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Short communication

Record numbers of common wood pigeon (*Columba palumbus casiotis*) observed in western Nepal during December 2022

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Abstract

The common wood pigeon is a winter migrant to South Asia. The focus of most research on this species has been on the European/Western Asian subspecies, whereas the subspecies *Columba palumbus casiotis* found in Central and South Asia, that uses the Central Asian Flyway for migration has received little attention. Knowledge of the migration and distribution of this subspecies in the Central Asian Flyway is through occasional data from structured bird surveys, but most information are anecdotal reports from birdwatchers. Often this species is reported in small numbers but occasionally in their hundreds. In December 2022, the species was observed in their thousands (1150, 6500, and 7500) on three separate dates from two locations in western Nepal. Statistically, these numbers are unprecedented, and raise many questions about their migration patterns and conservation needs in Nepal and the Central Asian Flyway.

Keywords: Central Asian Flyway; Common wood pigeon; Shuklaphanta National Park; Winter migration

1 | Introduction

Common wood pigeon (*Columba palumbus*) is a relatively large bird in the family Columbidae with length ranging from 41 to 45 cm (Baptista et al. 2020; Grimmett et al. 2016). It is a bluish-grey pigeon with dark primaries and tail, greyish flanks, and pink breast merging to creamy on the belly (Baptista et al. 2020). It can clearly be identified from similar species in Nepal by its white wing patch, buff neck patch, and the greyish-white tail band observable from below in flight (Grimmett et al. 2016). *C. palumbus* is listed as Least Concern globally (Baptista et al. 2020) and in Nepal (Inskipp et al. 2016). The species prefers woodland, forest edges and is often observed feeding on open areas such as farmlands (Baptista et al. 2020; Bea et al. 2003) .

C. palumbus is widely distributed across Europe and in parts of western Asia and northern Africa. The species is resident in Europe (except the north-eastern parts where it is summer migrant), northern Africa, and south-central Asia (Baptista et al. 2020). The species in known to make both short- (e.g., Hungary to Italy; Bankovics 2001) and long-distance (e.g., Russia to Iberian Peninsula) migrations; with birds located in northern and eastern Europe making a longer-distance migration (Bea et al., 2003). Winter migration from parts of eastern Europe (e.g., Hungary) is likely to be in the south-western direction (Bankovics 2001). The birds from central and southern Asia (Kazakhstan, Uzbekistan, N. Afghanistan, N. Oman, SE Iran, N. Pakistan and Kashmir) form a distinct subspecies *C. palumbus casiotis* (Baptista et al. 2020).

The distribution and migration of *C. palumbus* in the Central Asian Flyway and in South Asia is poorly understood. The subspecies *C. palumbus casiotis* is a winter migrant to South Asia (Baptista et al. 2020), and an erratic winter visitor to Nepal (Grimmett et al. 2016). In

Table 1. Date, time, number of observers, location, and estimated number of common wood pigeon (*C. palumbus casiotis*) observed in western Nepal during December 2022.

Date	Start time	End time	Number of observers	Location coordinates	Estimated number of birds	Total estimates for site/date*
14 Dec 2022	12:15	13:39	3	28°49'27" N; 80°21'36" E	550	6,500
14 Dec 2022	12:15	13:39	3	28°50'03" N; 80°22'90" E	2,550	
14 Dec 2022	12:15	13:39	3	28°49'28" N; 80°21'56" E	900	
14 Dec 2022	12:15	13:39	3	28°49'09" N; 80°21'52" E	2,500	
15 Dec 2022	12:00	13:55	3	28°49'27" N; 80°21'36" E	700	7,500
15 Dec 2022	12:00	13:55	3	28°50'03" N; 80°22'90" E	2,800	
15 Dec 2022	12:00	13:55	3	28°49'28" N; 80°21'56" E	1,450	
15 Dec 2022	12:00	13:55	3	28°49'09" N; 80°21'52" E	2,550	
28 Dec 2022	08:30	09:15	2	28°59'52" N; 80°37'23" E	1,150	1,150

* The four locations were close to each other at Kanchanpur District and estimates for the locations were summed for each date to arrive at totals of 6,500 for 14 December and 7,500 for 15 December.

Nepal, the species has mostly been reported from wooded hillsides (eBird 2022; Grimmett et al. 2016), but observations have also been made at lower elevations in the Barandabhar Corridor Forest, Chitwan (Lamichhane et al. 2021) and Kailali District (Chaudhary & Dangaura 2021). The easternmost record of this species is from Ilam (eBird 2022; Inskipp et al. 2022). The birds are usually reported in small numbers (<10 individuals), but occasionally larger flocks have been seen. A flock of 80 was once observed (Som GC pers. comm.); 100 individuals were reported from Padurkot in Kaski District on eBird (2022); and 300 were reported from Kaski District in 2002 (Inskipp et al. 2016). The objective of this paper is to document the unexpectedly large number of this species observed in south-western Nepal in December 2022.

2 | Methods

Birds were observed using binoculars, and Grimmett et al. (2016) and Merlin bird app were used to identify the species. The locations were recorded using a GPS (Table 1; Figure 1) and pictures were taken (Figs. 2, 3, 4 & 5). Observations were made at two separate locations, one at Kalagudi, in the buffer zone of Shuklaphanta National Park, Kanchanpur District and the other at Bhasu of Kailali

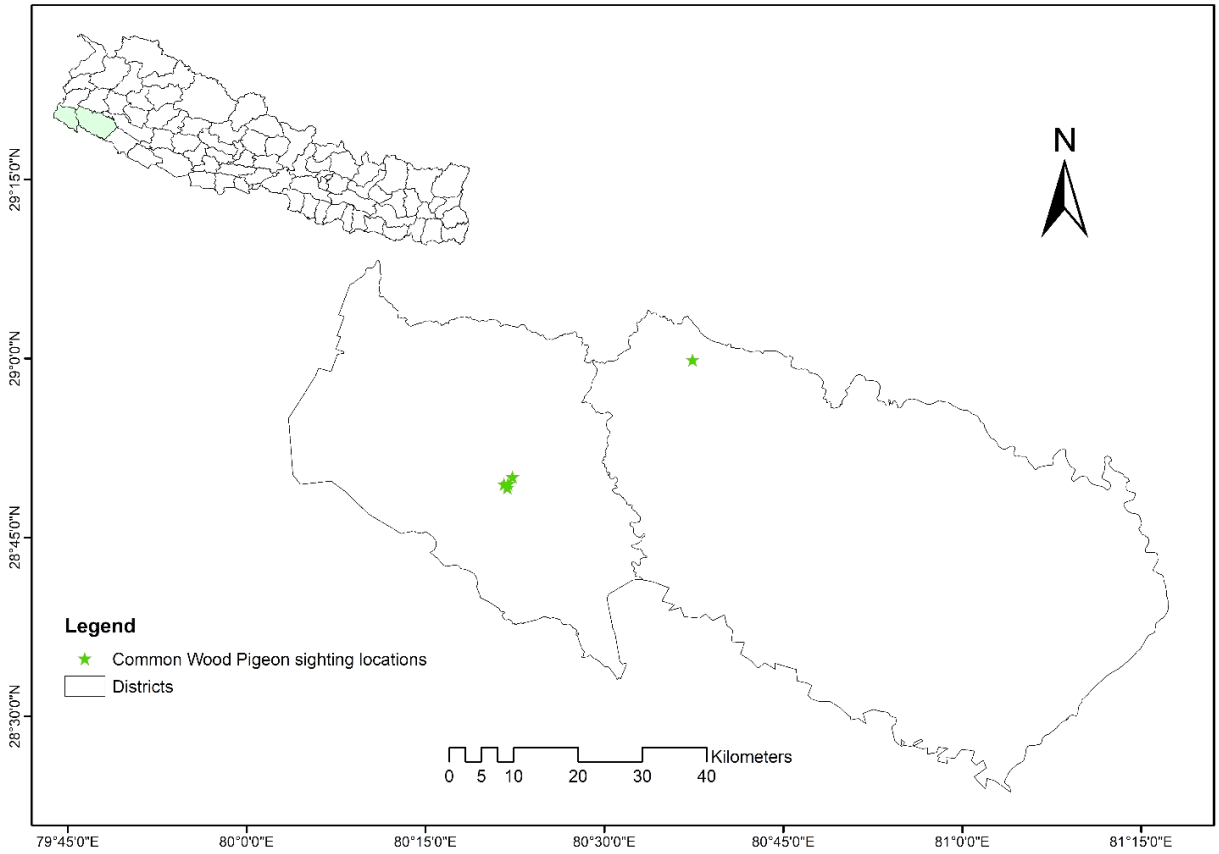

Figure 1. Location of where common wood pigeon (*C. palumbus casiotis*) were observed. The locations are in the buffer zone of the Shuklaphanta National Park in Kanchanpur District, and Bhasu of Kaliali District in southwestern Nepal.

Figure 2. Image of common wood pigeon (*C. palumbus casiotis*) observed at Kanchanpur District showing identifying field marks.

Figure 3. Image of common wood pigeon (*C. palumbus casiotis*) observed at Kanchanpur District showing large numbers.

District. At Kalagaudi, HLD, VT, SC were traveling on motorbikes north along the Belauri Road from Belauri to Jhalari in Kanchanpur District of southwestern Nepal and incidentally observed the species. HLD first observed the birds on 14 December 2022 at 12:15 PM Nepal Time and signaled the other team members to stop. The birds were spread in open agricultural fields over a large area. At Kalagaudi, the individuals were often flying and some hidden in fields and the three observers estimated the flock size at each of the four locations separately and then collated the numbers. The observers first counted birds in a small subset of the flock and then extrapolated to estimate the size of the overall flock. This is recommended standard practice for estimating large flocks (e.g., eBird 2020). The team returned the next day to observe the birds again and repeated the methodology to estimate bird numbers (Table 1).

At Kaliali, HLD and KDD were traveling on a motorbike for the purpose of monitoring vulture nests, when they observed the birds on trees at a location called Bhasu (Figure 1). They stopped to count the birds. A flock joined the existing flock during the observation period. Methods used for observation, identification and counting were the same as those used in Kanchanpur District.

3 | Results

Close observation of the birds confirm that they were *C. palumbus*, and from the cinnamon color of the neck patch, they are of the subspecies *casiotis* (Figs 2 & 5; Baptista et al. 2020). At Kaligaudi, on 14 December 2022, the flock size was estimated to be 6,500 birds and on 15 December 2022 the flock size was estimated to be 7,500 birds (Table 1). This area falls inside the Buffer Zone of the Shuklaphanta National Park (Figure 1). The birds were seen feeding on recently irrigated wheat fields. The area was open with hardly any vegetation cover. To the east lies a village, to the west were sugarcane fields where farmers were working. To the north of the location there are more settlements and some forest, and to the south lies a village and parts of the Shulkaphanta National Park.

Bhasu area is in the hills along the north-western part of Kailali District. A flock size of 1150 was estimated at this location on 28 December 2023 (Table 1). The birds were

Figure 4. Common wood pigeon (*C. palumbus casiotis*) observed at Kanchanpur District showing large numbers.

Figure 5. Image of common wood pigeon (*C. palumbus casiotis*) observed at Kailali District showing identifying field marks.

observed on trees along an interface of forests and farms, not too far from the road.

4 | Discussion

Some bird species vary their choice of winter migration between years, i.e., they may stay where they breed or choose different areas to migrate. This type of irregular and unpredictable migration is primarily driven by environmental conditions such as weather and food availability, and species that demonstrate this type of behavior are known as facultative migrants (Newton 2012; Strong et al. 2015). This contrasts with the obligatory migrants that move between fixed breeding and wintering areas at certain times of the year (Newton 2012). Irruptions are an extreme form of facultative migration (Newton 2012) that can be driven by unfavorable conditions in one area and favorable conditions in another (Strong et al. 2015). Irruptive migration is not unique to birds (e.g., Bolshakova & Evans 2016; O'Donnell et al. 1996; Pimentel & Nilsson 2007) but it is more widely reported for avian species.

The large numbers of common wood pigeons observed in Kanchanpur and Kailali Districts are examples of irruptive migration. However, the large numbers reported in this paper is unprecedented, not just for Nepal, but for the entire range of the subspecies *C. palumbus casiotis*. We looked at the high counts of this species for different countries and regions within the distribution of the subspecies *C. palumbus casiotis* on eBird. Country-wise, the highest numbers of this species reported on eBird for South Asia was 500 (India), 250 (Pakistan), and 300 (Nepal) (Inskipp et al. 2016). For certain regions, e.g., southern Iran (Hormozgan) the maximum number reported is 40 and in north-eastern Iran (Khorasan-e Shemali) 100 (eBird, 2022). Maximum numbers from other range countries (Kazakhstan-120, Kyrgyzstan-60, Tajikistan -120, and Uzbekistan-93) show that the birds are not seen in large flocks exceeding 500 birds (eBird, 2022). Literature about the distribution and abundance of this species in Central Asia and South Asia is scant. The species is considered uncommon in south-central Uzbekistan and further west (Martin et al. 2014). The species is fairly common and breeds in eastern Kazakhstan, but is uncommon and a passage migrant in south-central Kazakhstan (Martin et al. 2018). Therefore, the high count of this species observed by our team exceeds any known reports for this subspecies. However, we know that other European subspecies with a white neck patch (*C. palumbus* [*palumbus* group]; Baptista et al. 2020) are gregarious and have been reported wintering in roosts with > 50000 individuals (Bea et al. 2003).

Although these European subspecies are known to winter in the Iberian Peninsula in their millions, little is known of the wintering behavior of the cinnamon-necked subspecies. A possible cause of this irruption reported from Nepal may be climate-induced phenological changes that modified the availability of food for this species. We also considered possibilities such as the massive floods that took place in Pakistan in the summer of 2022. Most of the flood-affected areas of Pakistan do not overlap the known year-round and winter distribution areas of the species (Baptista et al. 2020), but may overlap areas of heavy rainfall that triggered the flooding. However, to correlate the Pakistan floods to common wood pigeon irruption in Nepal is no more than speculative.

It is difficult to ascertain the cause of this irruptive migration of common wood pigeon to western Nepal. These types of migrations may be more common but may not have been previously recorded because of limited numbers of birdwatchers and ornithologists working in the South and Central Asian region. Our results call for greater effort to monitor and conserve birds in the Central Asian Flyway (CAF). For example, the common wood pigeon is hunted in some countries (e.g., some provinces of Pakistan; CMS 2022a), but not in Nepal. Furthermore, changes in migratory patterns of widely distributed species, such as this one, may be an early-indicator of flyway-wide changes that may require urgent interventions. Therefore, transboundary cooperation across CAF range states is required for range-wide monitoring and conservation of this subspecies.

5 | Conclusions

Our findings further highlight the dearth of information about common wood pigeon in the Central Asian Flyway (CAF). Several efforts are being carried out at both the regional scale (e.g., the Asian Waterfowl Census; Mundkur et al., 2017) and national scale (e.g., Subedi et al., 2017) to monitor birds within the CAF. There are also species-specific efforts underway (e.g., Siberian Crane MoU; CMS 2022b). In addition, community science platforms such as eBird and iNaturalist are helping add more information about birds in the CAF. However, more effort is needed for understanding how different species of birds are using the CAF and how range states within the CAF can cooperate for transboundary conservation of species such as the Common Wood Pigeon.

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Authors' contributions

Dangaura, H. L. led the field expeditions. Dangaura, H. L., Tiwari, V., Chaudhary, S. and Dangaura, K. D. made the observations, identified the species, and took photographs. Chaudhry A. led the writing with input from all authors.

Conflicts of interest

Authors declare no conflict of interest.

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