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Journal of Threatened Taxa

The international journal of conservation and taxonomy

www.threatenedtaxa.org

ISSN 0974-7907 (Online) | ISSN 0974-7893 (Print)

COMMUNICATION

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Tariq Ahmed Shah, Vishal Ahuja, Martina Anandam & Chelmala Srinivasulu

26 January 2016 | Vol. 8 | No. 1 | Pp. 8333–8357 10.11609/jott.1774.8.1.8333-8357



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Journal of Threatened Taxa | www.threatenedtaxa.org | 26 January 2016 | 8(1): 8333-8357

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Abstract: The avifaunal diversity of Chamba District of Himachal Pradesh with emphasis on Kalatop-Khajjiar Wildlife Sanctuary and its surrounding was observed for a period of one year between 2012 and 2013. We observed 95 species of birds belonging to 12 orders and 40 families. Of this diversity, 41 species were abundant to common, 34 occasional and 20 rare. Most species were resident (83 species, including two species whose population increased during winters) and the rest were migrants (including nine winter migrating species and three summer migrating species). A total of 302 species of birds have been reported from Chamba District between 1884 and present. Analysis of recent published literature in conjunction with the present study reveals that 178 species of birds have been reported from Chamba District since 2000. The present study reports 11 new records for the district.

Keywords: Avifauna, Chamba District, checklist, Kalatop-Khajjiar Wildlife Sanctuary, new records.

DOI: http://dx.doi.org/10.11609/jott.1774.8.1.8333-8357 | **ZooBank:** urn:lsid:zoobank.org:pub:04535031-8C1A-46A3-B704-237E80666929

Editor: Rajiv S. Kalsi, Department of Zoology, M.L.N. College, Haryana, India.

Date of publication: 26 January 2016 (online & print)

Manuscript details: Ms # 1774 | Received 19 January 2015 | Final received 15 January 2016 | Finally accepted 19 January 2016

Citation: Shah, T.A., V. Ahuja, M. Anandam & C. Srinivasulu (2016). Avifauna of Chamba District, Himachal Pradesh, India with emphasis on Kalatop-Khajjiar Wildlife Sanctuary and its surroundings. *Journal of Threatened Taxa* 8(1): 8333–8357; http://dx.doi.org/10.11609/jott.1774.8.1.8333-8357

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Funding: This study is an offshoot of the Himalayan Langur Project funded by CLP, MBZ and RSG.

Conflict of Interest: The authors declare no conflict of interest. Funding sources had no role in study design, data collection, results interpretation and manuscript writing.

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Author Contribution: CS conceived the study; TAS, VA, MA conducted the field work; CS and TAS identified the birds and wrote the paper.

Acknowledgements: The authors would like to thank Dr. Sanjay Molur, Zoo Outreach Organization and WILD Society, Coimbatore, India for encouragement. We also thank the PCCF (Wildlife), Himachal Pradesh for study permit. The study is an offshoot of the Conservation Leadership Programme Grant on Himalayan Gray Langur Project. We also acknowledge the funding received through Rufford's Small Grant Programme and Mohamad Bin Zayed Species Conservation Fund. TAS and CS thank the Head, Department of Zoology, Osmania University, Hyderabad, Telangana State for facilities.













INTRODUCTION

Birds play vital roles in an ecosystem as they control pest populations through predation and scavenging, pollinate, and disperse seeds, leading to increase in plant coverage, and are also recognized as biological indicators (Gregory et al. 2003). Of the 9026 species of birds distributed across the world, India harbours about 1300 species, belonging to 88 families (Manakadan & Pittie 2001; Rasmussen & Anderton 2005). From the 1900s, detailed surveys of the Himalayan foothills cataloguing the birdlife were conducted. The oldest avifaunal surveys in Chamba District of Himachal Pradesh were conducted by Marshal (1884) and Littledale (1898), reporting a number of game birds, like the Cheer Pheasant, Western Tragopan, Himalayan Monal, Khalij Pheasant and the Chukor Partridge. The most recent studies of this area include that of Singh (2011) and Singh & Banyal (2013). Tak (1987), Mahabal (1992), Thakur et al. (2002), Pandey (1993) and Thakur (2008) also published notes on bird diversity in some selected areas of the Chamba District.

The present study deals with the distribution and status of avifauna of Kalatop-Khajjiar Wildlife Sanctuary and its surroundings, with observation on birds from other areas of Chamba District, Himachal Pradesh.

STUDY AREA AND METHODS

The Chamba District (32°11′30–33°13′6″N & 75°49′0–77°3′30″E), Himachal Pradesh, India is nestled in the foothills of the Himalaya, with many rural settlements distributed sparsely along the hills. Five wildlife sanctuaries, the Gamgul-Siyabehi Sanctuary (108.40km²), Kalatop-Khajjiar Sanctuary (17.17km²), Kugti Sanctuary (379km²), Sechu-Tuan Nalla Sanctuary (320.29km²) and Tundah Sanctuary are present in Chamba District (WII 2015).

The present study was conducted in Kalatop-Khajjiar Wildlife Sanctuary (32°31′56.4″N & 76°02′18.9″E) and its surroundings including Chamba (32°33′10.5″N & 76°07′32.6″E), Gajnui (32°31′48.7″N & 76°04′55.1E″), Gate (32°30′35.9″N & 76°04′12.2″E), Talai (32°30′51.2″N & 76°03′26.8″E) and Jot (32°29′14.4″N & 76°03′35.4″E). We also made occasional opportunistic surveys in other parts of Chamba District to document avifaunal diversity. These areas are located at altitudes ranging from 1,185–2,768 m. The climate is mainly sub-tropical or temperate, with some areas being sub-arctic. The mean annual rainfall is about 800mm, mainly during the monsoon period. During the winter most of the

areas remain covered under snow. Temperatures range from -10°C to 35°C. The Kalatop-Khajjiar Sanctuary (notified in 1958) (WII 2015) is located in the west of Chamba District and is one the oldest preserved forest of the Himachal Pradesh. The vegetation is mainly moist Deodar forest and western mixed coniferous forest with alpine pastures at certain higher elevations (Champion & Seth 1968). The dominating tree species are Deodar Cedrus deodara and Blue Pine Pinus wallichiana. Other common tree species inhabiting the place are Horse Chestnut Aesculus indica, Rhododendron Rhododendron arboreum, Oak Quercus ilex and Walnut Juglans regia. The shrubs comprise of Berberis sp., Prinsepia utilis, Rosa moschata, Rubus sp., Daphne sp. and Cannabis sativa. At higher elevations, Himalayan Silver Fir Abies pindrow and Yew Taxus baccata trees are more common.

The study was conducted from 05 May 2012 to 30 April 2013 and summarizes all the birds sighted. Streams, forests, grasslands and various potential bird habitats were explored to study the bird diversity. Surveys were carried out in early mornings and late evening hours (as the peak activity of birds lasts 1 or 2 hours after sunrise and before sunset) (Thakur 2010). Birds were sighted with the help of field binoculars (Olympus 8x40 magnification) and were photographed with Nikon D70s and Sony Camera with 70-300 mm zoom. Calls of some birds were also recorded. Identification was carried out with the help of various field guides like Ali (1949), Ali & Ripley (1983a,b), and Grimmett et al. (1999). The nomenclature is after Manakadan & Pittie (2004), and taxonomic arrangement is following Gill & Donsker (2014). The data recorded in each survey was kept separate and thus analyzed for relative abundance on the basis of frequency of sightings, as per MacKinnon & Phillips (1993) and Thakur (2008). The birds are categorized as A - Abundant (sighted more than 50 times), C - Common (sighted up to ten times), O - Occasional (sighted five times) and R - Rare (sighted once). Based on the presence/absence method, residential status of birds has been computed and different categories like resident, winter visitor and summer visitor were assigned.

RESULTS AND DISCUSSION

During the year-long study, a total of 95 avian species belonging to 12 orders and 40 families were recorded (Table I, Images 1–95). Of the total species recorded, 19 species have been found to be abundant, 22 common, 34 occasional and 20 rare in occurrence. Eighty-one species

of birds were resident species, nine species winter visitors, three species summer visitors and two species were residents whose population swelled during the winter season. Only two species of the total belonged to threatened category of IUCN with most being Least Concern.

Order-wise analysis showed that Passeriformes (69 species) dominated the avifaunal diversity, followed by Falconiformes (6 species), Galliformes and Coraciiformes (4 species each), Piciformes and Columbiformes (3 species each), and Pelecaniformes, Anseriformes, Charadriiformes, Psittaciformes, Strigiformes Apodiformes (1 species each). Family-wise analysis showed Muscicapidae (15 species) were most abundant, followed by Corvidae (6 species), Accipitridae and Motacillidae (5 species each), Phasianidae, Leiothricidae, Turdidae and Passeridae (4 species each), Columbidae, Pycnonotidae, Phylloscopidae, Paridae and Nectariniidae (3 species), Alcedinidae, Picidae, Campephagidae, Cisticolidae, Sturnidae and Fringillidae (2 species each), and Phalacrocoracidae, Anatidae, Falconidae, Scolopacidae, Psittacidae, Strigidae, Apodidae, Coraciidae, Upupidae, Megalaimidae, Hirundinidae, Monarchidae, Cinclidae, Prunellidae, Aegitalidae, Tichodromidae, Certhiidae, Dicaeidae, Zosteropidae, Emberizidae and Dicruridae represented by 1 species each (Fig. 1).

An earlier study of birds in Chamba District by Saikia et al. (2008) in Pangi Valley reports the presence of 62 species belonging to 19 families. Another study on the avifauna of south-eastern region of the district by Singh (2011) revealed the presence of 103 species recorded from Kuther-Batola-Holi-Deol-Nayagaon areas in 2008-2009. A later study of avifauna of Khajjiar Lake by Singh & Banyal (2013) reported the presence of 77 species of birds belonging to 31 families. The region from where Singh (2011) reported bird diversity forms the upper catchment area of the Ravi River in Chamba District. As our study pertains to the lower catchment area of the Ravi River, it is important to compare species sighted during our study with that of Singh (2011) to understand the altitudinal variations. As many as 40 species are such that were reported by Singh (2011) but not sighted by us (Table 1).

Taking into account the historic records and earlier studies (see Table 1), a total of 302 species have been recorded so far from Chamba District, of which 178 species have recorded from 2000 onwards and the rest (124 species) that have been reported earlier but have not been observed in the recent years (Table 1). Our study reports 11 new records for the district: *Anser*

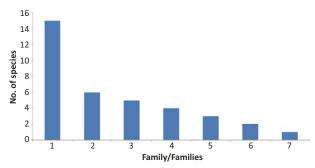


Figure 1. Family-wise of birds of Kalatop-Khajjiar Wildlife Sanctuary and its surroundings in Himachal Pradesh, India.

Key: 1 - Muscicapidae; 2 - Corvidae; 3 - Accipitridae and Motacillidae; 4 - Phasianidae, Leiothricidae, Turdidae and Passeridae; 5 - Columbidae, Pycnonotidae, Phylloscopidae, Paridae and Nectariniidae; 6 - Alcedinidae, Picidae, Campephagidae, Cisticolidae, Sturnidae and Fringillidae; and 7 - Phalacrocoracidae, Anatidae, Falconidae, Scolopacidae, Psittacidae, Strigidae, Apodidae, Coraciidae, Upupidae, Megalaimidae, Hirundinidae, Monarchidae, Cinclidae, Prunellidae, Aegitalidae, Tichodromidae, Certhiidae, Dicaeidae, Zosteropidae, Emberizidae and Dicruridae.

indicus Bar-headed Goose, Streptopelia turtur European Turtle Dove, Coracias garrulus European Roller, Anthus hodgsoni Oriental Tree Pipit, Turdus rubrocanus Chestnut Thrush, Pheonicurus frontalis Blue-fronted Redstart, Saxicola maurus Asian Stone Chat, Phylloscopus griseolus Olivaceous Leaf-Warbler, Phylloscopus subviridis Brook's Leaf Warbler, Dicaeum agile Thick-billed Flowerpecker, and Passer pyrrhonotus Sind Sparrow.

The important orders with more than five species recorded during the present study are – (i) Passeriformes: This order is represented by 69 species belonging to 25 families and important among them are Muscicapidae (15 species), Corvidae (6 species), Motacillidae (5 species), Leiothrichidae, Turdididae, and Passeridae (4 species each), Pycnonotidae, Paridae, Phylloscopidae and Nectariniidae (3 species each), and Campephagidae, Cisticolidae, Sturnidae, Fringillidae (2 species each), and (ii) Falconiformes (this order is represented by six species belonging to two families, 5 species in Accipitiridae and 1 species in Falconidae).

The annotated checklist of avifauna of Chamba District with those sighted in Kalatop-Khajjiar Wildlife Sanctuary and its adjoining areas is provided below:

1. Great Cormorant *Phalacrocorax carbo* (Linnaeus, 1758)

Occasional. Resident. Two records, one at Khajjiar Lake and another in Kuranh, near Jamwal Villa in Ravi River. This species has not been reported by recent workers in Chamba District. There is a historic record of this species by Marshal (1884).

2. Bar-headed Goose Anser indicus (Latham, 1790)

Occasional. Winter visitor. Recorded near Khajjiar Lake. This is the first report of this species from Chamba District.

3. Black Kite Milvus migrans (Boddaert, 1783)

Abundant. Resident/Winter visitor. Recorded in various places like Gajnui, Chamba, Jot, Talai, Dugli, Khajjiar, Saun, Chanadu and Miyari. Seen throughout the year, local populations increase during winter months. Earlier reported by many, conspicuously absent from Singh (2011).

4. Shikra Accipiter badius (Gmelin, 1788)

Occasional. Resident. Recorded in Gajnui, Saun and Gate. This species has not been reported by recent workers in Chamba District. There is a historic record of this species by Marshal (1884).

5. Himalayan Griffon Gyps himalayensis (Hume, 1869)

Occasional. Resident. Recorded in Jot, Talai, Dugli and Mortu. This species has been reported by Saikia et al. (2008), Singh (2011), Singh & Banyal (2013), but does not appear in earlier lists.

6. Egyptian Vulture *Neophron percnopterus* (Linnaeus, 1758)

Rare. Resident. Recorded near Gajnui. IUCN status - Endangered. This species has been reported by Saikia et al. (2008), Singh (2011), Singh & Banyal (2013), and also by Thakur et al. (2002).

7. Bearded Vulture *Gypaetus barbatus* (Linnaeus, 1758)

Rare. Resident. Recorded in Jot. This species has been reported Saikia et al. (2009) and Singh & Banyal (2013), but not by Singh (2011) and any of the earlier workers.

8. Common Kestrel *Falco tinnunculus* (Linnaeus, 1758)

Occasional. Resident. Recorded in Talai and Mortu. This species has not been reported by Singh & Banyal (2013) at Khajjiar Lake, while Saikia et al. (2008) and Singh (2011) reported its occurrence in Chamba District.

9. Chukor Alectoris chukar (J.E. Gray, 1830)

Rare. Resident. Recorded in Saun. This species has been earlier reported only by Saikia et al. (2008).

10. Impeyan Monal *Lophophorus impejanus* (Latham, 1790)

Occasional. Resident. Recorded in dense forests of Sallun Dhar at an altitude of 3200 m asl. This species has been earlier reported only by Singh & Banyal (2013).

11. Kaleej Pheasant *Lophura leucomelanos* (Latham, 1790)

Common. Resident. Recorded in dense forests of Gajnui, Saun, Talai, Jot, Miyari, Chamba, Kalatop-Khajjiar

Wildlife Sanctuary and Dugli. This species was also commonly sighted in forested tracts of Chamba District. This species has not been reported by Saikia et al. (2008) and other earlier workers.

12. Koklass Pheasant *Pucrasia macrolopha* (Lesson, 1829)

Rare. Resident. Recorded in Kalatop-Khajjiar Wildlife Sanctuary. This species has been earlier reported only by Singh (2011) and Singh & Banyal (2013).

13. Temminck's Stint Calidris temminckii (Leisler, 1812)

Rare. Summer Visitor. Recorded on the Ravi river bed in Chamba. This species has been earlier reported only by Singh (2011).

14. Blue Rock Pigeon Columba livia (Gmelin, 1789)

Abundant. Resident. Present almost everywhere except in very high altitudes. This species has been earlier reported only by Saikia et al. (2008) and Singh & Banyal (2013).

15. European Turtle Dove *Streptopelia turtur* (Linnaeus, 1758)

Occasional. Winter Visitor. Recorded in Talai in pine forests. This is the first report of this species from Chamba District.

16. Spotted Dove *Streptopelia chinensis* (Scopoli, 1786)

Common. Resident. Recorded in Gajnui, Saun, Talai, Dugli and Kalatop-Khajjiar Wildlife Sanctuary. This species has been historically reported only by Marshal (1884), missing from all recent checklists.

17. Slaty-headed Parakeet *Psittacula himalayana* (Lesson, 1832)

Abundant. Resident. Recorded in Gajnui, Talai, Kalatop-Khajjiar Wildlife Sanctuary, Saun, Dugli, Jot and Chamba. This species is common in all the forested tracts of Chamba District. This species has been earlier reported only by Singh & Banyal (2013).

18. Asian Barred Owlet *Glaucidium cuculoides* (Vigors, 1831)

Occasional. Resident. Recorded near Saun and Chamba bus stand. This species has been earlier reported by all workers except Saikia et al. (2008), and also historically reported by Marshal (1884).

19. House Swift Apus affinis (J.E. Gray, 1830)

Common. Resident. Recorded in plenty in Chamba township and its surroundings. This species has been reported by all earlier workers except Saikia et al. (2008) and Singh (2011).

20. Greater Pied Kingfisher *Megaceryle lugubris* (Temminck, 1834)

Occasional. Resident. Recorded in Kiri, Lagga and

Chamba. This species has been earlier reported by Singh (2011), and Singh & Banyal (2013).

21. White-breasted Kingfisher *Halcyon smyrnensis* (Linnaeus, 1758)

Occasional. Resident. Recorded in Chamba. This species has not been reported by recent workers, except Mahabal (1993). Historically, Marshal (1884) reported its occurrence in the Chamba region.

22. European Roller *Coracias garrulus* (Linnaeus, 1758)

Rare. Winter Visitor. Recorded in Gajnui. This is the first report of this species from Chamba District.

23. Common Hoopoe Upupa epops (Linnaeus, 1758)

Occasional, Summer Visitor. Recorded in Gajnui and Talai. This species has been reported by all recent workers, except Thakur et al. (2002).

24. Great Barbet *Megalaima virens* (Boddaert, 1783)

Abundant. Resident. Widely distributed in almost all forested regions of Chamba District. Calls were also frequently recorded. This species has been earlier reported only by Singh & Banyal (2013).

25. Large Scaly-bellied Green Woodpecker *Picus* squamatus (Vigors, 1831)

Abundant. Resident. Recorded in Kalatop-Khajjiar Wildlife Sanctuary, Gajnui, Saun, Talai and Jot. This species was also observed in other forested tracts of Chamba District. This species has been reported by all earlier workers including Mahabal (1993) and Thakur et al. (2002).

26. Brown-fronted Pied Woodpecker *Dendrocopos* auriceps (Vigors, 1831)

Common. Resident. Recorded in Kalatop-Khajjiar Wildlife Sanctuary, Gajnui, Saun, Talai, Jot and Miyari. Potential habitat of the bird is pine and quercus forests. This species has been earlier reported by Mahabal (1993) and all recent checklists except Singh & Banyal (2013).

27. Red-rumped Swallow *Hirundo daurica* (Linnaeus, 1771)

Abundant. Resident. Recorded in Gajnui, Talai, Saun, Jot and Chamba township. This species has been earlier reported only by Singh & Banyal (2013).

28. White Wagtail Motacilla alba (Linnaeus, 1758)

Occasional. Winter Visitor. Recorded in Khajjiar and Jot. This species was earlier reported by Singh (2011).

29. Large Pied Wagtail *Motacilla maderaspatensis* (Gmelin, 1789)

Occasional. Resident. Recorded on the Ravi river bed in Chamba. This species has been earlier reported by Singh & Banyal (2013). Historically, Marshal (1884)

reported its presence in Chamba region.

30. Grey Wagtail Motacilla cinerea (Tunstall, 1771)

Occasional. Winter Visitor. Recorded on the Ravi river bed in Chamba. This species has been earlier reported only by Singh (2011).

31. Oriental Tree Pipit *Anthus hodgsoni* (Richmond, 1907)

Occasional. Resident/Winter visitor. Recorded in Bhaloli near Chamba township. Seen throughout the year, local populations increase during winter months. This species is the first record for the Chamba District.

32. Upland Pipit Anthus sylvanus (Blyth, 1845)

Rare. Resident. Recorded in dry grasslands covered with stones in Gajnui and Jot areas of Chamba. This species has been earlier reported only by Singh (2011).

33. Long-tailed Minivet *Pericrocotus ethologus* (Bangs & Phillips, 1914)

Rare. Resident. Recorded in Gajnui and Talai area in pine forests. This species has been earlier reported by all except Saikia et al. (2008).

34. Scarlet Minivet *Pericrocotus flammeus* (Forster, 1781)

Rare. Resident. Recorded in Bhaloli near Chamba township. This species has been earlier reported by Mahabal (1993) and Saikia et al. (2008).

35. Himalayan Bulbul *Pycnonotus leucogenys* (Gray, 183)

Abundant. Resident. Recorded in Kalatop-Khajjiar Wildlife Sanctuary, Jot, Talai, Gate, Saun, Gajnui and Chamba. This species was also commonly observed in other parts of Chamba District. This species has been earlier reported by all except Saikia et al. (2008).

36. Red-vented Bulbul *Pycnonotus cafer* (Linnaeus, 1766)

Common. Resident. Recorded in Gajnui, Jot, Talai, Gate, Saun, Dugli and Khajjiar-Kalatop Wildlife Sanctuary. This species has been earlier reported by Mahabal (1993), and historically by Marshal (1884).

37. Asian Black Bulbul *Hypsipetes leucocephalus* (P.L.S. Muller, 1776)

Abundant. Resident. Recorded in almost all the forests of Chamba. This species has been earlier reported only by Singh & Banyal (2013).

38. Brown Dipper Cinclus pallasii (Temminck, 1820)

Occasional, Resident. Recorded in Karpok near a hill stream. This species has been earlier reported by all except Singh & Banyal (2013).

39. Rufous-breasted Accentor *Prunella strophiata* (Blyth, 1843)

Occasional, Resident. Recorded in Gajnui, Talai, Saun, Gate, Miyari and Jot. After Marshal (1884), this

constitutes the first report of this from Chamba District.

40. Scaly Thrush Zoothera dauma (Latham, 1790)

Rare. Resident. Recorded in pine forests of Talai. This species has been earlier reported by Mahabal (1993) and Singh (2011).

41. Chestnut Thrush *Turdus rubrocanus* (Hodgson, 1846)

Rare. Resident. Recorded in thick mixed forests of Kaithali. This is the first report of this species from Chamba District.

42. Dark-throated Thrush *Turdus ruficollis (*Pallas, 1776)

Rare. Winter Visitor. Recorded near Chanadu. This species has been earlier reported by Singh (2011).

43. Purple Cochoa purpurea (Hodgson, 1836)

Occasional. Resident. Recorded in Gajnui, Jot, Khajjiar and Talai. This species has been earlier reported only by Singh (2011).

44. Blue-headed Rock-Thrush *Monticola* cinclorhynchus (Vigors, 1832)

Resident. Summer Visitor. Recorded in Gajnui, Gate and Saun. This species has been earlier reported only by Singh & Banyal (2013).

45. Chestnut-bellied Rock-Thrush Monticola rufiventris (Jardine & Selby, 1833)

Rare. Resident. Recorded in Bandhal. This species has been earlier reported only by Thakur et al. (2002) and, Singh & Banyal (2013).

46. Blue Whistling-Thrush *Myiophonus caeruleus* (Scopoli, 1786)

Abundant. Resident. Recorded in Gajnui, Talai, Saun, Gate, Miyari, Jot and Chamba. This species was also found in other forested tracts of Chamba District. This species has been earlier reported by all.

47. Oriental Magpie-Robin *Copsychus saularis* (Linnaeus, 1758)

Occasional. Resident. Recorded in Gajnui, Jot, Talai and Chamba. This species has been earlier reported only by Mahabal (1993).

48. Blue-capped Redstart *Phoenicurus* coeruleocephala (Vigors, 1831)

Occasional. Winter Visitor. Recorded in Gajnui, Saun, Talai, Gate and Kalatop-Khajjiar Wildlife Sanctuary. This species has been earlier recorded by Singh (2011).

49. Blue-fronted Redstart *Phoenicurus frontalis* (Vigors, 1832)

Occasional. Resident. Recorded in Miyari, Saun, Gajnui and Jot. This is the first report of this species from Chamba District.

50. White-capped Redstart *Phoenicurus leucocephalus* (Vigors, 1831)

Common. Resident. Recorded on the river bed of Ravi in Chamba, Kuranh, Rathiyar, Jot and Mortu. This species has been earlier reported by all except Singh (2011).

51. Plumbeous Redstart *Phoenicurus fuliginosus* (Vigors, 1831)

Common. Resident. Recorded near on the river bed of Ravi in Chamba, Kuranh, Rathiyar, Jot and Mortu. This species has been earlier reported by all except Singh (2011).

52. Little Forktail Enicurus scouleri (Vigors, 1832)

Common. Resident. Recorded near streams and rivers in Gajnui, Rathiyar, Saun, Jot, Bamouth and Karpok. This species shows affinity to water body. This species has been earlier reported by all except Singh & Banyal (2013).

53. Spotted Forktail *Enicurus maculatus* (Vigors, 1831)

Common. Resident. Recorded in Gajnui, Saun, Bamouth, and Dugli near streams. This species has been earlier reported by all except Saikia et al. (2008).

54. Grey Bushchat Saxicola ferrea (Gray, 1846)

Abundant. Resident. Recorded in Gajnui, Talai, Saun, Gate, Miyari, Dugli, Jot and Kalatop-Khajjiar Wildlife Sanctuary. This species has been earlier reported by all, except Saikia et al. (2008).

55. Asian Stonechat Saxicola maurus (Pallas, 1773)

Common. Resident. Recorded in Gajnui, Saun, Gate, Jot and Kalatop-Khajjiar Wildlife Sanctuary. This is the first report of this species in Chamba District.

56. Desert Wheatear *Oenanthe deserti* (Temminck, 1825)

Rare. Winter visitor. Recorded once only in Talai. This species has been earlier reported by Singh (2011).

57. Ultramarine Flycatcher *Ficedula superciliaris* (Jerdon, 1840)

Rare. Resident. Recorded in Gajnui and Bandhal. This species has been earlier reported by all recent workers except Singh (2011).

58. Verditer Flycatcher *Eumyias thalassina* (Swainson, 1838)

Common. Resident. Recorded in Gajnui, Jot, Khajjiar, Talai, Miyari and Chanadu. This species was observed in agriculture fields, orchards and quercus forests. This species has been earlier reported by all recent workers except Thakur et al. (2002) and Saikia et al. (2008).

59. Asian Paradise-Flycatcher *Terpsiphone paradisi* (Linnaeus, 1758)

Rare. Resident. Recorded in Bandhal. This species has been earlier reported only by Singh (2011).

60. Streaked Laughingthrush *Garrulax lineatus* (Vigors, 1831)

Abundant. Resident. Recorded in thick shrubrey of almost all parts of Chamba. This species has been earlier reported by all recent workers.

61. Variegated Laughingthrush *Garrulax variegatus* (Vigors, 1831)

Occasional. Resident. Recorded in Jasorgad and Gajnui. This species has been earlier reported by all recent workers except Thakur et al. (2002) and Saikia et al. (2008).

62. Bar-throated Minla *Minla strigula* (Hodgson, 1838)

Common. Resident. Recorded in Gajnui, Talai, Jot, Miyari and Kalatop-Khajjiar Wildlife Sanctuary. This has been earlier reported by Singh (2011).

63. Rufous Sibia *Heterophasia capistrata* (Vigors, 1831)

Occasional. Resident. Recorded in Gajnui and Chanadu. This species has been earlier reported only by Singh & Banyal (2013).

64. Brown Prinia *Prinia crinigera* (Hodgson, 1836)

Occasional. Resident. Recorded in meadows of Gajnui. This species has been earlier been reported by Singh (2011).

65. Graceful Prinia *Prinia gracilis* (Lichtenstein, 1823)

Occasional. Resident. Recorded in Gajnui. This species has not been reported by any recent workers except historically by Marshal (1884).

66. Olivaceous Leaf-Warbler *Phylloscopus griseolus* (Blyth, 1847)

Common. Resident. Recorded in Gajnui, Jot, Talai, Miyari and Kalatop-Khajjiar Wildlife Sanctuary. This species was mostly found on *Berberis* sp. This is the first report of this species from Chamba District.

67. Brooks' Leaf-Warbler *Phylloscopus subviridis* (Brooks, 1872)

Abundant. Winter visitor. Recorded in Gajnui, Jot, Kalatop-Khajjiar Wildlife Sanctuary and Chamba. This species is commonly found in dense shrubs throughout Chamba District. This is the first report of this species from Chamba District.

68. Grey-headed Flycatcher-Warbler Seicercus xanthoschistos (G.R. Gray & J.E. Gray, 1846)

Common. Resident. Recorded in Gajnui, Jot, Talai, Miyari and Kalatop-Khajjiar Wildlife Sanctuary. This species was mostly found on *Berberis* sp. This species has been earlier reported only by Singh (2011).

69. Black-throated Tit *Aegithalos concinnus* (Gould, 1855)

Abundant. Resident. Recorded throughout the Chamba District. This species has been earlier reported by all recent workers, except Saikia et al. (2008).

70. Spot-winged Crested Tit *Parus melanolophus* (Vigors, 1831)

Occasional. Resident. Recorded in Dugli, Talai and Jot. This species has been earlier reported by all recent workers.

71. Great Tit Parus major (Linnaeus, 1758)

Common. Resident. Recorded in Gajnui, Jot, Talai and in almost all parts of Chamba. This species has been earlier reported by all recent workers including Thakur et al. (2002).

72. Green-backed Tit *Parus monticolus* (Vigors, 1831)

Common. Resident. Recorded in Gajnui, Jot, Talai, Dugli, Miyari, Chanadu and Kalatop-Khajjiar Wildlife Sanctuary. Found in shrubs near hill streams. This species has been earlier reported by all recent workers.

73. Wallcreeper *Tichodroma muraria* (Linnaeus, 1766)

Occasional. Resident. Recorded in Mortu and Kodul. This species has been earlier reported only by Saikia et al. (2008).

74. Bar-tailed Tree-Creeper *Certhia himalayana* (Vigors, 1831)

Occasional. Resident. Recorded in Gajnui, Dugli, Gate and Khajjiar. This species has been earlier reported only by Singh & Banyal (2013).

75. Thick-billed Flowerpecker *Dicaeum agile* (Tickell, 1833)

Occasional. Resident. Recorded in Gajnui, Gate, Chanadu, Miyari and Jot. This is the first report of this species from Chamba District.

76. Purple Sunbird *Nectarinia asiatica* (Latham, 1790)

Occasional. Resident. Recorded in Bhandal. This species has been earlier reported only by Mahabal (1993), and historically by Marshal (1884).

77. Crimson sunbird *Aethopyga siparaja* (Raffles, 1822)

Occasional. Resident. Recorded in Gajnui and Bhandal. This species has been earlier reported by Mahabal (1993), Singh (2011), and historically by Marshal (1884).

78. Fire-tailed Sunbird *Aethopyga ignicauda* (Hodgson, 1836)

Rare. Resident. Recorded in Bhandal. This species has been earlier reported only by Singh (2011), and historically by Marshal (1884).

79. Oriental White-eye Zosterops palpebrosus

(Temminck, 1824)

Common. Resident. Recorded in Gajnui, Gate, Talai and Jot. This species has been earlier reported by all recent workers, except Saikia et al. (2008).

80. Rock Bunting Emberiza cia (Linnaeus, 1766)

Occasional. Resident. Recorded in Gajnui, Talai and Jot. This species has been earlier reported by all recent workers.

81. Scarlet Rosefinch *Carpodacus erythrinus* (Pallas, 1770)

Occasional. Resident. Recorded in Gajnui, Jot, Rathiyar and Talai. This species has been earlier reported by all recent workers except Singh & Banyal (2013).

82. Pink-browed Rosefinch *Carpodacus rhodochroa* (Vigors, 1831)

Occasional. Resident. Recorded in Gajnui, Talai, Rathiyar and Jot. This species has been earlier reported only by Singh (2011).

83. House Sparrow *Passer domesticus* (Linnaeus, 1758)

Abundant. Resident. Recorded in Gajnui, Gate, Talai, Dugli and Saun. This species has been earlier reported by all recent workers.

84. Sind Sparrow Passer pyrrhonotus (Blyth, 1844)

Common. Resident. Recorded in Chalei, Gajnui, Saun and Gate. This is the first report of this species from Chamba District.

85. Russet Sparrow *Passer rutilans* Temminck, (1835)

Abundant. Resident. Recorded in Gajnui, Saun, Talai, Dugli, Gate and Kalatop-Khajjiar Wildlife Sanctuary. This species has been earlier reported by all recent workers except Singh (2011).

86. Eurasian Tree Sparrow *Passer montanus* (Linnaeus, 1758)

Abundant. Resident. Recorded in Gajnui, Jot, Talai, Saun, Gate, Dugli and Jot. Saun has good population of this species. This species has not been earlier reported by any recent workers. Historically, Marshal (1884) reported its occurrence in Chamba region.

87. Common Myna Acridotheres tristis (Linnaeus, 1766)

Abundant. Resident. Recorded in many areas of the Chamba District. This species has been earlier reported by all workers except Saikia et al. (2008).

88. Jungle Myna Acridotheres fuscus (Wagler, 1827)

Rare. Resident. Recorded in Chamba. This species has been earlier reported by all recent workers except Saikia et al. (2008).

89. Bronzed Drongo *Dicrurus aeneus* (Vieillot, 1817) Common. Resident. Recorded in Gajnui, Rathiyar,

Chamba, Saun and Jot. This species has been earlier reported only by Singh (2011).

90. Black-headed Jay *Garrulus lanceolatus* (Vigors, 1831)

Common. Resident. Recorded in Kalatop-Khajjiar Wildlife Sanctuary, Gajnui, Saun, Talai, Gate and Tissa. This species has been earlier reported by all recent workers.

91. Yellow-billed Blue Magpie *Urocissa flavirostris* (Blyth, 1846)

Abundant. Resident. Recorded in Kalatop-Khajjiar Wildlife Sanctuary, Gajnui, Saun, Talai, Dugli, Gate, Miyari, Chanadu and Bhandal. This species has been earlier reported only by Singh & Banyal (2013).

92. Indian Treepie *Dendrocitta vagabunda* (Latham, 1790)

Common. Resident. Recorded in Chamba and Gajnui. This species has been earlier reported by Mahabal (1993) and Singh (2011).

93. Grey Treepie *Dendrocitta formosae* (Swinhoe, 1863)

Common. Resident. Recorded in Daresh, Chiplodu and Gajnui. This species has been earlier reported only by Singh & Banyal (2013).

94. Spotted Nutcracker *Nucifraga caryocatactes* (Linnaeus, 1758)

Rare. Resident. Recorded in Bairagad. This species has been earlier reported only by Singh (2011).

95. Jungle Crow Corvus macrorhynchos (Wagler, 1827)

Abundant, Resident. Recorded in many areas of the Chamba District. This species has been earlier reported by all recent workers.

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Table 1 Birds of Chamba District, Himachal Pradesh, India

	Species	Present study	Singh & Banyal (2013)	Singh (2011)	Saikia et al. (2008)	Thakur et al. (2002)	Earlier reports			
Podice	Podicepidiformes: Podicepedidae									
1	Tachybaptus ruficollis Little Grebe	-	-	-	-	-	Marshal (1884)			
Pelecar	niformes: Phalacrocoracidae									
2	Phalacrocorax carbo Great Cormorant	+	-	-	-	-	Marshal (1884)			
3	Phalacrocorax niger Little Cormorant	-	-	-	-	-	Marshal (1884)			
Ciconiif	formes: Ardeidae									
4	Ardea cinerea Grey Heron	-	-	-	-	-				
5	Bubulcus ibis Cattle Egret	-	+	-	-	-				
6	Botaurus stellaris Great Bittern	-	-	-	-	-	Marshal (1884)			
Anserif	ormes: Anatidae									
7	Anser indicus Bar-headed Goose	+	-	-	-	-				
8	Anas crecca Common Teal	-	-	-	-	-	Marshal (1884)			
9	Anas platyrhynchos Mallard	-	-	-	-	-	Marshal (1884)			
10	Anas strepera Gadwall	-	-	-	-	-	Marshal (1884)			
11	Anas penelope Eurasian Wigeon	-	-	-	-	-	Marshal (1884)			
12	Anas clypeata Northern Shoveler	-	-	-	-	-	Marshal (1884)			
13	Aythya nyroca Ferruginous Pochard	-	-	-	-	-	Marshal (1884)			
Falconi	formes: Accipitridae		•	•						
14	Accipiter gentilis Northern Goshawk	-	-	-	-	-	Marshal (1884)			
15	Milvus migrans Black Kite	+	+	-	+	-	Marshal (1884), Mahabal (1992)			
16	Accipiter badius Shikra	+	-	-	-	-	Marshal (1884)			
17	Buteo rufinus Long-legged Buzzard	-	-	-	-	-	Marshal (1884)			
18	Accipiter nisus Eurasian Sparrow-Hawk	-	-	-	-	-	Marshal (1884)			
19	Buteo buteo Common Buzzard	-	-	+	-	-				
20	Spizaetus nipalensis Mountain Hawk Eagle	-	-	-	+	-	Marshal (1884)			
21	Hieraateus fasciatus Bonelli's Eagle	-	-	-	-	-	Marshal (1884)			
22	Aquila chrysaetos Golden Eagle	-	-	-	-	-	Marshal (1884)			
23	Aquila heliaca Imperial Eagle	-	-	-	-	-	Marshal (1884)			
24	Ictinaetus malayensis Black Eagle	-	+	+	+	-				
25	Sarcogyps calvus Red-headed Vulture	-	-	-	-	-	Marshal (1884)			
26	Aegypius monachus Cinereous Vulture	-	+	+	-	+	Marshal (1884)			
27	Gyps fulvus Eurasian Griffon	-	-	+	-	-				
28	Gyps himalayensis Himalayan Griffon	+	+	+	+	-				
29	Gyps bengalensis White-rumped Vulture	-	-	-	-	-	Mahabal (1993)			
30	Neophron percnopterus Egyptian Vulture	+	+	+	+	+				
31	Gypaetus barbatus Bearded Vulture	+	+	-	+	-				
32	Spilornis cheela Crested Serpent-Eagle	-	-	-	-	-	Marshal (1884)			
Falconi	dae				1					
33	Falco subbuteo Eurasian Hobby	-	-	-	-	-	Marshal (1884)			
34	Falco tinnunculus Common Kestrel	+	-	+	+	-				
Gallifor	rmes: Phasianidae	1	1		1	ı				
35	Tetraogallus himalayensis Himalayan Snowcock	-	-	-	-	-	Marshal (1884)			
36	Alectoris chukar Chukar	+	-	+	+	-				

	Species	Present study	Singh & Banyal (2013)	Singh (2011)	Saikia et al. (2008)	Thakur et al. (2002)	Earlier reports
37	Francolinus francolinus Black Francolin	-	-	-	-	-	Marshal (1884)
38	Perdicula asiatica Jungle Bush-Quail	-	-	-	-	-	Marshal (1884)
39	Arborophila torqueola Hill Partridge	-	-	+	+	-	
40	Tragopan melanocephalus Western Tragopan	-	-	-	-	-	Marshal (1884), Littledale (1898), Tak (1987), Katoch et al. (1997)
41	Lophophorus impejanus Impeyan Monal	+	+	+	-	-	
42	Lophura leucomelanos Kaleej Pheasant	+	+	+	-	-	
43	Gallus gallus Red Junglefowl	-	-	-	-	-	Marshal (1884)
44	Pucrasia macrolopha Koklass Pheasant	+	+	+	-	-	
45	Catreus wallichii Cheer Pheasant	-	-	-	-	-	Littledale (1898),
Turnici	l dae						Ripley (1961)
46	Turnix sp. Buttonguail	_	_	_	_	_	Marshal (1884)
	rmes: Rallidae						Warshar (1994)
47	Gallinula chloropus Common Moorhen	_	_	_	_	_	Marshal (1884)
48	Fulica atra Common Coot		_	_	_	_	Marshal (1884)
	iriiformes: Jacanidae	-	-	-	-	-	Iviarsilai (1884)
	Hydrophasianus chirurgus Pheasant-tailed		1				I
49	Jacana Jacana	-	-	-	-	-	Marshal (1884)
Recurv	irostridae						
50	Himantopus himantopus Black-winged Stilt	-	+	-	-	-	
Charad	riidae						
51	Vanellus indicus Red-wattled Lapwing	-	-	-	-	-	Marshal (1884)
52	Vanellus duvaucelii River Lapwing	-	-	-	-	-	Marshal (1884)
Scolopa	acidae						
53	Tringa glareola Wood Sandpiper	-	-	-	-	-	Marshal (1884)
54	Actitis hypoleucos Common Sandpiper	-	-	-	-	-	Marshal (1884)
55	Gallinago solitaria Solitary Snipe	-	-	-	-	-	Marshal (1884)
56	Gallinago nemoricola Wood Snipe	-	-	-	-	-	Marshal (1884)
57	Gallinago gallinago Common Snipe	-	-	-	-	-	Marshal (1884)
58	Scolopax rusticola Eurasian Woodcock	-	-	-	-	-	Marshal (1884), Littledale (1898)
59	Calidris temminckii Temminck's Stint	+	-	+	-	-	
Laridae	2				•		
60	Chlidonias hybridus Whiskered Tern	-	-	-	-	-	Marshal (1884)
61	Sterna hirundo Common Tern	-	-	-	-	-	Marshal (1884)
Columb	biformes: Columbidae						
62	Treron sphenura Wedge-tailed Green- Pigeon	-	+	-	-	+	Marshal (1884)
63	Columba leuconota Snow Pigeon	-	-	+	+	-	
64	Columba rupestris Hill Pigeon	-	-	-	+	-	Marshal (1884)
65	Columba livia Blue Rock Pigeon	+	+	+	+	-	
66	Columba eversmanni Yellow-eyed Pigeon	-	-	-	-	-	Marshal (1884)
67	Columba palumbus Common Wood Pigeon	-	-	-	-	-	Marshal (1884)
68	Columba hodgsonii Speckled Wood Pigeon	-	-	+	-	-	
69	Streptopelia turtur European Turtle-Dove	+	-	-	-	-	
	Streptopelia orientalis Oriental Turtle Dove	_	+	+	+	_	

	Species	Present study	Singh & Banyal (2013)	Singh (2011)	Saikia et al. (2008)	Thakur et al. (2002)	Earlier reports
71	Streptopelia decaocto Eurasian Collared Dove	-	-	-	-	-	Marshal (1884)
72	Streptopelia tranquebarica Red Collared- Dove	-	-	-	-	-	Marshal (1884)
73	Streptopelia chinensis Spotted Dove	+	-	-	-	-	Marshal (1884)
Psittaci	formes: Psittacidae						
74	Psittacula krameri Rose-ringed Parakeet	-	-	-	-	-	Mahabal (1992)
75	Psittacula cyanocephala Plum-headed Parakeet	-	+	-	-	+	Mahabal (1993)
76	<i>Psittacula himalayana</i> Slaty-headed Parakeet	+	+	-	-	-	
Cuculif	ormes: Cuculidae						
77	Hierococcyx sparverioides Large Hawk- Cuckoo	-	-	-	-	-	Mahabal (1993)
78	Cuculus micropterus Indian Cuckoo	-	-	-	-	-	Marshal (1884)
79	Cuculus canorus Common Cuckoo	-	+	-	-	+	Marshal (1884)
80	Eudynamys scolopacea Indian Koel	-	-	-	-	-	Mahabal (1993)
81	Phaenicophaeus leschenaultii Sirkeer Malkoha	-	-	-	-	-	Marshal (1884)
82	Centropus sinensis Greater Coucal	-	-	-	-	-	Marshal (1884)
Strigifo	rmes: Strigidae		1			1	
83	Otus spilocephalus Mountain Scops Owl	-	-	-	-	-	Marshal (1884)
84	Otus sunia Oriental Scops Owl	-	-	-	-	-	Marshal (1884)
85	Otus bakkamoena Collared Scops Owl	-	-	-	-	-	Marshal (1884)
86	Bubo coromandus Dusky Eagle-Owl	_	-	-	_	_	Marshal (1884)
87	Glaucidium brodiei Collared Owlet	_	_	_	_	_	Marshal (1884)
88	Glaucidium cuculoides Asian Barred Owlet	+	+	+	_	+	Marshal (1884)
89	Strix leptogrammica Brown Wood Owl	_	_	-	_	_	Marshal (1884)
90	Asio otus Long-eared Owl	_	_	_	_	_	Marshal (1884)
	ulgiformes: Caprimulgidae						Warshar (1004)
91	Caprimulgus macrurus Large-tailed Nightjar	-	+	+	_	+	Marshal (1884)
92	Caprimulgus affinis Savannah Nightjar		_	-	-	_	Marshal (1884)
		-	-	-	-	_	IVIdISIIdi (1864)
	ormes: Apodidae						I
93	Collocalia brevirostris Himalayan Swiftlet	-	-	+	+	-	
94	Apus melba Alpine Swift	-	-	+	-	-	
95	Apus apus Common swift	-	-	-	+	-	
96	Apus pallidus Pallid Swift	-	-	-	-	-	Marshal (1884)
97	Apus pacificus Fork-tailed Swift	-	-	-	+	-	Marshal (1884)
98	Apus affinis House Swift	+	+	-	-	+	Marshal (1884)
Coracii	formes: Alcedinidae		T	1			
99	Megaceryle lugubris Greater Pied Kingfisher	+	+	+	-	-	Marshal (1884)
100	Alcedo atthis Common Kingfisher	-	-	-	-	-	Marshal (1884)
101	Halcyon smyrnensis White-breasted Kingfisher	+	+	-	-	-	Marshal (1884), Mahabal (1993)
Meropi	idae						
102	Merops orientalis Little Green Bee-eater	-	-	-	-	-	Mahabal (1993)
Coracii	dae						
103	Coracias garrulous European Roller	+	-	-	-	-	
Upupid	ae						

	Species	Present study	Singh & Banyal (2013)	Singh (2011)	Saikia et al. (2008)	Thakur et al. (2002)	Earlier reports
104	Upupa epops Common Hoopoe	+	+	+	+	-	
Piciforr	nes: Megalaimidae						
105	Megalaima virens Great Barbet	+	+	-	-	-	
106	Megalaima asiatica Blue-throated Barbet	-	-	-	-	-	Marshal (1884), Mahabal (1993)
Picidae				T			1
107	Jynx torquilla Eurasian Wryneck	-	-	-	-	-	Marshal (1884)
108	Picus squamatus Large Scaly-bellied Green Woodpecker	+	+	+	+	+	Mahabal (1993)
109	Picus canus Black-naped Green Woodpecker	-	+	+	-	+	Mahabal (1993)
110	Dinopium benghalense Black-rumped Flameback	-	-	-	-	-	Marshal (1884)
111	<i>Dendrocopos himalayensis</i> Himalayan Pied Woodpecker	-	+	-	+	-	
112	Dendrocopos auriceps Brown-fronted Pied Woodpecker	+	-	+	+	-	Mahabal (1993)
113	Dendrocopos macei Fulvous-breasted Woodpecker	-	-	-	-	-	Marshal (1884)
114	<i>Dendrocopos mahrattensis</i> Yellow-crowned Woodpecker	-	-	-	-	-	Marshal (1884)
Passeri	formes: Alaudidae			1	1	1	
115	Alauda gulgula Oriental Skylark	-	-	-	-	-	Marshal (1884)
Hirund	inidae						
116	Hirundo rupestris Eurasian Crag Martin	-	-	-	-	-	Marshal (1884)
117	Hirundo rustica Barn Swallow	-	-	-	-	-	Mahabal (1993)
118	Hirundo smithii Wire-tailed Swallow	-	-	-	-	-	Marshal (1884)
119	Hirundo daurica Red-rumped Swallow	+	+	-	-	+	Marshal (1884)
120	Delichon nipalensis Northern House Martin	-	-	-	-	-	Marshal (1884)
Motaci	llidae						
121	Motacilla alba White Wagtail	+	-	+	-	-	
122	Motacilla maderaspatensis Large Pied Wagtail	+	+	-	-	-	Marshal (1884)
123	Motacilla citreola Citrine Wagtail	-	-	-	-	-	Marshal (1884)
124	Motacilla flava Yellow Wagtail	-	-	-	+	-	
125	Motacilla cinerea Grey Wagtail	+	-	+	+	-	
126	Anthus rufulus Paddyfield Pipit	-	-	-	-	-	Marshal (1884)
127	Anthus campestris Tawny Pipit	-	-	-	-	-	Mahabal (1993)
128	Anthus trivialis Tree Pipit	-	-	-	-	-	Marshal (1884)
129	Anthus hodgsoni Oriental Tree Pipit	+	-	-	-	-	
130	Anthus sylvanus Upland Pipit	+	-	+	-	-	
Campe	phagidae				•		,
131	Coracina melaschistos Black-winged Cuckooshrike	-	-	-	-	-	Marshal (1884)
132	Pericrocotus cinnamomeus Small Minivet	-	-	-	-	-	Mahabal (1993)
133	Pericrocotus ethologus Long-tailed Minivet	+	+	+	-	-	
134	Pericrocotus flammeus Scarlet Minivet	+	-	-	+	-	Mahabal (1993)
Pycnon	otidae						
135	Pycnonotus leucogenys Himalayan Bulbul	+	+	+	-	-	
136	Pycnonotus cafer Red-vented Bulbul	+	-	-	-	-	Marshal (1884), Mahabal (1993)

	Species	Present study	Singh & Banyal (2013)	Singh (2011)	Saikia et al. (2008)	Thakur et al. (2002)	Earlier reports
137	Hypsipetes leucocephalus Asian Black Bulbul	+	+	-	-	-	
Laniida	e		•				
138	Lanius vittatus Bay-backed Shrike	-	+	+	+	-	Marshal (1884)
139	Lanius tephronotus Grey-backed Shrike	-	-	-	-	-	Marshal (1884)
140	Lanius schach Long-tailed Shrike	-	-	+	+	-	
141	Lanius meridionalis Southern Grey Shrike	-	-	-	-	-	Marshal (1884)
Cinclid	ae					'	
142	Cinclus pallasii Brown Dipper	+	-	+	+	-	
Troglo	lytidae		'			•	
143	Troglodytes troglodytes Winter Wren	-	-	+	-	-	
Prunell	idae		,				
144	Prunella collaris Alpine Accentor	-	-	+	-	-	
145	Prunella himalayana Altai Accentor	-	-	-	-	-	Marshal (1884)
146	Prunella strophiata Rufous-breasted	+	_	_	_	_	Marshal (1884)
	Accentor	•					
Turdida			T		1		
147	Zoothera citrina Orange-headed Thrush	-	-	-	-	-	Marshal (1884)
148	Zoothera mollissima Plain-backed Thrush	-	-	-	-	-	Marshal (1884)
149	Zoothera dauma Scaly Thrush	+	-	+	-	-	Mahabal (1993)
150	Turdus unicolor Tickell's Thrush	-	-	-	-	-	Marshal (1884)
151	Turdus albocinctus White-collared Blackbird	-	+	+	-	+	Marshal (1884)
152	Turdus boulboul Grey-winged Blackbird	-	+	-	-	+	Marshal (1884)
153	Turdus merula Eurasian Blackbird	-	-	-	-	-	Marshal (1884), Mahabal (1993)
154	Turdus rubrocanus Chestnut Thrush	+	-	-	-	-	
155	Turdus ruficollis Dark-throated Thrush	+	-	+	-	-	
156	Turdus viscivorus Mistle Thrush	-	+	+	-	+	Marshal (1884)
157	Cochoa purpurea Purple Cochoa	+	-	+	-	-	
Muscic	apidae					•	
158	Monticola cinclorhynchus Blue-headed Rock-Thrush	+	+	-	-	-	
159	Monticola rufiventris Chestnut-bellied Rock-Thrush	+	+	-	-	+	
160	Monticola solitarius Blue Rock Thrush	-	-	-	-	-	Marshal (1884)
161	Myophonus caeruleus Blue Whistling- Thrush	+	+	+	+	-	
162	Luscinia pectoralis White-tailed Rubythroat	-	-	+	-	-	
163	Luscinia brunnea Indian Blue Robin	-	-	+	-	-	
164	Tarsiger cyanurus Orange-flanked Bush Robin	-	-	-	+	-	
165	Tarsiger chrysaeus Golden Bush Robin	-	-	-	-	-	Marshal (1884)
166	Copsychus saularis Oriental Magpie-Robin	+	-	-	-	-	Mahabal (1993)
167	Saxicoloides fulicata Indian Robin	-	-	-	-	-	Mahabal (1993)
168	Phoenicurus coeruleocephala Blue-capped Redstart	+	-	+	-	-	
169	Phoenicurus ochruros Black Redstart	-	-	-	-	-	Mahabal (1993)
170	Phoenicurus erythrogaster White-winged Redstart	-	-	-	-	-	Marshal (1884), Mahabal (1993)
171	Phoenicurus frontalis Blue-fronted Redstart	+	-	-	-	-	

	Species	Present study	Singh & Banyal (2013)	Singh (2011)	Saikia et al. (2008)	Thakur et al. (2002)	Earlier reports
	Phoenicurus leucocephalus White-capped Redstart	+	+	-	+	-	
1/3 1	Pheonicurus fuliginosus Plumbeous Redstart	+	+	-	+	-	
174 E	Enicurus scouleri Little Forktail	+	-	+	+	-	
175 E	Enicurus maculatus Spotted Forktail	+	+	+	-	-	
176 5	Saxicola torquata Common Stonechat	-	+	-	+	-	
177 5	Saxicola caprata Pied Bushchat	-	-	-	+	-	
178	Saxicola ferrea Grey Bushchat	+	+	+	-	-	
179 5	Saxicola maurus Asian Stonechat	+	-	-	-	-	
180 (Oenanthe picata Variable Wheatear	-	-	-	-	-	Marshal (1884)
181 (Oenanthe deserti Desert Wheatear	+	-	+	-	-	
182 /	Muscicapa sibirica Dark-sided Flycatcher	-	+	+	-	-	
183 /	Muscicapa latirostris Brown Flycatcher	-	-	-	-	-	Mahabal (1993)
	Ficedula strophiata Rufous-gorgeted Flycatcher	-	-	+	-	-	
185 F	Ficedula westermanni Little Pied Flycatcher	-	+	+	-	+	
IXb I	Ficedula hyperythra Snowy-browed Flycatcher	-	-	-	-	-	Marshal (1884)
	Ficedula superciliaris Ultramarine Flycatcher	+	+	-	+	-	
188 F	Ficedula tricolor Slaty-blue Flycatcher	-	-	+	+	-	
189 E	Eumyias thalassina Verditer Flycatcher	+	+	+	-	-	
190 /	Niltava sundara Rufous-bellied Niltava	-	+	+	-	-	Marshal (1884)
	Cyornis rubeculoides Blue-throated Flycatcher	-	-	-	-	-	Marshal (1884)
Monarchi	idae						
	<i>Terpsiphone paradisi</i> Asian Paradise- Flycatcher	+	-	+	-	-	
Rhipidurio	dae						
193 F	Rhipidura hypoxantha Yellow-bellied Fantail	-	-	+	-	-	
194 F	Rhipidura albicollis White-throated Fantail	-	-	+	-	-	
Stenostiri	idae						
195 1	Culicicapa ceylonensis Grey-headed Canary Flycatcher	-	-	+	-	-	
Timaliidae	e						
196 1	Pomatorhinus erythrogenys Rusty-cheeked Scimitar Babbler	-	-	-	-	-	Marshal (1884)
	Stachyridopsis pyrrhops Black-chinned Babbler	-	-	+	-	-	
Leiothrich	nidae						
198 L	Garrulax albogularis White-throated Laughingthrush	-	-	-	-	-	Marshal (1884)
199 L	Garrulax leucolophus White-crested Laughingthrush	-	-	-	-	-	Marshal (1884)
	Garrulax rufogularis Rufous-chinned Laughingthrush	-	-	-	-	-	Marshal (1884)
201	Garrulax lineatus Streaked Laughingthrush	+	+	+	+	-	
	Garrulax variegatus Variegated Laughingthrush	+	+	+	-	-	
	Garrulax erythrocephalus Red-headed Laughingthrush	-	-	-	-	-	Marshal (1884)
204	Minla strigula Bar-throated Minla	+	-	+	-	-	
205 F	Heterophasia capistrata Rufous Sibia	+	+	-	-	-	

	Species	Present study	Singh & Banyal (2013)	Singh (2011)	Saikia et al. (2008)	Thakur et al. (2002)	Earlier reports
206	Leiothrix lutea Red-billed Leiothrix	-	-	-	-	-	Mahabal (1993)
Pnoepy	gidae						
207	Pnoepyga immaculata Nepal Wren Babbler	-	-	+	-	-	
Cisticol	idae						
208	Prinia atrogularis Hill Prinia	-	-	-	-	-	Marshal (1884)
209	Prinia buchanani Rufous-fronted Prinia	-	-	-	-	-	Marshal (1884)
210	Prinia crinigera Brown Prinia	+	-	+	-	-	
211	Prinia gracilis Graceful Prinia	+	-	-	-	-	Marshal (1884)
212	Orthotomus sutorius Common Tailorbird	-	-	-	-	-	Marshal (1884), Mahabal (1993)
Cettiida	ae						
213	Tesia castaneocoronata Chestnut-headed Tesia	-	-	+	-	-	
214	Cettia pallidipes Pale-footed Bush Warbler	-	-	-	-	-	Marshal (1884)
215	Cettia fortipes Brownish Flanked Bush Warbler	-	-	+	-	-	
216	Cettia brunnifrons Grey-sided Bush warbler	-	-	-	-	-	Marshal (1884)
217	Abroscopus superciliaris Yellowish-bellied Warbler	-	-	-	-	-	Marshal (1884)
Phyllos	copidae						
218	Phylloscopus collybita Common Chiffchaff	-	+	+	-	+	Mahabal (1993)
219	Phylloscopus affinis Tickell's Leaf Warbler	-	-	+	-	-	
220	Phylloscopus griseolus Olivaceous Leaf- Warbler	+	-	-	-	-	
221	Phylloscopus maculipennis Ashy-throated Warbler	-	-	+	-	-	
222	Phylloscopus chloronotus Lemon-rumped Warbler	-	-	+	+	-	
223	Phylloscopus subviridis Brooks' Leaf- Warbler	+	-	-	-	-	
224	Phylloscopus inornatus Yellow-browed Warbler	-	-	-	-	-	Marshal (1884)
225	Phylloscopus humei Hume's Warbler	-	-	+	-	-	
226	Phylloscopus trochiloides Greenish Leaf- Warbler	-	+	+	+	-	Marshal (1884)
227	Phylloscopus magnirostris Large-billed Leaf Warbler	-	-	+	+	-	
228	Phylloscopus occipitalis Western-crowned Leaf Warbler	-	-	+	-	-	
229	Phylloscopus reguloides Blyth's Leaf Warbler	-	-	-	-	-	Marshal (1884)
230	Seicercus burkii Gold-spectacled Flycatcher- Warbler	-	+	-	-	-	
231	Seicercus whistleri Whistler's Warbler	-	-	+	-	-	
232	Seicercus xanthoschistos Grey-headed Flycatcher-Warbler	+	-	+	-	-	
Acroce	phalidae		1	ı		1	
233	Acrocephalus agricola Paddy-field Warbler	-	-	-	-	-	Marshal (1884)
Sylviida	ne		1	1	1	ı	I
234	Sylvia curruca Lesser Whitethroat	-	-	-	+	-	
Regulio			1	Г		1	T
235	Regulus regulus Goldcrest	-	-	+	+	-	
Aegitha			1	I	1	I	T
236	Aegithalos concinnus Black-throated Bushtit	+	+	+	-	-	

	Species	Present study	Singh & Banyal (2013)	Singh (2011)	Saikia et al. (2008)	Thakur et al. (2002)	Earlier reports
Paridae	2						
237	Cephalopyrus flammiceps Fire-capped Tit	-	-	-	-	-	Marshal (1884)
238	Sylviparus modestus Yellow-browed Tit	-	-	-	-	-	Marshal (1884)
239	Parus rufonuchalis Rufous-naped Tit	-	-	-	+	-	
240	Parus melanolophus Spot-winged Crested Tit	+	+	+	+	-	
241	Parus dichrous Grey-crested Tit	-	-	+	-	-	
242	Parus major Great Tit	+	+	+	+	+	
243	Parus monticolus Green-backed Tit	+	+	+	+	-	
244	Parus xanthogenys Black-lored Tit	-	-	-	+	-	Marshal (1884)
Sittidae	•						
245	Sitta cashmirensis Kashmir Nuthatch	-	-	-	-	-	Marshal (1884)
246	Sitta himalayensis White-tailed Nuthatch	-	-	-	+	-	Marshal (1884)
247	Sitta leucopsis White-cheeked Nuthatch	-	+	-	-	-	
Tichod	romidae						
248	Tichodroma muraria Wallcreeper	+	-	-	+	-	
Certhii	dae				1	,	
249	Certhia familiaris Eurasian Treecreeper	-	-	-	+	-	
250	Certhia himalayana Bar-tailed Treecreeper	+	+	-	-	-	
Dicaeid	lae						
251	Dicaeum agile Thick-billed Flowerpecker	+	-	-	-	_	
252	Dicaeum erythrorhynchos Pale-billed Flowerpecker	-	-	-	-	-	Mahabal (1993)
253	Dicaeum ignipectus Fire-breasted Flowerpecker	-	-	+	-	-	
Family					•		
254	Nectarinia asiatica Purple Sunbird	+	-	-	-	-	Marshal (1884), Mahabal (1993)
255	Aethopyga siparaja Crimson Sunbird	+	-	+	-	-	Marshal (1884), Mahabal (1993)
256	Aethopyga ignicauda Fire-tailed Sunbird	+	-	+	-	-	Marshal (1884)
Zostero	ppidae						
257	Zosterops palpebrosus Oriental White-eye	+	+	+	-	-	
258	Yuhina flavicollis Whiskered Yuhina	-	-	+	-	-	Marshal (1884)
Emberi	zidae						
259	Emberiza lathami Crested Bunting	-	+	+	-	+	
260	Emberiza cia Rock Bunting	+	+	+	+	-	
261	Emberiza pusilla Little Bunting	-	-	-	-	-	Marshal (1884)
262	Emberzia stewarti White-capped Bunting	-	-	-	+	-	
Fringill	idae			l.	1		
263	Serinus pusillus Fire-fronted Serin	-	-	+	-	-	
264	Carduelis spinoides Yellow-breasted Greenfinch	-	+	-	+	-	
265	Carduelis carduelis European Goldfinch	-	-	+	+	-	
266	Leucosticte nemoricola Plain Mountain Finch	-	-	+	-	-	
267	Callacanthis burtoni Spectacled Finch	-	-	-	-	-	Marshal (1884)
268	Carpodacus nipalensis Dark-breasted Rosefinch	-	-	-	+	-	
269	Carpodacus erythrinus Scarlet Rosefinch	+	_	+	+	-	

	Species	Present study	Singh & Banyal (2013)	Singh (2011)	Saikia et al. (2008)	Thakur et al. (2002)	Earlier reports
270	Carpodacus rhodochroa Pink-browed Rosefinch	+	-	+	-	-	
271	Carpodacus puniceus Red-fronted Rosefinch	-	-	-	-	-	Marshal (1884)
272	Pyrrhula aurantiaca Orange Bullfinch	-	-	-	+	-	Marshal (1884)
273	<i>Pyrrhula erythrocephala</i> Red-headed Bullfinch	-	-	+	-	-	
274	Mycerobas icterioides Black-and-Yellow Grosbeak	-	+	+	-	-	
275	Mycerobas melanozanthos Spot-winged Grosbeak	-	-	-	-	-	Marshal (1884), Mahabal (1993)
Passeri	dae						
276	Passer domesticus House Sparrow	+	+	+	+	-	
277	Passer pyrrhonotus Sind Sparrow	+	-	-	-	-	
278	Passer rutilans Russet Sparrow	+	+	-	+	-	
279	Passer montanus Eurasian Tree Sparrow	+	-	-	-	-	Marshal (1884)
280	Petronia xanthocollis Chestnut-shouldered Petronia	-	-	-	-	-	Marshal (1884)
Estrildi	dae				•	•	
281	Amandava amandava Red Avadavat	-	-	-	-	-	Mahabal (1993)
282	Lonchura punctulata Scaly-breasted Munia	-	-	-	-	-	Mahabal (1993)
Sturnic	lae				'		
283	Sturnus pagodarum Brahminy Starling	-	-	-	-	-	Marshal (1884), Mahabal (1993)
284	Sturnus vulgaris Common Starling	-	-	-	-	-	Marshal (1884)
285	Acridotheres tristis Common Myna	+	+	+	-	+	Marshal (1884), Mahabal (1993)
286	Acridotheres fuscus Jungle Myna	+	+	+	-		
Oriolid	ae						
287	Oriolus oriolus Eurasian Golden Oriole	-	-	-	-	-	Marshal (1884), Mahabal (1992)
Dicruri	dae						
288	Dicrurus macrocercus Black Drongo	-	+	-	-	+	Mahabal (1993)
289	Dicrurus leucophaeus Ashy Drongo	-	-	+	-	-	Marshal (1884)
290	Dicrurus aeneus Bronzed Drongo	+	-	+	-	-	
Corvida	ne						,
291	Garrulus glandarius Eurasian Jay	-	+	-	-	-	
292	Garrulus lanceolatus Black-headed Jay	+	+	+	+	-	
293	Urocissa flavirostris Yellow-billed Blue Magpie	+	+	-	-	-	
294	Urocissa erythrorhyncha Red-billed Blue Magpie	-	+	-	-	+	
295	Dendrocitta vagabunda Indian Treepie	+	-	+	-	-	Mahabal (1993)
296	Dendrocitta formosae Grey Treepie	+	+	-	-	-	
297	Pica pica Eurasian Magpie	-	-	-	-	-	Marshal (1884), Mahabal (1993)
298	<i>Nucifraga caryocatactes</i> Spotted Nutcracker	+	-	+	-	-	
299	Pyrrhocorax pyrrhocorax Red-billed Chough	-	-	+	+	-	
300	Pyrrhocorax graculus Yellow-billed Chough	-	-	-	+	-	
301	Corvus splendens House Crow	-	-	-	-	-	Mahabal (1993)
302	Corvus macrorhynchos Jungle Crow	+	+	+	+	+	

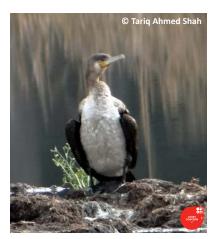


Image 1. Great Cormorant Phalacrocorax carbo



Image 5. Himalayan Griffon *Gyps himalayensis*



Image 8. Common Kestrel Falco tinnunculus



Image 2. Bar-headed Goose Anser indicus



Image 6. Egyptian Vulture Neophron percnopterus



Image 9. Chukar Alectoris chukar



Image 12. Koklass Pheasent Pucrasia macrolopha



Image 3. Black Kite Milvus migrans



Image 7. Bearded Vulture Gypaetus barbatus



Image 11. Kaleej Pheasant Lophura leucomelanos



Image 15. European Turtle Dove Streptopelia turtur



Image 16. Spotted Dove Streptopelia chinensis



Image 20. Crested Kingfisher *Megaceryle lugubris*



Image 25. Large scaly-bellied Woodpecker *Picus squamatus*



Image 17. Slaty-headed Parakeet Psittacula himalayana



Image 21. White-breasted Kingfisher Halcyon smyrnensis



Image 26. Brown-fronted Pied Woodpecker Dendrocopos auriceps



Image 18. Asian-barred Owlet Glaucidium cuculoides



Image 24. Great Barbet Megalaima virens



Image 28. White wagtail Motacilla alba



Image 29. White-browed Wagtail Motacilla madaraspatensis



Image 31. Oriental Tree Pipit Anthus hodgsoni



Image 34. Scarlet Minivet Pericrocotus flammeus



Image 35. Himalayan Bulbul *Pycnonotus leucogenys*

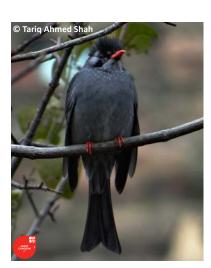


Image 37. Asian Black Bulbul Hypsipetes leucocephalus



Image 39. Rufous-breasted Accentor Prunella strophiata



Image 33. Long-tailed Minivet Pericrocotus ethologus (female)



Image 36. Redvented Bulbul *Pycnonotus cafer*



Image 38. Brown Dipper Cinclus pallasii



Image 40. Scaly Thrush Zoothera dauma

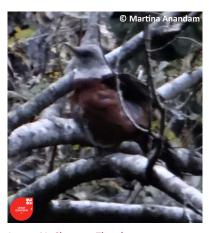


Image 41. Chestnut Thrush Turdus rubrocanus



Image 42. Dark-throated Thrush Turdus ruficollis (1st winter female)



Image 44. Blue-headed Rock-thrush Monticola cinclorhynchus



Image 45 Chestnut-bellied Rock-thrush Monticola rufiventris



Image 46. Blue Whistling-thrush Myophonus caeruleus



Image 48 Blue-capped Redstart Phoenicurus caeruleocephala



Image 49. Blue-fronted Redstart *Phoenicurus frontalis*

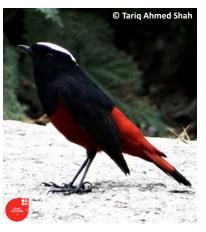


Image 50. White-capped Redstart Chaimarrornis leucocephalus



Image 51. Plumbeous Redstart *Phoenicurus fuliginosus*



Image 52. Little Forktail Enicurus scouleri



Image 54. Grey Bushchat Saxicola ferrea (male)



Image 55. Asian Stonechat Saxicola maurus (male)



Image 58. Verditer Flycatcher Eumyias thalassina

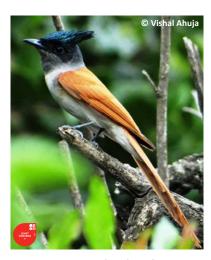


Image 59. Asian Paradise Flycatcher *Terpsiphone paradisi*



Image 53. Spotted Forktail Enicurus maculatus

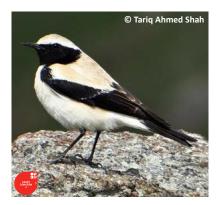


Image 56. Desert Wheatear Oenanthe deserti



Image 60. Streaked Laughingthrush *Garrulax lineatus*



Image 61. Variegated Laughingthrush Garrulax variegatus



Image 62 Bar-throated Minla Minla strigula



Image 63. Rufous Sibia Heterophasia capistrata



Image 64. Brown Prinia Prinia crinigera

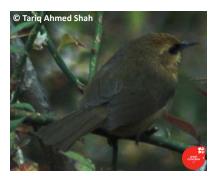


Image 66. Olivaceous Leaf-Warbler Phylloscopus griseolus



Image 67. Brooks' Leaf-warbler Phylloscopus subviridis



Image 68. Grey-headed Flycatcher-warbler Seicercus xanthoschistos



Image 69. Black-throated Tit Aegithalos concinnus



Image 70. Spot-winged Crested Tit Parus melanolophus



Image 71. Great Tit Parus major



Image 72. Green-backed Tit Parus monticolus



Image 73. Wallcreeper Tichodroma muraria



Image 74. Bar-tailed Tree-creeper Certhia himalayana



Image 76. Purple Sunbird Nectarinia asiatica



Image 79. Oriental White-eye Zosterops palpebrosus



Image 83. House Sparrow Passer domesticus



Image 84. Sind sparrow Passer pyrrhonotus



Image 77. Crimson Sunbird Aethopyga siparaja



Image 80. Rock Bunting Emberiza cia



Image 85. Russet Sparrow Passer rutilans



Image 87. Common Myna Acridotheres tristis



Image 78. Fire-tailed Sunbird Aethopyga ignicauda



Image 81. Scarlet Rosefinch Carpodacus erythrinus



Image 88. Jungle Myna Acridotheres fuscus



Image 89. Bronzed Drongo Dicrurus aeneus

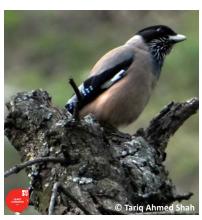


Image 90. Black-headed Jay Garrulus lanceolatus



Image 91. Yellow-billed Blue Magpie Urocissa flavirostris



Image 94. Spotted Nutcracker Nucifraga caryocatactes



Image 92. Indian Treepie Dendrocitta vagabunda



Image 93. Grey Treepie Dendrocitta formosae



Image 95. Jungle Crow Corvus macrorhynchos

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ISSN 0974-7907 (Online); ISSN 0974-7893 (Print)

January 2016 | Vol. 8 | No. 1 | Pages: 8309–8420

Date of Publication: 26 January 2016 (Online & Print)

DOI: 10.11609/jott.2016.8.1.8309-8420

www.threatenedtaxa.org

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