhi, on 04 January (presumably in the 1940s). Ganguli (1975) misquoted the date as 04 June. No further details.

VI. Expunged records

Some of the records in this list are by experienced observers but have been set aside, for the moment, for the reasons mentioned hereunder. Checklists are not frozen in time, however, and these records will be reassessed from time to time in the light of additional information as it becomes available. Many experienced observers have questioned their own identifications of past years.

White-bellied Heron *Ardea insignis*

These magnificent herons are Critically Endangered today with tiny remnant populations in the far Eastern Himalayas. Ganguli (1975) wrote that several (eight or nine) of these herons were seen by Peter Jackson, Roger Holmes and herself in May/June 1968 at Shamspur jheel west of Najafgarh. Jackson (1969) recorded: "a few years ago, Dr. Salim Ali had raised the possibility that some herons we saw at Shamspur...might be the Great White-bellied Heron...this year, Mrs. Ganguli, Mr. Holmes and I saw several of these herons again... and from the bright white of the breast and belly and the distinctly larger size than the Grey Heron which was also to be seen, we concluded that they were almost certainly *A. insignis*." Ganguli added that Jackson saw these herons again in 1970. These records are quite extraordinary given the range of the species, its extreme rarity compared to the numbers seen, and unsuitability of the habitat. Jackson himself never reconfirmed these observations, and Ali & Ripley (1968, 1978) made no mention of the record. It can only be considered hypothetical, a case of mistaken identity.

Eurasian Woodcock *Scolopax rusticola*

Woodcocks breed widely across temperate Europe and Asia, southwards to the Himalayas, and in India winter in the southern Indian hills. They are rarely reported in between on passage, which probably takes place in a single hop over the Indian mainland. Ganguli (1975) mentioned a sight record by H. Alexander, but with no further details. It is not proposed to permit such vague records in the Delhi Checklist.

Bridled Tern *Onychoprion anaethetus*

A pelagic tern of tropical seas, which is only exceptionally found inland having been blown astray by cyclonic weather or ocean storms, and never far from the coast. A sight record of one over the Yamuna in June 1999 by Clive Harris (Harvey *et al.* 2006) is quite extraordinary and is excluded from the Delhi Checklist.

Changeable Hawk Eagle *Nisaetus cirrhatus*

There are two races of this species on mainland India, the crestless *limnaetus* of the Himalayan foothills and the long-crested nominate of peninsular India. Ganguli (1975) mentioned one seen at New Delhi by H. Alexander "prior to 1954." No further details or, surprisingly, not even the race were mentioned, and this seems typical of the casual reporting of observations by some otherwise accomplished observers of the time.

Golden Eagle *Aquila chrysaetos*

A very wide ranging species of Europe, Asia, North Africa, and North America, Golden Eagles are resident in the higher Himalayas, making only small altitudinal movements, and are not known to enter the Gangetic Plains even during severe winters (this may not hold true however in the western parts of the Subcontinent, in Pakistan, where they do wander into deserts west of the Indus). Hutson (1954) recorded "a female near at Qadipur on 31 December", no year mentioned, "on the ground with two King Vultures, considerably larger than the latter and almost uniformly dark brown with 'trousered' legs and a pale grey beak"; almost certainly misidentified.

Northern Goshawk *Accipiter gentilis*

Ganguli (1975) mentioned one "doubtful" sight record by H. G. Alexander, "a large noisy hawk chased by crows at Faridabad, February 1950." Northern Goshawks have wandered southwards of the Himalayas in winter to as far as Ranthambhore National Park in the Aravallis, and could certainly appear about Delhi as well. A record as vague as this, however, is unacceptable.

Upland Buzzard *Buteo hemilasius*

There are five claimed records for Delhi: Ganguli (1975) mentioned two dubious sightings in 1951; Gaston (1978a) reported one over the New Delhi Ridge in March 1973; one photographed at Madanpur *khadar* in December 2002 (Harvey *et al.* 2006) is misidentified; and finally, one was photographed at the Yamuna Biodiversity Park, North Delhi, on 01 March 2015 (■ D. K. Singal 2015). Upland Buzzards breed north of the Himalayas and winter on their southern slopes, but do not normally enter the plains, and identification difficulties confound the odd reports of their occurrence here. In addition, hybrids within the genus *Buteo* are not rare, in particular

between *rufinus* and *hemilasius*. Many buzzard phenotypes from India suggest hybrids in appearance, though genetic confirmation would be desirable (Hans Peeters, *in litt.*, e-mail of 26 October 2018). The thinly and sparsely feathered tarsi of the Yamuna Park bird were the basis for identification, but its jizz is Long-legged rather than Upland, whose tarsi feathering is also usually denser and more obvious; a hybrid with Long-legged Buzzard seems to be the best explanation. In the absence of any conclusive record, Upland is excluded from the Delhi Checklist.

Mottled Wood Owl *Strix ocellata*

Ganguli (1975) attributed a record from Delhi to H. P. W. Hutson, but the latter did not include it in his own list (Hutson 1954), except for a passing mention of crows tormenting Mottled Wood Owls, amongst other species. The Delhi area is, however, well within the residential range of this owl in India.

Streak-throated Woodpecker *Picus xanthopygaeus*

This sedentary, non-migratory woodpecker of forest edges in the Himalayan foothills and adjacent plains, and peninsular India as well, is known from the southernmost Aravallis (Mount Abu) but nowhere further northwards along the range. A female, reported from Asola Wildlife Sanctuary on the Southern Ridge in June 2015, would be a most unlikely vagrant from the Himalayan foothills. Though a photograph was put out by the observer, accompanying details remain rather ambiguous, and the record is excluded from the Delhi Checklist for the present.

Ashy Woodswallow *Artamus fuscus*

Lav Kumar had withdrawn his own records of 1950s (Khacher 1995), referred to in Ganguli (1975). Excluded.

Grey-backed Shrike *Lanius tephronotus*

A Himalayan breeding shrike that winters down to the foothills, and rarely into the adjacent plains in severe weather. Ganguli (1975) mentioned "two or three records" by H. Alexander, with no further details. Confusion vis-a-vis *L. s. caniceps* is, however, evident from her further remarks.

Rook *Corvus frugilegus*

The Rook is a winter visitor to the north-western parts of the Subcontinent, mainly in northern Pakistan but straggling eastwards to the Punjab. A report of five birds in flight at Okhla by H. Alexander was termed "doubtful" by the observer himself (Hutson 1954).

Sykes's Lark *Galerida deva*

This distinctive endemic lark of dry landscapes of the Deccan Plateau, Gujarat, and Central India eastwards of the Aravallis has been listed for the Delhi area with no supporting details, and a photographic record from Basai can be immediately dismissed. Excluded from the Delhi Checklist.

Lanceolated Warbler *Locustella lanceolata*

This elusive warbler winters mainly in Southeast Asia, and in smaller numbers as far westwards as the north-eastern Subcontinent. J. Donahue's specimen, collected at New Delhi on 17 August 1962 at MSU, was re-examined, and confirmed as Grasshopper Warbler (Rasmussen & Anderton 2012). It is excluded from the Delhi list.

Rufous-vented Grass Babbler *Laticilla burnesii*

This bird, formerly called Rufous-vented Prinia, is now placed in the babbler family Pellorneidae, no longer with the Prinias. It is a local inhabitant of the Indus floodplains eastwards to Harike on the Sutlej, and unlikely to reach Delhi. Ganguli (1975) wrote that Alexander had recorded one at a marsh along Mathura Road, Delhi, in January. Although other species with similar distributions, e.g., Sind Sparrow, are known to have extended their ranges to Delhi, this record is unverifiable and should be considered hypothetical.

VII. Conservation issues

The scale and intensity of the competing demands placed on the landscapes of India's capital city are enormous, and the challenges to their ecological integrity will only grow. Sustainable development requires a 'bird's eye view' approach, at a landscape level: understanding how the environment copes with change is the key to keeping the ecosystem healthy and resilient. Wetlands of high ecological value, such as Okhla or Sultanpur, cannot be conserved in isolation as biodiversity hotspots. They are functionally integrated in the landscape and a nuanced grasp of the ecological operations that sustain them should provide the base for conservation strategies.

The native breeding species about Delhi are of primary interest from a conservation point of view, and for these the Annotated Checklist includes assessments of population and distribution trends, though subjective, and based on data that is sketchy and incomplete. This has not been done for species that are seasonal visitors, though these too should be monitored. Their population dynamics depend on various factors, and falling numbers may indicate that a species is struggling globally or the decline could be localised, perhaps due to loss of habitat. Unusual concentrations may suggest improved habitat quality or better protection, or something more sinister—that we have lost other suitable habitats in the neighbourhood, forcing the birds to concentrate in the few that remain.

Of 194 species that breed about Delhi (see Annexure), (a) seven show increasing population trends; (b) 156 species do not show any clear temporal trend, other than generally positive (for 21 species) or generally negative (for 22); (c) status and population trends for 12 species cannot be assessed; and crucially, (d) 19 species show sharp declines, to the point that some may have been extirpated from the Delhi area:

1. Chestnut-bellied Sandgrouse <i>Pterocles exustus</i>	Resident, Uncommon ↓↓
2. Black-necked Stork <i>Ephippiorhynchus asiaticus</i>	Resident, Scarce ↓↓
3. Great Thick-knee <i>Esacus recurvirostris</i>	Former Resident, now Extirpated? ↓↓↓
4. Indian Skimmer <i>Rynchops albicollis</i>	Former Breeder, no longer breeds ↓↓
5. Little Tern <i>Sternula albifrons</i>	Summer Visitor, Scarce ↓↓
6. River Tern <i>Sterna aurantia</i>	Former Breeder, Fairly Common ↓↓
7. Black-bellied Tern <i>Sterna acuticauda</i>	Former Breeder, Uncommon ↓↓
8. Egyptian Vulture <i>Neophron percnopterus</i>	Resident, now Uncommon ↓↓
9. Red-headed Vulture <i>Sarcogyps calvus</i>	Resident, now Very Scarce ↓↓↓
10. White-rumped Vulture <i>Gyps bengalensis</i>	Former Resident, now Extirpated ↓↓↓
11. Tawny Eagle <i>Aquila rapax</i>	Resident? now Rare ↓↓
12. Pallas' Fish Eagle <i>Haliaeetus leucoryphus</i>	Former Resident, now Extirpated ↓↓↓
13. Dusky Eagle Owl <i>Bubo coromandus</i>	Resident, now Rare ↓↓
14. Laggar Falcon <i>Falco jugger</i>	Resident? now Rare ↓↓
15. Marshall's Iora <i>Aegithina nigrolutea</i>	Resident, now Local and Scarce ↓↓
16. White-browed Fantail <i>Rhipidura aureola</i>	Resident, now Local ↓↓
17. Great Grey Shrike <i>Lanius excubitor</i>	Former Resident, now Scarce ↓↓
18. Indian Nuthatch <i>Sitta castanea</i>	Former Resident, now Extirpated? ↓↓↓
19. Indian Spotted Creeper <i>Salpornis spilonotus</i>	Former Resident, now Extirpated? ↓↓↓

The most serious declines are of river sandbank nesting species and some resident birds of prey. One stork also shows a marked decline, as do some open country and native woodland species that are being increasingly confined to localised patches of habitat. From an ornithological point of view, the landscapes in the Delhi area that call for priority conservation action are (a) the Yamuna River and its *khadar* floodplains; (b) wetlands, functionally integrated with the river environment; and (c) the Southern Ridge.

Wings over the wetlands

We have lost many of our wetland habitats to drainage, failing aquifers, encroachment, or pollution, yet the Delhi area retains valuable remnants (Urfi 1995) that can hopefully be conserved. As demands for land and water intensify in the National Capital Region, each wetland, barrage, or weir, with its constituent habitats, will assume importance as a refuge for breeding, resting, and feeding waterfowl. A sustainable conservation strategy should support this functional diversity.

In spite of weirs constructed over the river at Wazirabad in north Delhi (in 1957) and at Okhla (1874), flow patterns of the Yamuna remained largely unaltered till the 1970s—the temporal flow pattern characteristic of Gangetic Plain river ecologies, where silt deposited as flows declined after the monsoon formed sandy islets and banks, which held nesting colonies of some of our most charismatic river nesting species and feeding grounds for waterfowl and waders.

In the 1980s and 1990s, the construction of a new barrage at Kalindi Kunj, downstream of the aging Okhla weir, altered the hydrology of the Yamuna, while water diversion upstream seriously depleted flows. The barrages have stilled the river; with no fresh water inflow for much of the year, the Yamuna in Delhi is stagnant, its water opaque with sewage and industrial effluents released into its channel as it passes through the city.

The nesting colonies of terns, skimmers, pratincoles, and other birds that earlier enlivened the river are gone. Altered hydrology and sand mining downstream have destroyed the habitat while the awful water quality cannot sustain the aquatic fauna on which these birds depend.

The situation has been the subject of much study and concern. Yamuna Action Plans, over the last two decades, have focused on effluent treatment infrastructure, with little real impact. The fundamental issue of maintaining an ecological flow regime for the river, by which upstream water abstraction is managed to mimic the volumetric and temporal patterns and benefits of natural flows, remains sidelined. Further positive effects can be expected if the ecological character of the floodplain can be enhanced by reviving ox-bow channels, and permitting a degree of controlled flooding to replenish aquifers. Encroachment in the *khadar*, illegal or misguided, has drawn public and judicial attention, but remedial measures remain inadequate.

Some efforts are being made. A small part (185 ha) of the *khadar* has been successfully restored as the Yamuna Biodiversity Park in north Delhi under a Delhi Government–University programme to conserve representative habitats as hubs for nature education. A more ambitious proposal to restore 9770 ha of the Yamuna floodplain under this programme is yet to begin.

East of the Yamuna in Uttar Pradesh, on the margins of the urban sprawl, the marshes at Dhanauri Khurd hold impressive concentrations of breeding Sarus while Surajpur Lake hosts a large heronry (and receives a measure of protection). Westwards, the 410 ha Bhindawas Lake, with its rich wetland habitats was declared a bird sanctuary in 1986, is listed as an 'Important Bird and Biodiversity Area' (*henceforth* IBA) of Haryana (Rahmani *et al.* 2016), and attracts an extraordinary diversity of waterfowl and raptor species. The agricultural landscapes of Haryana are irrigated by the Western Yamuna Canal system, whose seepage marshes, reed-beds, and village ponds, such as those at Dighal (also an IBA), near Rohtak, consistently produce remarkable records.



Pankaj Gupta

Dhanauri wetlands, December 2016.



Suresh C. Sharma

Scene at Bhindawas, Jhajjar, Haryana.

Some of our well-known wetlands, though protected, have been altered by human agency with consequent impacts on their birdlife. The Okhla Bird Sanctuary on the Yamuna, and Sultanpur National Park are two examples, both IBAs, that illustrate how human intervention can change the character of a specialised habitat dramatically, but the impact does not have to be entirely negative; some losses can be replaced by other gains, provided the intervention is managed with care and an understanding of how the environment

will cope with the change.

The Yamuna at Delhi has long been known for the numbers of waterfowl that used it as a flyway on their way northwards in spring. When the river still largely retained its natural flow patterns, until the 1980s, spectacular numbers of waders would gather in the evenings on sandbanks exposed at Okhla as summer advanced, calling excitedly as parties took off one by one for the next staging hop. Formations of cranes followed the river alignment northwards, their bugling heard clearly from up high. We have lost these scenes, given the state of the river and the urban congestion around. The migrants probably still move up the river, too high to be recorded, however.

On the other hand, the Okhla Barrage impoundment has created areas of marsh and reeds which are excellent habitat for breeding bitterns (amongst the best sites in India to study these elusive herons) and other swamp species. An area of 400 ha was designated a bird sanctuary in 1990 by the Government of Uttar Pradesh, but suffers from high levels of pollution, urban encroachment, high tension power lines that run along its eastern boundary, and an ecologically sensitive zone restricted to just 100 m around the impoundage, rather than considering the floodplain northwards and southwards of the sanctuary as one ecological unit.

The 143 ha Sultanpur Lake south-west of Gurgaon, protected since 1971 and declared a National Park in 1989, is another example. Historically a centre of salt production until 1923, the area had a number of seasonal inundations (the 'Sultanpur lakes') till as late as the 1970s. Most have been drained and reclaimed since (Gaston 1994), while the ecological character of the main jheel itself was altered in the 1980s by a tree plantation programme of the Haryana Forest Department to replicate a Bharatpur-type environment. With canal water brought in to compensate for reduced natural flows, an open brackish inundation has been transformed into a wooded freshwater wetland that no longer attracts the flocks of flamingos and pelicans it was famed for. In their place, the lake has gained perhaps the largest heronry of the Delhi area on the *Acacia* covered islands created by the intervention. Painted Storks first bred here in 1993 (Urfi 2011) and now do so annually with Openbills and a host of cormorant, heron, and ibis species.



Debashish Chakravarti

Sultanpur Lake as it was in 1983-84. Open, less wooded, wide horizons.



Pankaj Gupta

Sultanpur National Park today. Wooded, greener, hemmed in.

The Sultanpur lakes were formerly part of a remarkable complex of wetland ecosystems in south-western Delhi centred on the Najafgarh jheel. This extensive low-lying area west of the Ridge was dredged in 1938, splitting it into three remnant lakes that continued to produce important ornithological records (Ganguli 1975) till the 1960s, when they were reclaimed by the widened Najafgarh Drain. Nevertheless the seepage marshes and inundations of the Najafgarh Drain and at Basai, an IBA, proximate to Sultanpur itself, still form an integrated ecosystem. The birds that breed at Sultanpur lake depend on areas outside the National Park for foraging and post-breeding dispersal, which underscores the importance of conserving this functional diversity to enhance their collective ecological value; losing one would adversely impact the others too.



Debashish Chakravarti

Basai Marshes in 2002–2003. Agricultural, with ponds and reeds, less water.



Pankaj Gupta

Basai Marshes in July 2017. Rapidly urbanising, much more water.

Heronries are indicators of the health of wetland ecosystems, and offer several ecological services. Survival of a heronry is dependent on several factors: availability of suitable nesting trees, food availability or a 'feeding habitat complex', and some protection from disturbance. Delhi Zoo offers these three essential needs, nesting sites, food, and safety, and has a long established heronry that is a great asset to the Park.

There appear to have been no systematic surveys of the heronries in the Delhi area or a census of breeding pairs of selected species, a lacuna that should not be difficult to fill. It should be the responsibility of the wildlife department to be well-informed about these spectacular assets, and any conservation issues faced, while local birdwatchers can play a valuable supportive role.

Dozens of small heronries are scattered across the countryside near village or temple ponds or canals, usually comprising a few of the commoner species nesting together. Some are sporadic, and shift if water levels or other factors change. The birds themselves are not usually molested but many of these village-owned ponds are subjected to multiple uses, including fish farming where nets can be a deadly hazard for the birds. If feeding sites in the area can identified and set aside for the nesting birds with cooperation and ownership of panchayats, these heronries can grow into major attractions and economic assets for the villages themselves.

Some of the better known heronries in the Delhi area include:

1. Surajpur (Openbill, Black-necked Storks, Black-headed Ibis, Grey, Purple, Night- and Pond Herons, Darters, cormorant sp., and all egret sp.)
2. Okhla Bird Sanctuary (Purple, Pond and Night Herons, Cattle and Little Egrets, and Little Cormorants)
3. Yamuna Biodiversity Park (Darters, Grey, Night and Pond Herons, egret sp., and cormorant sp.)
4. Zoo (Painted Storks, Black-headed Ibis, Little & Indian Cormorants, Grey & Night Herons, and egret sp.)
5. Damdama Lake (Openbills, 15–20 nests, single species colony)
6. Sultanpur National Park (Painted, Openbill & Black-necked Storks, Grey, Purple, Pond & Night Herons, Black-headed Ibis, Darters, Little and Great Cormorants, all egret sp., and Sarus)
7. Najafgarh Drain (Darters, Little Cormorants, egret sp., and heron sp.)
8. Bhindawas Bird Sanctuary (Grey, Purple and Pond Herons, Black-headed and Glossy Ibis, Darter, Openbills, all three cormorant sp., and all egret sp.)
9. Tilyar Lake (Black-headed Ibis, Openbills, heron and egret sp., Little Cormorants, and Darters)
10. Sonipat/Panipat canal systems and Refinery (Openbills, Grey, Purple, Night and Pond Herons, Black-headed Ibis, all egret sp., Little Cormorants, and Darters.)



Anand Arya

Dhanauri wetlands—waders unlimited. December 2016.

Aravalli influences

Delhi's Ridge landscapes have been fragmented as the city expanded over the hilly tract: the Old Delhi Ridge, just 87 ha (1.13% of the total Ridge area); the New Delhi Ridge, 864 ha (11.1%) and moving further southwards, the South-Central Ridge between Vasant Vihar and Mehrauli, 626 ha (8.05%). The landform continues, much encroached and built upon, across the Haryana border and beyond.

The fourth segment, the Southern Ridge, is the last contiguous stretch of this hilly landform and is of special significance for our area's wildlife. It forms a broad belt of 6200 ha (79.72%) of rocky, scrubby, and wooded ravines that extend for 30 kms from near Sohna in Haryana northwards through the Mangar–Bandhwari and Asola–Bhatti tracts to Surajkund and Tughlaqabad. Though sandwiched between the rapidly expanding satellite towns of Faridabad and Gurgaon to its east and west, crossed by roads and with much of its land village-owned or encroached upon, the Southern Ridge is still species rich; its ecological value demonstrated by the presence of apex carnivores such as leopard *Panthera pardus* and hyena *Hyaena hyaena*, and serves as a biogeographical corridor for Aravalli breeding bird species to establish themselves in the Delhi area.

Aravalli landscapes

These eroded landscapes naturally support an open dry thorn flora dominated by *Acacia* and other species (Maheshwari 1963; Krishen 2006). A few valleys, the best surviving example being Mangar in Faridabad District, have deeper soil and support a more diverse deciduous forest community. Mangar Bani, a 200-odd ha fragment of the original climax forest, is protected by religious sentiment and offers a glimpse of what these more sheltered ravines may have been like in their natural state. It is a magical place, a northernmost outpost for some typical Aravalli species such as Indian Pitta, Black-headed Cuckooshrike, White-bellied Drongo, and others that breed here, and a diverse mammal and reptilian fauna with peninsular affinities, such as ruddy mongoose *Herpestes smithii*, as well.

The Ridge had formed the backdrop to New Delhi as conceived by its planners and architects, and a programme of afforestation of the Ridge was initiated from 1914. In place of the stunted native vegetation, the Ridge was planted with the exotic vilayati khar *Prosopis juliflora* and a few other species not native to the Ridge. Vilayati khar has since spread invasively about Delhi, naturally, and as a result of ill-considered Forest Departmental programmes towards 'greening' the Ridge, tending to dominate the native flora and damage its ecological character. These hills have also been subjected to rampant stone quarrying in the past, now prohibited by legal decree. Abandoned quarries have left the land scarred with a number of pits that form seasonal ponds and some deeper perennial lakes on the Southern Ridge.

It is only lately that public awareness, judicial directives, and policy action have come together to check some of these damaging impacts. The Ridge is now recognised as critical for the ecological security of the city.

The contiguous Asola (1882.8 ha) and Bhatti (866.5 ha) Wildlife Sanctuaries on the Southern Ridge were notified in 1986 and 1991 and their ecological rehabilitation under aegis of the Eco-Task Force since 2000 has shown positive results. On the South-Central Ridge, over 500 ha of fragmented, damaged habitats at the Aravalli Biodiversity Park and Sanjay Van are being restored under the Biodiversity Parks Programme of the Delhi Government and Delhi University, and similar efforts are underway elsewhere in Tilpath Valley (70 ha) on the Southern Ridge as well.



Pankaj Gupta

Mangar Valley, Southern Ridge. October 2017.



M. Ramgopal

Aravalli outcrops, Madhogarh, Haryana. August 2018.

In Haryana, however, the Southern Ridge remains threatened by encroachment, fragmentation, and land use change, though recent policy moves to protect Mangar Bani hopefully signal a more far-sighted approach. On the other hand, non-governmental efforts with corporate and Municipal support have shown positive outcomes in restoring damaged Ridge landscapes at the Aravalli Biodiversity Park, Gurgaon, to re-create diverse natural habitats and regenerate aquifers.

Raptors in the sky?

The Delhi area was reputed for the diversity and numbers of its birds of prey, but as apex predators they need space and territory and are very vulnerable to the pollutants and poisons that are being spread over our land. About Delhi, as elsewhere in India and the world, they are under stress. Over the last three decades or so, with the urban sprawl spreading octopus-like over the Delhi's open landscapes, these fabulous creatures are being driven farther and farther away from the city.

Tawny Eagles were described as our most familiar *Aquila* and bred within city limits (at the Red Fort!); they are rarely seen now. Laggar Falcons, 'the ordinary resident true falcon of India' in the words of a former author, have vanished with only a few recent records from the Greater Noida area; sighting one now marks a red letter day. But the decline of these species is not unique to the Delhi area, it is more widespread across northern India. Reasons advanced are not entirely convincing; some pesticides certainly impact apex predators, falcons are caught for illegal trade, and owls persecuted as birds of ill-omen or for superstitious rituals. Pallas' Fishing Eagles, of which two eyries were known by the Yamuna in Delhi, have been locally extirpated; here the reasons are rather clearer, the dismal state of the river being a primary factor.

Old World Vultures are amongst the most critically endangered of birds, having declined by over 97% in just a couple of decades; a decline faster than that of the Passenger Pigeon *Ectopistes migratorius*, or the Dodo *Raphus cucullatus*. In India, poisoning by Diclofenac ingested through cattle carcasses saw vulture numbers plummet from approximately 40 million in the nineties to the low tens of thousands by 2015. The White-rumped Vultures that were such a feature of Delhi's skies are gone. A slew of measures are being taken at a national level to save the tiny scattered populations that remain, and it is hoped that they succeed in reversing the decline.

The future

Much of this analysis is hindsight. It is to be hoped that insight and foresight serve us better in the future. The dangers are beginning to register with a younger, more aware generation, with civil society, and media. The instruments exist in government schemes, non-government organisations, and corporate social responsibility efforts, if used creatively and with an understanding of the functional diversity of ecosystems, to incentivise sustainable development and livelihoods and protect our environment at the same time.

Annexure: Population trends

Of 194 species that breed/had bred about Delhi:

(a) Seven show increasing population trends:

1. Lesser Whistling Duck <i>Dendrocygna javanica</i>	Summer visitor, Common ↑↑
2. Rock Dove <i>Columba livia</i>	Resident, Abundant ↑↑↑
3. Yellow Bittern <i>Ixobrychus sinensis</i>	Summer visitor, Localised ↑↑
4. Cinnamon Bittern <i>Ixobrychus cinnamomeus</i>	Summer visitor, Localised ↑↑
5. Black Bittern <i>Ixobrychus flavicollis</i>	Summer, Locally fairly common ↑↑
6. Bronze-winged Jacana <i>Metopidius indicus</i>	Resident, Fairly common ↑↑
7. Sind Sparrow <i>Passer pyrrhonotus</i>	Resident, Locally uncommon ↑↑

(b) 156 species show no clear temporal trend, other than relatively small increases or decreases:

(i) Population trend broadly positive, but to a lesser degree:

1. Grey-bellied Cuckoo <i>Cacomantis passerinus</i>	Summer visitor, Uncommon ↑
2. Ruddy-breasted Crake <i>Zapornia fusca</i>	Resident, Uncommon ↑
3. Baillon's Crake <i>Zapornia pusilla</i>	Resident? Insufficient data ↑
4. Watercock <i>Gallicrex cinerea</i>	Summer visitor, Fairly common ↑
5. Purple Swampphen <i>Porphyrio porphyrio</i>	Resident, Common ↑
6. Purple Heron <i>Ardea purpurea</i>	Resident, Common ↑
7. Indian Black Ibis <i>Pseudibis papillosa</i>	Resident, Common ↑
8. Glossy Ibis <i>Plegadis falcinellus</i>	Resident, Recently bred ↑
9. Asian Openbill <i>Anastomus oscitans</i>	Resident, Uncommon ↑
10. Bonelli's Eagle <i>Aquila fasciata</i>	Resident, Uncommon ↑
11. Common Barn Owl <i>Tyto alba</i>	Resident, Uncommon ↑
12. Blue-tailed Bee-eater <i>Merops philippinus</i>	Summer visitor, Fairly common ↑
13. Long-tailed Shrike <i>Lanius schach</i>	Resident, Common ↑
14. Black-breasted Weaver <i>Ploceus benghalensis</i>	Resident, Locally common ↑
15. Scaly-breasted Munia <i>Lonchura punctulata</i>	Resident, Uncommon ↑
16. Bengal Bushlark <i>Mirafra assamica</i>	Resident, Locally fairly common ↑
17. Yellow-bellied Prinia <i>Prinia flaviventris</i>	Resident, Locally common ↑
18. Striated Grassbird <i>Megalurus palustris</i>	Resident, Locally fairly common ↑
19. Bristled Grassbird <i>Chaetornis striata</i>	Summer visitor, Locally uncommon ↑
20. Dusky Crag Martin <i>Ptyonoprogne concolor</i>	Resident, Common ↑
21. Pied Myna <i>Gracupica contra</i>	Resident, Common ↑

(bii) Population trend broadly negative, but to a lesser degree:

1. Cotton Teal <i>Nettapus coromandelianus</i>	Summer visitor Uncommon ↓
2. Rain Quail <i>Coturnix coromandelica</i>	Summer visitor, Locally common ↓
3. Black Francolin <i>Francolinus francolinus</i>	Resident, Locally common ↓
4. Red Collared Dove <i>Streptopelia tranquebarica</i>	Resident, Locally common ↓
5. Painted Sandgrouse <i>Pterocles indicus</i>	Resident, Uncommon ↓
6. Indian Nightjar <i>Caprimulgus asiaticus</i>	Summer visitor, Uncommon ↓
7. Sarus Crane <i>Antigone antigone</i>	Resident, Fairly common ↓
8. Woolly-necked Stork <i>Ciconia episcopus</i>	Resident, Fairly common ↓
9. River Lapwing <i>Vanellus duvaucelii</i>	Resident, Fairly common ↓
10. Yellow-wattled Lapwing <i>Vanellus malabaricus</i>	Resident, Uncommon ↓
11. Indian Courser <i>Cursorius coromandelicus</i>	Summer visitor, Locally scarce ↓
12. Oriental Pratincole <i>Glareola maldivarum</i>	Summer visitor, Locally uncommon ↓
13. White-eyed Buzzard <i>Butastur teesa</i>	Resident, Uncommon ↓
14. Indian Eagle Owl <i>Bubo bengalensis</i>	Resident, Uncommon ↓
15. Blue-cheeked Bee-eater <i>Merops persicus</i>	Summer visitor, Fairly common ↓
16. Indian Roller <i>Coracias benghalensis</i>	Resident, Fairly common ↓

17. Pied Kingfisher <i>Ceryle rudis</i>	Resident, Fairly common ↓
18. Red-necked Falcon <i>Falco chiquera</i>	Resident, Scarce ↓
19. Bay-backed Shrike <i>Lanius vittatus</i>	Resident, Fairly common ↓
20. Indian Paradise Flycatcher <i>Terpsiphone paradisi</i>	Summer visitor, Uncommon Local ↓
21. House Sparrow <i>Passer domesticus</i>	Resident, Common ↓
22. White-tailed Stonechat <i>Saxicola leucurus</i>	Resident, Locally uncommon ↓

(c) Status and population trends for 12 species cannot be assessed for various reasons:

1. Jungle Bush Quail <i>Perdica asiatica</i>	Insufficient data
2. Common Cuckoo <i>Cuculus canorus*</i>	Summer visitor, Localised
3. Savanna Nightjar <i>Caprimulgus affinis</i>	Insufficient data
4. Small Buttonquail <i>Turnix sylvaticus</i>	Insufficient data
5. Brown-capped Pygmy Woodpecker <i>Dendrocopus nanus</i>	Insufficient data
6. Indian Pitta <i>Pitta brachyura*</i>	Summer visitor, Locally common
7. Black-headed Cuckooshrike <i>Lalage melanoptera*</i>	Summer visitor, Uncommon
8. White-bellied Drongo <i>Dicrurus caerulescens*</i>	Resident, Locally uncommon
9. Cinereous Tit <i>Parus cinereus*</i>	Resident, Locally common
10. Jungle Prinia <i>Prinia sylvatica*</i>	Resident, Locally common
11. Singing Bushlark <i>Mirafra cantillans</i>	Insufficient data
12. Asian Brown Flycatcher <i>Muscicapa dauurica*</i>	Probable Resident, Insufficient data

The seven species marked with an '*' have only been recently found breeding in the Delhi area, at sites that had not been studied adequately by ornithologists earlier. These were formerly recorded as vagrants or passage migrants, and population trends cannot be assessed in the absence of comparable data. Available information is too sketchy for the six other species to draw a conclusion on their status, let alone trends.

(d) 19 species show a sharply declining population trend:

1. Chestnut-bellied Sandgrouse <i>Pterocles exustus</i>	Resident, Uncommon ↓↓
2. Black-necked Stork <i>Ephippiorhynchus asiaticus</i>	Resident, Scarce ↓↓
3. Great Thick-knee <i>Esacus recurvirostris</i>	Locally Extirpated? ↓↓↓
4. Indian Skimmer <i>Rynchops albigollis</i>	Former Breeder, no longer breeds ↓↓
5. Little Tern <i>Sterna albigollis</i>	Summer visitor, Scarce ↓↓
6. River Tern <i>Sterna aurantia</i>	Former Breeder, Fairly common ↓↓
7. Black-bellied Tern <i>Sterna acuticauda</i>	Former Breeder, Uncommon ↓↓
8. Egyptian Vulture <i>Neophron percnopterus</i>	Resident, now Uncommon ↓↓
9. Red-headed Vulture <i>Sarcogyps calvus</i>	Resident, now Very Scarce ↓↓↓
10. White-rumped Vulture <i>Gyps bengalensis</i>	Locally Extirpated ↓↓↓
11. Tawny Eagle <i>Aquila rapax</i>	Resident? now Rare ↓↓
12. Pallas' Fish Eagle <i>Haliaeetus leucoryphus</i>	Locally Extirpated ↓↓↓
13. Dusky Eagle Owl <i>Bubo coromandus</i>	Resident, now Rare ↓↓
14. Laggar Falcon <i>Falco jugger</i>	Resident? now Rare ↓↓
15. Marshall's Iora <i>Aegithina nigrolutea</i>	Resident, Scarce and Local ↓↓
16. White-browed Fantail <i>Rhipidura aureola</i>	Resident, now Local and Scarce ↓↓
17. Great Grey Shrike <i>Lanius excubitor</i>	Resident? now Scarce ↓↓
18. Indian Nuthatch <i>Sitta castanea</i>	Locally Extirpated? ↓↓↓
19. Indian Spotted Creeper <i>Salpornis spilonotus</i>	Locally Extirpated? ↓↓↓

The most serious declines are of the Yamuna's sandbank nesting species and some of the Delhi area's resident birds of prey. One of the storks also shows a marked decline, as do some open country 'wasteland' and native woodland species, which are being increasingly confined to remnant fringes of habitat.

References

Social media online forums are popular amongst Delhi's birder and bird photographer communities for posting pictures, for discussion and outreach, and valuable records may be gleaned from their archives.

But social media is ephemeral and not a permanent record, with no guarantee of continuous access. It is difficult to reference as an academic source and it is always advisable to publish a note on any interesting observations in a peer-reviewed journal for permanent record.

Some social media posts have nevertheless been cited in the text to validate records, with sources duly credited; the webpages were all downloadable from the URLs as of December 2018. Citations and identification of sources from social media forums in this paper are neither exclusive nor selective (a number of observers may post material of the same bird, but only one has been chosen for citation) and serve no purpose except the crucial one of reassessment and review.

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About Sudhir Vyas



Sudhir Vyas retired in 2013 from the Indian Foreign Service, having served as India's Ambassador to Germany, Bhutan and the UAE; as Deputy High Commissioner in Pakistan and Tanzania; and in various other positions at India's diplomatic missions to the United Nations at New York and in Nepal, Algeria and Egypt.

He has had a lifelong passion for ornithology, right from his school days in Pune and Lucknow, and retains a keen interest in wildlife and nature conservation issues.

He graduated from the Indian Institute of Technology, Kanpur in 1975, and joined the Foreign Service in 1977. His positions and travels over the course of his diplomatic career provided him with many opportunities to watch birds in various parts of the world and an exposure to global trends and developments in these fields. He is familiar with the birdlife of the Delhi area, having been stationed at New Delhi on a number of occasions since the 1970s.

He and his wife, Vasundhara, now live in Gurugram.

Notes



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