

## Overflying the Himalayas; the Northward Migration of Sri Lankan-wintering Brown-headed Gulls

PABG Panagoda<sup>1,2</sup>, T Mundkur<sup>3</sup>, S Balachandran<sup>4</sup>, SW Kotagama<sup>1</sup>, F Meng<sup>5</sup>,  
B Zhang<sup>5,6</sup>, C Lei<sup>5,6</sup> and SS Seneviratne<sup>1,2#</sup>

<sup>1</sup> Field Ornithology Group of Sri Lanka, Department of Zoology and Environment Sciences,  
University of Colombo, Sri Lanka

<sup>2</sup> Avian Sciences and Conservation, Department of Zoology and Environment Sciences,  
University of Colombo, Sri Lanka

<sup>3</sup> Good Earth Environmental, De Pas 148, Arnhem, 6836HN, The Netherlands

<sup>4</sup> Bombay Natural History Society, Hornbill House, Shahid Bhagat Singh Rd, Lion Gate,  
Fort, Mumbai, Maharashtra 400001, India

<sup>5</sup> State Key Laboratory of Urban and Regional Ecology, Research Center for Eco-  
Environmental Sciences, Chinese Academy of Sciences, China

<sup>6</sup> University of Chinese Academy of Sciences, Beijing, 100049, China

# sam@sci.cmb.ac.lk

The Himalayan Mountain range, an average elevation of 6,100 m above mean sea level (AMSL), forms the most formidable geographic barrier to birds migrating along the Central Asian Flyway (CAF). In an attempt to understand the poorly studied migration routes of species occurring in the CAF, we are tracking several migratory waterbird species including Brown-headed Gull *Larus brunnicephalus* from Sri Lanka, which encounters the Himalayas during its northward migration to reach its breeding grounds in south-central Asia. In March-April of 2021 and 2022, two Brown-headed Gulls were caught at their non-breeding sites in Mannar Island of Sri Lanka, and were fitted with GPS-GSM transmitters, just before their northward migration, and their movements were tracked. The birds departed Mannar between 25<sup>th</sup> April and 14<sup>th</sup> May and arrived at their breeding grounds on the Tibetan plateau between 4<sup>th</sup> and 20<sup>th</sup> May. This northward journey of the gulls lasted  $7.5 \pm 2.1$  (Mean  $\pm$  SD) days during which they covered a distance of  $3,173.2 \pm 534.3$  km. Both gulls stopped over in the Ganges River, India, for approximately two days. Accordingly, their overall migration speed (including stopover duration) was  $451.2 \pm 198.9$  km/day while the travel speed on travel days was  $24.2 \pm 10.5$  km/h. During migration, the gulls crossed the Himalayas through Nepal at an altitude of  $5,744.1 \pm 298.5$  m AMSL. In the course of this crossing, they flew  $888.0 \pm 116.8$  m above ground (where surface elevation is  $4,856.1 \pm 181.7$  m AMSL), over the peaks of Panbari Himal & Cho Oyu. This is the first evidence of the Brown-headed Gull encountering such high altitudes during migration. Weighing only  $372.5 \pm 53.0$  g, the Brown-headed Gull is likely to be the lightest gull species to be recorded to cross the Himalayas.

**Keywords:** brown-headed gull, Himalayan crossing, central asian flyway