

Photographic evidence for *Emberiza melanocephala* Scopoli, 1769, *Trochalopteron squamatum* (Gould, 1835) and *Lonchura malacca* (Linnaeus, 1766) (Aves: Passeriformes) in the Pokhara Valley of Kaski district, Nepal

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Abstract

The Black-headed Bunting *Emberiza melanocephala* Scopoli is a scarce winter visitor and passage migrant bird in Nepal being recorded mainly in the eastern part of the country. Similarly, the Blue-winged Laughingthrush *Trochalopteron squamatum* (Gould) is an uncommon resident of Nepal with rare observations reported from central-west to eastern Nepal. Also, the Tricolored Munia *Lonchura malacca* (Linnaeus) is considered as a local resident in Nepal especially in the Chitwan National Park, Koshi Tappu Wildlife Reserve and Kathmandu Valley. None of these species have been photographed in the Pokhara Valley previously. This study presents the first photographic record of *E. melanocephala* and *T. squamatum*, and the first ever record of *L. malacca* from the Pokhara Valley, Nepal. *Emberiza melanocephala* was observed during the winter season in bushes of *Ipomoea carnea* while *T. squamatum* and *L. malacca* were recorded during the autumn and monsoon season in evergreen *Schima-Castanopsis* forest, and clumps of the reed *Phragmites karka* respectively.

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Nepal exhibits high biodiversity which is reflected in the presence of 886 species of birds, in 97 families and 23 orders, which equates to approximately 9% of the total global bird fauna (Department of National Parks and Wildlife Conservation and Bird Conservation Nepal, 2018). Among this number 42 species are globally threatened, 35 near threatened and 167 species are nationally threatened (IUCN, 2022). A total of 71 bird species are vagrant in Nepal (Inskipp et al., 2020). Similarly, Nepal harbors 15 species of laughingthrushes, 14 species of buntings and 4 species of munias (Grimmett et al., 2016).

The Blue-winged laughingthrush *Trochalopteron squamatum* (Gould, 1835) is very secretive and inhabits dense undergrowth in moist broadleaved evergreen forests (Grimmett et al., 2016). It has black

supercilium, silvery blue outer webs to the primaries forming a prominent wing panel, largely rufous wings with darker outer edges (Grimmett et al., 2016). The Black-headed Bunting *Emberiza melanocephala* Scopoli, 1769 are gregarious in winter, feeding and roosting in flocks in agricultural fields, grassland and sugarcane plantations (Grimmett et al., 2016). The male has a black head and chestnut mantle while the female has rufous fringes to the mantle and/or back, slight contrast between throat and greyish ear coverts (Grimmett et al., 2016).

The Tricolored Munia *Lonchura malacca* (Linnaeus, 1766) are also gregarious, feeding and roosting communally in tall grasses, marshes and cultivated areas (Grimmett et al., 2016). The male has a black head, black upper breast, rufous-brown upperparts, black belly

center, black upper tail-coverts, white flanks and lower breast, while the juvenile has uniform brown dorsum and buff to whitish venter (Grimmett et al., 2016).

Pokhara Valley (28.201605°N, 83.990555°E) with the area of 464, 24 km² and the average elevation of 822 m above the sea level lies within Kaski district and it is very rich in bird diversity with 467 species recorded, representing 52.70% of the total birds of Nepal (Ghimire et al., 2019). The nine lakes of Lake Cluster, the largest Ramsar Wetland site in Nepal, lies within the Pokhara Valley. The Pokhara Valley exhibits high ornithological value harboring 18 globally threatened species and 11 near threatened species (Ghimire et al., 2019). Habitat loss, poisoning, high voltage transmission lines, hunting, poaching and bird-human conflict are the major threats to the birds in Pokhara Valley (Ghimire et al., 2019). Documentation of different evidences of birds would help in their conservation as well enhance bird watching by providing reliable information about birds (Ghimire et al., 2019). Despite the advancement in the ornithological knowledge in Nepal, there is still the possibility of new species (Inskipp et al., 2020).

Accurate photographic documentation can play a vital role in providing the necessary records (Areson, 1988) as well as establishing without doubt the presence of particular species in any single locality. Such information also helps the relevant organizations involved in ornithological conservation management and updates the species factsheets (Dorji et al., 2021). This study confirms the record of *Emberiza melanocephala*, *Trochalopteron squamatum* and *Lonchura malacca* in the Pokhara Valley through the means of photography.

The survey of *Emberiza melanocephala* and *Lonchura malacca* were done under the roost site survey

established to determine the population status of Yellow-breasted Bunting *E. aureola* in Lake Cluster, Pokhara Valley, during late autumn to early monsoon season in 2020 and 2021. Similarly, the survey of *Trochalopteron squamatum* was conducted during a biodiversity assessment of birds around home surrounding during early autumn 2020.

The birds were observed using Celestron binoculars (10*42) and photographed with Nikon Coolpix P1000 superzoom digital bridge camera with a 125x optical zoom.

Additionally, the ground truth data for the locations was recorded by Garmin eTrex 10 Worldwide handheld GPS. Environment System Research Institute (ESRI) (2014), Arc GIS release 10.3.1 Redlands, CA were used for the preparation of the map showing the geographical location of the species recorded in the Pokhara Valley (Fig. 1).

Black-headed Bunting *Emberiza melanocephala* Scopoli, 1769

On February 17, 2021 at 07:13 an individual of *E. melanocephala* was seen and photographed for proper identification purposes (Fig. 2). On close observation, we found that it exhibited the non-breeding plumage of a male *E. melanocephala*. The species was confirmed with its chestnut mantle and black head (Grimmett et al., 2016). It was observed resting in the clump of *Ipomoea carnea* in the Khaste Lake of Pokhara Valley, Kaski district (Table 1). Based on Ghimire et al. (2019), this record of *E. melanocephala* is the first photographic evidence of the species from the Pokhara Valley. According to Inskipp et al. (2016), the species was observed, but not photographed, in Kaski district in 2005 and 2009 by K. C. Hari (unpublished, pers. comm.).

Map showing the location of species recorded

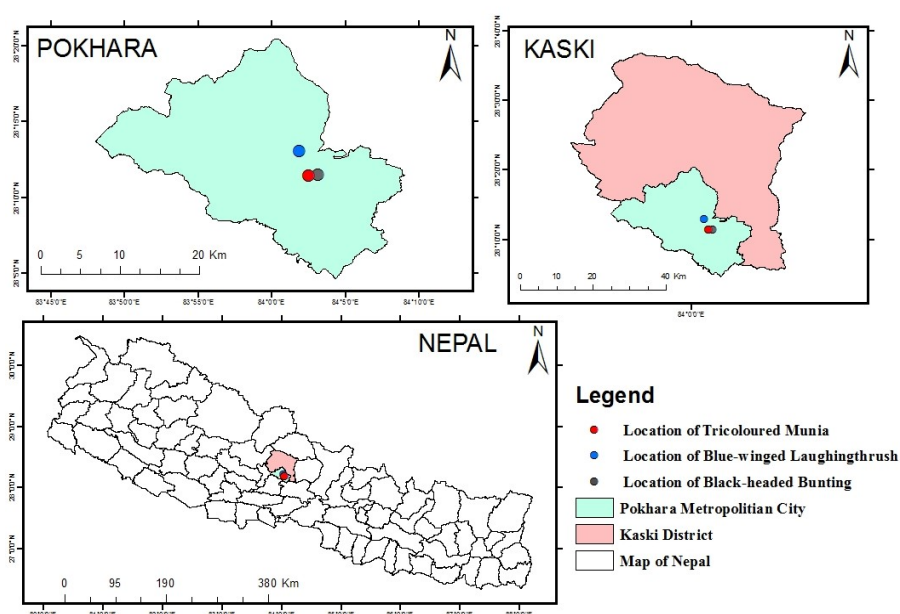


Figure 1: Map showing the location of Black-headed Bunting *Emberiza melanocephala*, Blue-winged Laughingthrush *Trochalopteron squamatum* and Tricolored Munia *Lonchura malacca* recorded from Pokhara Valley of Kaski district.



Figure 2: Black-headed Bunting *Emberiza melanocephala* (male) recorded at Khaste Lake of Pokhara Valley, Kaski district. Photo taken by Milan Baral.

Table 1: Details on date, geographical position, altitude and location of the bird species recorded from the Pokhara Valley of Kaski District.

S.No.	Name of the species	Date	Geographical position	Altitude (above sea level)	Location
1	Black-headed Bunting <i>Emberiza melanocephala</i> Scopoli, 1769	17 February, 2021	28°11'29.33"N and 84°3'7.73"E	747 m	Khaste Lake, Pokhara, Kaski
2	Blue-winged Laughingthrush, <i>Trochalopteron squamatum</i> (Gould, 1835)	24 September, 2020	28°13'01.9"N and 84°01'50.6"E	831 m	Sajha, Pokhara-13, Kaski
3	Tricolored Munia <i>Lonchura malacca</i> (Linnaeus, 1766)	15 June, 2020	28°11'27.45"N and 84° 2'28.78"E	758 m	Gunde Lake, Pokhara, Kaski

Blue-winged Laughingthrush *Trochalopteron squamatum* (Gould, 1835)

On 24 September 2020, at 08:36 two individuals of laughingthrush were seen approaching a human settlement close to *Schima-Castanopsis* forest in the Sajha area of Pokhara Valley, Kaski (Fig. 3). On close observation on the photographs, the species was identified as *Trochalopteron squamatum* (Table 1). This identification could be confirmed by their black supercilium, silvery-blue outer webs to the primaries forming a prominent wing panel, rufous wings with darker outer edge, chestnut brown flanks and vent, rufous upper tail coverts and rufous tipped dark tail (Grimmett et al., 2016). In accordance with Ghimire et al. (2019), this record of *T. squamatum* is the first photographic evidence of the species from the Pokhara Valley. Inskipp et al. (2016) again mentions that the species was seen in the Pokhara Valley by K. C. Hari

in February 2011 but not officially reported. This photographic record confirms and removes any doubt regarding the occurrence of *T. squamatum* in Pokhara Valley. Additionally, the species was supposed to be distributed at altitudes of 1220–2700 m above sea level (Inskipp et al., 2016) but this evidence confirms its occurrence at the lower elevation of 831 m above sea level.

Tricolored Munia *Lonchura malacca* (Linnaeus, 1766)

On 15 June, 2020 at 18:52 an individual of munia exhibiting a different color pattern to the Scaly-breasted Munia *Lonchura punctulata* was seen in a flock of *L. punctulata* resting in the clump of *Phragmites karka* during a field survey for *Emberiza aureola* on Gunde Lake of the Lake Cluster, Pokhara, Kaski (Table 1). Photographs and video were taken in order to identify the species (Fig. 4).

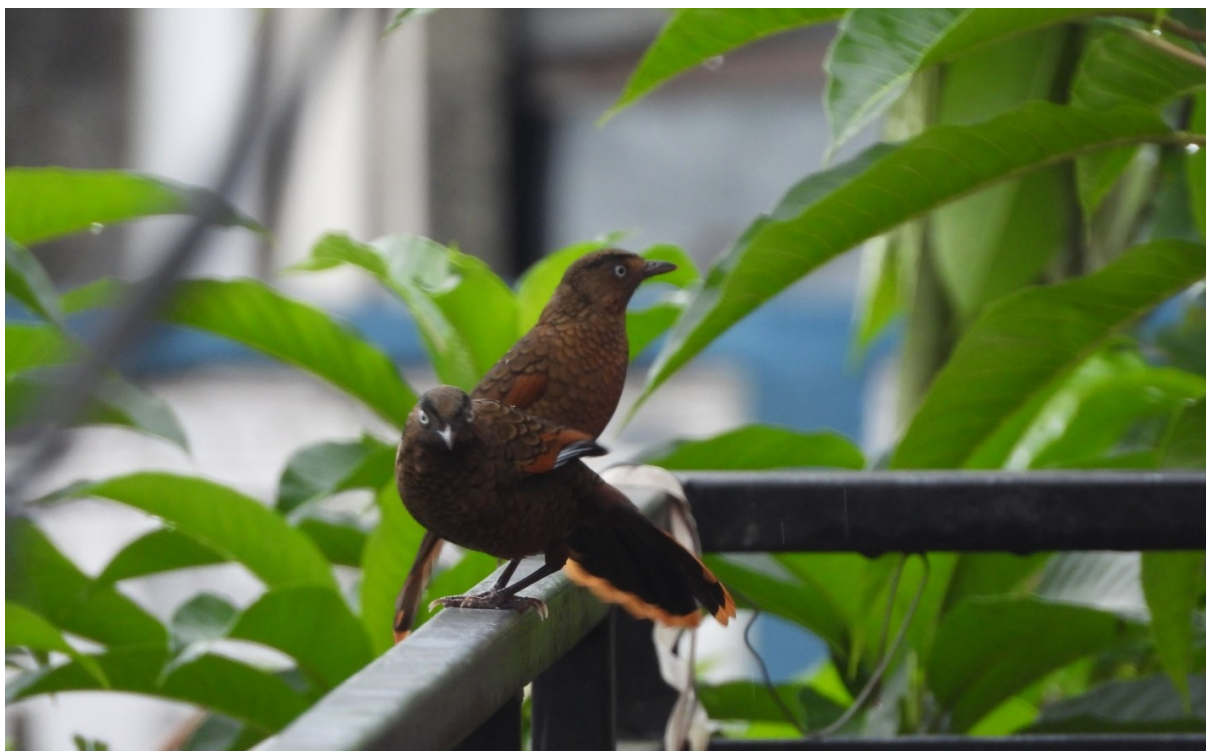


Figure 3: Blue-winged Laughingthrush *Trochalopteron squamatum* recorded at Sajha area of Pokhara Valley, Kaski district. Photo taken by Milan Baral.



Figure 4: Tricoloured Munia *Lonchura malacca* (Top right encircled) recorded at Gunde Lake of Pokhara Valley, Kaski district. Photo taken by Milan Baral.

Upon close observation on the photographs and video, the species was identified as a Tricolored Munia *Lonchura malacca*. The species was confirmed with its black head, black upper breast, rufous-brown upperparts, black belly center, black undertail coverts, white lower breast and white flanks (Grimmett et al., 2016). This record of *L. malacca* is the first record and first photographic evidence of the species in the Pokhara Valley of Kaski District, Nepal.

Three species of birds, namely Black-headed Bunting *Emberiza melanocephala*, Blue-winged Laughingthrush *Trochalopteron squamatum*, and Tricolored Munia *Lonchura malacca*, were confirmed as present, using photographic evidence, in the Pokhara Valley of Kaski district. A lack of population surveys particularly focusing on these species (Inskipp et al., 2016) and the limited facilities and field equipment in Nepal might be the reasons behind the previous absence of photographic evidence for these species in the Pokhara Valley. With the advancement in bird research, field equipment and number of bird photographers in Nepal, the number of bird records has been increasing (Inskipp et al., 2020).

The Black-headed Bunting *Emberiza melanocephala* is a native breeder of Southeast European countries which inhabits in grasslands, shrub-lands, plantations and agricultural fields (Inskipp et al., 2016; Birdlife International, 2021), habitats similar to those of our observation. *E. melanocephala* is considered as a scarce winter visitor and passage migrant in Nepal and recorded mainly in the eastern part of the country (Grimmett et al., 2016; Inskipp et al., 2016). It has been recorded at an altitudinal range of 75–1340 m above sea level in Nepal (Grimmett et al., 2016; Inskipp et al. 2016) which supports our present altitudinal record. It is rare and scarce Nepalese sightings including the Khaptad National Park (Chaudhary, 2006), Koshi Tappu Wildlife Reserve (Baral, 2005a), Kathmandu district (Nepali and Fleming, 1971), Chitwan National Park, Parsa National Park, Langtang National Park, Badimalika region (Karki et al., 2003), Rupendehi District (Hanlon and Giri, 2007), Kaski District and Sunsari District (Inskipp et al., 2016). *E. melanocephala* occupies similar habitats to *E. aureola* (Grimmett et al., 2016; Inskipp et al., 2016) and was recorded resting in the wintering site of *E. aureola* during a survey of *E. aureola* in the Pokhara Valley. The species was recorded during the winter season which is similar to the previous evidence for the species in Nepal (Inskipp et al., 2016). The absence of an intensive survey focusing on *E. aureola*, *E. melanocephala* and other birds sharing similar habitat in the past might be the reason behind the lack of photographic evidence for *E. melanocephala* in Pokhara Valley.

Similarly, *Trochalopteron squamatum* inhabits moist montane forests, shrubland and inland of wetland with a wide distribution in South-Asia; Bhutan, China, India, Myanmar, Nepal and Vietnam (BirdLife International, 2021) which corresponds with our

observation. It is considered as an uncommon resident bird in Nepal and has been recorded at an altitude of 1220–2700 m above sea level (Inskipp et al., 2016) which contrasts with our altitudinal record. A lack of surveys focusing on *T. squamatum* (Inskipp et al., 2016) may explain why the species was not previously recorded from lower altitudes. Also, a large part of the country is still unexplored particularly outside the protected areas' system (Inskipp et al., 2020). Likewise, the vagrancy of this species might have driven by food shortages or unusual weather causing them to depart on deviant headings (Lees and Gilroy, 2009). These might be the reasons behind this unusual sighting of *T. squamatum* in Nepal. *T. squamatum* is rare with few observations in Nepal from central west to eastern Nepal including the Annapurna Conservation Area, Makalu Barun National Park, Kanchanjunga Conservation Area, Sankhuwasabha district, Panchtar district and Illam district (Mallalieu., 2008; Thakuri and Poudyal., 2011; Inskipp et al., 2016). Kaski district is the westernmost and Illam district is the easternmost distributional limit of the species in Nepal (Inskipp et al., 2016).

The Tricolored Munia *Lonchura malacca*, a native resident of India, Sri Lanka and Singapore, is widely distributed in other countries namely Costa Rica, the Dominican Republic, Haiti, Jamaica, Japan, Nepal, Portugal, Puerto Rico, and Venezuela which inhabits in marshes, swamps, peatland, tall grassland and cultivated land (Inskipp et al., 2016; Birdlife International, 2021), similar to our observation. *L. malacca* is considered a local resident in Nepal and has been recorded at an altitudinal range of 75–1220 m above sea level (Grimmett et al., 2016; Inskipp et al., 2016) which matches with our altitudinal record. *L. malacca* appears to have fairly wide distributions in Nepal from east to west including the Koshi Tappu Wildlife Reserve, Koshi Bird Observatory, Chitwan National Park, Kathmandu and Lalitpur districts, Madi area of Chitwan District, Nawalparasi District, Rupendehi District, Blackbuck Conservation Area, and Suklaphata National Park (Baral and Inskipp, 2009; Inskipp and Inskipp, 2012; Inskipp et al., 2016). Due to the Covid-19 lockdown in the country from late winter to early monsoon season, the survey of the *E. aureola* was interrupted. Therefore, the field visit was carried out in the early monsoon in order to determine the departure of *E. aureola* from the Pokhara Valley. During the survey, *L. malacca* was seen resting in the wintering site of *E. aureola*. These species share similar habitat characteristics (Grimmett et al., 2016; Inskipp et al., 2016). Lack of birdwatching and researches on the wetland during the monsoon season might be reason for the absence of its recording in the past.

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Conflict of interest

The authors declare that there are no conflicting issues related to this short communication.

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