Bird Migration Across the Himalayas

Birds migrating across the Himalayan region fly over the highest heights in the world, facing immense physiological and climatic challenges. The authors show the different strategies diverse species use to cope. Many wetland avian species are seen in the high-altitude lakes of the Himalayas and the adjoining Tibetan Plateau, including Bar-headed Geese, one of the highest-flying species known.

Ringing programmes have generated information about origins and destinations, but this book is the first to present information on the birds' exact migratory paths. Capitalizing on knowledge generated through satellite telemetry, the authors describe the migratory routes of a multitude of birds flying over or skirting the Himalayas.

The myriad of threats to migratory birds and the wetland system in the Central Asian Flyway are discussed, with ways to mitigate them. This is a volume to inform and persuade policy-makers and conservation practitioners to take appropriate measures for the long-term survival of this unique migration system.

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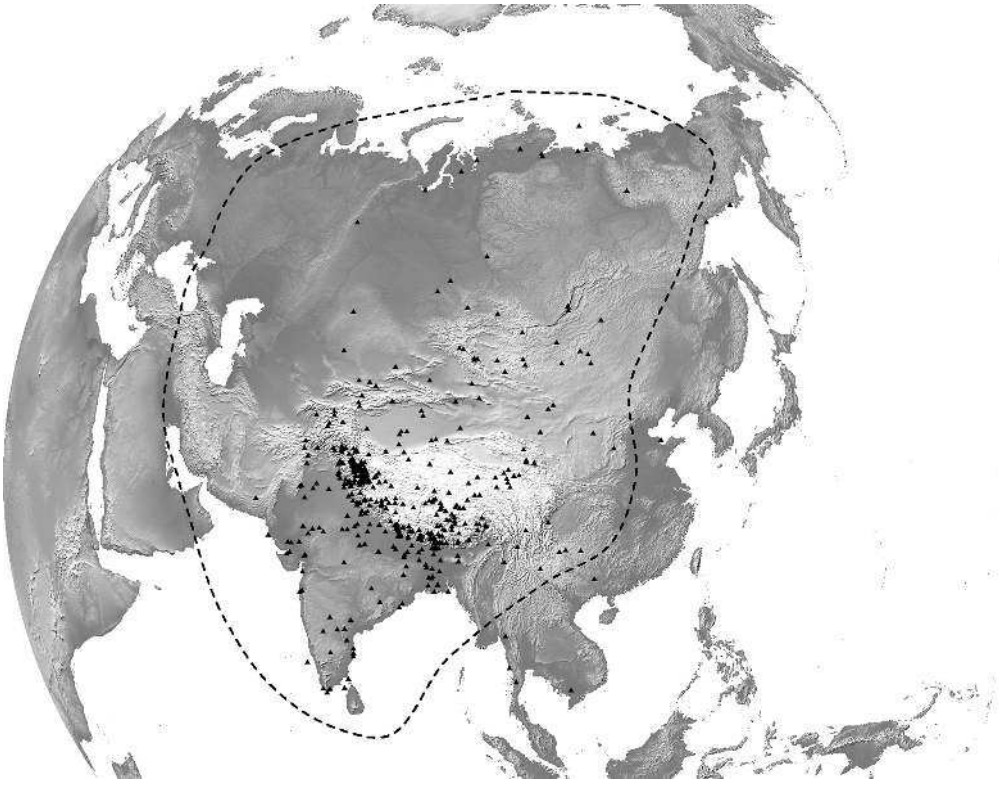

Map of the Central Asian Flyway (outer limits indicated by dashed line). Triangles refer to all localities mentioned in this book as presented in the Gazetteer at the end of the book. The map was produced by Yorick Liefting in ArcGIS 10.2.2 on the 'Gray Earth' base-map from www.naturalearthdata.com

Bird Migration Across the Himalayas

Wetland Functioning Amidst Mountains and Glaciers

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THE DALAI LAMA

FOREWORD

Bird migration is one of the natural wonders of the world. As they traverse the earth, with no regard for national borders, birds exercise a freedom to which could be the envy of many people. Every spring and autumn, the lakes and rivers, plains and forests of Tibet teem with migratory birds. As a child, they fascinated me, whether they were red-billed choughs in the crevices of the Potala, the elegant black-necked cranes landing and dancing on the marshes around the Norbulingka, or the majestic vultures soaring in the skies above Lhasa. These birds enchanted me.

When I was in Tibet, bird life across the Tibetan Plateau was rich. They brought life and beauty to the stark Tibetan landscape. Not only were there laws to protect nature and the environment, but also the Tibetan Government assigned guards to protect birds and their eggs at nesting time. In the years following my arrival in India, Tibetans from Tibet and non-Tibetans who have traveled there have told me about the steep decline in all kinds of wildlife, including birds. They say the habitats are being destroyed by reckless activities, including mining, leading to depletion of forest cover and pollution, etc.

As much as we human beings have right to the natural habitat of our mother earth, other inhabitants on this earth also have the same right to thrive peacefully. Although we need development and modernization, their purpose is to create joy and alleviate suffering. In doing so, if we forget to consider the wellbeing of other living creatures, how could we justify our human intelligence? Birds and other living creatures hardly endanger the lives of humans; conversely, our actions have detrimental consequences on their lives. Therefore, I hope that this book on 'Bird Migration Across the Himalayas' would help the readers to understand the lives of tens of thousands of birds across the Himalayas, and inspire them to extend their compassion towards other living species as well.

February 2, 2017

Preface

This book grew out of our deep fascination for the Himalayas and their wildlife. The Himalayas (meaning 'the abode of snow' in Sanskrit) include the highest mountains on our planet, and the region is sometimes considered 'the third pole' because of its massive ice and snow deposits. The Himalayas and the adjoining Tibetan Plateau also have innumerable high-altitude lakes. Visiting some of these wetlands, teeming with birds, and trekking to reach them was exciting and adventurous. We crossed high passes, traversed vast expanses of dry plateaus, waded through strong Himalayan torrents, walked across the steepest slopes and ploughed through deep snow. We saw Lammergeyers flying high, Robin Accentors flitting from boulder to boulder, Horned Larks feeding their downy young on tawny slopes and flocks of Yellow-billed Choughs indulging in high-altitude acrobatics. We also heard passerines such as Rosefinches singing the most melodious songs.

While trekking through the high Himalayas, we always envied the birds cruising overhead, leaving us behind, slogging across steep slopes. We often looked up at them wistfully and wondered: Where did they come from and where are they headed? Sitting on a high pass, thinking about the next trough and the crest to be scaled (people who have flown from New Delhi to Leh in Ladakh on a clear morning would recognize these landscape features), we heard a flock of Bar-headed Geese calling on their way north. After hours of plodding across a desolate plateau, we reached a high-altitude lake, where we observed some geese, touted as the highest-flying bird in the world, foraging on the first grass blades of the season.

The migratory birds visit these high-altitude lakes every year, come what may, in both autumn and spring. Needless to say, they face a lot of hardships on their way to these wetlands. The most prominent of these is the effort required to cross some of the highest mountains and plateaus in the world, but others include pesticide pollution and loss of habitat in breeding, staging and wintering areas. While crossing the high mountains and plateaus, the birds face snowstorms, rains, raptors and terrestrial predators preying on them at the staging sites. Some birds ultimately succumb to these threats. Indeed, we have seen carcasses of Golden Oriole and Common Kestrel in areas higher than 4500 m above sea level. Some of these migratory birds arrive at high-altitude wetlands in spring, feed and raise their chicks during the short summer and then return to wintering areas in autumn. Others cross the mountains from their breeding grounds far to the north, in the Arctic or in the taiga of Siberia, on their way to spend the winter in the Indian subcontinent or even Africa. During our treks, we have seen Horned Larks and

Redshanks feeding on narrow strips of sedge meadows, sometimes no bigger than 20 m by 5 m. Some species also stop at small, ephemeral pools of water no bigger than 10 m^2, formed as a result of short bursts of rain, to feed on aquatic invertebrates.

Given their often wide ranges of distribution, the future of these birds is uncertain because their survival depends not only on the proper functioning of wetland ecosystems in one country, but also on the functioning of ecosystems in many countries spread over more than one biogeographic realm. Thus, the long-distance migratory birds in the Central Asian Flyway will survive and continue to amaze with their flights only if the small, dispersed wetlands along the route are protected alongside wetlands in the subarctic and the Indian subcontinent, and if other protection measures within this flyway are taken soon. For this to be accomplished, government agencies in Central Asia and the Indian subcontinent need to come forward and collaborate on local and international conservation efforts. Such efforts, also transcending national boundaries, are essential to ensure the survival of the spectacular migrations across the highest mountain range in the world.

After spells of trekking in the mountains, we got back to our offices and tried to learn more about the migratory birds we had observed, but, to our disappointment, there was very little to be found, especially when it came to understanding the migratory routes these birds take. Although ringing programmes had generated some information about the origins and destinations of migratory birds, there was only very limited data on their exact migratory paths.

We even tried to tap the deep knowledge of the holy men who live in the great Buddhist monasteries of the Himalayas. In the Ki Monastery (founded in about 1040 CE) there was a monk walled up in his room. It had only a small window from which he could observe the outside world, and through which he got his food. He had profound knowledge of the Blue Sheep (*Bharal*) and their comings and goings on the slope he could monitor. He spent all his waking hours observing the small fraction of the sky that he could see to study the movements of Red-billed Choughs, Ravens and Golden Eagles, but he could not give us information about the great bird migrations across the Himalayas. When the abbot of the monastery, His Eminence Lochen Rinpoche, asked us whether we were in search of enlightenment, we denied it from a spiritual point, but asked him whether he could help us understand the past. His Eminence is believed to be one of the most frequently reincarnated people on earth, but he explained to us that it was the subtle consciousness (roughly translated as 'soul'), not the mind, that was involved. In other words, his memory only stretched as far as the youth of his present body and he could not tell us whether nature and its climate were different now as compared to centuries ago. He advised us to delve deeply into science to better understand wildlife and the migration of birds across the Himalayas.

The idea of this book was conceived during a visit to the Grand Canyon, Arizona, on a foggy day in 2013. The Canyon was filled with mist from rim to rim, and although our view of the canyon was obscured, we did begin to visualize a book on bird migration across the Himalayas. We discussed possibilities, opportunities and challenges at length. This book is aimed at stimulating further research into and conservation of migratory birds in Asia. We learned much from the different authors, and we are certain that much

more can be learned. The Central Asian Flyway encompasses some of the most exciting places on earth, and the vast stretches of land between the Arctic Ocean and the Indian Ocean are awe-inspiring. The Central Asian Flyway is one of the most vulnerable flyways in the world, and it needs urgent protection measures. This book, we hope, will inform and persuade policy-makers and conservation practitioners to take appropriate measures to safeguard the bird migration systems in the Himalayas and beyond. Finally, we hope that the Himalayas remain well known not only for their geological and geographical wonders, but also for their avian populations and migrations.