

Original Article

Morphology, Diet Composition, Distribution and Nesting Biology of Four Lark Species in Mongolia

Galbadrakh Mainjargal¹, Bayarbaatar Buuveibaatar^{2*} and Shagdarsuren Boldbaatar¹

¹Laboratory of Ornithology, Institute of Biology, Mongolian Academy of Sciences, Jukov Avenue, Ulaanbaatar 51, Mongolia, Email: gmainjargal@yahoo.com

²Mongolia Program, Wildlife Conservation Society, San Business Center 201, Amar Str. 29, Ulaanbaatar, Mongolia, email: buuveibaatar@wcs.org

Abstract

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Correspondence*:

buuveibaatar@wcs.org

We aimed to enhance existing knowledge of four lark species (Mongolian lark, Horned lark, Eurasian skylark, and Lesser short-toed lark), with respect to nesting biology, distribution, and diet, using long-term dataset collected during 2000–2012. Nest and egg measurements substantially varied among species. For pooled data across species, the clutch size averaged 3.72 ± 1.13 eggs and did not differ among larks. Body mass of nestlings increased significantly with age at weighing. Daily increase in body mass of lark nestlings ranged between 3.09 and 3.89 gram per day. Unsurprisingly, the majority of lark locations occurred in steppe ecosystems, followed by human created systems; whereas only 1.8% of the pooled locations across species were observed in forest ecosystem. Diet composition did not vary among species in the proportions of major food categories consumed. The most commonly occurring food items were invertebrates and frequently consumed were being beetles (e.g. Coleoptera: Carabidae, Scarabaeidae, and Curculionidae) and grasshoppers (e.g. Orthoptera: Acrididae), and their occurrences accounted for 63.7% of insect related food items. Among the five morphological traits we measured, there were significant differences in wing span, body mass, bill, and tarsus; however tail lengths did not differ across four species.

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Introduction

The larks (*Alaudidae*) are a speciose family of small to medium-sized, cryptically plumaged, primarily terrestrial passerines (de Juana *et al.*, 2004). The family Alaudidae is comprised of 5 genera with 9 species of larks currently recognized in Mongolia (Gombobaatar & Monks, 2011). In Mongolia, larks are found in a wide variety of habitats ranging from deserts to steppes and high altitude mountainous areas. While the Mongolian lark and horned larks are resident breeders, lesser short-toed lark and Eurasian skylarks are considered as breeding visitor (Gombobaatar & Monks, 2011). Red (*Vulpes vulpes*) and corsac

foxes (*V. corsac*), Halys viper (*Gloydius halys*) prey upon eggs and young chicks in the nests (Gantulga, 2006; Gombobaatar & Gantulga, 2008). They are one of main prey items of the raptors particularly saker falcon (*Falco cherrug*; Gombobaatar, 2013).

The global population of four larks are approximately 10 million – 1 billion mature individuals within estimated ranges of 26–33 million km² (BirdLife International, 2013); however, there are no population estimates for these species in Mongolia. Although the four lark species are subject to habitat loss and