



Second Refresher Training for Mist-Netting Birds in Wakhan, Badakhshan Province, Afghanistan



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Cover Photo

An adult male white-winged redstart (*Phoenicurus erythrogastrus*) captured in a mist net in the riparian forest near Sarkand Village, Wakhan District, Badakhshan Province, Afghanistan, 27 February 2014.

Photographs: Ali Madad Rajabi

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General background

A number of species of birds are known to reside in Wakhan, meaning that they remain in this area year-round and quite possibly throughout their lives. In winter they may also be joined by species that inhabit more northern latitudes and come to the Wakhan Valley to forage in the remaining patches of riparian forests.

This mission had three objectives. The first was to increase our knowledge of winter birdlife in Wakhan District, Badakhshan Province. The second objective was to capture and examine specimens of the great rosefinch (*Carpodacus* spp.)¹, a species which has occasionally been observed in Wakhan with unusual phenotypes. Last, we wanted to refresh and maintain our operational mist-netting capacity acquired in 2007-2008 during avian influenza surveillance work, and which was followed by the successful discovery of the mysterious large-billed reed warbler (*Acrocephalus orinus*) (Timmins et al. 2009, 2010).

Mist-netting is a popular method used by ornithologists to capture migrating birds (particularly passerines) for research on bird diversity, ecology, taxonomy and health. Mist-nets are typically made of nylon and suspended between two poles, resembling an oversized volleyball net. When properly deployed against a vegetated background and in the absence of wind, the nets are virtually invisible. The mesh size of nets varies according to the size of the species targeted for capture. Net dimensions are approximately 1–3 meters high by 6–15 meters long. The use of mist-nets usually requires permits specified by national wildlife protection legislation. Safe and fast mist-net handling requires considerable training and skill to avoid injuring captured birds.

This report covers our four-day mist-netting refresher training carried out in the middle of winter in the riparian forest along the Panj River near the villages of Goz Khun² and Sarkand in Wakhan District, Badakhshan Province.

Methods

In February 2014, Dr. Ali Madad Rajabi from the Wildlife Conservation Society (WCS) - Afghanistan's Health Interface Team, accompanied by Mr. Naqibullah Mustafawi, WCS Project Manager in Wakhan, travelled from Kabul to Qila-e Panja Village where the WCS field office is located. On February 21st they drove to Goz Khun Village, and on February 22nd searched for a suitable site to set up mist-nets. Goz Khun is an interesting place for mist-netting because of the reported abundance of birds using the extensive riparian vegetation found in patches along the

¹ Scientific names used in this report follow Rasmussen and Anderton (2005)

² Spellings for geographical place names in this report follow Mock *et al.* (2007)

river bed. Earlier work has also shown that this habitat is likely to host a wide variety of bird species during migration periods and perhaps also during the winter season (Ayé 2007). A rare species, the large-billed reed warbler (*Acrocephalus orinus*) recently rediscovered in Afghanistan (Timmins et al. 2011), uses this habitat in the vicinity of Goz Khun during the breeding season. The team selected a trapping site near a river in front of dense and high thickets to render the nets as undetectable to birds as possible.

Between Feb. 22nd and 24th the team deployed two 2.5m-high (i.e. 6 pockets), 10m-long, black mist-nets at UTM 43 S 293554 – 4099925 in the riparian forest of Goz Khun, and on 26th and 27th at UTM 43 S 283451 – 4095875 (net 1) and 43 S 283291-4095862 (net 2) in the same habitat, but near Sarkand Village (Plate 1). A prerequisite for successful mist-netting is to operate in windless conditions. Given that wind speeds were at their minimum in the morning, the nets were erected between the hours of 5:00am and 11:30 am.

Results

Over the five days of trapping, we captured 48 specimens of five species of birds. These included the white-winged redstart (*Phoenicurus erythrogastrus*), yellow breasted tit (*Parus flavipectus*), brown accentor (*Prunella fulvescens*), tree sparrow (*Passer montanus*) and spotted great rosefinch (*Carpodacus severtzovi*) (Plate 1), (Table 1). All specimens were retrieved from nets within minutes of being captured (because of below freezing air temperatures), examined and released. Eight out of the nine specimens of spotted great rosefinch were measured, photographed and sampled for further DNA analysis.

Table 1. Number of specimens of five bird species captured in the riparian vegetation near Goz Khun and Sarkand villages between the 22nd and 27th of February 2014, Wakhan District, Badakhshan Province.

#	Common name	Scientific name	Locations / date					Total
			Goz Khun			Sarkand		
			22 Feb.	23 Feb.	24 Feb.	26 Feb.	27 Feb.	
1	White-winged redstart	<i>Phoenicurus erythrogastrus</i>	1	5	0	18	6	30
2	Yellow- breasted tit	<i>Parus flavipectus</i>	0	1	0	0	1	2
3	Brown accentor	<i>Prunella fulvescens</i>	0	1	0	0	0	1
4	Tree sparrow	<i>Passer montanus</i>	0	2	0	4	0	6
5	Spotted great rosefinch	<i>Carpodacus severtzovi</i>	0	1	0	4	4	9 ¹

¹ 7 adult females and immatures, 2 adult males



Plate 1: Top - an adult female spotted great rosefinch (*Carpodacus severtzovi*) captured near Sarkand Village. Lower left - Naqibullah “Mustafawi” carefully removes a bird from a mist net. Lower right - An adult male spotted great rosefinch captured near Sarkand Village, Wakhan District, Badakhshan Province, Afghanistan, February 2014.

Discussion

All of the captured bird species are common breeders in Wakhan, yet the white-winged redstart typically breeds at higher elevations (i.e. 2,900 m asl). In the summer however, these are commonly found in the Pamirs and the Hindu Kush at much higher elevations (up to 5,000 m asl), occurring usually in arid barren alpine lands at, or near snowline, in moraine and boulder meadows, as well as near running water. Although Rasmussen and Anderton (2005) map (Vol. 1, p 250) mention that the species is only a summer visitor to Wakhan, these current findings

prove that the species is also present in winter. Relatively large numbers of white-winged redstarts use sea-buckthorn (*Hippophae spp.*) thickets all along the Wakhan and Panj River in winter. The species persists in the Wakhan District in winter yet at significantly lower altitudes (2,500-3,200 m asl) than in summer. The yellow-breasted tit also appears to reside in the District.

We also captured 9 specimens of great rosefinch. Although phenotypes corresponded to great spotted rosefinch (*Carpodacus severtzovi*), we hope to forward DNA samples to any interested taxonomic research group for further confirmation.

The relatively high number of captured specimens was in line with the many birds present in the riparian habitat of Goz Khun and Sarkand at the time of our visit. The present mission concludes a round of refresher training in mist-netting techniques which began in October 2013 (Noori and Rajabi, 2013).

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