

Short Communication

Record of mandarin duck *Aix galericulata* (Linnaeus, 1758) from Lake Cluster of Pokhara Valley, Nepal

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Abstract

The mandarin duck *Aix galericulata* (Linnaeus, 1758) is a vagrant species having very scarce sightings in Nepal. The record of the species from the Lake Cluster of Pokhara Valley has not been documented properly yet. This study presents the first record of the species from the Gunde Lake of Lake Cluster of Pokhara Valley as well as second record of the species from the Pokhara Valley itself. The species was recorded in the winter season on 18th December, 2021 while resting in the shore of Gunde Lake in the flock of lesser whistling duck *Dendrocygna javanica*.

Keywords: First record; Gunde Lake; Vagrant species; Vagrant birds; Winter visitor

1 | Introduction

Nepal being home to 886 species of birds belonging to 97 families and 23 orders (DNPWC & BCN 2018), can be considered as highly diversified in terms of biodiversity. About 9% of

total bird species found worldwide have been recorded from Nepal (BCN 2021). Among the bird species found in the country, 42 species are globally threatened and 167 species are nationally threatened (BCN 2021). Nepal also provides home to more than 150 winter migratory bird species as well as about 50 summer migratory birds (Grimmett et al. 2016). A total of 71 bird species are vagrant in Nepal (Inskipp et al. 2020) among which 12 out of 40 species of ducks found in Nepal are considered as vagrant (Grimmett et al. 2016). Mandarin duck *Aix galericulata* is one of the vagrant duck species to Nepal (Grimmett et al. 2016; Inskipp et al. 2021). The male of Mandarin duck is spectacular having reddish bill, orange mane, orange sails, white stripe behind eyes and black & white stripes on side of breast (Grimmett et al. 2016). Similarly, female mandarin duck is greyish with white spectacles and white spots on breast and flanks (Grimmett et al. 2016).

Pokhara Valley with the area of 464.24 km² and the elevation range of 600m–2500m lies within Kaski District of Gandaki Province and is highly rich in bird diversity with 467 species representing 52.70% of total birds recorded in Nepal (Ghimire et al. 2019). Poisoning, high voltage transmission line, habitat destruction, hunting and conflicts are the major threats to the birds in Pokhara Valley (Ghimire et al. 2019). Despite the advancement in the ornithological knowledge in Nepal, there are still potentialities to find new species (Inskipp et al. 2020). Documentation of such evidences of birds would help in their conservation by providing reliable information (Ghimire et al. 2019). The Mandarin Duck was first recorded from Nepal in Arun Valley on 21 January, 1990 (Gardiner 1991). Afterwards, the species was recorded from Bagmara Community Forest of Chitwan National Park in 2011 (Shukram Mahati pers. Comm. to Thapa et al. 2020), Lami Tal on 14 February 2014 and Rapti River of Chitwan District on 17 February 2014 (Bashu Bidari Pers. Comm. to Inskipp et al. 2021), Nawalparasi District on December 2019 (Tek Bahadur Gurung Pers. Comm. to Inskipp et al. 2021), Narayani River Bank of Amaltari Ghat, Chitwan National Park on 14 February 2014 (Anon 2019) and December 2019 (Nepal et al. 2019; Thapa et al. 2020), Barju Tal in December 2019 and January 2020 (Anon 2019; Nepal et al. 2019; Thapa et al. 2020). After 30 years of its first record from Nepal, the species was recorded from

Marsyangdi River Hydro Dam in January 2020 (Thapa et al. 2020). This study confirms the locality record of Mandarin Duck from the Lake Cluster of Pokhara Valley.

2 | Materials and methods

The record of Mandarin duck was done while conducting the roost site survey targeting the determination of the population status of yellow-breasted bunting *Emberiza aureola* in Lake Cluster of Pokhara Valley during winter season in 2022. Lake Cluster of Pokhara Valley (LCPV) is the youngest and largest Ramsar site of Nepal comprising nine lakes of Pokhara Metropolitan City (MoFE 2018). The LCPV provides home to 140 species of birds and plays important role in biodiversity conservation providing wintering sites to threatened migratory birds (MoFE 2018). Among the nine lakes of LCPV, Gunde Lake is one of the smallest lakes. It is situated in the eastern part of Pokhara Metropolitan City in Lekhnath area at an altitude of 758 m above sea level. Like other smaller lakes of the LCPV, Gunde Lake has also been in shadow of the research activities.

During the field visit, birds were observed with the Celestron binoculars (10×42) and photographed with Nikon Coolpix P1000 superzoom digital bridge camera produced by Nikon with 125× optical zoom. Additionally, the ground truth data of the location of species recorded by Global Positioning System (GPS). Environment System Research Institute (ESRI) (2014), Arc GIS release 10.3.1 Redlands, CA was used for the preparation of map showing the geographical location of species recorded in past from Nepal as well as present record from the Lake Cluster of Pokhara valley (Fig. 1).

3 | Results

On 18 December 2021, at 15:42 hr two individuals of birds having large size than Lesser Whistling-duck *Dendrocygna javanica* were seen in the flock of Lesser Whistling-duck in the Gunde Lake of Pokhara valley. The birds were photographed and identified as the Mandarin Duck (Fig. 2). The birds were continuously seen for three days at the Gunde lake and disappeared suddenly on the fourth day.

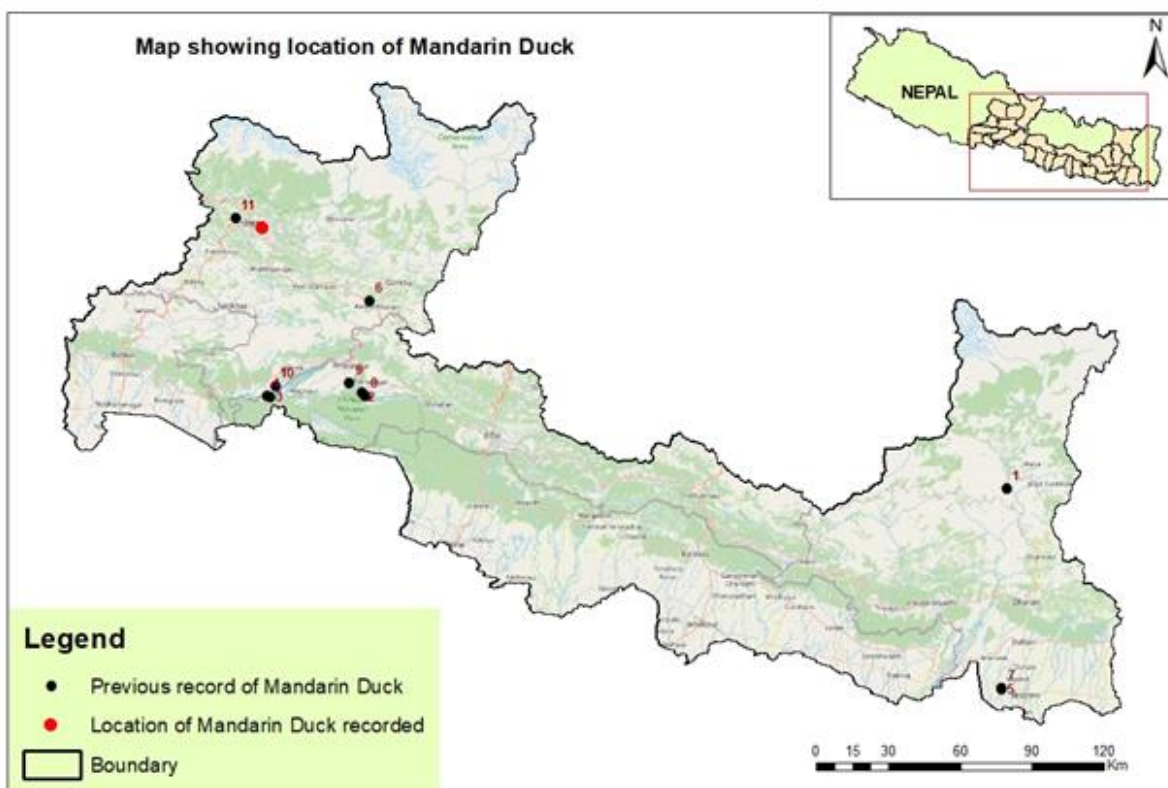


Figure 1. Map showing the sightings of mandarin duck *Aix galericulata* in Nepal. Black spot 1: original sighting by Gardiner (1991); 2: sighting at Baghmara Community Forest in 2011; 3 and 4: sightings at Amaltari Ghat in 2014 & 2019; 5: sighting at Barju Tal in 2019; 6: Marsyangdi River Hydro Dam in 2020; 7: sighting at Barju Tal in 2020; 8, 9: Rapti River and Lami Tal (CNP) in 2014; 10: Nawalparasi in 2019; 11: Phewa Lake in 2021; red spot: our record from Gunde Lake of Lake Cluster of Pokhara Valley in 2021.



Figure 2. Two individuals of mandarin duck *Aix galericulata* photographed from Gunde Lake of Lake Cluster of Pokhara Valley (Photo by Milan Baral).

4 | Discussion

The Mandarin duck inhabits lakes, pools and large rivers (Inskipp et al. 2021; Grimmett et al. 2016), similar to our observation. Being a native species of Asia, it is distributed in different countries of Asia and Europe (Birdlife International 2021; Inskipp et al. 2021). In Nepal, Mandarin duck has been recorded at an altitude of 75- 800 meters from the sea level (Inskipp et al. 2021), which corresponds with the present altitudinal record. It has very rare and scarce sightings from Nepal including Arun River, Chitwan District, Nawalparasi District, Chitwan National Park, Sunsari District, Tanahun District, Gorkha District and Pokhara (Anon 2019; Thapa et al. 2020; Inskipp et al. 2021).

As mentioned in Inskipp et al. (2021), three males of Mandarin duck were located from Phewa Lake of Lake Cluster of Pokhara Valley in January 2021. The present record of the species is from the Gunde Lake which is 11.4 km away from the previous recorded location. Thus, the present record of the Mandarin Duck is the first record of the species from the Gunde Lake as well as second record from the Lake Cluster of Pokhara Valley. The species was identified as Mandarin duck

with its reddish bill, orange mane and sails, white stripe behind eye and black and white stripes of breasts (Grimmett et al. 2016). The present observation has added a new site for Mandarin duck in Pokhara Valley along with the need of better monitoring in other potential habitats. Being a vagrant species to Nepal (Grimmett et al. 2016; Inskipp et al. 2021), no population survey has been carried out for the species. Also, the research and conservation activities in Lake Cluster of Pokhara Valley are focused on the large lakes (Dhakal et al. 2020), neglecting the smaller ones. These might be the reason behind the lack of Mandarin duck's record from Gunde Lake of Lake Cluster of Pokhara Valley in the past.

5 | Conclusions

The record of Mandarin Duck from the Gunde Lake of Lake Cluster of Pokhara Valley has added a new locality site of the species from Nepal. It has also suggested the necessity of better research and monitoring of birds in smaller lakes of Lake Cluster of Pokhara Valley.

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Authors' contributions

Baral, M. conceptualized the study, collected the data as well as wrote, critically reviewed and revised the manuscript. Timilsina, B. and Neupane, A. contributed in data collection and reviewed the manuscript.

Conflicts of interest

Authors declare no conflict of interest.

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