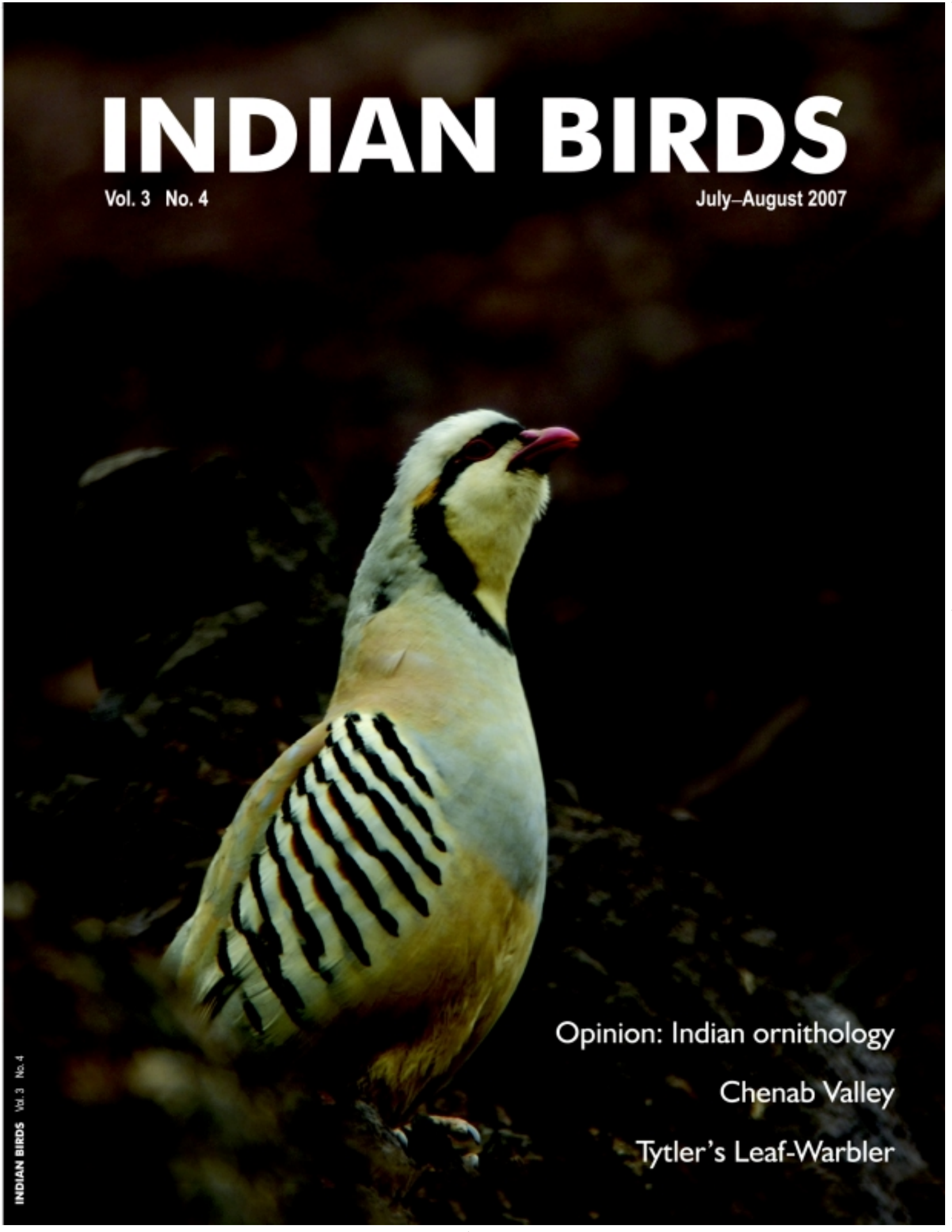
INDIAN BIRDS

Vol. 3 No. 4

July–August 2007



Opinion: Indian ornithology

Chenab Valley

Tytler's Leaf-Warbler

INDIAN BIRDS Vol. 3 No. 4

READY-RECKONER

Bird conservation organisations

Bombay Natural History Society: Honorary Secretary, Hornbill House, Shaheed Bhagat Singh Marg, Mumbai 400023, Maharashtra. Website: www.bnhs.org. Email: bnhs@bom3.vsnl.net.in. Publish: *Journal of the Bombay Natural History Society; Hornbill.* Contact above for: Indian Bird Conservation Network: Publish: *Mistnet.* Envis Centre: Publish: *Buceros.*
Salim Ali Centre For Ornithology And Natural History: Director, Anaikatty P.O., Coimbatore 641108, India. Website: www.saconindia.org. Email: salimali@vsnl.com
Birdwatchers' Society Of Andhra Pradesh: Honorary Secretary, P.O. Box 45, Banjara Hills, Hyderabad 500034, India. Email: siraj.taher@gmail.com. Publish: *Mayura; Pitta.*
Madras Naturalists' Society: Honorary Secretary, No. 8, Janaki Avenue, Abhirampuram, Chennai 600018, India. Website: www.blackbuck.org. Email: info@blackbuck.org. Publish: *Blackbuck.*
Institute Of Bird Studies & Natural History: Director, Rishi Valley, Chittoor District, India 517352. Email: birds@rishivalley.org. Conduct: Home Study Course in Ornithology.
Oriental Bird Club: P.O. Box 324, Bedford, MK42 0WG, U.K. Website: www.orientalbirdclub.org. Publish: *Forktail; BirdingASIA.*
Wildlife Institute Of India: Post Bag # 18, Chandrabani, Dehradun 248001, India. Website: www.wii.gov.in.
Wildlife Trust Of India: Wildlife Trust of India, C-644, New Friends Colony, New Delhi 110065, India. Email: www.wildlifetrustofindia.org.
World Wide Fund For Nature-India: 172-B, Lodi Estate, New Delhi 110003, India. Website: www.wwfindia.org.

Web-based email groups

To join, send email to:
ANDAMAN & NICOBAR:
andamanicobar-subscribe@yahoogroups.co.in
ANDHRA PRADESH: BSAP_Online-subscribe@yahoogroups.com
AWC: asianwaterbirdcensus-subscribe@yahoogroups.com
BANGALORE: bngbirds-subscribe@yahoogroups.com
BOMBAY: birdsofbombay-subscribe@yahoogroups.com
DELHI: delhibird-subscribe@yahoogroups.com
GOA: GreenGoa-subscribe@yahoogroups.com
GUJARAT: BiCoSoGuj-subscribe@yahoogroups.co.in
GUJARAT: Gujarat_Birds-subscribe@yahoogroups.com
HARYANA: haryanabird-subscribe@yahoogroups.com
KERALA: keralabirder-subscribe@yahoogroups.com
MAHARASHTRA:
maharashtrapakshimitra-subscribe@yahoogroups.com
NAT-HISTORY INDIA: vivek@ee.princeton.edu
NEPAL: www.birdlifenepal.org
NORTH-EAST INDIA: birdsofNEindia-subscribe@yahoogroups.com
ORIENTAL BIRD CLUB: orientalbirding-subscribe@yahoogroups.com
RAJASTHAN: rajnat-subscribe@yahoogroups.com
RAPTORS: Asian-raptors-subscribe@yahoogroups.com
ORNITHOLOGICAL REFERENCES:
AvianReferences-subscribe@yahoogroups.com
SRI LANKA: FOGsrilanka-subscribe@yahoogroups.com
TAMIL NADU: Tamilbirds-subscribe@yahoogroups.co.in
WEST BENGAL: bengalbird@googlegroups.com
WEST BENGAL: bengalbird-subscribe@yahoogroups.com

Internet Resources

Bird Track India: http://www.wildindia.org/birds/
BirdLife International: http://www.birdlife.net/
Birds of Kerala: http://birdskerala.com/
Birds of Kolkata: http://www.kolkatabirds.com/
Delhibird: http://www.delhibird.net/
ENVIS BNHS: http://www.envisbnhs.org/
India Birds: http://www.indiabirds.com/
Indian Jungles: http://www.indianjungles.com/
Internet Bird Collection: http://www.hbw.com/ibc/
John Penhallurick's Bird Data Project: http://worldbirdinfo.net/
Karnataka: http://www.monsoons.ca/karnatakabirds.htm
Kerala: http://www.birdskerala.com/
N.C.L. Centre for Biodiversity Informatics:
http://www.ncbi.org.in/biota/fauna/
Nagpur: http://nagpurbirds.org/
Optics: www.betterviewdesired.com
Red Data Book: http://www.rdb.or.id/index.html/
Sanctuary Asia: http://www.sanctuaryasia.com/
Saving Asia's threatened birds:
http://www.birdlife.net/action/science/species/asia_strategy/pdfs.html/
The Northern India Bird Network: http://www.delhibird.com/
Zoological Nomenclature Resource: http://www.zoonomen.net/

Books

Ali, Salim, 2002. *The book of Indian birds.* 13th revised edition. Mumbai: Bombay Natural History Society.
Ali, Salim & S. Dillon Ripley, 2001. *Handbook of the birds of India and Pakistan, together with those of Bangladesh, Nepal, Bhutan and Sri Lanka.* 10 vols. New Delhi: Oxford University Press.
Grimmett, Richard, Carol Inskipp and Tim Inskipp, 1998. *Birds of the Indian subcontinent.* London: Christopher Helm.
Harrison, John, 1999. *A field guide to the birds of Sri Lanka.* Oxford: Oxford University Press.
Inskipp, Carol & Tim Inskipp, 1985. *A guide to the birds of Nepal.* London: Croom Helm.
Inskipp, Carol, Tim Inskipp & Richard Grimmett, 1999. *Birds of Bhutan.* New Delhi: Oxford University Press.
Kazmierczak, Krys, 2000. *A field guide to the birds of India, Sri Lanka, Pakistan, Nepal, Bhutan, Bangladesh and the Maldives.* New Delhi: Om Book Service.
Manakadan, R., & Pittie, A. 2001. Standardised common and scientific names of the birds of the Indian Subcontinent. *Buceros* 6 (1): i-ix, 1-38.
Naoroji, R. 2006. *Birds of prey of the Indian Subcontinent.* New Delhi: Om Books International.
Ripley, S. D. 1982. *A synopsis of the birds of India and Pakistan together with those of Nepal, Sikkim, Bhutan and Ceylon.* 2nd ed. Bombay; Oxford: Bombay Natural History Society; Oxford University Press.
Roberts, T. J. 1991-92. *The birds of Pakistan.* 2 vols. Karachi: Oxford University Press.
Robson, Craig, 2000. *A field guide to the birds of South-East Asia.* London: New Holland.
Spierenburg, P. 2005. *Birds in Bhutan. Status and distribution.* Bedford, U.K.: Oriental Bird Club.

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Aims & Objectives

- To publish a newsletter that will provide a platform to birdwatchers for publishing notes and observations primarily on birds of South Asia.
- To promote awareness of bird watching amongst the general public.
- To establish and maintain links/liaison 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).

Contents

Date of publication: 8 November 2007

Front cover: Chuckor *Alectoris chukar* near Upsi in Ladakh.
Photographer: Dhritiman Mukherjee

Opinion: Taking Indian ornithology into the Information Age

L. Shyamal

Shyamal, L. 2007. Opinion: Taking Indian ornithology into the Information Age. *Indian Birds* 3 (4): 122–137.
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Mss received on: 26.vi.2007.

Abstract: Ornithology in India does not show the patterns of advance and professionalisation seen in other parts of the world. The descriptive foundations built by the spectrum of amateurs and professionals in the past are, depending on the species in question, weak, lacking or, inaccessible. Lack of access to primary literature and specimen data within the country has led to an expectation that further progress can only be made by scientists outside the country even though most of the advances in the past have been based on networks of collectors and observers working locally. There can be little growth in ornithology without access to strong descriptive foundations. Professionals are too few and cannot afford to work on such basic aspects. Amateurs need to be better informed so as to fill this gap by recording data and leaving a useful legacy for the future. The tools of the information age should be used to reach out across the country to increase the spread, numbers and quality of potential contributors and build databases that will enable long-term and large-scale studies.

A year before he died, Colin Bibby reviewed the achievements of field ornithology in Britain and declared it alive and flourishing (Bibby 2003). It would be hard for anyone to make similar claims for Indian ornithology. Modern ornithology in India is a British introduction and while a comparison with Britain makes historic sense, it may be considered unfair by some, especially since India has ten times the area of the United Kingdom.[1] Making up for that difference however, is a population that is almost twenty times greater.[2] The argument then is that the numbers of people associated with the study of birds[3] are vastly different, as are the underlying socio-economic conditions.[4] Although problems exist, great potential has so far been neglected. Technological changes now offer opportunities that should not be missed and it is time to reach out, recruit and meaningfully utilize the untapped innate interest across the region to improve the state of knowledge on Indian birds.

[1] Area: India 3.28 million sq. km, UK 0.24 million sq. km.
[2] Population: India 1100 million, UK 60 million.
[3] "Study" here is used in an inclusive sense.
[4] In 2004 the number of graduates in India was 39.2 million with 22.3% of them in science (Shukla 2005).
[5] The earliest 'Indian ornithologist' appears to be a mysterious K. C. Mukerjee who was known to A. O. Hume around 1884 (Moulton 2003).

Growth and popularity

Early Indian ornithology closely reflected historic trends in Britain. It was mainly a British pursuit with few Indians involved.[5] The collection trend can be observed in the number of descriptions published each year (Fig. 1). Indian ornithology kept abreast of changes in Britain during the collection era. By 1900 most of the land birds had been described and the sub-species concept was introduced with geographic distributions roughly established by 1930 (Ali 1980). Observation-based ornithology may have arrived late, with field-guides authored by Hugh Whistler, the first edition being published in 1928, with subsequent editions in 1935 and 1941 and, Salim Ali, whose *Book of Indian Birds* arrived in 1941 and has since run into several editions and revisions, being the major driving forces. Post-independence ornithology in India seems to have failed to keep up with changes and advances elsewhere.

Birdwatching has been late in gaining popularity but has grown steadily. Many causes have been suggested for the low level of interest including religious sentiments preventing the collection of birds, lack of field guides and lack of encouragement at home or school (Ali 1980). The number of professional ornithologists has never been large although Ali (1980), in his review of Indian ornithology, suggested that it was growing:

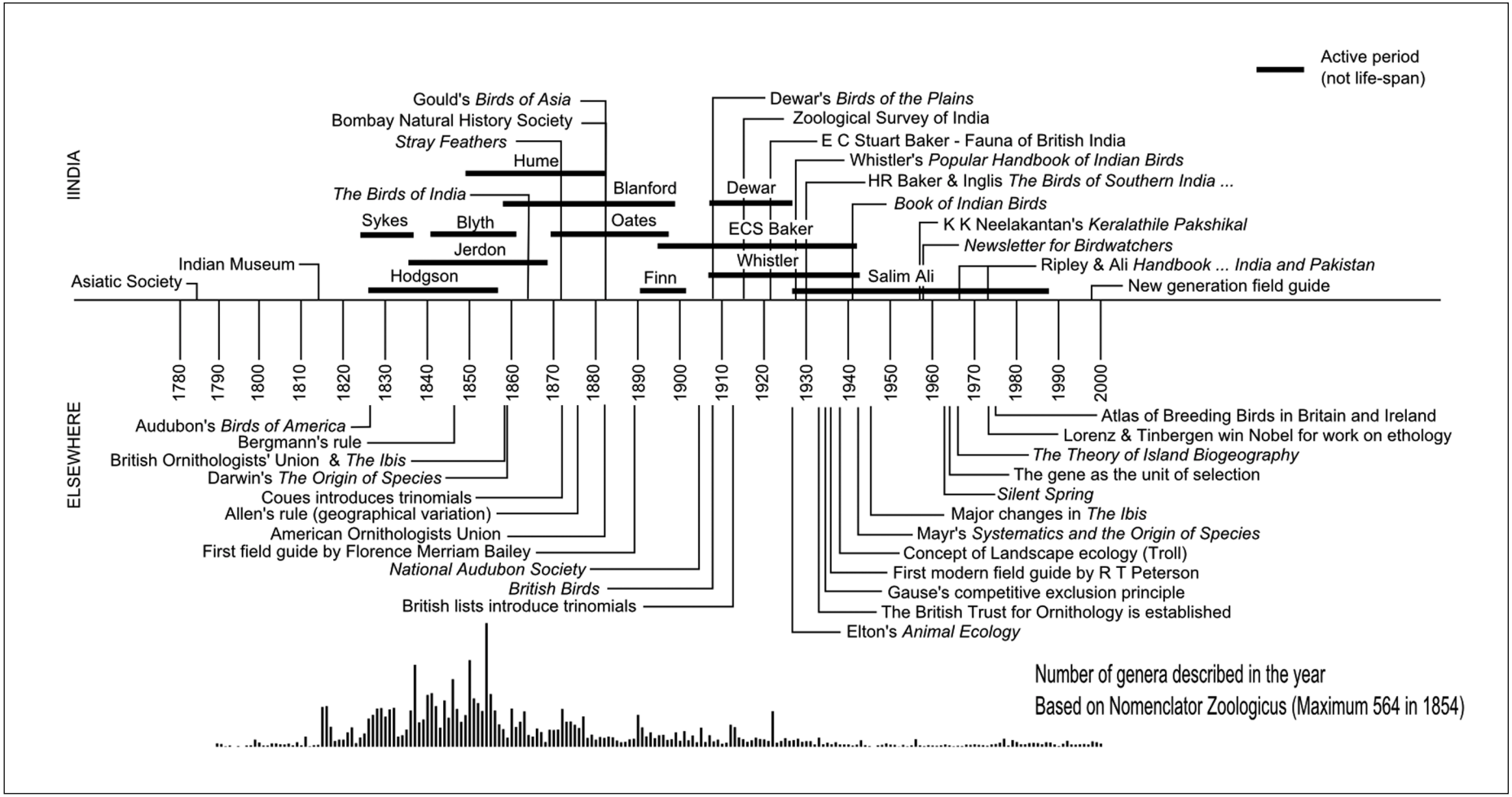


Fig. 1. A timeline of Indian ornithology.
The active periods of major ornithologists are marked by black bars and historic landmarks labeled above and below the timeline. The upper half deals with Indian ornithology. The histogram at the bottom indicates the number of genera described (not all are currently valid) worldwide per year and is an indication of the changing emphasis and methodology of ornithology.

> "Happily the emphasis has now turned to ecology and ethology, breeding biology, population dynamics, conservation, and studies that have essentially to do with the living bird. The economic importance of birds in a country so largely dependent on agriculture and forestry is just beginning to be adequately appreciated, and centres for research in economic ornithology have been set up in some of the recently started agricultural universities."

No major formal organisations have emerged either of professionals or amateurs. The few journals and newsletters that have networked the community have tried to accommodate the entire "amateur-professional" spectrum.

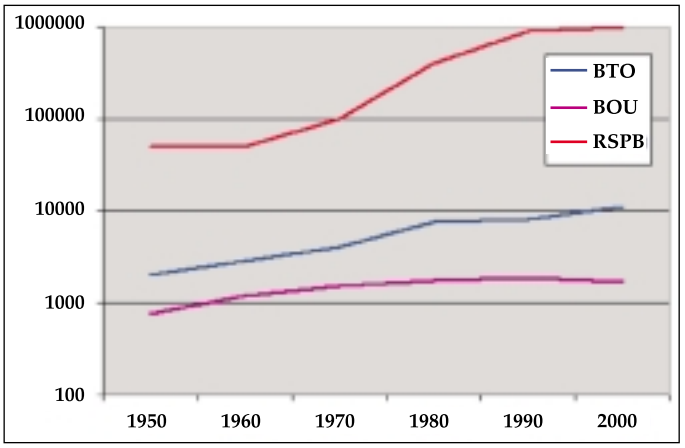


Fig. 2. Growth in membership of three British organisations during the same period. (Note the logarithmic scale.) The BOU grew slowly and declined after 1990. The RSPB has grown rapidly and reached a plateau, while the BTO continues to grow slowly and steadily (Bibby 2003).

The memberships of three major ornithology-related organisations in Britain show great variation in their growth. The oldest, the British Ornithologists' Union (BOU) was born in the collection era and shows slow growth with a declining trend starting around 1990. The Royal Society for the Protection of Birds (RSPB), established with a focus on conservation, grew exponentially and reached a million members in 1997. The British Trust for Ornithology (BTO), started with scientific aims, grows steadily but at a much slower pace than the RSPB (Fig. 2).

With no other large-scale membership-based organisations related to ornithology in India, only the Bombay Natural History Society (BNHS) can be used for a comparison of growth. The BNHS was an elite club of British naturalists in India and in its early days the only Indian members were mostly from the royalty. The *Journal of the Bombay Natural History Society* listed 240 members in 1886, 762 in 1894, and 1,242 in 1927. Today it stands at around 5,000. This suggests linear growth with the addition of about 50 members a year. An average regional email-based discussion group[6] on birds grows at around 100 members a year, even though these are restricted to English speaking subscribers with Internet access (M. B. Krishna, *by email*). These discussion forums do not charge subscribers and the vast difference in recruitment rates suggests that benefits and costs of membership have an important role in determining the growth of organisations.

Professionalisation

Historians have described the evolution of ornithology from a 'collection' craze to a scientific pursuit. The early science was mostly descriptive and based on specimens collected from around the world. By examining variations in specimens from different geographic locations, various patterns were observed and this led to the discovery of the principles of evolution. The methods of study changed over time, as did the practitioners, with wealthy collectors and amateurs giving way to professional curators and zoologists associated with museums and universities (Allen 1994). Later studies elucidated the mechanisms of evolution and speciation. This led to the establishment of ecological and biological principles that went beyond birds to span all living forms. The result was that studies increasingly used birds merely as models to test and verifying hypotheses based on these universal principles. Today, many scientists, who might have identified themselves as ornithologists in the past, are more likely to associate themselves with behavioural ecology, evolutionary biology, conservation biology or other fields defined by their theoretical foundations rather than taxonomic boundaries (Bibby 2003).

The changes in the nature of study resulted in a redefinition of the boundaries of ornithological journals. Some older journals resisted these changes. Johnson (2004) documents the case of The Ibis, which was established in 1859. While journals like British Birds, which started in 1907, began publishing papers on ecology, including Horace G. Alexander's, 'A practical study of bird ecology', as early as 1914, The Ibis would only admit habitat descriptions—the term 'ecology' did not appear in an article title until 1945. Ecologists led by David Lack and Reginald Ernest Moreau fought a long and bitter battle with its old-school editors, William Lutley Sclater and later Claud Buchanan Ticehurst[7]

Lack's study of natural selection in the Galapagos finches, Moreau's work on clutch size and a number of ecological studies by others were, according to the editors, either speculative, not verifiable, not generalisable, or merely 'elaborate plans and statistics' to prove 'commonplace knowledge'. Lack complained about the state of *The Ibis* to Ernst Walter Mayr, who had brought great reforms in American ornithology. Mayr responded, "it is common knowledge throughout the world that *The Ibis* is full of second-rate papers of colonial officers and faunistic lists of little general interest," (Johnson 2004). This situation changed only in 1945 following the death of Ticehurst in 1941.

Ali (1980) suggested that Indian ornithology had made similar transitions to the study of the "living bird" with

[6] Hugh Whistler worked in close collaboration with Ticehurst.

[7] The example used here is bngbirds, a network of birdwatchers in the Bangalore region.

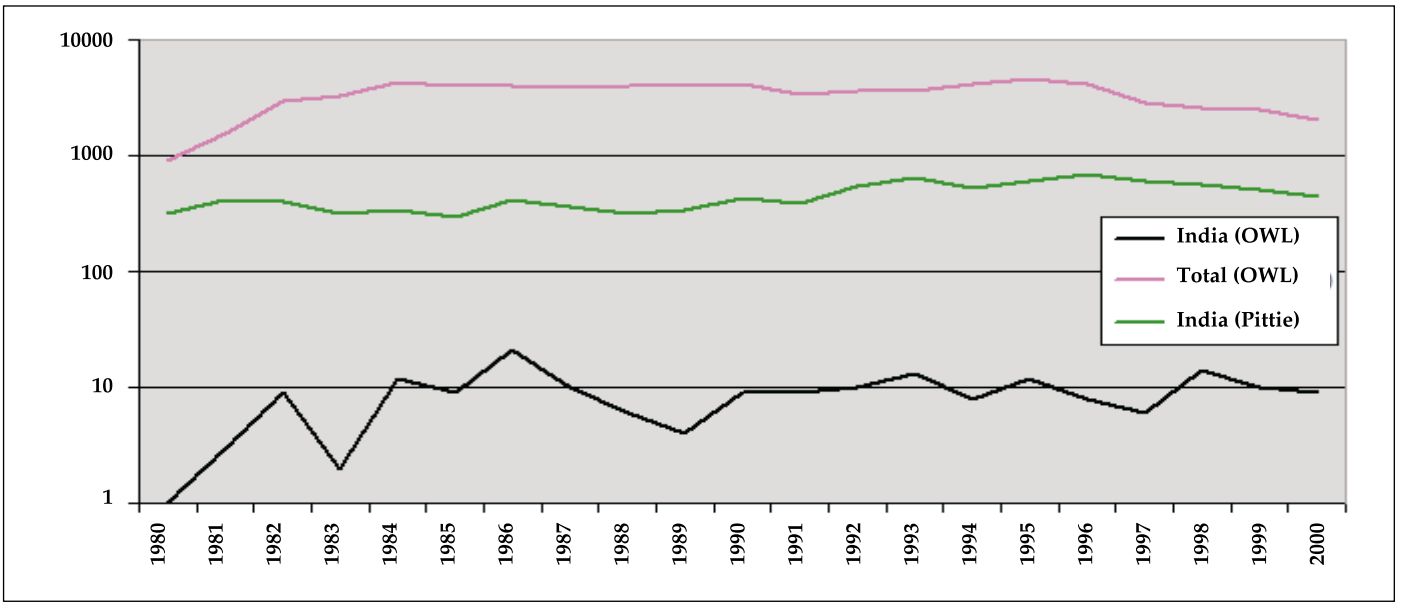


Fig. 3. Visibility of Indian publications. (Note the logarithmic scale)
The number of publications listed in the OWL database (Ornithological Worldwide Literature formerly Recent Ornithological Literature – ROL), containing the keyword "India", compared with an Indian bibliographic database on bird related publications (Pittie 2001).

"comparatively little scope for further taxonomical work on Indian birds":

> "The trend since then has been mainly towards a more intensive exploration of un-worked areas, and field studies of individual species, as well as of such problems as migration through large scale bird ringing[8], and other problems of an ecological nature."

A look at various bibliographic databases suggests that very few Indian publications have since been recognised internationally under the classification of "ornithology" (Fig. 3).

There are about 300–600 publications related Indian birds each year and around ten are listed in an international literature database.[9] The numbers of Indian scientists involved in ecological, behavioural, physiological or conservation biology studies are limited and even fewer of them work on birds. The academic study of birds in India is unlikely to show an upward trend in the near future with current socio-economic conditions making careers in science difficult. In contrast, career scientists are increasingly dominating British ornithology. Bibby (2003) notes that amateur contributions to the journal *British Birds* dropped from nearly 40% of all papers in 1956 to less than 10% in 1996. The professionalisation of ornithology has been associated with a number of observable features such as the specialisation of journals, formation of organisations, long lists of acknowledgements and an increase in the numbers of co-authors in publications (Pearson & Cassola 2007; Bautista & Pantoja 2000).

A common pattern in scientific studies has been formalised by the General Continuum of Scientific Perspectives on Nature (GCSPN) model (Killingsworth & Palmer 1992). This model suggests that many scientific studies advance in a predictable sequence of steps or phases. For instance, early biological studies begin with natural history and concentrate on field collection and description, followed by measurement in the field leading to laboratory studies, and then to theoretical studies. Pearson & Cassola (2007) suggested that this pattern of progress might eventually inhibit vital communication between scientists and non-scientist decision-makers, especially in conservation biology. In the progression of scientific phases, increasingly technical concepts and jargon tend to exclude more and more of those with potential interest in the outcomes of these studies. In addition, assuming that a field of study is in a later phase when the earlier phases obviously are not yet adequate to support highly advanced claims, could also lead to inappropriate conclusions and applications of the data.

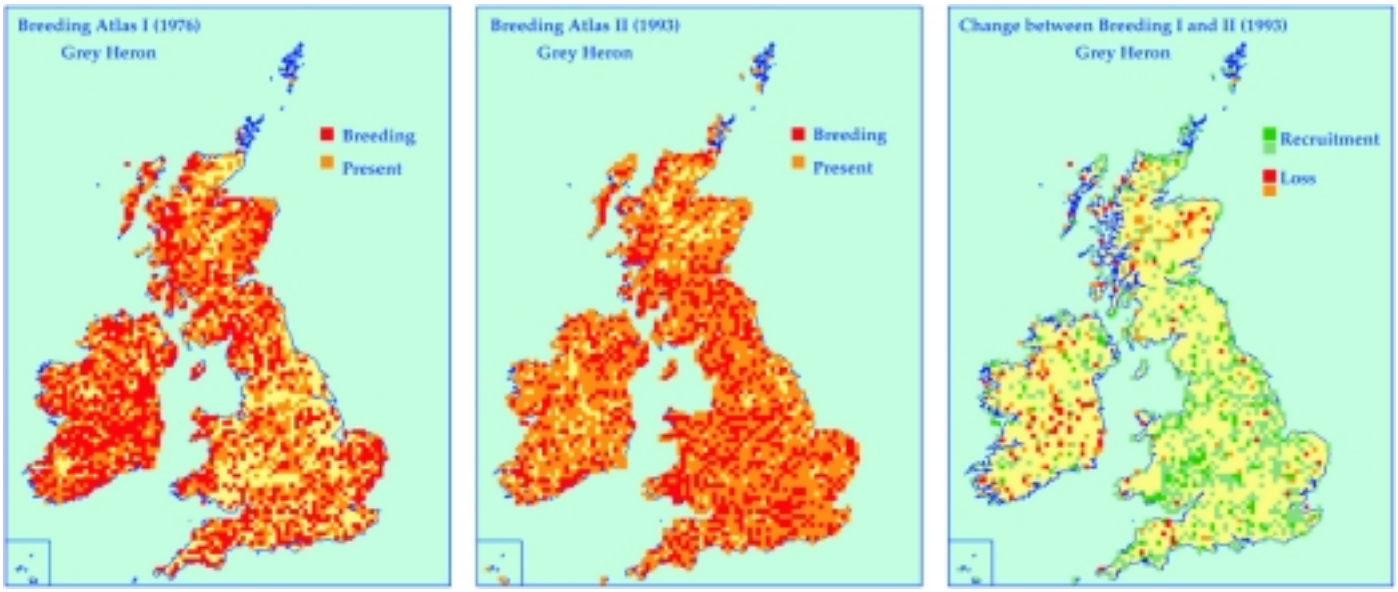
Career biologists in India, who *work on birds*, need to keep up with advances in other parts of the world and are likely to obtain funds only by pursuing contemporary laboratory or theoretical studies. The result is that these professionals cannot afford to gather basic descriptive data but are forced to undertake research in more advanced areas that contemporaries in other parts of the world are pursuing based on already well established descriptive foundations.

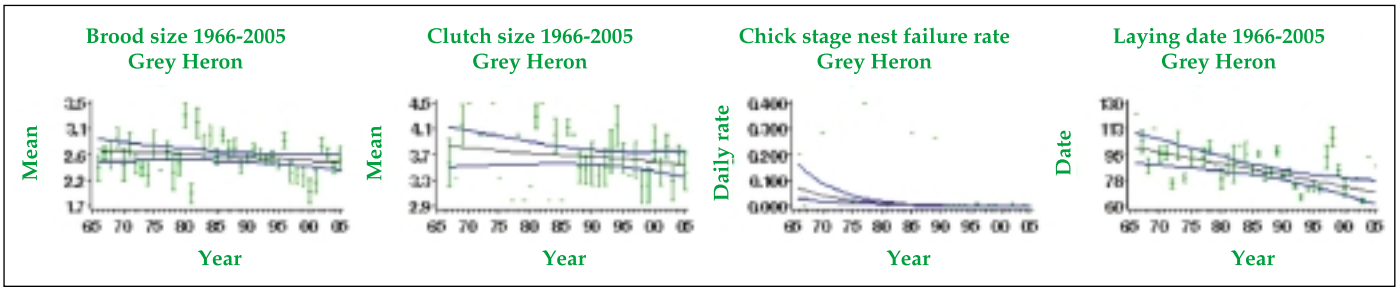
Descriptive foundations: a comparison

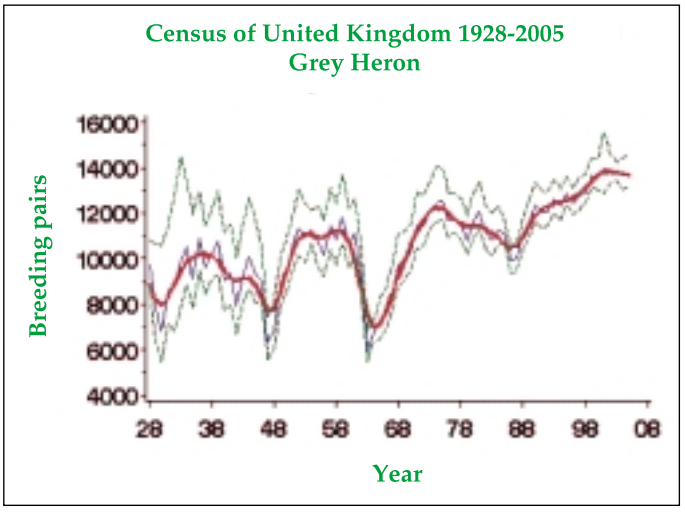
The quality and quantity of descriptive information available for birds in Britain is an eye-opener. The BTO website (http://www.bto.org/) provides a wide range of details for common species such as the Grey Heron *Ardea cinerea* that are based on more than fifty years of observation (Fig. 4).

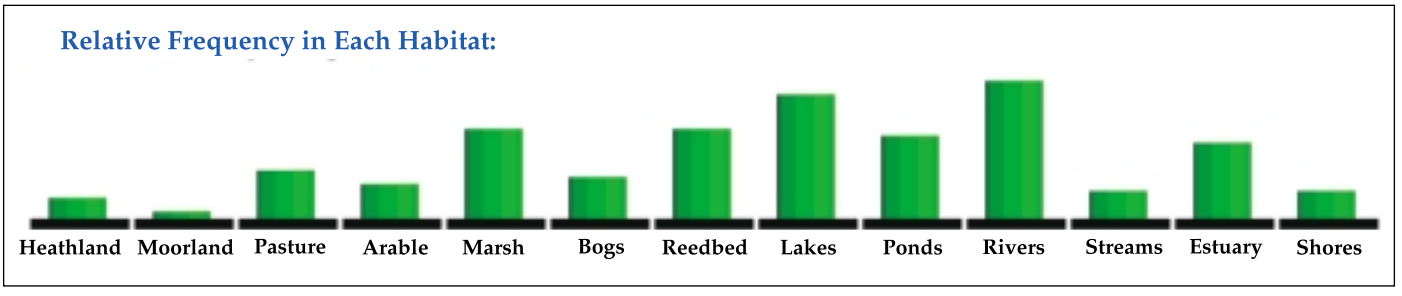
[8] No migration atlases, life-tables or similar summaries of these ringing studies have emerged since.

[9] The figures are only indicative since the OWL bibliography, created by volunteers, is not exhaustive and not all India related ornithological works might be indexed with the keyword "India".


Breeding Atlas I (1976)
Grey Heron
Breeding
Present
Breeding Atlas II (1993)
Grey Heron
Breeding
Present
Change between Breeding I and II (1993)
Grey Heron
Recruitment
Loss


Brood size 1966-2005
Grey Heron
Mean
Year
Clutch size 1966-2005
Grey Heron
Mean
Year
Chick stage nest failure rate
Grey Heron
Daily rate
Year
Laying date 1966-2005
Grey Heron
Date
Year


Census of United Kingdom 1928-2005
Grey Heron
Breeding pairs
16000
14000
12000
10000
8000
6000
4000
28
38
48
58
68
78
88
98
08
Year


Relative Frequency in Each Habitat:
Heathland
Moorland
Pasture
Arable
Marsh
Bogs
Reedbed
Lakes
Ponds
Rivers
Streams
Estuary
Shores

Egg size	61 x 43 mm	
Egg weight	61.0 g (of which 8 % is shell)	
Number of nest records	369	Average number submitted annually
Clutch size	3–4 eggs 3.66 ±1.06 (2–7) N=264	Average ± 1 std deviation (and range in parentheses)
Incubation	27–27 days 26.95 ±0.90 (27–29) N=264	By the: Male + Female
Fledgling	50–55 days 52.87 ±2.62 (50–55) N=1506	
First clutches laid	12 Mar (19 Feb–2 May)	May be 2–3 weeks later further north
Number of broods	1 (2)	
Number ringed	607	Average number ringed annually
Adult survival	0.732	Proportion of adults surviving each year
Juvenile survival	0.261	Proportion of surviving the first year(s) of life: (to age 2)
Age at first breeding	2	
Typical lifespan	5 years	
Maximum recorded age	23 years 9 months	Maximum longevity of a ringed bird—as it may have been adult when ringed, actual age may be greater

Fig. 4. Grey Heron *Ardea cinerea* distribution maps (1976, 1993), changes in distribution, population trend, life-history and research parameters in UK. The egg-laying dates have steadily advanced with change in climate (pp. 126-127) (Baillie *et al.* 2007; Robinson 2005; BTO website).

The descriptive information available for common Indian species is telling in its lack of detail. Distribution maps provide a good example for evaluating the state of knowledge. Maps have become a compulsory feature of field guides only in recent times. The maps in *The Handbook* (Ali & Ripley 1968–1974) show the influence of Ernst Mayr; most of the maps aim to demonstrate allopatry (that congeners have disjunct ranges) and the emphasis is on the dividing boundaries. Maps in modern field guides are intended to help in identification by elimination of species that are unlikely for a given location. Maps in most of the newer field guides give a false sense of accuracy, one that most beginners may fail to question[10] (Fig. 5).

The situation with relatively common and easy to identify species like the Great Tit should only be considered as indicative. There has been no attempt to identify the extent to which basic information is missing. It is known that details on distribution, seasonality, arrival dates, food, foraging and breeding behaviour are missing for most species. In a review of agricultural ornithology, it has been pointed out that information on population structure, natality, mortality and dispersal are lacking even for the commonest species (Dhindsa & Saini 1994).

The value of primary data

There are indeed Indian ornithological works that cover descriptive aspects such as food habits, details on nesting and, morphometrics, but these provide only summaries rather than primary data. Primary data supports verifiability and is amenable to analysis. A shaded distribution map is a summary (albeit a subjective one) while primary data consists of points in space and time. Similarly, morphometrics for Indian bird specimens are available as summaries instead of sets of measurements for each specimen.[11] This makes it

Fig. 5. The distribution maps for Great Tit *Parus major* based on information from (left to right) Grimmett *et al.* (1998), Rasmussen & Anderton (2005) and, Shyamal (2003). The spot map is based on 263 publicly verifiable records. The data behind the other maps is not public and therefore unverifiable. It is difficult to tell if the maps represent fact or artistic license.

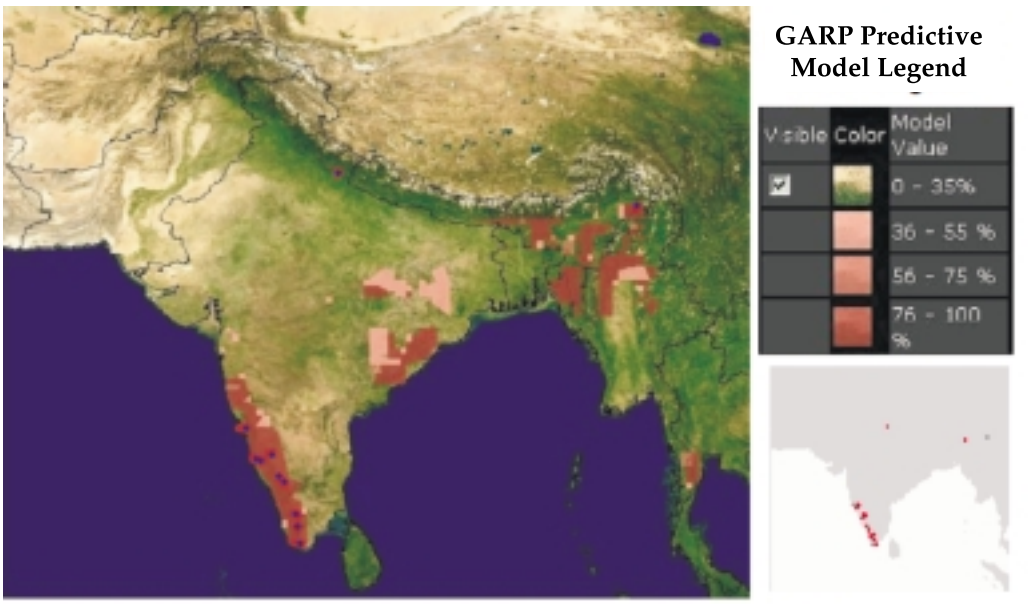
[10] Ali (1980) uses the past tense when pointing out the situation prior to the surveys of Whistler—"Precise knowledge of the spatial distribution of even the commoner birds within the subcontinent ***was*** lacking."

[11] Abdulali, H. [& others] 1968–1996; Unnithan, S. 2000–2005. A catalogue of the birds in the collection of Bombay Natural History Society [Parts 1–41]. *J. Bombay Nat. Hist. Soc.* Vols. 65–102. (Individual specimen data is not provided in this work, instead summaries include minimum and maximum readings, making it useless for the study of allometry or clinal variation).

impossible for someone to, say, arrange specimen data by latitude and examine clinal variation in size.[12] The fact that these descriptors were related to environmental factors that were liable to change, was perhaps not sufficiently apparent to the pioneers of Indian ornithology. An emphasis on the variability of life-history descriptors and their association with conditions prevailing at a particular place and time would have demonstrated the need for preserving primary data instead of reducing them to summaries. In some fields such as applied molecular biology, it has now become an established practice to maintain primary data (sequences) associated with published articles in databases (EMBL nucleotide sequence database). Bibby (2003) takes this idea further and sees the blurring of distinctions between journals and databases in the future. Every aspect of bird life is prone to change and summaries may miss these changes. Summarised data loses its value over time but primary data can continue to help in future comparison and analysis. Electronic databases that collect primary data can supplement journals. Journals cannot afford to publish primary data such as the average daily list of birds or isolated nuggets of information (such as the date of arrival of migrants, nesting, food habit, *etc.*) that may only show value when carefully compiled. A substantial number of publications cover occurrence of species at particular geographic locations. These records could be better stored in structured databases. Databases allow the identification of patterns in just the same way as museums enabled ornithologists to find patterns of variation in specimens (Fig. 6).

Beyond profession

How does British ornithology, *in spite of* specialisation and professionalisation, manage to obtain primary descriptive data on an annual basis? The answer lies in the organised use of a large volunteer force. Amateur volunteers contributing about 1.5 million person-hours annually achieve what professional scientists would consider as practically impossible to achieve on their own. These volunteer studies were started by the BTO in 1928 while similar attempts, such as the Christmas Bird Counts, had already begun in North America in the early 1900s. The early North American studies however did not produce many scientific results and it was only in 1966 that the more carefully designed Breeding Bird Survey (BBS) was started



Prediction map produced by Lifemapper in 2005 using a small subset of the BirdSpot records. Note that there was no record from the Eastern Ghats in the model set. It was only later on that a record from the Eastern Ghats was discovered in literature.

Fig. 6. About 16 records of the Rufous-bellied Eagle *Hieraaetus kienerii* were used to predict the distribution of the species using a computational procedure (Stockwell *et al.* 2006). The result suggested its occurrence in the Eastern Ghats and a record from the Tirumala Hills (Taher 1992) was later discovered. Unlike summarised data, primary records can be used for analysis in the future. Discrete distribution records are superior to maps based on subjective interpretation.

[12] Size reductions with climate warming have also been noted (Yom-Tov 2001).

(Barrow 1997; USGS 2007). The North American BBS is a long-term and large-scale study supported by the federal government of the USA and the trained volunteers receive tax waivers for expenses that they incur in participation. The survey requires participants to drive along prescribed 39.4 km (24.5 miles) long road stretches, stop at every 0.8 km (half-mile) and conduct three-minute point counts within a 0.4 km (quarter mile) radius. About 4,100 routes are covered across the US and Canada each year. The results are available for anyone to analyse and summaries provide information on distribution and change in population densities. The data from the BBS is used in numerous scientific publications including textbooks on macro-ecology (Brown 1995; USGS 2007) (Fig. 7).

Well-distributed observers

> "What is the next step? …Ultimately we should look forward to a time when there will be an ornithologist for every hundred or so square miles of India capable of enumerating the local species, and a central organization such as the Bombay Natural History Society to make maps showing the distribution of each species in India. As, however, this would require ten thousand or so ornithologists it is not immediately possible. But a start can be made."
>
> —Haldane (1959)

There are no estimates available for the number of people

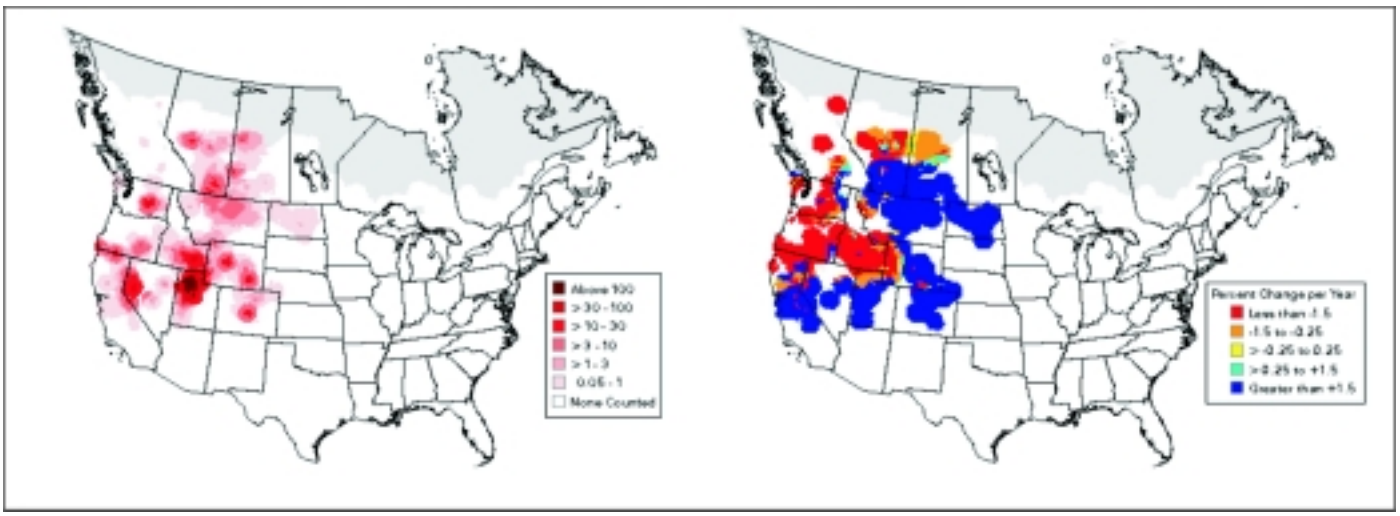


Fig. 7. California Gull *Larus californicus*
Left: Density map 1994–2003. Right: Trend map 1966–2003 (USGS 2007).

The collaboration between volunteers and professionals has rarely been harmonious and much has been written about the tensions between "amateurs" and "professionals" in ornithology[13] (Barrow 1997). The interactions have changed and historians predict that, "*there will always remain a division of labour between professionals and amateurs. But it may be more difficult to tell the two groups apart in future,*" (John Lankford quoted in Leadbeater & Miller 2004).

The vast amounts of information being accumulated in the US and UK are the result of collaboration between individuals. This kind of data gathering requires qualified volunteers, sampling techniques and infrastructure for organisation, compilation, analysis, storage and dissemination. Does India have these requirements? If not, what would be needed?

in India capable of identifying birds (defined, say, by the ability to identify the 100 commonest species in their locality). Sales estimates for field guides might provide some clue but such data is unavailable. However, numbers alone are not enough; their geographical distribution is equally important. Using observers to provide information about their local area has been a technique used since the collection era. Collectors made use of networks of correspondents to amass specimens. Expeditions were organised only to areas of special interest. Salim Ali and Hugh Whistler undertook expeditions requiring great expense and planning to survey some parts of India. It is instructive to note that the early pioneers of Indian ornithology used more economical approaches that continue to be used in modern large-scale surveys across Britain and North America.

Thomas Caverhill Jerdon and Allan Octavian Hume, the *father of Indian ornithology*,[14] started collecting birds almost as soon as they reached India (Dickinson & Gregory 2006; Moulton 2003). Both made use of networks to cover more ground. Jerdon's *Birds of India* (1862) quotes the names of gentlemen-naturalists, fellow physicians and army officers

[13] The terms only refer to differences in the source of income and not to the nature of work.
[14] During Hume's time, Edward Blyth was considered the *father of Indian ornithology* but poor health, low pay, troubles with his employers, alcoholism and mental illness led to a decline in his stature (Murray 1888; Brandon-Jones 1997).

Wikipedia

Allan Octavian Hume (1829–1912)

on every other page. This method was obviously more efficient than personally travelling to gather specimens or make observations. Jerdon's *Catalogue of the Birds of the Indian Peninsula* published between 1839 and 1841 listed 420 species of birds and in *Birds of India* (1862–1863) he had already covered 1,008 species (Kinnear 1952). Hume took networking to a new height (Fig. 8). In his works he acknowledges his correspondents and I extracted the names and locations of almost 200 from his *Game birds of India, Burmah and Ceylon* (1879–1881) along with their locations. When the locations of these contributors are mapped, we see that the only region that Hume's network failed to cover well was the Eastern Ghats. Descriptions of Hume's contributions have neglected the crucial role of his collection network. Hume himself was conscious of the role of his network and in 1869 wrote about his book (*My Scrap Book)* being a "*nucleus round which future observation may crystallize,*" and sought the help of others around the country to, "*fill in many of the woeful blanks remaining in record*" (Moulton 2003).

The Bombay Natural History Society was established in 1883[15] just as Hume lost interest in ornithology. The old volumes of the *Journal of the Bombay Natural History Society* (started in 1886) provide information on the growth of interest in natural history in the period after 1883. The lists of subscribers and their locations provide some idea of the coverage achieved (Fig. 9).

There seems to be a persistent pattern of geographic neglect. I have attempted two methods to identify and highlight regions that need special attention. One approach used 55,000 bird records extracted from the BirdSpot

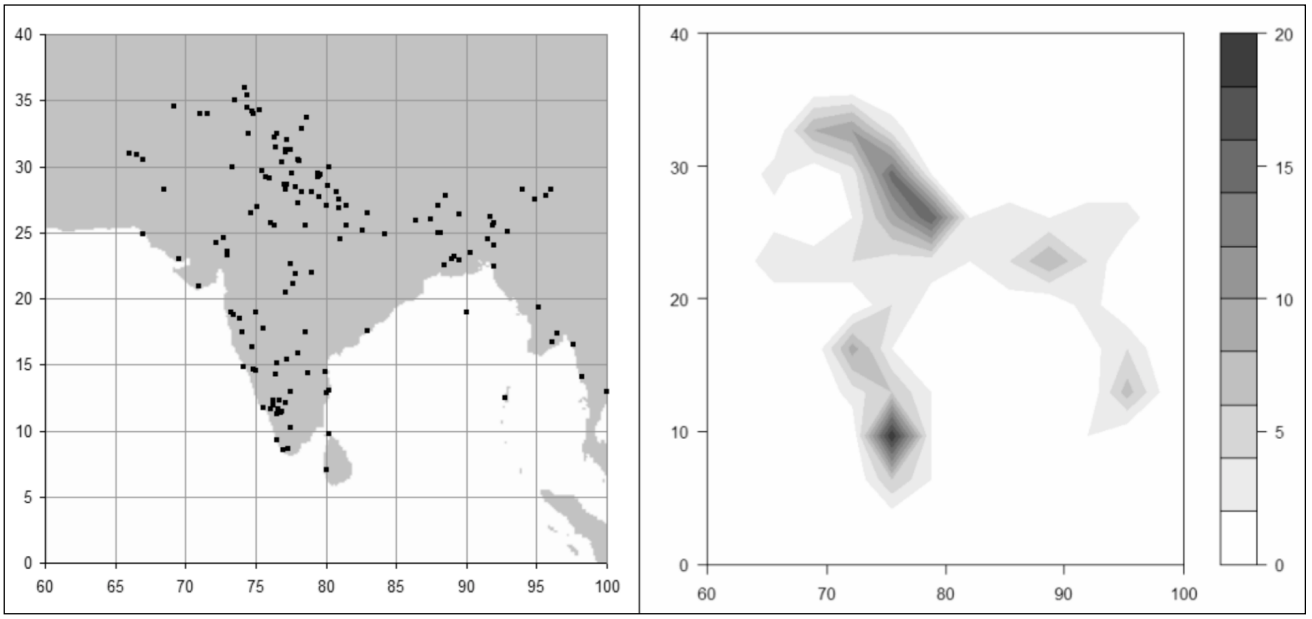


Fig. 8. Distribution of Hume's correspondents and the corresponding density map. The eastern and central parts of India show the poorest coverage.

[15] The same year in which the American Ornithologists' Union (AOU) was established.

database (Shyamal 2003). These include data from museum specimens as well as observations published in journals and Internet discussion forums. The specimen records are limited to those that are accessible through the Global Biodiversity Information Facility (GBIF) framework (www.gbif.org). Data from the BNHS, Zoological Survey of India (ZSI) and the Natural History Museum (BMNH, London) are notably absent here. These 55,000 records were processed using a 2D kernel-based smoothing approach[16] to produce a shaded density map. Since this might reflect differences in data entry and sharing of data by BirdSpot users, a second set of data was also tried. Here the specimen collection locations listed in the gazetteer for the Indian Subcontinent (Lozupone *et al.* 2004) was used. This includes locations from Sri Lanka, which, incidentally, shows up as a well-sampled region. The resulting density map shows a similar pattern for the regions of poor coverage (Fig. 10). The rediscovery of Jerdon's Courser *Rhinoptilus bitorquatus* and

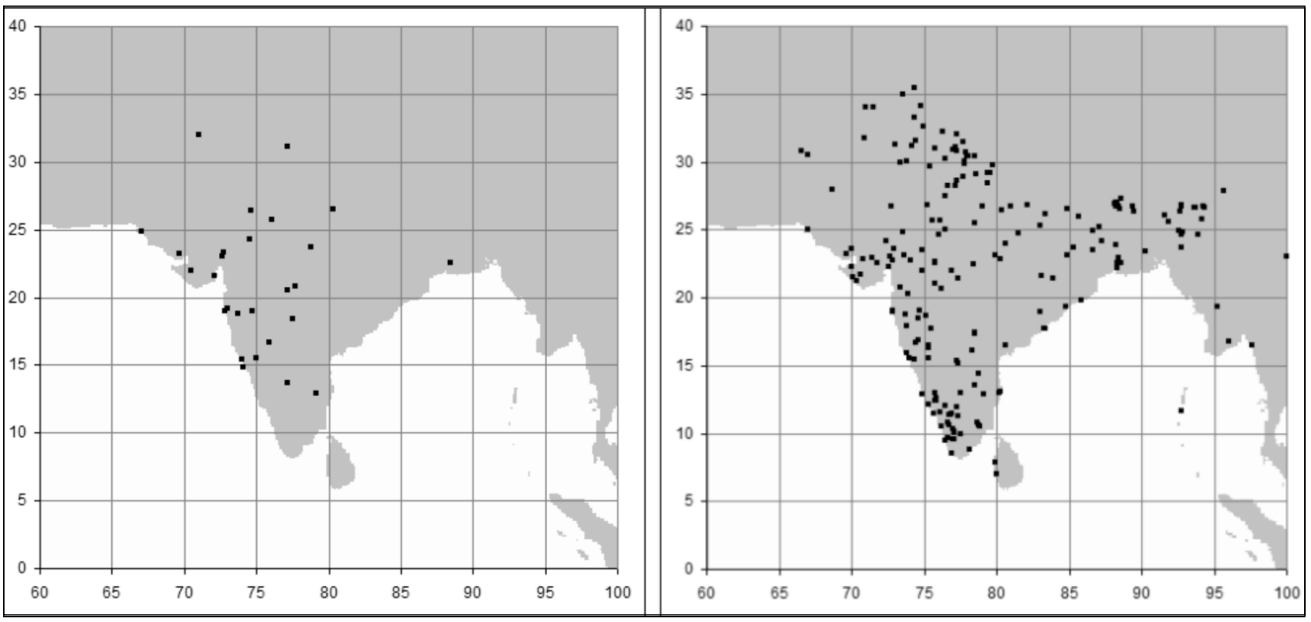


Fig. 9. Geographic coverage of the members of the BNHS in 1886 (left) and 1927 (right). The distribution in 1927 is to a large extent similar to that of Hume's correspondents. The points include many subscribers who may not have contributed such as patrons from the princely states, libraries of army regiments, clubs and associations.

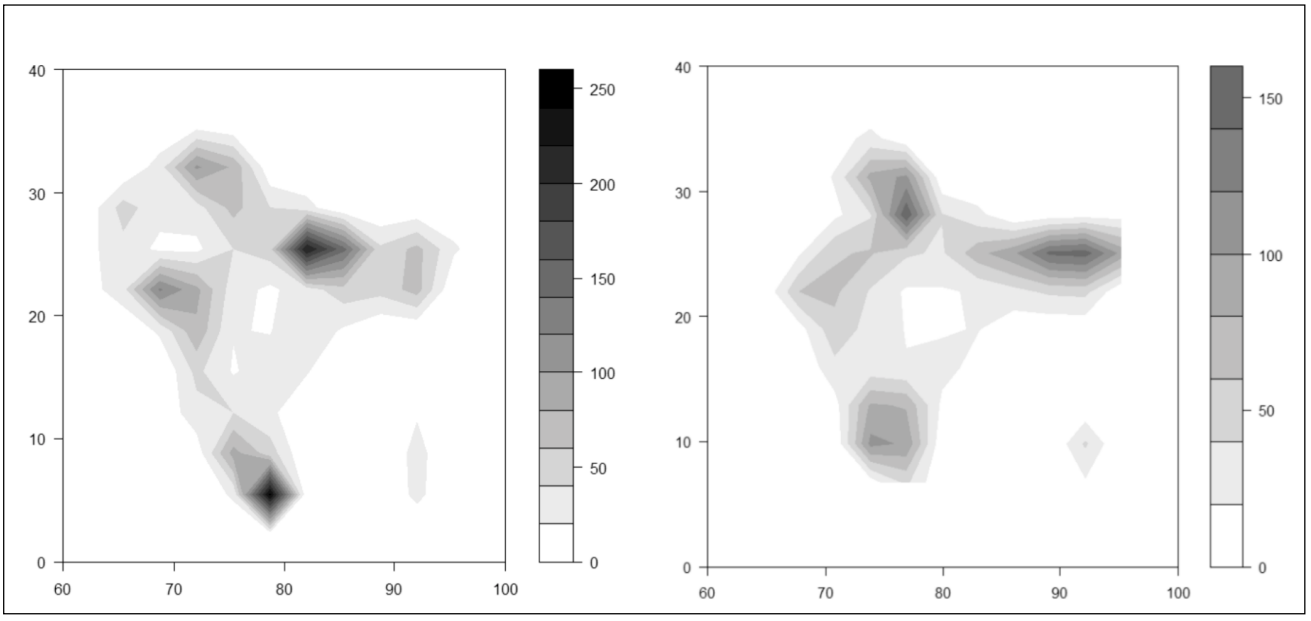


Fig 10. Coverage of India based on bird records.
Left: Based on localities mentioned in Lozupone *et al.* (Includes Sri Lanka).
Right: Based on localities of 55,000 records from BirdSpot (Shyamal 2003).

[16] The hist2d function of the gplots package in the open-source statistics software R was used (http://cran.r-project.org/).

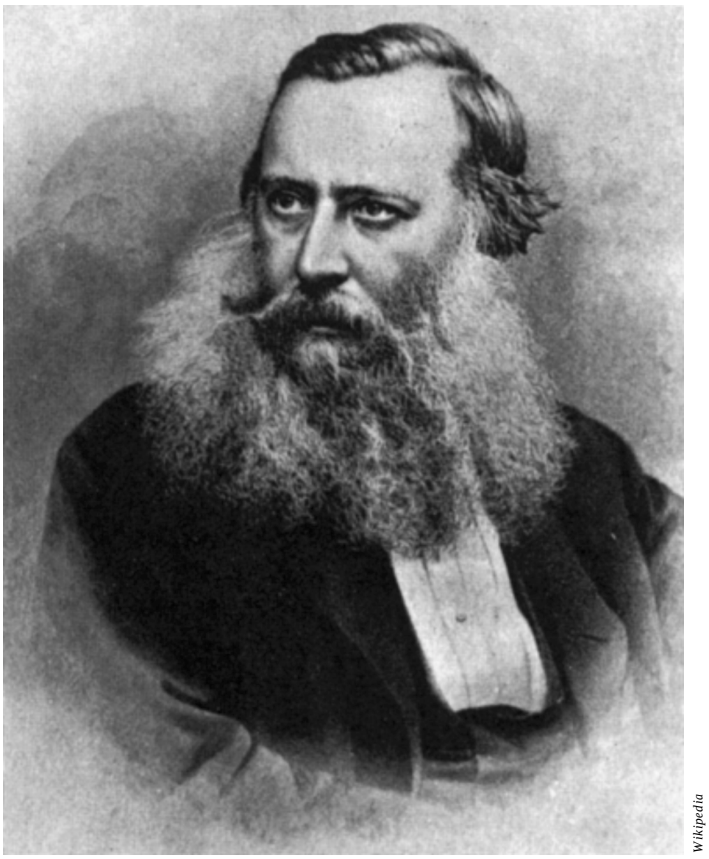
the range extension of Abbott's Babbler *Malacocincla abbotti* in the Eastern Ghats in 1983 is perhaps not surprising when viewed in this light!

How can coverage be improved? Suggestions to seek funds to launch expensive expeditions can only be short-sighted. The long-term solution would be to enhance local expertise and this calls for low-cost field guides in local languages. The role of field guides in enhancing knowledge has been well demonstrated from the time of Florence Merriam's first field guide in 1889 (Pearson & Shetterly 2006; Vuilleumier 1997; Ali 1980). In a review of neotropical ornithology, Vuilleumier notes the role of field guides and points out that field guides were earlier produced by museum-based or academic ornithologists, whereas modern field guides are written by ornithologists who derive an income from acting as birding tour guides. He also notes that the majority are written in English and meant for "northern-based" birders rather than professional or would-be professional ornithologists in and from Latin America (Vuilleumier 2003). Much of this is true for Indian field guides as well.[17] The need for the books to sell well and make profits, together with the fact that the guides are aimed at travelling birders (who can afford higher prices) means that there is no incentive for the author(s) to keep costs low. The author, being outside the country, resorts to obtaining photographs and information from contributors in India. These contributors in turn may need to be paid, as do museums for consultation of their specimens. The combined effect of all this is the high cost of production.

Making information, held by museums and libraries, freely available can cost little and go a long way toward enabling the creation of local reference material including field-guides. Volunteers can compile[18] such primary information to publish material tailored for local use at a low cost. For instance, educational brochures in Telugu on the Jerdon's Courser could easily be made by organisations in Andhra Pradesh if they had access to specimen data from the BNHS collections, photographs, historic texts from Jerdon's publications, etc., and such material could help create enthusiasm and excitement locally. This would have enabled local awareness initiatives that would have helped in conservation measures.

Well-informed observers

> "Some professionals will seek to defend their endangered monopoly. The more enlightened will understand that knowledge is widely distributed, not controlled in a few ivory towers. The most powerful organisations will combine the know-how of professionals and amateurs to solve complex problems. That is true in astronomy, software development and online games. It should be the path that our health, education and welfare systems follow as well."
>
> —Leadbeater & Miller (2004 p. 15)



Wikipedia

Edward Blyth (1810-1873)

The shortage of "ornithologists" in India needs to be overcome by enhancing the abilities of amateurs and letting them fill the gaps. Field guides are only introductory and any advance beyond identification will require access to scientific literature. Access to good libraries is a luxury that few in India have. Fortunately some international projects have made great strides to better the situation and projects such as the Smithsonian Biodiversity Heritage Library (http://www.biodiversitylibrary.org) and the Internet Archive (http://www.archive.org) are making scanned works available over the Internet. It would be good if tax-payer funded libraries in India followed suit and contributed scans of their holdings to these projects so as to benefit citizens.

An interest in birds is usually life-long and can lead to either professional or non-professional positions of expertise. Expertise is often gained by interaction with seniors and expert guidance is increasingly hard to obtain. Field ornithology groups have helped beginners and many of these groups have been supplemented by interactions through electronic discussion forums.

Museum specimens are invaluable references for descriptions, morphometrics and distribution and, laboratory studies. They have been called the ultimate

[17] Most works on Indian birds fail to include literature reviews, as seen in classics like *The Birds of the Western Palearctic.*

[18] Making copyrighted material available is not helpful in this and licensing is vital in enabling re-use of content.

"library of life" and free and open-access to specimen information has been recognised as a guiding principle for museums across the world (Peterson *et al.* 2005). Although most specimens from India are located outside the country,[19] information on them is increasingly accessible over the Internet in fulfillment of Article 17 of the Convention on Biodiversity, which requires the sharing of information.[20] (See www.gbif.org, www.conservationcommons.org) Some museums such as the Zoological Museum of the University of Amsterdam have gone a step further and made their type specimens available in 3D over the Internet for public access (http://ip30.eti.uva.nl/zma3d/). In stark contrast, Indian organisations such as the BNHS and the ZSI that hold collections do not make such information freely accessible to citizens or even to career scientists. In recent times, access to the collections of the Field Museum of Natural History (Chicago) made it possible to detect a persistent and erroneous record made by Walter Koelz of a Himalayan Rubythroat *Luscinia pectoralis* from Londa (Koelz 1942). This error was propagated by subsequent works, including those by Salim Ali (Prasad 2006). Science is based on verifiability and open-access is mandatory for any respectable scientific enterprise.

Ornithological journals are hard to obtain and the denial of access to scientific literature on biodiversity through copyright restrictions has even been likened to bio-piracy (Agosti 2006). Published journals were meant to aid science, but the profit motives of publishing companies and high costs have led many universities[21] around the world to switch to open-access initiatives such as the Public Library of Science (http://www.plos.org). The emphasis on information dissemination rather than profit has made many journals choose low-cost electronic media over print. In India, a few of the larger scientific bodies such as the Indian Academy of Sciences have already realised the importance of open-access. Journals like *Forktail* and *Indian Birds* have made some progress by making articles available online although none have fulfilled the requirements of the Budapest Open Access Initiative, which requires the granting of permission to copy, print, redistribute and reuse. This would help in the development of systems aimed at integrating information.

Low-cost monitoring techniques

As noted earlier, all aspects of bird life are dynamic with changes reflecting environmental factors. This implies that there is a need not just to study birds across the country but also to gather data continually over time. The North American Breeding Bird Survey is expensive (needing great organisational infrastructure, communication and access to automobiles) and it is worth looking at alternatives. Perhaps the most economical approach is the one used in the *Études des Populations d'Oiseaux du Quebec* (ÉPOQ – the study of bird populations of Quebec). Since the 1950s this project has collected lists of *all* bird species seen on trips to specific locations. These lists, termed as **'trip-lists'**, include information on the location, date, observers and time spent. The project obtains as many as 10,000 trip-lists annually. These trip-lists can be statistically analysed and it has been demonstrated that strong trends (increases or decreases over

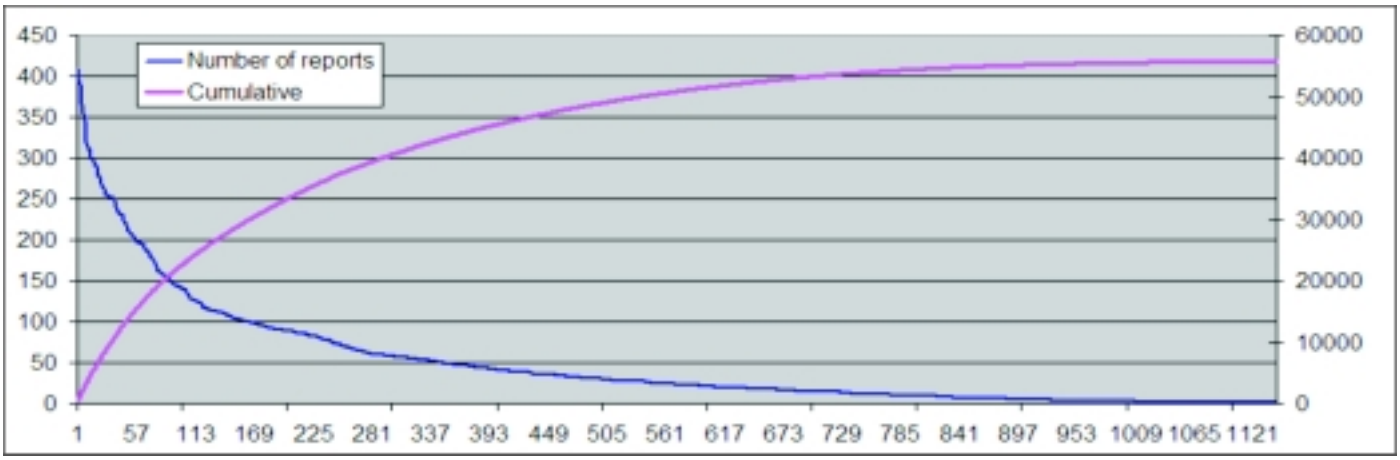


Fig. 11. The reporting rates for 1,144 species based on 55,000 records from BirdSpot (Shyamal 2003) ordered by reporting rate. The x-axis represents the ordered species with the commonest on the left and rarest to the right. The y-axis is scaled differently for the cumulative records curve (scale on right) and the frequency curve (scale on left). The well-known power-series pattern is seen in the rank-order relationship (Chu & Adami 1999). More than 80% of the reports are of 25% of the species. The species with the high reporting rates would be expected to have been well studied, however this assumption is incorrect. The commoner species are better targets for monitoring and low-cost field guides should focus on these.

[19] Ali (1980) noted that "the major foreign museums are perhaps better equipped" [for taxonomic studies] and further claimed that Indian students *fortunately* have the BNHS and ZSI collections *available* to them.

[20] Issues raised on the repatriation of specimens collected in the colonial era resulted in this move.

[21] Ethical issues also exist in the use of tax-payer funds to pay private publishers for scientific research.

time seen in the BBS data) can be detected from these (Droege *et al.* 1998). The data can also be used to produce seasonal bird distribution atlases. The value of trip-lists has already been realized in many parts of southern India with their posting on electronic discussion forums being encouraged. Reports that mention only selected species (such as those that the observer considers as rare or interesting) have little scientific value. The compilation or mixing up of trip-lists from different places and different times also destroys the value of the original data.

Reporting rates of birds show a characteristic rank-order relationship (Fig. 11). The taxa that lend themselves well as indicator species for monitoring are those with high reporting rates.

There is currently a bias in reporting with rare species being favoured over the commoner ones, and journal publishing and funding priorities further this skew. This bias can be seen in the spatial coverage of records when the distribution of the Jungle Crow *Corvus macrorhynchos* is compared with a composite of all species records (Fig. 12). Some of the rarer species are better studied than most of the commoner species. Transient observers noting only rarities will not help in the identification of any patterns. Sustainable and long-term scientific observation needs to be un-biased and local.

An operational species list

A standard reference list of species is an important pre-requisite for studies made by multiple observers. The concept of a "species" varies with application and a practical compromise is needed as a standard for collaboration involving field observation. Recent works (Rasmussen & Anderton 2005) have introduced numerous debatable "splits" and "lumps", but not all changes need to be recognised for the purpose of recording observational data. Expecting observers to note every fine racial difference may be counter-productive to collaboration although some of these riddles can now be settled thanks to advanced optics and digital photography. As a guiding principle, forms that can be determined unambiguously based on geography need not be separated. In other words, where allopatry (related taxa occurring in separate non-overlapping geographical areas) is clearly established, two closely related forms would be distinguishable from the geographic location alone. Visually separable forms that may overlap geographically should however be specifically recognised. The lack of an established standard list has resulted in muddled up records with observers failing to note taxa accurately even when they are distinctive. This confusion has been further aggravated by the aggressive promotion of international English name standards.[22] A couple of examples may clarify this. A "Hill Myna" reported from the Western Ghats can be unambiguously assigned to *Gracula indica* or *Gracula religiosa indica* depending on the taxonomic treatment preferred. So the need for having a "Hill Myna" and a "Southern Hill Myna" is not compulsory. On the other hand, a "Chestnut-tailed Starling" (in the sense of Grimmett *et al.* 1998) from the Western Ghats is ambiguous as this could refer to either the

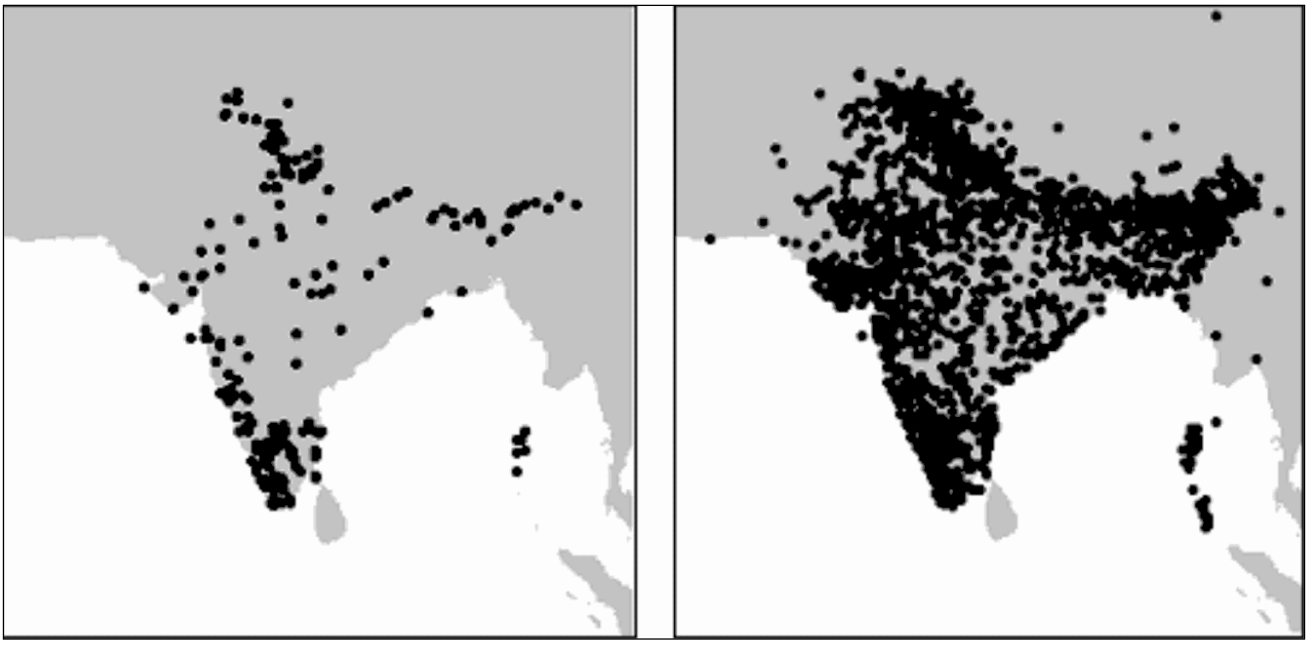
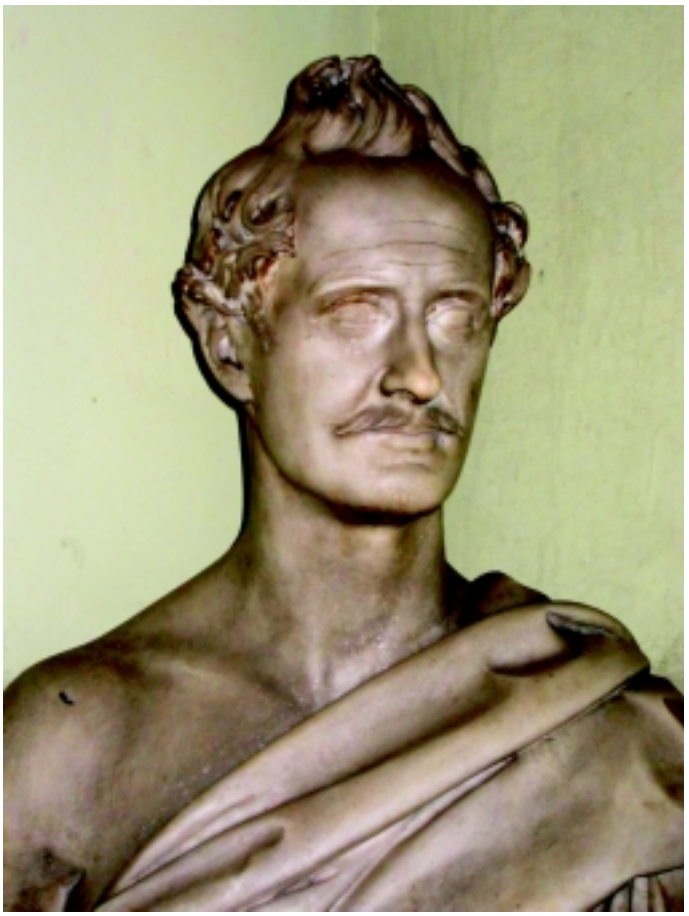


Fig. 12. Rarity bias in published studies: The map on left shows the distribution of Jungle Crow as spot records while the other shows the distribution of all species put together (55,000) combined. This indicates how common species are neglected in the quest for rarities. The Jungle Crow records are also better indicators of resident birdwatchers who can provide useful information in the longer run (Based on data from Shyamal 2003).

[22] For instance Gill & Wright 2006.



Aashesh Pittie

Brian Houghton Hodgson (1800-1894)
Collection: Asiatic Society of Bengal

resident *Sturnus malabaricus blythii* or the migrant *Sturnus malabaricus malabaricus*. Field guides and species lists catering to trans-national birdwatchers or tourists do not consider these distinctions important. It is however vital for local organisations that gather information to evolve an operational list that is practical and can stand the test of time and one that is not merely based on the most popular or fashionable field-guide at that point of time.

Low-cost data compilation

Information technology offers new ways to gather data that are less expensive and more accurate as they allow direct data entry. Automated verification could detect and highlight potential errors during data entry. Systems could use the already accumulated data to identify outliers in freshly submitted data using a variety of statistical techniques. Such automatic error or outlier detection would improve the quality of data and avoid conflicts that tend to occur when people judge the veracity of records. Doubtful records may be "quarantined" until independent confirmation is obtained. The use of social networks (connections between observers based on co-observation, introduction to the system through invitations and allowing users to mark questionable records) can also make it possible to identify observers in need of training and prevent rogue users.

A central system that collects data requires a suitable infrastructure and the gravest risk of such a system is data loss. In collective enterprises, the best solution for preventing data loss has been the use of open-access and open-source licensing mechanisms. Allowing copying and modification aids evolution apart from allowing recovery and continuity in the event of any failure.

Assuming that the Internet will ultimately penetrate into the remote parts of India, it is important to consider the factors that would motivate individuals to contribute:

1. Recognition: ensuring credits for contributors.
2. Opportunities for advancement: enhancing the knowledge and skills of contributors by providing information and training.
3. Demonstration of value: demonstrating the value of individual data contribution is important. Computational systems can instantly compile new data and show the most up-to-date summaries.
4. Rewards: many contributors of earlier collaborative projects in India have been motivated by rewards such as free field guides (e.g. the Asian Wetland Bureau - Mid-winter waterfowl participants received reports and the complimentary field guides).
5. Opportunities for social interaction and networking: the possibilities of finding and interacting with other contributors in the geographical vicinity.

It is also worth noting the demotivating factors in such projects:

1. Misuse of data: Data collected by compilers can be misused for unfair gain from the sale of publications, garnering funds or other activities that may not ultimately benefit contributors. This kind of misuse can be avoided by open-access licensing, which will prevent any group from having exclusive access.
2. Organisational and institutional attitudes: Exclusive and authoritarian attitudes on the part of compiling organisations can reduce participation.
3. Failure to demonstrate value: The collection of data without production of results of value can be particularly harmful to collaborative projects.
4. Dilution of quality: Some contributors can be upset by their high quality data being combined with data from dubious sources. This can be avoided by clearly associating data with the contributors and allowing the separation of records.

Organisation

India does not as yet have an organisation that can centralize ornithological information or act as an information clearing-house. Several ornithological organisations have been started but none have demonstrated their value to ornithology or established clear policies to collaborate with amateurs. On the other hand several short-lived organisations have eroded the confidence of serious amateurs.

Centralization of observational and specimen data is vital in improving the state of ornithology but this can lead to conflict if the benefits are not shared. In the collection era, museum curators and wealthy collectors had an edge over their field collectors. Museum curators became authorities on systematics and taxonomy by virtue of their wider access to reference material, while field collectors did not gain similar benefits and there are some surprisingly early reports of the resulting conflict from India:

> "Whilst the face of our land is darkened with skin-hunters, deputed by learned Societies to encumber science with ill-ascertained species, no English zoological association has a single travelling naturalist … nor has one such body yet sought to invigorate local research."
>
> —Hodgson quoted in Johnson (2005)

Organisations empower individual members but inequalities in power often lead to conflict. It may be worthwhile for organisations to evolve policies that ensure that conflicts do not affect long-term aims and allow for recovery and continuity. In this age of information, the best insurance against such conflicts is the use of the principles of open access and free licensing (such as the Creative Commons; http://creativecommons.org/), which demonstrate that no unfair advantage is sought by the centralising organisation.

Concluding remarks

Post-Independence ornithology in India does not seem to have kept up with the advances made by British ornithology particularly in building strong descriptive foundations that are made available for subsequent generations to build upon and improve. Contributions to Indian ornithology have been largely by those in urban areas, in large part due to the lack of access to information. This urban bias has led to poor geographic coverage while a quest for rarities by transient observers has left resident species under studied. The divergent paths of career scientists and the lack of information have left a wide gap, with amateurs being unable to progress beyond identification skills. The result is that there is hardly any recruitment into professional ornithology. The Internet provides support for improving the quality of amateur contribution, networking and building databases of ornithological knowledge. New ways to collaborate, compile and analyse data will help in building foundations that aid long-term study and monitoring of birds.

Some may dismiss high-quality, long-term and large-scale bird monitoring as an esoteric quest. In the UK, data from such monitoring is one of fifteen indicators that the government uses to measure the *quality of human life* and this is perhaps the best demonstration of the value of ornithology or indeed science. Reaching this stage has not been easy even in the UK and Colin Bibby wrote in this regard:

> "Funds for pure academic research have their own origins and drivers but much of the growth in field ornithology has been funded on the back of environmental concerns. A variety of factors contributed to growth of conservation concern and awareness over the 50 years…
>
> "Field ornithology in Britain had already been well positioned to diagnose problems and to bring forward sound evidence even before the range of current needs had become so obvious. Conservation issues always have an opponent because vested interests always underlie exploitation of the environment. Evidence alone does not win political battles, but without sound evidence the conservation case is likely to lose to economic arguments even where these are faulted by omission of environmental costs. Ornithologists have played a large role in helping conservation in Britain onto a rational basis…
>
> "The conservation world has not widely and deeply convinced people beyond its own core of support that there is a serious crisis locally or globally. In particular, people have not been convinced that by robbing the environmental bank now we are building up big costs for the future and in time they will be seen to come in. The toughest issue of all to sell is that the underlying problem is the inequitable wealth and consumption of the societies who provide the members and benefactors who support the conservation organizations."
>
> —Bibby (2003)

The Internet has already changed the way ornithological information is collected and disseminated in the US and UK (see, for instance, http://www.avianknowledge.net). There have been a number of predictions made on the way information technology will affect science and the interactions between amateurs and professionals. The Internet has even been expected to change the way governments interact with citizens—moving from a "control and command" mode to a "share and inform" approach (Gadgil 2006). Governments may need more time to change, but small and agile organisations should keep up with the times and revitalise ornithology in India.

Acknowledgements

This has grown in large part from a presentation made at the BNHS-IBCN workshop at Mudumalai in 2006. Thanks are due to a number of people who have helped in the process of converting many thoughts into a coherent article. Many sources of information have been used to understand the history and growth of ornithology in India. The Internet Archive needs to be thanked for making historic material on natural history and otherwise providing hope to an information-impoverished India. Kristin Johnson, University of Puget Sound, made me aware of many interesting aspects of ornithological history, helped with literature and provided useful comments on earlier drafts. Kumaran Sathasivam helped in obtaining data on BNHS membership, M. B. Krishna provided data on the growth of the BNGBIRDS discussion forum. Special thanks are due to Priyantha Wijesinghe for timely help with vital literature. Many others have provided useful comments, critique and suggestions on earlier drafts

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An ornithological survey of Chenab Valley, Chamoli district, Uttaranchal, including notes on pheasants

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Abstract: An ornithological survey was carried out at Chenab Valley, Chamoli district, Uttaranchal (India), during March–April, 2005. We recorded 113 species of birds represented by 14 families. Bird species diversity was highest in the middle temperate zone (2,300–2,500 m). Species belonging to the Muscicapidae were most abundant and among the Galliformes the Impeyan Monal had a strikingly high encounter rate. Chenab Valley is clearly rich in avifaunal assemblages and given that it is located between Nanda Devi Biosphere Reserve and Kedarnath Wildlife Sanctuary, it has strong conservation significance for avifauna and their habitats in this landscape.

Introduction

The Himalaya is well recognised for its biological diversity and its ecological, hydrological, socio-cultural, and aesthetical values. This enormous mountain chain covers 422,200 km2 (nearly 13% of India's land surface), and has been classified into north-western, western, central, eastern and trans-himalayan biogeographical zones (Rodgers *et al.* 2000). The western himalaya is an important area of regional endemism, and has been designated by BirdLife International as Endemic Bird Area (EBA 128). It also contains 27 Important Bird Areas (IBAs) (Islam & Rahamani 2004). The Western Himalaya EBA extends along the mountain chain from western Nepal (west of the Kali Gandaki Valley) through Uttaranchal, Himachal Pradesh and, Jammu and Kashmir in north-western India. The North-Western and Western Himalayan Biogeographic Zones (2A & 2B) cover 12,1463 km2 and contain 47 Protected Areas (PA) that cover 10,881.02 km2 (Rodgers *et al.* 2000). Substantial areas that are rich in wildlife occur in the reserve forests that buffer these Protected Areas. Chamoli district in Uttaranchal has two national parks (NP), one wildlife sanctuary (WS), one biosphere reserve (BR), and three forest divisions and is rich in wildlife. Baseline information on the avifauna of Western Himalaya can be found in Ali & Ripley (1987), Gaston *et al.* (1981, 1983), Lamba (1987), Tak & Kumar (1987), Gaston & Garson (1992), Sankaran (1995) and, Sathyakumar (2003). Further information exists in the form of studies carried out by Sathyakumar *et al.* (1992), Kumar (1997) in Kedarnath WS, Mishra (1997) in Majhatal WS, Gaston *et al.* (1993), Ramesh *et al.* (2003) in Great Himalayan NP in Himachal Pradesh and, Raza (2006) at Kedarnath WS and Ascot WS in Uttaranchal. Most of these studies have been carried out in PAs.

This paper presents the abundance and distribution pattern of birds in 'Chenab' Valley, Urgam Reserve Forest, Chamoli district, Uttaranchal, which is located between the PAs of Kedarnath WS and Nanda Devi BR. The Urgam Reserve Forest was an unexplored area prior to this study. We carried out an ornithological survey of the reserve forests adjacent to Thang village (30º33'15''–30º34'50''N 79º29'50''–79º31'15''E) (Fig. 1) in Chenab Valley during April 2005.

Study area

The study area is characterised by highly rugged steep mountains with diverse slope, aspect and elevation categories. Altitude of the study area ranges from 1,200m (Lower Mulia Hamlet at the confluence of 2 mountain rivulets) to 4,000m (an unnamed peak, locally called as 'Bhutkuri').

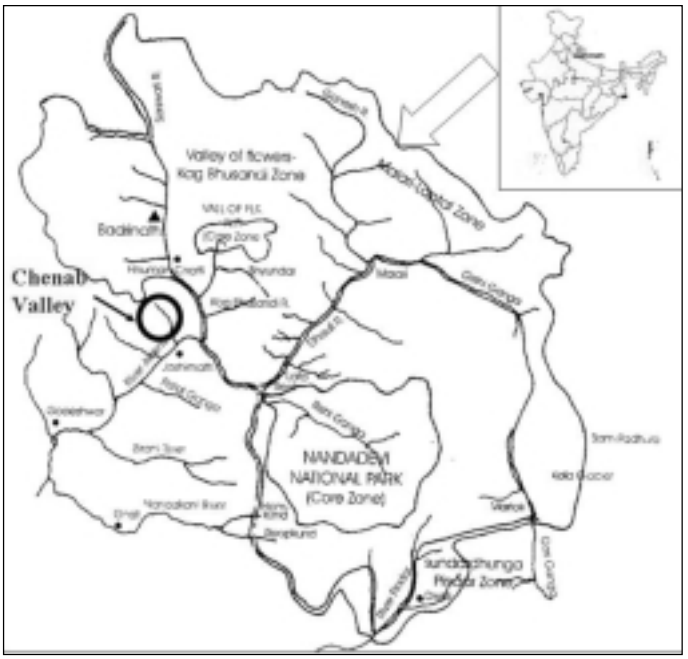

Fig. 1. Map of Chenab Valley & Nanda Devi National Park

About 70% of the study area is covered by forest and the rest comprises rocky grassy slopes. The plant communities are representatives of the temperate, sub-alpine and alpine regions, including broad-leaved oaks (*Quercus floribunda, Q. semecarpifolia, Q. leucotrichophora*), coniferous forest (*Taxus baccata*), riverine forest (*Alnus nepalensis*), high altitude mixed forest, sub-alpine and, alpine pastures (Champion & Seth 1968) (Fig. 2).

Methods

The reconnaissance of the study area, the laying of transects and identification of point count and call count stations were made during March 2005. The field survey was carried out during April 2005. This included systematic coverage of the study area by walking along trails and transects (Burnham *et al.* 1980), by point counts (Bibby *et al.* 1992; Sutherland 1996) and, call counts (Gaston 1980). Bird species encountered during the field survey were recorded along with information on altitude, aspect, habitat and locations. Abundance ranking was given to species based on the frequency of the encounters during point counts. Eleven point count stations (25 m radius each) in different altitudinal zones (2,000–3,500 m) encompassing four habitats were sampled during April 2005. Duration of each point count was 15 minutes for all the stations. During observation, presence of the same individual in the circle on different sides and frequent entry and exit of one individual into and out of the circle were ignored and counted as a single sighting. The encounter rate for Kaleej *Lophura leucomelanos*, Koklass *Pucrasia macrolopha* and Impeyan Monal *Lophophorus impejanus* pheasants were obtained from transect walks. Six transects were walked three times each to estimate the abundance of pheasants in the study area (Table 1). Pre-dawn call counts (n=8) were carried out for Koklass Pheasants, as the males call gregariously during April–May (breeding season) (Fig. 2).

Analysis

Richness and relative abundance, through encounter rate (#/plot), of bird species was calculated by point counts. Abundance of pheasants, encounter rate (# / km walk) or (# male / station), was calculated by transect walks and call counts respectively. Comparisons of encounter rate of pheasants were made with results from other studies (Sathyakumar 2003; Sankaran 1993; Ramesh *et al.*1999; Sathyakumar *et al.* 1992) carried out for pheasants in different protected areas during the same months / seasons of western Himalaya.

Results

During the study period, 106 species of birds were recorded (Appendix). This included two critically endangered, Indian White-backed Vulture *Gyps bengalensis* and Long–billed Vulture *G. indicus* and, one vulnerable Cheer Pheasant *Catreus wallichi* species (IUCN 2006). Four species, Indian White-backed Vulture, Bearded Vulture *Gypaetus barbatus*, Cheer Pheasant, Impeyan Monal *Lophophorus impejanus* are listed in Schedule I Part III of Wildlife (Protection) Act, 1972, amended in 2003 (GoI, 1972, 2003). We could not confirm the identification of Tickell's Warbler *Phylloscopus affinis*, Hume's Warbler *P. humei*, Lesser Cuckoo *Cuculus poliocephalus* and, Spotted-winged Grosbeak *Mycerobas melanozanthos*. Presence of Cheer Pheasant in the study area was confirmed by calls at dawn and dusk and by secondary information.

During a total of five-hour point counts, 569 individuals of 42 species belonging to 14 families were recorded. The encounter rate (# birds per plot) for Muscicapidae was the highest (14.35±1.98), so it was sub-divided into four sub-families and Timalinae (babblers, laughingthrushes) had the highest encounter rate of 7.55±1.14 birds per plot

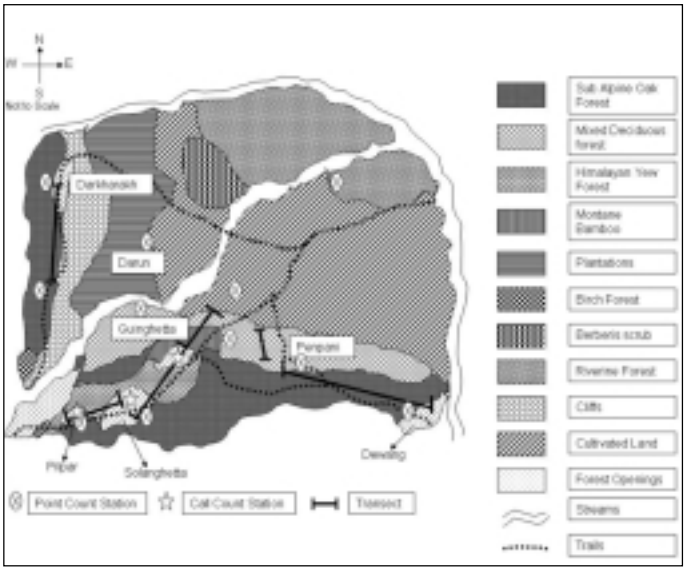

Fig. 2. A sketch of Chenab Valley showing the vegetation types and location of transects, point count & call count stations

Dhritiman Mukherjee

Kaleej Pheasant

followed by Sylvinae (warblers), 3.20±1.05 birds per plot and, Turdinae (thrushes), 2.60±0.50 birds per plot. Besides Muscicapidae, Paridae (tits) also had a high encounter rate of 2.70±1.10 birds per plot, when compared with other families. Families such as Picidae (0.80±0.22 birds per plot), Corvidae (1.00±0.49 birds per plot), Motacillidae (1.50±1.50 birds per plot) and, Columbidae (1.80±0.81 birds per plot), showed a moderate encounter rate. Cuculidae (only calls heard), Capitonidae, Campephagidae, Certhiidae and Nectariniidae—all these had a very low encounter rate (Table 2).

Along the altitudinal gradient, most of the birds were recorded between 2,301–2,400 m, near Penpani, in mixed deciduous forest dominated by Maple *Acer* spp., and Horse Chestnut *Aesculus indica*. A total of 120 individual birds were recorded at Penpani (2,350 m) alone. Other low elevation areas of riverine Alder *Alnus nepalensis* also showed high bird count of 78 individual birds at 2,100 m (Guinghetta) and 74 individual birds at 2,200 m (Darun). At higher altitudes, in Alpine meadows and sub-alpine forest edges, at 3,130 m (Solanghetta–Pilpar), the bird count was 70. Upland meadows of Darkharak (2,810 m) and Dewang (2,735 m) also showed high bird count of 74 and 71 birds respectively. Distribution of bird species in different habitats along the altitudinal gradient showed highest species aggregation in middle temperate zone and lowest in alpine zone (Fig. 3). This is similar to the observations made by Raza (2006) at Kedarnath WS and Ascot WS, where bird diversity was reported to be highest in middle altitude (2,200–2,500 m).

The results of this survey are similar to the results of earlier surveys carried out in the Western Himalaya. Sankaran (1993) reported 112 species during May–June 1993 from Nanda Devi BR. Gaston *et al.* (1993) reported 183 species from Great Himalayan NP. Kumar (1997) recorded 155 species in Kedarnath WS during winter and spring in 1997. Mishra (1997) reported 105 species from Majhatal WS, Himachal Pradesh, during winter and spring of 1993. In the present study the greatest species diversity was recorded in temperate forests (2,300–2,400m) and Muscicapidae, including babblers, flycatchers, warblers and, thrushes were abundant in the study area during April 2005. Presence of water, dense tree cover with *Litsea* undergrowth and abundant food may be the reasons for the presence of several species in that altitudinal zone.

During the survey, additional information was collected on Galliformes. Nine species, namely, Snow Partridge *Lerwa lerwa*, Himalayan Snowcock *Tetraogallus himalayensis*, Chukor *Alectoris chukar*, Black Francolin *Fracolinus francolinus*, Common Hill-Partridge *Arborophila torqueola*, Koklass, Impeyan Monal, Kaleej and Cheer pheasants were recorded during this survey (Table 3). While Kaleej Pheasant was recorded only in the Temperate Mixed Broad-Leaved Forest (Transect No 1) (Table 1), we came across Impeyan Monal and Koklass Pheasant in the remaining five transects.

Abundance of pheasants (encounter rate & call count)

Impeyan Monal was the most frequently sighted (34 sightings) pheasant during the transect walks (n=15) and

Table 1. Characteristics of the Transects laid in Chenab Valley

Transect	Vegetation Type	Length (m)	Elevation (m)
1	Temperate Mixed Broad-leaved Forests	500	2000–2500
2	Temperate Coniferous Himalayan Yew and Oak Forests	750	2500–2800
3	Mixed Coniferous Himalayan Yew and Oak Forests with Montane Bamboo	600	2500–2800
4	Temperate Coniferous Himalayan Yew and Oak Forests and Alpine Meadows	700	2800–3000
5	Mixed Coniferous Himalayan Yew and Oak Forests with Montane Bamboo	700	2800–3000
6	Temperate Coniferous Himalayan Yew and Oak Forests and Alpine Meadows	500	2800-3000

Table 2. Encounter rate (ER) (#/plot) for different families and sub-families of avifauna in Chenab Valley, April 2005

Sl No.	Family	ER (# / plot)±S.E.	Total number seen
1	Columbidae	1.80±0.81	36
2	Cuculidae	0.10±0.01	2
3	Capitonidae	0.40±0.28	8
4	Picidae	0.80±0.22	16
5	Dicruridae	1.30±0.65	26
6	Corvidae	1.00±0.49	20
7	Camphephagidae	0.40±0.27	8
8	Pycnonotidae	1.30±0.59	26
9	Muscicapidae	**14.35±1.98**	**287**
9a	Timalinae	7.55±1.14	151
9b	Muscicapinae	1.00±0.27	20
9c	Sylvinae	3.20±1.05	64
9d	Turdinae	2.60±0.50	52
10	Paridae	2.70±1.10	54
11	Certhiidae	0.30±0.16	6
12	Motacillidae	1.50±1.50	30
13	Nectariniidae	0.10±0.01	2
14	Carduelinae	2.40±1.34	48

the overall encounter rate was 9.39±1.94 / km walked. There were seven sightings of the Koklass Pheasant, all during transect walks (n=15). Their overall encounter rate was 0.77±0.27 / km walked. All the ten sightings of Kaleej Pheasant were from one transect, which was located in the Lower Temperate Zone. Encounter rate in this transect (n=3) was 7.77±0.77 / km. As reported from other parts of Western Himalaya, Kaleej Pheasant occurs mostly in the Lower Temperate Forest (2,000–2,500 m). Encounter rate for Impeyan Monal in Chenab Valley during April 2005 is higher than its encounter rates in Nanda Devi NP during May–July as reported by Sankaran (1993) and Sathyakumar (2003); in Kedarnath WS during April–May (Sathyakumar *et al.* 1992) and, in Great Himalayan NP, Himachal Pradesh, during April–June (Ramesh *et al*. 1999). Encounter rates for Koklass Pheasant in Chenab Valley during April 2005 is less than that reported from Great Himalayan NP, Himachal Pradesh, in April–May (Ramesh *et al*. 1999). Encounter rate for Kaleej Pheasant in Chenab Valley during April 2005 is higher than that reported from Kedarnath WS in April–May (Sathyakumar *et al*. 1992) (Table 4). Heavy snowfall during March 2005 and persistent snow in the Alpine zone (>3000 m) of Chenab Valley in April 2005 may be the reasons for the high abundance of Impeyan Monal in sub-alpine and upper temperate zone during April 2005.

Dhritiman Mukherjee

Himalayansnowcock

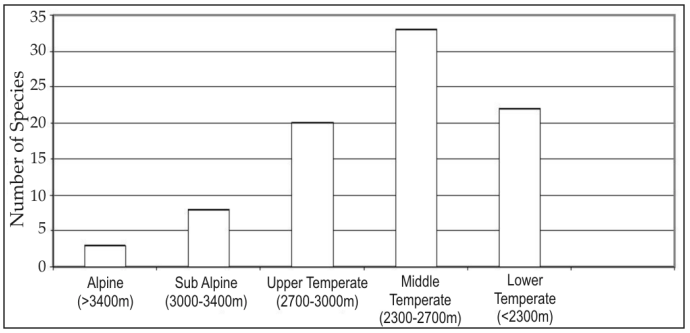

Fig. 3. Number of bird species recorded at different altitudinal zones in Chenab Valley, April 2005.

Table 3. Records of Galliformes in Chenab Valley, April 2005

Species	Sightings (# individuals)	Evidences
Snow Partridge	1 (2)	—
Himalayan Snowcock	1 (4)	—
Chukor	3 (7)	—
Black Francolin	6 (14)	11 (calls)
Common Hill-Partridge	1 (1)	—
Koklass Pheasant	7 (8)	3 (calls)
Impeyan Monal	43 (106)	18 (feathers)
Kaleej Pheasant	10 (12)	—
Cheer Pheasant	—	4 (calls)

The estimate for calling male Koklass Pheasant through call count in April 2005 was 3.12±0.29 males per station. This is comparable with 3.5 males per stations in Rolla (Great Himalayan NP, Himachal Pradesh), in April–May (Ramesh *et al*. 1999).

Conclusions

1. Bird diversity of the Chenab valley is rich and similar to other PAs in the Western Himalaya region.
2. Encounter rates for pheasants indicate relatively high abundance of Impeyan Monal in Chenab Valley when compared with other PAs of the Western Himalaya.
3. The Presence of over one hundred species of birds including some rare birds and others in Chenab Valley makes it an important area for biodiversity conservation. As Chenab Valley is located between the Nanda Devi NP and Kedarnath WS, it has significance and potential for conservation of avifauna and their habitats in this landscape.

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Table 4. Comparison of encounter rate (# / km walk) of pheasants in Chenab Valley with other sites of Western Himalaya

Locality	Chenab Valley	Nanda Devi NP		Great Himalayan NP	Kedarnath WS
Month & year	April 2005[1]	June–July 2003[2]	May–June1993[3]	April–May1999[4]	April–May 1992[5]
Species					
Kaleej Pheasant	7.77	—	—	—	0.4
Impeyan Monal	9.39	0.75-2.28	0.4-1.25	3.4	1.4
Koklass Pheasant	0.77	—	—	1.2	—

Dhritiman Mukherjee

Plumbeous Redstart

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Appendix: List of birds recorded at Chenab Valley, Urgam Reserve Forest, April 2005

[English and scientific names follow Manakadan & Pittie (2001).]

Species	Altitudinal range (m)	Habitat(s)	Abundance ranking
Black Kite *Milvus migrans*	1,500–3,000	3, 6, 7	4
Bearded Vulture *Gypaetus barbatus*	1,500–3,500	1, 2, 5, 6	4
Egyptian Vulture *Neophron percnopterus*	1,500–2,500	7	3
Long-billed Vulture *Gyps indicus*	1,500–3,500	7	4
Indian White-Backed Vulture *G. bengalensis*	1,500–3,000	7	3
Himalayan Griffon *G. himalayensis*	1,500–3,500	1, 2, 3, 5, 6	4
Eurasian Sparrowhawk *Accipiter nisus*	2,500–3,000	3, 6	2
Steppe Eagle *Aquila nipalensis*	2,800–3,200	1, 2, 5, 6	2
Golden Eagle *A. chrysaetos*	2,500–3,000	1, 2	2
Booted Eagle *Hieraaetus pennatus*	2,800–3,200	1, 2	1
Common Kestrel *Falco tinnunculus*	1,500–2,800	1, 2, 7	4
Snow Partridge *Lerwa lerwa*	2,900–3,500	1, 2	3
Himalayan Snowcock *Tetraogallus himalayensis*	3,000–3,500	1	1
Chukor *Alectoris chukar*	2,500–2,800	7	4
Black Francolin *Fracolinus francolinus*	1,500–2,050	7	4
Common Hill-Partridge *Arborophila torqueola*	2,300–2,900	3, 7	3
Koklass Pheasant *Pucrasia macrolopha*	2,500–2,900	2, 3	3
Impeyan Monal *Lophophorus impejanus*	2,600–3,500	1, 2, 3	4
Kaleej Pheasant *Lophura leucomelanos*	2,000–2,500	3, 7	4
Cheer Pheasant *Catreus wallichii**	1,500–2,000	6	1
Blue Rock Pigeon *Columba livia*	1,500–2,500	7	3
Hill Pigeon *C. rupestris*	2,800–2,950	7	3
Snow Pigeon *C. leuconota*	2,950–3,500	1, 2, 4	3
Speckled Wood-Pigeon *C. hodgsonii*	2,800–2,950	3	1
Oriental Turtle-Dove *Streptopelia orientalis*	1,500–3,000	3, 7	4
Slaty-headed Parakeet *Psittacula himalayana*	1,080–2,000	1, 3	2
Large Hawk-Cuckoo *Hierococcyx sparverioides*	2,000–2,900	3,	4
Common Cuckoo *Cuculus canorus*	2,000–2,900	3, 7	4
Oriental Cuckoo *Cuculus saturatus*	2,800–3,000	2, 3	3
?Lesser Cuckoo *Cuculus poliocephalus*	2,050–2,800	5	1
Spotted Scops-Owl *Otus spilocephalus*	2,500–2,800	3	3
Himalayan Swiftlet *Collocalia brevirostris*	2,700–2,900	1, 2	2
Alpine Swift *Tachymarptis melba*	2,900–3,500	1, 4	1
Pacific Swift *Apus pacificus*	2,700–2,900	1, 2	2
Common Hoopoe *Upupa epops*	2,000–2,300	7	4
Great Barbet *Megalaima virens*	1,500 -2,800	3, 6	4
Brown-fronted Pied Woodpecker *Dendrocopos auriceps*	2,300–3,000	3	4
Fulvous-breasted Pied Woodpecker *D. macei*	2,300–2,800	3	2
Himalayan Pied Woodpecker *D. himalayensis*	2,300–3,000	3	4
Large Scaly-bellied Green Woodpecker *Picus squamatus*	2,800 -2,900	3	1
Black-naped Green Woodpecker *P. canus*	2,800 -2,900	3	1
Himalayan Golden-backed Woodpecker *Dinopium shorii*	2,300–2,500	3	1
Eastern Skylark *Alauda gulgula*	2,000–2,300	7	3
Paddyfield Pipit *Anthus rufulus*	2,000–2,300	7	4
Rosy Pipit *A. roseatus*	2,300–2,700	1, 6	2
Upland Pipit *A. sylvanus*	2,900–3,000	1, 3, 6	3
Scarlet Minivet *Pericrocotus flammeus*	2,000–2,700	3	4
Black-crested Bulbul *Pycnonotus melanicterus*	2,300–2,400	3	1
Himalayan Bulbul *Pycnonotus leucogenys*	1,500–2,500	3, 7	3
Black Bulbul *Hypsipetes leucocephalus*	2,000–2,700	3, 4	4
Blue Whistling-Thrush *Myophonus caeruleus*	1,500–2,500	3, 7	4
Plain-backed Thrush *Zoothera mollissima*	2,900–3,500	3, 7	3
Tickell's Thrush *Turdus unicolor*	2,300–2,700	3	1
White-collared Blackbird *T. albocinctus*	2,500–2,800	3	3

Species	Altitudinal range (m)	Habitat(s)	Abundance ranking
Grey-winged Blackbird *T. boulboul*	2,500–2,700	3	3
Himalayan Rubythroat *Luscinia pectoralis*	1,050–2,000	4	1
Orange-flanked Bush-Robin *Tarsiger cyanurus*	2,900–3,000	3, 6	1
Blue-fronted Redstart *Phoenicurus frontalis*	2,900–3,000	3, 6	1
Plumbeous Redstart *Rhyacornis fuliginosus*	1,000–2,500	4	1
Little Forktail *Enicurus scouleri*	1,000–2,500	4	1
Spotted Forktail *E. maculatus*	1,000–2,500	4	3
Grey Bushchat *Saxicola ferrea*	2,050–2,300	3, 7	3
Streaked Laughingthrush *Garrulax lineatus*	2,000–2,850	3, 4, 7	4
Variegated Laughingthrush *G. variegatus*	2,300–2,900	3	4
Red-headed Laughingthrush *G. erythrocephalus*	2,000–2,700	3, 7	2
Red-Billed Leiothrix *Leiothrix lutea*	2,000–2,300	4, 7	1
Bar-throated Minla *Minla strigula*	2,800–2,900	3	1
Rufous Sibia *Heterophasia capistrata*	2,300–2,950	3	4
Yellow-naped Yuhina *Yuhina flavicollis*	2,000–2,300	4, 6	1
Stripe-throated Yuhina *Y. gularis*	2,700–2,900	3, 6	1
?Tickell's Warbler *Phylloscopus affinis*	2,000–2,500	3,4	2
Hume's Warbler *P. humei*	2,000–2,700	3,4, 7	3
Grey-headed Flycatcher-Warbler *Seicercus xanthoschistos*	2,000–2,700	3,4, 6,7	4
Rusty-tailed Flycatcher *Muscicapa ruficauda*	2,050–2,300	7	1
Orange-gorgeted Flycatcher *Ficedula strophiata*	2,000–2,500	3	1
Ultramarine Flycatcher *F. superciliaris*	2,000–2,500	3, 7	3
Verditer Flycatcher *Eumyias thalassina*	2,000–2,700	3, 7	4
Rufous-bellied Niltava *Niltava sundara*	2,300–2,800	3	4
Blue-throated Flycatcher *Cyornis rubeculoides*	2,500–2,700	6	1
Grey-Headed Flycatcher *Culicicapa ceylonensis*	2,300–2,500	3	3
Yellow-bellied Fantail-Flycatcher *Rhipidura hypoxantha*	2,300–2,700	3	3
Red- Headed Tit *Aegithalos concinnus*	2,300–2,800	3, 7	3
Rufous-bellied Crested Tit *Parus rubidiventris*	2,800–3,000	3, 7	1
Spot-winged Tit *P. melanolophus*	2,500–2,800	3, 7	2
Great Tit *P. major*	2,000–2,700	3 4, 7	4
Green-backed Tit *P. monticolus*	2,000–2,800	3, 4, 7	4
White-tailed Nuthatch *Sitta himalayensis*	2,300–2,500	3	1
Bar-tailed Tree-creeper *Certhia himalayana*	2,300–2,800	3	3
Fire-tailed Sunbird *Aethopyga ignicauda*	2,500–2,700	6	1
Rock Bunting *Emberiza cia*	2,000–2,300	7	4
Hodgson's Mountain-Finch *Leucosticte nemoricola*	2,900–3,100	1, 2, 6	2
Common Rosefinch *Carpodacus erythrinus*	2,300–2,900	3, 6	4
Black-and-Yellow Grosbeak *Mycerobas icterioides*	2,800–2,900	3	2
?Spotted-winged Grosbeak *M. melanozanthos*	2,000–2,300	4	1
House Sparrow *Passer domesticus*	1,500–2,000	7	4
Eurasian Tree-Sparrow *Passer montanus*	1,500–2,300	7	3
Black-headed Oriole *Oriolus xanthornus*	2,500–2,700	3	2
Ashy Drongo *Dicrurus leucophaeus*	1,500–2,800	3, 7	4
Eurasian Jay *Garrulus glandarius*	2,300–2,800	3	3
Yellow-billed Blue Magpie *Urocissa flavirostris*	2,050–2,900	3, 7	4
Indian Treepie *Dendrocitta vagabunda*	2,050–2,300	7	2
Grey Treepie *D. formosae*	2,050–2,300	3, 7	3
Red-billed Chough *Pyrrhocorax pyrrhocorax*	2,900–3,000	1, 2, 4	2
Yellow-billed Chough *P. graculus*	2,900–3,000	1, 2, 4	2
House Crow *Corvus splendens*	1,000–2,050	7	3
Jungle Crow *C. macrorhynchos*	2,050–2,900	3, 7	4

Habitat(s): 1=Alpine meadow, 2=Sub-alpine forest, 3=Temperate broad-leaved forest, 4=Watercourse, 5=Cliffs, 6=Boulder-strewn slopes with sparse vegetation, 7=Habitation, cultivated areas / scrub.

Abundance Ranking: 1=Rare, 2=Fairly common, 3=Common, 4=Abundant, ?=Unconfirmed, *=Secondary evidence (Abundance ranking was given on the basis of frequency of presence of a species in daily checklist).

More wintering sites for the Near-threatened Tytler's Leaf-Warbler *Phylloscopus tytleri* in Peninsular India

Praveen J.

Praveen J. 2007. More wintering sites for the Near-threatened Tytler's Leaf-Warbler *Phylloscopus tytleri* in Peninsular India. *Indian Birds* 3 (4): 146–149.
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Tytler's Leaf-Warbler *Phylloscopus tytleri*, is categorised as a near-threatened species by BirdLife International (2001). It breeds in the Himalayas and winters in the Western Ghats. According to Rasmussen (1998), "…the species must certainly be to some extent overlooked in its winter quarters…" However, it is generally presumed that it occurs in low densities throughout Peninsular India and is sometimes locally common. In this note, I present records of personal sightings of this species from six localities in Peninsular India, of which four sites are new on the range maps for this species. Four of the sites are in the Western Ghats and three are listed as Important Bird Areas (IBA) (Islam & Rahmani 2004). All the sites fall under revenue land or state forest. The sightings are described in chronological order in Table 1 including dates, habitats, geographical locations and co-birders.

Known distribution

Ali & Ripley (1987) comment on the non-breeding distribution of this species as, "…winter range little known, records are very scanty…" Rasmussen (1998), in a paper that elaborates on the non-breeding distribution, analyses all known specimen and sight records up till 1998 and consolidates the historical data with contemporary information. The paper cites specimen and sight reports from a few localities around Mahabaleshwar and northern Maharashtra, Goa, the Nilgiris and, specimen records from Londa in northern Karnataka. The paper also lists "…a well-documented record of two seen near Munnar, Kerala (Harrap & Redman 1989)," and, "two from around Mumbai (N. Jamdar *in litt*. 1997; T. Price *in litt*. 1998)". Two other reports with no further information available are also listed in the paper: "occasional" records from Wynaad, Kerala (Zacharias & Gaston 1999) and one record from Nagarhole (Lal *et al*. 1994). It is clear that the confidence level is highest for the specimen records and least for the sight records with no further information available. The recently published, well-illustrated field guides of Grimmet *et al*. (1998), Kazmierczak (2000) and, Rasmussen & Anderton (2005) have apparently adopted these details for depicting their distribution maps.

Prasad (2003) subsequently listed several sight records from north-western Maharashtra from the districts of Raigad, Pune and Mumbai, with good concentrations around Bhimashankar and Mahabaleshwar. Most of these sightings were reported in the birding discussion group of 'birdsofbombay', (http://groups.yahoo.com/group/birdsofbombay). There are no further reports from Karnataka except for the recent spurt of sightings mentioned in this note. However, one of the warblers photographed by Vijay Cavale from Bannarghatta National Park near Bangalore (*c*. 800 m a.s.l.) has been correctly labeled as a Tytler's Leaf-Warbler (http://www.indiabirds.com), without further information . Rasmussan & Anderton (2005) consider the species to be locally common in the Nilgiris. However, Zarri & Rahmani (2005) did not come across this bird during their recent study nor do they list any recent sightings. This may be due to an oversight as it is definitely common at Sispara (see below), which lies at the edge of Mukurti National Park in the Nilgiris. No other sight reports are available from Tamil Nadu. Sightings from Kerala, after Redman & Harrap (1989), are few. A possible sighting in December 1993 by Manoj V. Nair and C. Sashikumar from Ponmudi in Ashambu Hills (Manoj V. Nair, *in litt.*, 1993) and a more recent sighting by Sathyan Meppayur during a bird tour in Periyar Tiger Reserve in February 2005 (Sathyan Meppayur, *in litt*., 2005) are the only known sightings apart from the ones mentioned in this note. Hence, till now, the species is considered as a scarce winter visitor in the Western Ghats except for the heavy local concentrations around the hills of northern Maharashtra and the Nilgiris.

Observations

Panhala: This is a hill station near Kolhapur town, south-western Maharashtra, historically the capital city and fort of Chathrapathi Shivaji. It has forested and park-like habitats not found in the lower elevations of Deccan Plateau. I was off to this destination on a family trip and on some good advice (!), decided to drop in earlier than the rest for some birding. The following is an extract from my field notes made on 23.xii.2002, "…*an unidentified warbler with no noticeable*

wing bar, good supercilium, found in a dispersed flock—the call note (repeated infrequently as compared to the Greenish) is a single Magpie Robin-like (in tone, quality & loudness) 'sweeee'—I initially took this call for [that of] the Magpie Robin & later on saw the Warbler making this call. This one is not Greenish or Large-billed for sure…"

The call intrigued me a lot and later I could nail it down to this species. I contacted various birdwatchers to find a call recording of this species for confirmation. In vain, I had to wait till December 2006 when I was able to watch these warblers at leisure at Sispara, Silent Valley (Kerala), calling incessantly through out the day.

It may be noted that this was probably the sighting that was picked up by Anand Prasad for his checklist (Prasad 2003), under Tickell's Leaf Warbler (*P. affinis*) as, "…Panhala, Kolhapur, 1 probable on 23/12/2002…". I presume this because I had reported it in the birdsofbombay e-mail discussion group as a *Phylloscopus* without a wing-bar and was left unidentified then.

Though a checklist for the birds of Panhala or Kolhapur does not seem to exist, discussions with local bird watchers did not reveal any records of this species from this region.

Kemmengundi: This is a hill station in the Bababudan Hills, Shimoga district, Karnataka, the sighting was made near the Children's Park in the Shankara Shola. Vijay Ramachandran and Job K. Joseph were also present during the sighting. From my field notes made on 16.iii.2003, "*…A small Phylloscopus, whitish under parts, greenish upperparts, no wing bar and no crown stripe, short tail, dark pointed bill with pale lower mandible. A very distinct white supercilium and a dark eye-stripe. Other confusing species in similar habitats is the Tickell's Leaf Warbler - bill seemed too long for the Tickell's. Calls not heard…*" This again being the first sighting for all of us (my previous Panhala sighting got confirmed much later), we could not confirm its identity in the field. It took us another two years before becoming familiar with the bird in Munnar, when we could go back and confirm this observation from Kemmengundi. Until now, this has been the only sighting of this species from Bababudan Hills, despite being visited frequently in recent years (since 2003) by many birdwatchers. However, we have not got a chance to visit Bababudan Hills after becoming familiar with the calls.

Munnar: Munnar, a famous hill station in the Kannan Devan Hills, in the southern Western Ghats, is not a new location for this species as it has been reported earlier (Harrap & Redman 1989). However, a note here is included as it updates its status in the much-disturbed Munnar sholas, listed as the *Southern Montane Wet Temperate Forests* by Champion and Seth (1968). Strangely, it has not been reported from Eravikulam National Park, though in all likelihood it is present there. The densities in those habitats would be interesting to study in comparison with the Nilgiris.

K. V. Eldhose, who conducts regular endemic-bird tours in this area since 2002, has seen this bird at Munnar on almost all his winter trips. During one such bird tour on 11–12. iii.2006, when I accompanied him, the birds were seen on four different occasions in about eight hours of birding in shola and grassland habitats; twice while birding in a shola about 10 km downhill from Munnar on the leeward side. The long distinct supercilium over the darker eye-stripe, lack of wing bars and shorter tail compared to other similar *Phylloscopus* warblers, were clearly noted. Though we did not hear the birds calling, none of us were familiar with its call then and hence could have possibly overlooked more sightings.

Sispara: Sispara lies at the extreme north of the famous Silent Valley National Park in Kerala, adjacent to the Mukurti National Park in the Nilgiris. The undisturbed habitat here is the typical sholas and grasslands found much across the Nilgiris. During a bird survey organised by P. K. Uthaman and Kerala Forest Department, I got to bird-watch in the sholas around Sispara for three days. Tytler's Leaf-warbler was exceedingly common, sometimes more numerous than *P. affinis*. On one field trip we recorded about six birds per minute, calling from the sholas. The birds always kept to the canopy of the shola, which is indeed quite low (10–12 m) and hence was quite easy to observe. An earlier survey conducted by P. K. Uthaman in mid-March 2006 also met with this bird at Sispara 'several times'; they noted this species as a warbler producing Magpie Robin like calls but left the bird unidentified in the field (E. Kunhikrishnan & Prasanth Badarinath *in litt*., 2006).

Elival: Elival ridge is the southern-most high altitude area north of the Palakkad Gap, with habitat that is typical for this endemic species. During a bird survey, which P. O. Nameer and I organised along with Kerala Forest Department, in Siruvani Reserve Forest, I was able to visit the shola habitats of this region on 12.ii.2007.

By now, my warbler identification skills had sharpened and it was easy to pick the call of this leaf-warbler from an undisturbed shola on the southern face of the Elival ridge. Interestingly, one of us started searching for a Pied Bushchat *Saxicola caprata* in the grasslands after hearing the first call (!), quite a likely bird in such habitats, but of importance is the similarity of calls. About 5–6 birds were calling regularly during our stay of four hours in that habitat. Shashank Dalvi persued the birds and managed to clearly see a couple of them. However, the most interesting facet about this ridge is that the habitat on the northern side, which is sheltered from the direct south-western winds, is mostly a transition from evergreen to shola forests. In fact, we did not record a single Tytler's Leaf-Warbler calling on the northern side where we spent more time. On the southern side, which faces the winds, the habitat is typical of the high altitudes of the Nilgiris, with shola forests only in the hill valleys and the rest of the area being covered with grasslands. All our sightings were from this habitat indicating a highly specialised habitat preference in the Western Ghats during winter.

Nandi Hills: Though previous studies (Ghorpade 1974; Anon. 1996) have failed to record this species from Nandi Hills or anywhere near Bangalore, there are a few recent reports from these hills. Nick Lethaby came across this species for the first time at Nandi when he recorded one individual along with a Hume's Warbler *P. humei* on 8.xii.2006 (Lethaby 2006). K. V. Eldhose saw and heard

several individuals on 20.xii.2006 (K. V. Eldhose *verbally*, Dec. 2006), one bird seen by Mike Prince on 22.xii.2006 (Prince 2006) and subsequently, S. Subramanya and V. Santharam recorded one bird on 1.i.2007 (Subramanya 2007).

During my visit on 25.ii.2007, when I birded for about three-and-a-half hours, the bird was not very vocal – the most frequent utterances of the call were 'one call for every three minutes,' heard during the last one hour of birding. However, I found about 5–6 birds, which kept to the canopy, along with several other Hume's Warblers, around a playground on top of the hills. Though other *Phylloscopus* species were also recorded during the trip, none were present during the sightings of *P. tytleri* and *P. humei*. Perhaps this species might be a regular winter migrant to Nandi Hills in moderate densities.

Conclusions

The wintering distribution of Tytler's Leaf-Warbler seems to be more widespread than it was earlier believed. However, the hypothesis of the species occurring in high densities, very locally, is supported by the observations from Sispara and Nandi Hills and, to some extent from Munnar and Elival. My identification skills for this species had not been honed during observations in Kemmengundi and Panhala and hence its population estimations from there were not possible. Its wintering habitat, though not described earlier, seems to be sholas in the Western Ghats while preferring suitable altitudes (*c.* 900 m and above) in the Deccan hillocks with a good tree cover. This matches more with the wintering habitat preferences of Tickell's Leaf-Warbler *P. affinis* rather than any other congeners. However, Tytler's Leaf-Warbler does not seem to have any strict preferences in associating with any particular *Phylloscopus* species for foraging; it seems to associate freely with those congeners that are common at a particular locality.

Identification tips for separating Tytler's Leaf-Warbler from other *Phylloscopus* warblers are described in Rasmussen (1998), which is now freely downloadable from the *Forktail* website (http://www.orientalbirdclub.org/publications/forktail/14.html). However, learning to identify its call will go a long way in determining the species density.

Acknowledgements

All the sightings were made while on a birding trip or bird survey along with several other birdwatchers some of them being organised bird surveys. Hearty thanks to all the people who accompanied me during the trip (see Table 1) and all the people who helped organise the bird surveys. Thanks to several others who responded to my query on the identification, calls and distribution of this species—Thejaswi Shivanand, Krys Kazmierczak, and Pamela Rasmussen, to name a few.

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Table 1. Chronological sight records of Tytler's Leaf-Warbler

Locality & coordinates	Date	Peer birders	Associating Congeners	Altitude in meters	Habitat	District, State	Biogeographical Area	Status
Panhala 16°49'N 74°07'E	23.xii.2002	Biju V.	*P. trochiloides*	950	Horticultural gardens, relict evergreen patch	Kolhapur, Maharahstra	Isolated hill in Deccan Plateau	Reserve forest; revenue land
Kemmengundi 13°33'N 75°45'E	16.iii.2003	V. Ramachandran & J. K. Joseph	*P. trochiloides*	1,400	Edges of a shola, horticultural gardens	Shimoga, Karnataka	Bababudan Hills, Western Ghats	IBA; reserve forest
Munnar 10°11'N 77°10'E	11–12.iii.2006	K. V. Eldhose, N. Lethaby & V. Ramachandran	*P. trochiloides*, *P. magnirostris*	1,800–2,000	Shola	Idukki, Kerala	Kannan Devan Hills, Western Ghats	Reserve forest
Sispara 11°12'N 76°27'E	10–12.xii.2006	Raju. S & Jayan N. P.	*P. affinis*	1,900–2,300	Shola	Palakkad, Kerala	Silent Valley, adjacent to Nilgiris, Western Ghats	IBA; national park
Elival 10°56'N 76°37'E	12.ii.2007	S. Dalvi, E. Kunhikrishnan & S. Nubro	*P. affinis*	2,000	Shola	Palakkad, Kerala	Palakkad Hills, Western Ghats	Reserve forest
Nandi Hills 12°53'N 78°12'E	25.ii.2007	J. Chacko	*P. humei*	1,400	Abandoned coffee plantations, horticultural gardens, relict evergreen patch	Bangalore, Karnataka	Isolated hills in Deccan Plateau	IBA; reserve forest; revenue land

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— Short Notes —

Indian White-backed Vultures *Gyps bengalensis* in the Sigur region of Tamil Nadu

Priya Davidar

Davidar, P. 2007. White-rumped Vultures *Gyps bengalensis* in the Sigur region of Tamil Nadu. *Indian Birds* 3 (4): 149.
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In June 2007, on a visit to Cheetal Walk, a property of the Sigur Nature Trust, located in the Sigur region (11º32'N 76º41'E), I spotted four White-rumped Vultures *Gyps bengalensis* circling overhead. They then disappeared further eastwards towards Sathyamangalam. In May 2007, Mr N. A. Naseer, a photographer, had sighted eight *G. bengalensis* resting on one of the trees further upstream along the Sigur River.

In May 2006, Dr William Noble had recorded 24 vultures feeding on a dead buffalo at Mangalapatti, which is about 50 km east of Sigur. To quote Dr Noble, "A buffalo had been shot not far from the place where we stayed at Mangalapatti. Tried to obtain images of the vultures as they flew in, but the blind was not adequate to prevent the vultures seeing me for they have such good eyesight. Gave up. However, on the way out in the Jeep just a bit later in the morning, we managed to use it as a blind and went off-road to reach as close as we could to a tree where vultures were gathered. Thus we managed to obtain some images before the vultures took off. There were also vultures gathered on other trees nearby. Not much farther down the road, we noticed vultures coming in to a place up-slope, but did not stop to investigate the place if something else dead (undetermined). Conservatively, we saw a total of at least 25 vultures. But there were probably more than that, which offers some hope for the future."

It is quite possible that the vultures I had seen in June 2007 were part of the same group sighted by Dr Noble, and probably have a nesting site somewhere in the region. The photographs sent by Dr Noble confirm these to be White-rumped vultures.

This site, Cheetal Walk, on the banks of the Sigur River used to host nesting colonies of White-rumped vultures on two large *Terminalia arjuna* trees in the 1960s and 1970s when the property was established. This nesting population had gradually declined since the 1970s and had completely disappeared by the early 1980's (Davidar & Davidar 2002). A few vultures were sighted in 2000, but were not seen again.

Let's hope the White-rumped vultures are back for good.

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Long-billed Vulture *Gyps indicus* breeding in Satpura Tiger Reserve, Madhya Pradesh, India

Raju Lal Gurjar

Gurjar, R. L. 2007. Long-billed Vulture *Gyps indicus* breeding in Satpura Tiger Reserve, Madhya Pradesh, India. *Indian Birds* 3 (3): 150.

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Satpura Tiger Reserve, Hosangabad district, Madhya Pradesh (22°15'–22°45'N 77°50'–78°30'E, 1,352 m a.s.l.) lies in the Satpura Range (Mahadeo Hills) in central India. Bori Wildlife Sancturay and Pachmarhi Wildlife Sanctuary are a part of Satpura Tiger Reserve. The forest types are tropical dry deciduous, tropical moist deciduous and sub-tropical forest. The biodiversity is stunning with over 1,300 species of plants, 50 species of mammals, 30 species of reptiles and 254 species of birds.

I have seen four species of vultures here, White-backed Vulture *Gyps bengalensis*, Long-billed Vulture *G. indicus*, King Vulture *Sarcogyps calvus* and Egyptian Vulture *Neophron percnopterus* in different areas of Satpura Tiger Reserve. A flock of White-backed Vultures and three King Vultures were spotted near the Jaharghat beat, while 34 Egyptian Vultures were seen in Churna village. From January–June 2006 I observed a breeding colony of 48 Long-billed Vultures on ledge of steep and high rocky cliffs in Kamti range forest, close to Kukara village.

Nesting site

Nests were spotted on a steep-sided cliff (22°31'54"N 78°15'43"E). They were constructed about 200 m above the ground and about 100 m from the top of the cliff. The Nagduvari River passes between two hills here. The nests were quite inaccessible to humans. No efforts were made ot approach the nests. Observations were made from a distance of 80 m from the base of the cliff. A total of 11 nests were counted between January and February 2006. The rocks around the nests were coated with white excrement.

Observations

27.i.2006: 11 nests spotted on the cliff.
25.ii.2006: Each of the nests had a chick in it.
15.iii.2006: 11 juveniles were observed perched on ledges and later flying around the hilltops. No adults sighted.
18.iv.2006: 48 vultures, juveniles and adults spotted flying around the hilltops.
05.vi.2006: 30 vultures were spotted in the morning (08:00–10:00hrs) and 33 in the evening (17:00–18:45hrs).

Clement Francis

Long-billed Vulture

Acknowledgements

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An unusual mating behavior of Blue Rock Pigeon *Columba Livia*

Anika Tere, Kartik Upadhyay & Pranav Pathak

Tere, A., Upadhyay, K. & Pathak, P. 2007. An unusual mating behaviour of Blue Rock Pigeon *Columba livia*. *Indian Birds* 3 (3): 151.

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The Blue Rock Pigeon *Columba livia* is a widespread resident of the Indian Subcontinent (Ali & Ripley 1983; Grimmett *et al.* 1998). It breeds throughout the year (Dharmakumarsinhji 1955; Ali & Ripley 1983; Patel 1986). It builds its nest at various places, such as, in houses, wells, temples, buildings, etc., and is not affected by the presence of human beings. We report here an unusual observation on the mating behaviour of the species.

On 12.ii.2006, a dead Blue Rock Pigeon was seen on its back, on the Viramgam–Nal Sarovar road, about 8km from Viramgam. It was perhaps dead for at least 4–5 days as its body was stinking and covered with red ants (Formicidae). Several other Blue Rock Pigeons were also present around it, on the roofs of houses, electric poles, etc. Suddenly a pigeon landed near the dead bird, moved in circles around it, making whooping sounds and started mating with it, as though it was alive. This behavior lasted for about two to three minutes and then the pigeon flew away. In its mating dance, and also as a preliminary to mating, a cock Blue Rock Pigeon puffs its neck feathers, makes a whooping sound and circles around a hen.

In several species the drive to mate is urgent and almost overpowering during the breeding season. Some birds will even copulate with stuffed dummies of conspecifics or even with a human hand **(**Welty 1901). A White-tailed Tropic Bird *Phaethon lepturus*, for example, has been recorded attempting to copulate with miniature gliders flown by hobbyists along the California coast (Hetrick & McCaskie 1965). Dharmakumarsinhji (1955) has shown a photograph in which a male Lesser Florican *Sypheotides indica* is attempting to mount a stuffed Stone-Curlew *Burhinus oedicnemus*.

Acknowledgments

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Malabar Grey Hornbill *Ocyceros griseus* nesting near human habitation

Abdulla Paleri

Paleri, A. 2007. Malabar Grey Hornbill *Ocyceros griseus* nesting near human habitation. *Indian Birds* 3 (4): 152–153.
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Introduction

India is home to nine species of hornbills (Ali & Ripley 1987) out of which four are found in Kerala (Ali 1969). The Malabar Grey Hornbill *Ocyceros griseus* is a Western Ghats endemic, whose existence could be threatened due to rampant and unchecked deforestation, resulting in a decline of suitable nesting and fruit trees, since the bird is a secondary cavity nester and predominantly frugivorous. Its nesting and breeding biology have been studied by Abdulali (1942), Mudappa (1994, 2000) and, Mudappa & Kannan (1997). Usually the bird nests in tall trees in forests but I report here it's nesting inside two villages in Kozhikode district of Kerala in 2003 and 2006.

Study area

The first instance of nesting was observed in 2003 at Thaleekara village, situated near Kuttiady River in Kozhikode district, *c.* 25 km west of the foothills of Wyanad. The second nest was seen in 2006 at Tharippilode village, in the same district, located *c.* 20 km west of Wyanad forests.

Methods

I visited the locations twice a week throughout the nesting period. The observations were made between 07:00 hrs and 18:00 hrs, from behind a blind. Pre- and post-nesting behaviours of the birds were noted. Height and diameter of the nest at breast height (DBH) were measured. Trees in the vicinity of the nest were identified. Fruits and seeds in the midden were collected to identify the trees that bore them.

Results

The male and female hornbills were first observed in Thaleekara locality in March 2003. Prior to starting the nesting activities the birds were seen flying around in the vicinity for a month. Thereafter they selected a natural cavity, which was formerly used by honeybees, in a 20 m tall coconut palm *Cocos nucifera*. This tree was located 25 m away from a house under construction and 35 m away from an occupied house. The nest cavity was at a height of 2.3 m above the ground and the DBH was 90 cm. The elliptical nest cavity was 17 cm long and 10 cm wide. The nest had a north-west orientation. The female sealed herself using her excreta to plug the nest cavity. Then she made a small slit (13 cm x 4 cm) on the shutter with her beak. During nest making the male flew about in the vicinity, attentively.

Once, some local people reported to me that they were alerted by the "*krew…krew…krew*" calls of the female. Upon inspection, they found a common mongoose *Herpestes edwardsii* attempting to demolish the nest. The female successfully defended the nest by holding out her beak through the slit and calling loudly.

The male fed the confined female four to six times a day (mean 5.4) for the first six weeks after incarceration. After the hatching of the egg(s), the male visited the nest six to eight times a day to feed the female and the squab. Hatching was confirmed six weeks after the incarceration of the female as egg fragments were observed beneath the tree and also the calls of the squab were heard.

When the male brought food to the female he first alighted on a nearby tree and watched around for some time. Once, seeing a House Crow *Corvus splendens* flying above the tree, he flew to a coconut palm far away from the nest tree. After making sure that there were no predators around he returned to the nest tree and spent some more time watching around to re-ensure the safety of the nest. When the female saw the male through the nest slit she responded by making soft begging calls and he proceeded to feed her. If the female did not extrude her beak through the slit the male returned without offering the food to her but he flew back after a short while. The chick also made soft calls along with the calls its mother. The four weeks old chick was seen putting out its beak through the slit in response to the arrival of the male. When the male came with food, it remained silent till it finished feeding the female and squab. Surprisingly, the bird apparently did not consider humans dangerous because it fearlessly fed the female despite my presence at a distance of 2 m from the nest.

The food items delivered consisted mainly of fruits, but 'animal' items were also brought, including grasshoppers, lizards (*Calotes* sp.), frogs and some unidentified insects. Fruits and seeds collected from the midden showed that the major share comprised figs, namely, *Ficus beghalensis*, *F. hispida*, *F. racemosa*, *F. tinctoria* and *F. callosa*. Fruits of *Mimusops elenji* were also offered to the inmates. The male regurgitated a maximum of 24 fruits in a bout of feeding. The male spent only 5–30 seconds (mean=24) at the nest, as it fed the female rapidly.

The midden beneath the tree consisted of tail, wing and down feathers indicating the moulting of the incubating bird. The bird squirted excreta up to 2.5 m away from the nest tree.

The trees within a 100 m radius of the nest tree included *C. nucifera, Areca catechu, Erythrina indica, F. hispida, Tamarindus indicus, Mangifera indica, Holigarna arnottiana, Artocarpus integrifolia, Borassus flabellifer, Pterocarpus marsupium* and *Cycas* sp.

The incubation period lasted 46 days and the fledging period, 42 days. In the morning of 23.v.2003 the incarcerated female broke open the nest and flew out, accompanied by the fledgling.

Another nest was observed in Tharippilode village in February 2006. The locality was a hilly terrain with a plenty of trees around. Pre- and post-nesting behaviour was as explained above. The bird nested in a natural cavity of a pezha tree *Careya arborea* at a height of 98 cm above the ground and 2.4 m away from a house. The tree was 10 m tall with a DBH of 75 cm. This nest was also oriented towards north-west .The fruits and seeds collected from the midden showed similar items as those observed in the earlier case but, additionally, there were seeds of *Strychnos nuxvomica*. The trees in the vicinity of the nest were identified as *C. nucifera, Areca catechu, Psidium guajava, A. integrifolia, M. indica, T. indicus, C. arborea, Macaranga peltata, Tectona grandis, M. elenji, Anacardium occidentale, Citrullus vulgaris, A. hirsutus* and *Myristica fragrans.*

Discussion

These observations appear significant because, first, the bird left the forest and nested inside villages. Second, it made nests close to human habitation. This may be due to the reduced numbers of suitable nest trees, thanks to the felling of trees for construction of roads. Officially (commercially?), trees with cavities are uneconomical. But the fact remains that such trees are crucial for the survival of hornbills. Decline in fruit trees also may have forced the birds to breed in the villages. Nests of hornbills at such low heights have not been recorded earlier. Malabar Grey Hornbills nest at heights ranging between 9–18 m from ground (Grimmett *et al.* 1998). Mudappa (2000) observed nesting at a height of 14 m. There is no previous record of their, nor that of any other hornbill species, nesting in *C. nucifera* and *C. arborea*. North-western orientation of nest in both cases agrees with the observation of Mudappa (2000) and could actually be helpful in minimizing the direct sunlight into the nest. However nesting of the hornbill in villages is not a good sign since it potentially indicates the loss of adequate breeding conditions in the forests. Conservation of hornbills solely depends on protection of trees, especially figs, and not only retaining but also viewing trees with cavities as an important ecological niche.

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The plight of Rollapadu Great Indian Bustard Sanctuary, Andhra Pradesh

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Mathew, R. M. 2007. The plight of Rollapadu Great Indian Bustard Sanctuary, Andhra Pradesh. *Indian Birds* 3 (4): 153–154.

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Rollapadu, in Kurnool district, Andhra Pradesh, is a designated sanctuary for the Great Indian Bustard *Ardiotis nigriceps*. It is basically flat open grassland with marginal lesser millets cultivated in patches. Due to the lack of rainfall –being situated in a semi arid region – the habitat is inhospitable to many life forms; only the hardy survive.

Among these, the mega-fauna are: Great Indian Bustard, Blackbuck *Antelope cervicapra*, Wolf *Canis lupus* and the Lesser Florican *Sypheotides indica*. For the Bustard and the Lesser Florican this is a critically important area since this is where they breed in relative safety.

Biodiversity at Rollapadu thrived due to its remoteness. There were times when, in just under an hour, forty-four bustards have been seen. Blackbucks were seen occasionally, as were wolves. Foxes *Vulpes bengalensis* were the commonest canids. Over the years, the numbers of blackbuck increased to

the detriment of bustard populations. Blackbuck fed on all edible grasses, which were the favoured food of grasshoppers and locusts, which in turn were food for the bustard. Problems due to the lack of food were compounded by grazing blackbuck, which caused the grass cover to disappear, resulting in poor nesting success of these ground nesters. This also had an adverse effect on the Lesser Florican whose habitat and habits are similar to its larger and more famous cousin. The problem only aggravated with cattle, sheep and goats grazing, thus competing for meagre resources, and a shepherd with dogs is a definite deterrent to wild herbivores. They also kept the wolves at bay, which occasionally took livestock but still mainly preyed on the blackbuck—as several kills are testimonial. Wild boar *Sus scrofa* were seen extremely rarely; mainly towards the lake and other thick cover.

Close to the sanctuary is Alagnoor tank, which hosts vast numbers of birds (mainly waterfowl) during winters. Large gaggles of Bar-headed Goose *Anser indicus* and occasionally vast flocks of Demoiselle Cranes *Grus virgo* are a common sight here. This tank has been deepened, extended and connected to the Telugu Ganga canal, making it a balancing reservoir. This has led the groundwater levels to rise. The sudden inflow of water into a semi-arid zone – the habitat of which is predominantly grassland with stunted trees and Phoenix palms – has altered the ecosystem considerably. All these changes will have a detrimental effect on the environment, the fauna and flora. Earth, brought from outside, could harbour seeds of Mesquite *Prosopis juliflora*, that hardy species which overruns local flora and provides excellent cover for Wild boar. The two would prove to be the bane for the wildlife and the villager alike.

The cropping pattern around Rollapadu is changing slowly but surely, steering away from traditional dryland crops towards water intensive cultivation, as can be seen with the cultivation of Sugarcane (*Sacarum* sp.). The soil, naturally deficient of nutrients, is being excessively doused with fertilizers and, sprayed copiously with chemical pesticides. The obvious result is a stunningly downward spiral in life forms. These changes are no more than two years old and already the damaging effects are manifest. As the farmer grows prosperous, fertilizer and pesticide salesmen descend upon him. The gritty soil, has so far been good only for the cultivation of meagrely profitable lesser millets,. Now soil will be imported for more remunerative produce, especially for the wet cultivation of sugarcane and paddy. This will definitely turn the entire ecology of the place and stand it on its head.

Rollapadu was famous for its harrier (*Circus* sp.) roosts. Several hundred birds (numbering close to two thousand) would roost in the fallow grasslands and fields. In the winter of 2005–2006 over two hundred were picked up dead—presumably poisoned by pesticides ingested by rodents, insects and birds, which make up their prey. Foxes too have disappeared, many being found dead, has much of the other wildlife. Bustards have become very difficult to come by and are extremely shy. Their numbers too are down as fewer and fewer birds are seen with each passing year. The Lesser Florican has not been sighted for over a year now. Clouds of Short-toed Larks *Calandrella cinerea* that were seen earlier have disappeared completely with just a vestige of their former numbers remaining.

With friends I visited the sanctuary on 13.i.2007. We were disappointed in the numbers of birds and other wildlife seen. Of the harriers, only Montague's *Circus pygargus* was spotted, about eight or nine individuals. Kestrels *Falco tinnunculus* were much fewer in numbers. A night drive with spotlight also proved futile, as even the Black-naped Hare *Lepus nigricollis* were absent. In fact, not an eye shone in the spotlight's beam. This is a dismal sign of things to come.

With the advent of water and the change in habitat it brings, wild boar numbers are increasing. These animals will cause great strain on the already fragile ecosystem. Their penchant for tubers and their omnivorous diet could put all ground-nesting birds at great risk. Their habit of entering standing crops will put them at odds with the local populace, which is already vexed with the blackbuck menace. Sugarcane brakes would provide them ample cover while paddy, excellent wallow.

The Rollapadu of the Great Indian Bustard and the wolf seems to be on the road of extermination.

Aasheesh Pittie

Rollapadu Great Indian Bustard Santuary

Vembanad water bird counts: 2001–2006 and beyond

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Santharam, V. 2007. Vembanad water bird counts: 2001–2006 and beyond. *Indian Birds* 3 (3): 155.
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Every year now, since 2001, I have regularly received copies of reports of water bird counts from Vembanad, brought out as a booklet by the Department of Forests & Wildlife, Government of Kerala and the Kottayam Nature Society, Kottayam. It is edited by Dr B. Sreekumar, who also co-ordinates this annual event.

Vembanad, for those who are not familiar, is a Ramsar site (declared in 2002) and an Important Bird Area (IBA) in central Kerala. It is the largest lagoon / backwater in the state and is some 79,400 ha in extent. Together with the adjoining network of rivers, marshes and paddy fields, it represents a unique tapestry of wetlands that include mangrove vegetation and a heronry.

The first survey (count) of the Vembanad wetlands was conducted in 1993 and I was one among the participants. I still have vivid memories of that visit. The early morning scene at Kaipuzha Muttu—the mist lifting slowly over the lush green paddy fields as the sun rose over the coconut palms, the placid waters of the Kaipuzha River with its wooden bridge and country canoes that made a picture postcard come alive, the large roost of cormorants (Phalacrocoracidae) (mostly Indian Shag *Phalacrocorax fuscicollis*) and Black-crowned Night-Herons *Nycticorax nycticorax*—these memories will be cherished forever.

The counts are held annually in January, following the same strategy used in 1993—dividing the entire area into ten sectors, each surveyed by a group of volunteers led by a seasoned birdwatcher. The counts cover representative habitats ranging from the open lake (lagoon), paddy fields, marshy areas, roost sites and nesting sites. All groups travel by foot, except those who survey the lake, and they use motorboats.

Each report presents area-wise and species-wise trends in bird populations in the form of tables and graphs, an introduction to the methodology used, a brief description of the various sites, a checklist of birds recorded, a list of participants, besides occasional site-specific articles on fishes, flora, *etc*., by experts. The present checklist of birds (pp. 40–44; Sreekumar 2006), which follows the nomenclature of Manakadan & Pittie (2001), stands at 193 species. Malayalam names are also provided. Perhaps the next report could include status and abundance, besides highlighting important species.

Though the checklist is growing, the trends in the water bird population are not encouraging. From a total of 36,498 birds counted in 1993 (Anon, 1993), the current years' figure represents an all-time low of 11,492 birds. This is somewhat surprising given the added protection and high awareness created by the print media on the importance of the wetland.

Several groups of birds show declining or fluctuating trends at this wetland and this demands a closer study. For instance, the total ducks (Anatidae) counted fluctuate from 25,241 (Anonymous 1993), 3,878 (Sreekumar 2002) to 19,234 (Sreekumar 2005). Herons (Ardeidae) have declined from 6,129 (Anonymous 1993) to 1,380 (Sreekumar 2006). Indian Shag from 2,240 (Anonymous 1993) to 274 (Sreekumar 2006), the lowest being 128 (Sreekumar 2005). Great Cormorants *P. carbo* have made an appearance more recently but numbers have not yet stabilised. Little Cormorants *P. niger* also varies in numbers: 4,562 (Anonymous 1993), 6,058 (Sreekumar 2001) and 589 (Sreekumar 2006).

Currently some of the identified threats to the wetland include reclamation for agriculture and plantations, pollution from industries, agro-chemicals and sewage, over-extraction of lime shell, increased tourism and 'bunding' of rivers that affect movements of fish and other fauna. Perhaps an intensive round-the-year study could help in identifying precise reasons for these population trends.

A remarkable feature of this count is its popularity among birdwatchers, mostly from different parts of Kerala and also some from adjacent states. The list of participants—ranging from 52 to 119 (apart from 15-18 forest department officials—is quite likely to exceed the species counted for the site! Incidentally Kerala takes the lead in organising bird surveys (as well as mammal censuses) and is a pioneer in having a long-standing partnership with a very supportive and enlightened forest department. In 1990, I took part in the first such survey organised at the Silent Valley National Park. This is a fruitful relationship as the benefits are mutual: the forest department can boast of having up-to-date information on the status of wildlife habitats as well as inventories of its fauna and the participants get a unique opportunity to visit areas not normally accessible as tourists and are able to pursue their interests. This is something other states too could emulate.

In the latest report, there is a reference to a conservation model that has been proposed by the forest department keeping in mind the ecological and economic values of the wetland for the large population of people that depend on the water body. The proposed conservation reserve also takes into account the livelihood security of these people. This proposal has been endorsed by six panchayats. One hopes this would eventually result in a win-win situation for both the wildlife as well as people.

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—Gleanings—

Antonov, A., Stokke, B. G., Moksnes, A. & Røskaft, E. 2006. Egg rejection in Marsh Warblers (*Acrocephalus palustris*) heavily parasitized by Common Cuckoos (*Cuculus canorus*). ***The Auk*** 123 (2): 419–430.

Just as there has been a co-evolutionary struggle for survival between plants and their arthropod predators, there has been a similar such "arms race" between parasitic cuckoos and their hosts. Over the millennia, they have evolved several adaptations and counter-adaptations to thwart each other. In this study, the authors found that more than a quarter (28%) of warbler nests were parasitized by the cuckoos, and that the cuckoos succeeded in this apparently because of clever egg mimicry, i.e., resemblance between the eggs of the parasite and the victim. The authors also supplemented their fieldwork with experimental data. They used four types of experimental "cuckoo eggs" with varying degrees of mimicry and discovered that the warblers rejected an astounding 37.5%–100% of alien, albeit, experimental eggs. Even in nature, the hosts rejected half of real cuckoo eggs. With high rates of parasitism *and* rejection, this fascinating and little-known host-parasite race has apparently reached an advanced stage. But perhaps the most intriguing finding in the study is that the warbler's ability to reject eggs was dependent on the extent of egg mimicry (i.e., cuckoo eggs that looked less like host eggs were thrown out at a higher rate than those that looked similar) but *not* on size differences. It is well known that the cuckoo, being larger than the warbler, lays bigger eggs. Apparently the victims do not perceive this size difference and they faithfully proceed to incubate them just as they would their own, much smaller eggs. Anyone browsing an ornithology textbook is bound to have been struck by photos of warblers feeding cuckoo fledglings much bigger than themselves. Obviously, the warbler's inability to perceive glaring size differences applies to eggs as well.

—R. Kannan

Outlaw, R. K., Voelker, G. & Outlaw, D. C. 2007. Molecular systematics and historical biogeography of the Rock-Thrushes (Muscicapidae: *Monticola*). ***The Auk*** 124 (2): 561–577.

As ornithology enters the 21st century, ornithologists have to increasingly resort to interdisciplinary techniques to solve complex questions. This paper is one example of such a study. The authors use a clever mixture of morphological, zoogeographical, and molecular evidence to reconstruct evolutionary and taxonomic relationships within the genus *Monticola*, which has had a turbulent taxonomic history. Systematists have long argued over where the genus should be placed. With 13 currently recognized species across Eurasia and Sub-saharan Africa (five in South Asia), the genus offers an excellent model to examine speciation and historical changes in geographical distributions as a result of continental drifts. Most species live in arid climes and show disjunct geographical ranges, and even those with similar distributions are segregated altitudinally.

Much of their findings centre on the re-drawing of African taxonomic lines and hence would be of little direct relevance to Indian birders. However, their conclusions regarding the origins and current distributions of species within this genus could be of interest to general ornithological readers. For example, they deduced that the genus arose around 5.5 million years ago (mya), and the lineage split further into the pliocene (5 mya) and pleistocene (1.8 mya) epochs. They propose that a combination of ecological and climatic variations, as well as dispersal, accounts for the current distributions and relationships within the species.

—R. Kannan

James, D. A. & Kannan, R. 2007. Wild Great Hornbills (*Buceros bicornis*) do not use mud to seal nest cavities. ***The Wilson Journal of Ornithology*** 119 (1): 118–121.

The title of this paper explicitly states its contents and their conclusion. Its perusal shows the importance of intelligent literature review and how that can be related to the type of field information collected to fill gaps in our recorded knowledge of bird behaviour. Observations over a century have been ambiguous about the method used by the Great Pied Hornbill *Buceros bicornis* to seal its nesting cavity. Did the birds use mud or excreta or food? The authors found no evidence of mud delivery or usage in 183hrs of observation at a nest in the Anaimalai Hills of the Western Ghats. They record, "The female was observed to only use her feces as plaster material. After exit of the female, the chick was observed to use exclusively its feces for resealing the entrance. The male did not participate in nest sealing" (p. 119). In fact they collected broken chunks of plaster that had fallen to the ground and had them analysed for chemical element composition. The verdict: fecal matter.

Ishtiaq, F., Gering, E., Rappole, J. H., Rahmani, A. R., Jhala, Y. V., Dove, C. J., Milensky, C., Olson, S. L., Peirce, M. A. & Fleischer, R. C. 2007. Prevalence and diversity of avian haematozoan parasites in Asia: a regional survey. ***Journal of Wildlife Diseases*** 43 (3): 382–398.

Asia witnesses the trans-continental migration of tens of millions of birds every year, potentially transmitting blood-borne Hematozoan parasites to other birds across far-flung localities. The continent has also been the origin of many birds that have been introduced worldwide by humans. Hawaii has borne the brunt of this influx of exotics.

Over 125 species of birds in the islands are from elsewhere, mostly originating in India and South-east Asia. These species are believed to have introduced Avian malaria and other blood-borne parasitic diseases into native bird populations, contributing to the demise of many indigenous bird species. In my monograph on the Common Myna *Acridotheres tristis*, I mentioned reports of the occurrence of two Avian malarial parasites, *Plasmodium relictum* and *P. circumflexum* in the blood of mynas from Hawaiian Islands (Kannan, R. & D. A. James, 2001. The Common Myna. *In* Birds of North America, Philadelphia Academy of Sciences and American Ornithologists Union, No. 583, pp. 20). Despite this reported occurrence of parasites in the blood of Asian birds, and given the history of worldwide transmission of these parasites, it is surprising that until this study, there had been no systematic survey of Hematozoans from this continent. This paper presents findings from an analysis of blood samples from 699 birds from Myanmar, India, and South Korea, collected over a 10-year period from 1994. Thirty-four per cent (238 birds) of the sample was found to be infected with Hematozoans. Using molecular techniques involving cytochrome-b gene sequences, the authors report 34 distinct lineages of *Plasmodium* and 41 of *Haemoproteus* in the sample. Myanmar and India shared lineages, and there was no such overlap in lineages between India and South Korea. The authors speculate that the lack of sharing of lineages between India and South Korea may be because migratory birds that ply between the two countries adopt different flyways. Conversely, Myanmar and India, being geographically adjacent to each other, may share migratory populations of many species and hence the congruence in Hematozoan lineages.

—Ragupathy Kannan

—In the news—

Compiled by Praveen J.

Its BirdRace time again!

The HSBC India BirdRaces are slowly expanding and gaining popularity. About eight Indian cities will conduct bird races starting from 11.xi.2007 in Kerala (three cities) with the grand finale at Bharatpur (Rajasthan) in February. Partly inspired by the Hong Kong Bird Race, the event is open to all, from experienced birdwatchers, lay-persons, beginners, students, well, just about anyone interested in birds and willing to give up a Sunday for birds and fun. This is a teamwork exercise with three to four persons comprising a team, which must include a good birder who is familiar with the site's / region's avifauna. Every team will remain as a composite unit for the entire day. There are no pre-determined routes or birding spots. The BirdRace begins at dawn and ends just before sunset. Thereupon, wherever the teams are, they take about an hour to converge at a venue for the prize distribution ceremony and dinner. Check out http://www.indiabirdraces.com for the recent updates and watch-out for announcements in regional e-groups.

New state bird for Himachal Pradesh

Himachal Pradesh has declared the exquisite and elusive Western Tragopan *Tragopan melanocephalus* or *Jujurana* as its locally known, as its new state bird. The Western Tragopan is a Near-Threatened species endemic to the Western Himalayas. Himachal's former state bird, Himalayan Monal *Lophophorus impejanus* was also the national bird of Nepal and hence was not considered unique for the state. Snow Leopard *Panthera uncia* would be the new state animal replacing Musk Deer *Moschus chrysogaster* and Pink Rhododendron *Rhododendron campanulatum* the state flower replacing the commoner *Rhododendron arboretum*. Decisions to designate these were taken in the 3rd State Wildlife Board Meeting at Shimla under the chairmanship of Chief Minister Virbhadra Singh on 10.viii.2007. According to a press release, the CM said the decision to grant exalted status to these rare species would go a long way in protecting them and also give a boost to their conservation efforts. Courtesy: http://himachalpr.gov.in.

Heronries in Kerala—hanging by a thin thread

Heronries in Kerala have not done well in recent years. The thickly populated state also happens to be a major breeding area for Oriental Darters *Anhinga melanogaster* and other mixed heronry species; and several of these heronries happen to be in public places close to human activity like hospitals, temples, bus stations and roadside trees. A smattering of news reports appear in press and e-groups annually, of heronry trees being cut, nestlings and hatching birds being caught and birds being shot. The heronries are extremely unpopular among the locals and there is much hue and cry to destroy the trees or nests to cleanse the area. The stench and noise that emanates from a mixed heronry is something which even the most ardent of bird-watchers would loath!

Local press reported the destruction of a heronry with nests of Little Cormorants *Phalacrocorax niger* from the premises of Lord Krishna temple at Guruvayur. Darter nestlings that tumble down from the trees around Kottayam bus station fall prey to stray dogs and are run-over by buses. A poacher was reportedly caught selling darter chicks by Forest Department officials at Thrissur.

It is generally felt that legislation cannot do much to protect mixed heronries in Kerala. However, awareness campaigns are slow and gradual and sometimes not very effective. Individual initiatives have been fairly successful in protecting a mixed heronry at Irinjalakuda where more than 60 pairs of darters nest. A sub-adult darter, which was being sold in a market at Kottayam, was bought by bird-watchers for Rs 30/- (!) and re-habilitated at Kumarokom. This bird has become quite popular with local children who bring fish to feed the bird. A heartening note was the report by B. Sreekumar and others from Vembanad Nature Club of 500 darters breeding at Kumarakom heronry in ix.2007; perhaps one of the very few sites away from direct human conflict.

Problems at each heronry are different and there is no single "magic" solution. Subsequent to regular heronry counts by Malabar Nature History Society (MNHS) in recent years, it is felt that greater effort should now be directed towards developing

and deploying effective conservation action at the key nesting sites rather than initiating and allocating funds for further heronry surveys. *Courtesy: KeralaBirder.*

Mitigating bird-hits on aircrafts—IAF plans to study birds

Indian Air Force (IAF) is planning to initiate a Bird Hazard Data Collection Project in major airports in the country and has invited volunteers with field experience in birds. The project, which shall run for a year in several airports across the country, aims to provide further details on the birds found in the areas close to airbases. The tentative list of airports identified for the project includes Adampur, Agra, Ambala, Bareilly, Chabua (in north-eastern India), Dindigul (or Hakimpet), Gorakhpur, Gwalior and Jamnagar (or Srinagar). Two volunteers are expected to be present at each airport for a period of 15 working days to conduct the study. Interested candidates may post their resume with relevant details to airportbirds.india@gmail.com.

Will Spoon-billed Sandpipers be gone—forever?

Populations of one of the world's most enigmatic birds have crashed over the last decade, and surveys, this summer, of its breeding grounds suggest that the situation is critical. The charismatic, and rather aptly named, Spoon-billed Sandpiper *Eurynorhynchus pygmeus* is now worryingly close to becoming extinct. With only 200–300 pairs left, and populations dropping by 70% in some key sites in the last couple of years, conservationists are calling for urgent help to tackle the decline.

The reasons for these losses are complex, involving changes to habitat during migration and loss of breeding areas. What is clear is that nest predation by foxes and disturbance by people and dogs could prove to be the final nail in the coffin for the few birds left.

Spoon-billed Sandpipers' spoon-shaped bill is still something of a mystery, the exact use for which is still unknown. They breed during June–July on a small strip of coastal Arctic tundra in Chukotka, north-eastern Russia. They then migrate thousands of kilometres to winter along coasts in South and South-East Asia. Spoon-billed Sandpipers are one of several species that depend on the rich tidal coasts of the Yellow Sea in East Asia, where they stop to refuel on their way to and from their breeding grounds. Recent surveys along the eastern coast of India, where it was known to winter sparingly, proved futile with no birds being recorded.

BirdLife International has launched the Preventing Extinctions initiative to try and turn the tide for species like Spoon-billed Sandpiper and is looking for companies, institutions and individuals to step up and provide funding by becoming BirdLife Species Champions. For more news, visit http://www.birdlife.org/news/pr/2007/10/spoon_billed_sandpiper.html.

More Protected Areas go online

Yet another protected area has created an official website for itself. Silent Valley National Park in Kerala launched its official website on the day when the 147.22 km^2 buffer zone was inaugurated and annexed to the national park. The well-designed pages include detailed sections on flora and fauna recorded from the park including a section on birds. However, it is heartening to note that the management plan of the park is also made available online through these pages. The other protected area in Kerala, which went online recently was Parambikulam Wildlife Sanctuary. These pages can be accessed at www.silentvalleynationalpark.org and www.parambikulam.org.

Vulture news

There is news of a mixed nature on vultures; from the sighting of White-rumped Vultures *Gyps benghalensis* in a new locality in Karnataka to the alarming decline of vultures in Gujarat and finally on education campaigns to save our vultures.

On 18.viii.2007, forest officials from Ankola reported twelve White-rumped Vultures behind Hattikere timber depot in northern Karnataka. From a video clip sent across to Vijay Mohan Raj, it was evident that some of the birds were juveniles. S. A. Hussain furthered on this sighting that he used to see White-rumped Vultures in late 1980s near Karwar, which is near Ankola and hence it could have been the same population still surviving. *Courtesy: BngBirds.*

However, as per a survey conducted by Gujarat Forest Department, there was a 40% fall in the population vultures in the state from an erstwhile 2,646 to 1,500. The news also claims that the fall in population is due to the rampant use of the banned drug diclofenac by cattle houses. The CCF, Wildlife, has identified two companies in Gujarat that manufacture this drug and have asked them to stop the production. The full Story can be found at http://www.dnaindia.com/report.asp?NewsID=1118622.

Meanwhile, Rajputana Society of Natural History, Udaipur has launched stickers and mementos in Hindi during the 53rd Wildlife Week at Chittorgarh, appealing to people to save the vultures by checking use of diclofenac in their area. *Courtesy: OrientalBirding.*

Open access Journal for Ornithology

Bentham Open, a forum that publishes Open Access journals is increasing its coverage this year by undertaking more journals in 2007 devoted to various disciplines in the fields of science and technology, the Open Ornithology Journal being one of these. These journals are freely accessible via the Internet in full text at no extra cost. Authors who publish in Open Access journals retain the copyright of their article. All published articles will be deposited immediately upon publication in PubMed Central and are indexed by Google and Google Scholar, therefore providing the maximum exposure to the articles. The Open Access *Journal for Ornithology* will publish research articles, reviews and letters in all areas of ornithology. Visit the journal's homepage for article submission at the following website www.bentham.org/open/tooenij.

From the field

A **Thick-billed Green Pigeon** *Treron curvirostra* was photographed at Lingambudhi Lake, Mysore by C. S. Kulashekara on 20.ix.2007; far away from its normal range in north-eastern India. The nearest

Kulashekara C S

Thick-billed Green Pigeon Lingambudhi lake, Mysore, Karnataka 20.ix.2007.

sightings are from Kolkota (West Bengal) by Sumit K. Sen and others. However, there are high chances that the bird was an escapee rather than a straggler. *Courtesy: www.indianaturewatch.net*.

Vinod Kumar Gupta and his friends had a good trip with falcon sightings and other raptors at Tal Chappar Wildlife Sanctuary in Rajasthan. During the field trip (22–23.ix.2007) they saw 4–5 **Laggar Falcons** *Falco jugger* with juveniles, **Red-necked Falcons** *F. chicquera*, an immature **Peregrine Falcon** *F. peregrinus* and a **Common Kestrel** *F. tinnunculus* apart from other raptors like **Tawny Eagle** *Aquila rapax*, **Steppe Eagle** *A. nipalensis*, **Pallid Harrier** *Circus pygargus* and **White-eyed Buzzard** *Butastur teesa*. *Courtesy: DelhiBird*.

Sumit K. Sen reported **Eurasian Hobby** *F. subbuteo* from the southern tip of Indian Sundarbans on 12.x.2007. The species is considerably rare in this region and there are very few records from the Indian Sunderbans. *Courtesy: Bengalbird.*

Subramanian Janakiraman reported about 50–60 **Spot-billed Pelicans** *Pelecanus philippensis* on 29.viii.2007 in the waters between ECR Road and old Mahabalipuram road at Chennai, while travelling by bus. He also later learnt from fellow commuters that this level of congregation is a regular feature here. *Courtesy: TamilBirds.*

About 66 **Dalmatian Pelicans** *P. crispus* were reported near the shore in a private sea-salt company in Abdasa, Kachchh, Gujarat on 9.x.2007 by Jugal Tiwari. *Courtesy: OrientalBirding.*

An exceptionally large cluth of 20 eggs was reported from a nest of **Lesser Whistling-Duck** *Dendrocygna javanica* from Mavoor wetlands, Kozhikode district, Kerala by Rajan C. P., in viii.2007. The average cluth size is 7–12 and the maximum reported is 17 (*Handbook*). *Courtesy: KeralaBirder*.

Rajesh Shah

European Bee-eater Kanakapura road, Bangalore 9.ii.2007.

Several people reported and photographed **European Bee-eaters** *Merops apiaster* on the Kanakapura road environs, Bangalore since first reported by Rajesh Shah on 1.ix.2007. The birds are on passage and have been recorded in previous years also during the same time of the year. *Courtesy: BngBirds.*

Clive Harris and his friends reported an adult and a chick **Baillon's Crake** *Porzana pusilla* at Dadri wetlands, Delhi among several other birds on 29.ix.2007. Breeding of Ballion's Crake around Delhi region has been sporadic. *Courtesy: Delhibird.*

Subsequent to the photograph of female **Crimson-backed Sunbird** *Leptocoma minima* from Nandi Hills (*Indian Birds* 3(3): 119), Bangalore, a male Crimson-backed Sunbird was reported by Mike Prince and others on 2.ix.2007 and later Mike Prince saw a female on 29.ix.2007. Could it be that the species always dispersed to Nandi Hills during monsoons and everyone overlooked it in previous years? *Courtesy: BngBirds.*

Himanshu Rathore photographed a *Phylloscopus* **warbler** (which had a ring) caught in the web of a Giant Wood Spider *Nephila sp.* in Bandhavgarh National Park, Madhya Pradesh. This is perhaps the second instance of such an incident reported from Indian forests after Anish Andheria's report of Black-naped Monarch *Hypothymis azurea* caught in the web of *Nephila maculata. Courtesy: www.indianaturewatch.net*.

Tracking migratory birds by satellites

The United States Geological Survey (USGS) Alaska Science Center is in the forefront of migration studies in the Pacific. A new release on September 10th announced the successful arrival of a female Bar-tailed Godwit *Limosa lapponica* after a marathon flight of 29,181 km in about 500 hours of flying to the same location in New Zealand, where it has been tagged with a satellite transmitter. Scientists use satellite transmitters to track and clock the complete migratory route of long distance migrants like Bar-tailed Godwit. The USGS Shorebird Research Group goes one step further by providing online updates on maps on the migrants' current position. The website http://alaska.usgs.gov/science/biology/shorebirds/index.html is worth visiting to have a peek at the results of shorebird studies in the Pacific.

Jalapaadom—wetland conservation through education

Ashoka Trust for Research in Ecology and the Environment **(**ATREE) launched a unique environmental education program, *Jalapaadom* ('Lessons on water'), targeting school and college students in the Vembanad backwaters area in Kerala. The Vembanad Lake is the largest humid tropical wetland ecosystem of the south west coast of India. Based on its rich biodiversity and socio-economic importance, the Vembanad Lake along with adjacent Kole Wetlands was declared a Ramsar site. The idea is to involve youngsters in the Communication, Education and Public Awareness (CERA) activities as per the Ramsar Convention, to address wetland degradation issues and to help restore Vembanad's socio-ecological system. Community Environmental Research Centre (CERC), an initiative of ATREE, with schools and colleges of Vembanad region as partners, facilitates the wetland education system. Visit www.vembanad.org for more information.

Life history of a 'lost bird' unearthed from rediscovered field notes

In 2000, the Zoological Museum, Amsterdam received a number of unpublished and previously unknown bird notes and manuscripts written by one August Spennemann. Among them was a detailed typed account of his observations of Javan Lapwing *Vanellus macropterus*, a species that has not been recorded with certainty since 1940 and is current classified as Critically Endangered by BirdLife International. His observations made in the late 1920s near Pamanukan, West Java province had descriptions of the calls and behaviour of this species, which was completely unknown to the scientific world. Spennemann lived on Java from *c.* 1915–1940 and these reports from areas with no previous reports of Javan Lapwings suggest that these birds may have wider habitat preferences. In the latest issue of *Bird Conservation International*, a fascinating paper gives a historical insight into the life of one of the world's rarest and most poorly known species, pieced together from newly translated notes of this German amateur ornithologist. For more on this news, visit http://www.birdlife.org/news/news/2007/10/BCI_Javan_Lapwing.html.

—Correspondence—

Arrival of Grey Wagtail Motacilla cinerea in Kodagu

I live in Western Ghats at Hebbettagiri, Kodagu district, Karnataka (12º27'N 75º43'E) at an altitude of 1,310 m a.s.l. I have been recording the arrival of the Grey Wagtail *Motacilla cinerea* in my garden since 1996. The details are given below.

Date	Time
04.ix.1996	0645 hrs
02.ix.1997	1015 hrs
03.ix.1998	0630 hrs
04.ix.1999	0645 hrs
12.ix.2000	1000 hrs
04.ix.2001	0620 hrs
02.ix.2002	0700 hrs
03.ix.2003	1730 hrs
26.viii.2004	1725 hrs
06.ix.2005	1640 hrs
2006	—
11.ix.2007	1750 hrs

Lt. Gen. B. C. Nanda PVSM, AVSM, IA (RETD)
Hebbettagiri, K. Nidugane P.O.
Madikeri 571201, Kodagu, Karnataka, India

Tawny Fish-owl Ketupa flavipes *in Arunachal Pradesh*

This refers to the short note entitled "Tawny Fish-owl *Ketupa flavipes* in Arunachal Pradesh, India" published in *Indian Birds* 3 (3): 108 (Ritschard & Marques 2007). The authors have mentioned that the origin of the bird recorded in Choudhury (1998) in Mehao may be treated as 'uncertain'—but why? In Choudhury (1998) it was clearly mentioned that it was snared near the forest inspection bungalow at Mayodiya. The Bombay Natural History Society, on the basis of its museum collections, identified the owl from its feathers and legs. Such doubts, without proper verification, can easily be expressed for any sight record, including that of Ritschard & Marques (2007).

Rasmussen & Anderton (2005) did not carry out any comprehensive ornithological survey in Arunachal Pradesh nor anywhere in north-eastern India but based their text on the available records, mainly museum and published. Hence, they could take the upper limit up to 2,100 m elevation on the basis of post-Ali & Ripley (1987) works as in their work the upper limit was 1,500 m. Singh (1994) and Choudhury (2003), which were also referred by Ritchard & Marques (2007), also found many species at much higher elevations than known earlier and which were not nullified just because Ali & Ripley (1987) did not say so. In future works, more such changes depending upon further research / field survey would invariably occur.

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Errata

Indian Birds Volume 3 Number 3 (May–June) 2007.
Page 101, column 1, fourth line from top: the scientific name of '*Kumbi*' is *Careya arborea*, not *Canarium strictum*.

Guidelines to contributors of *Indian Birds*

Indian Birds publishes original peer-reviewed papers, articles and notes about birds and birdwatching with an emphasis on South Asian birds (South Asia: Afghanistan, Bangladesh, Bhutan, India, the Maldives, Myanmar, Nepal, Pakistan and Sri Lanka). We welcome original articles on behaviour, ecology and conservation, counts and censuses (particularly those covering multiple years), annotated checklists, trip reports, book reviews, reviews of audio recordings, letters, announcements, notices, news from the birding world, etc. Authors proposing reviews of published material should first discuss this with the editor. All manuscripts should be easy to read and understand. Manuscripts will be edited for length, content and style, and will be sent to referees when appropriate. The editor will discuss contributions with authors and advise on modifications. Some basic guidelines are given below:

General When a bird species is first mentioned, both the English and scientific name must be given, thereafter the English name only. English and scientific names should follow Manakadan, R., & Pittie, A. 2001. Standardised common and scientific names of the birds of the Indian Subcontinent. *Buceros* 6 (1): i-ix, 1-38. Metric units and their international symbols must be used; dates and times should be of the form 1.i.2005 and 13:45hrs respectively. Numbers one to ten should be written in full, except when used with a measurement abbreviation or higher number, thus: five birds, but 5km and 5-15 birds. Numerals are used for all numbers greater than ten: 12, 120, 1,200 and 12,000.

Preparation and submission of manuscripts These should preferably be sent electronically as an email attachment or mailed on a PC-formatted floppy disk or CD-ROM to the contact addresses given below. The text, tables, figure legends (which must be self-explanatory) and appendices should be combined in one MS Word file. Alternatively, hard copies of typescripts, original maps and diagrams can be sent by mail, but this should be an option of last resort.

Images Photographs, artwork, maps, diagrams, etc. should be digitised and sent either as an email attachment or on CD-ROM. These should be in TIFF and at least 8"x11" in 300dpi resolution. JPEG files must be "maximum" quality, that is, at their minimum compression. Maps should be marked with a scale and north arrow.

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Ramki: http://www.wildventures.com/gallery/main.php

Sudhir Shivram: http://www.thejunglelook.com/gallery2/main.php

Back Cover photograph by Clement Francis
Long-billed Vulture *Gyps indicus*

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