

Breeding notes on Bengal Bushlark in a fragmented habitat of Bangladesh

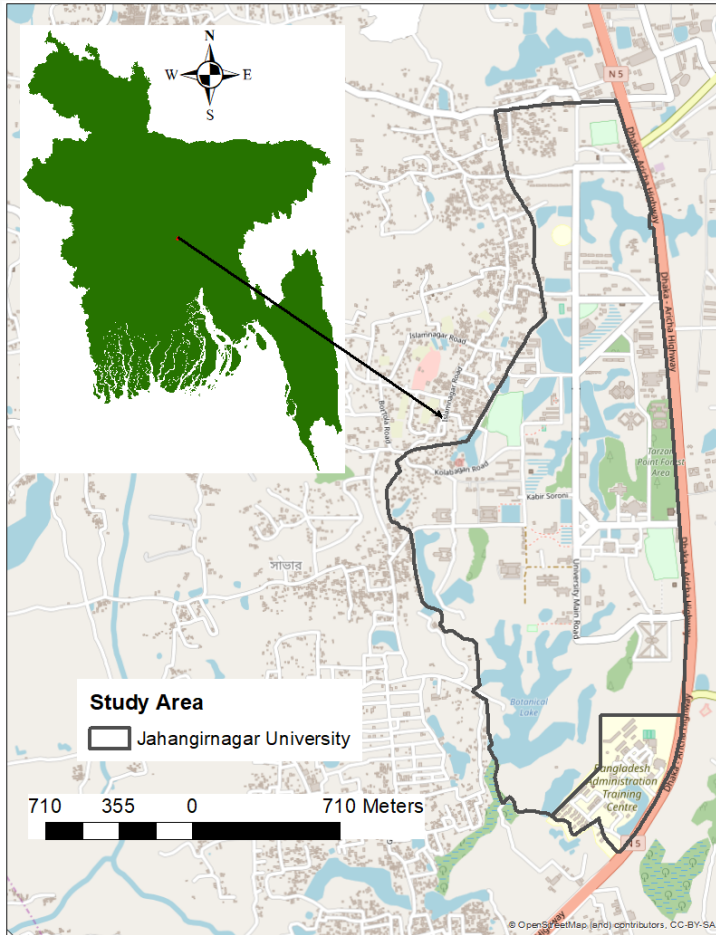
The Bengal Bushlark *Mirafra assamica* is a common passerine bird species which is widely distributed throughout south and southeast Asia. *Mirafra assamica* differs from congener *M. affinis*, *M. erythrocephala* and *M. microptera* through habitat selection, call, flight movement and other types of behavior (Alström 2018). The species is very common and found throughout the country. This species is documented as 'Least Concern' (Onu 2015). It is usually observed in pairs, sometimes solitary or in small groups. It prefers to forage in open grassland, paddy field, bushy area or fallow land (Onu 2015). It feeds on seeds, weevils, beetles, and other insects (Haque & Kamruzzaman 2008). However, the breeding behavior of this species is poorly known. Here, we described some observations on breeding activities of the Bengal Bushlark at Jahangirnagar University Campus (23.8797° N, 90.2680° E)



Nest of Bengal Bushlark.



Eggs of Bengal Bushlark.



Map of the Jahangirnagar University campus in central Bangladesh.

Jahangirnagar University Campus is far away from, about 32 km north of Dhaka, the capital of Bangladesh. The study area has diverse ecological habitat and locally is well known for its large number of bird species (Nahid et al. 2016, 2020). The study area supports a total of 195 bird species belonging to 43 families (Begum 2016). The Bengal Bushlark has been confirmed as a resident breeding bird species in this area (Begum 2016). The

climate of the study area is hot and humid during summer with rain whereas dry and cool during winter (Nahid et al. 2018). A total of 917 species of vascular plants have been identified from this area belonging to 574 genera and 145 families (Khan et al. 2021).

On 1 May 2013, we identified a nest built by the Bengal Bushlark in an open grassland habitat of the study site for the first time. The

cup-shaped nest was located on the ground and made of long dried grass on the top and small soft grass on the ground. The Bengal Bushlark builds its nest on the ground in a shallow depression or cattle hoof-print and the nest is lined with finer grass and placed under a dome of growing grass (Haque & Kamruzzaman 2008). A total of six nests of Bengal Bushlark was found in that grassland habitat during May 2013 (Table 1). Two nests were found with eggs among which one nest had two eggs and another nest had three eggs (Table 1). The eggs of Bengal Bushlark were brown in color with dark to brown blotches on the blunt end. The average size of Bengal Bushlark eggs was 19.5 x 16 mm (n= 2). The female usually lays 3–4 greenish eggs with 2 x 1.5 cm in size (Haque & Kamruzzaman 2008).

During the study period, two Bengal Bushlark nests were predated, and four nests were destroyed. Nests containing eggs were predated, however, the complete but empty nests were destroyed (Table 1).

Table 1. Overview of Bengal Bushlark nests found in 2013.

Nest No.	Date nest found	Nest content	Predated/Destroyed	Date of Predated/Destroyed	Nest GPS Position
1	1.v.2013	2 eggs	Predated	4.v.2013	23.8770°N 90.2653°E
2	8.v.2013	Empty, complete nest	Destroyed	10.v.2013	23.8771°N 90.2651°E
3	9.v.2013	3 eggs	Predated	12.v.2013	23.8771°N 90.2651°E
4	17.v.2013	Empty, complete nest	Destroyed	18.v.2013	23.8771°N 90.2651°E
5	17.v.2013	Empty, complete nest	Destroyed	19.v.2013	23.8770°N 90.2653°E
6	27.v.2013	Empty, complete nest	Destroyed	29.v.2013	23.8771°N 90.2650°E

The potential nest predator might be Bengal Monitor Lizard *Varanus bengalensis*, Small Indian Mongoose *Herpestes auropunctatus* and different species of snakes as it was very common in this habitat (pers. obs.) (Nahid et al. 2020). All the nests were located very close to human movement trail in the grassland habitat. People living around the grassland habitat grazed their livestock in that area, as a result both human and livestock used to move randomly in the grassland. Though the nests were well camouflaged with the surroundings, accidentally the nests were destroyed by unintentional activities by the local people. It might be most of the nests

were destroyed while walking through the grasses. Ground or close to ground nests are more prone to predation (Isaksson et al. 2007; Nahid et al. 2016) and rodents, squirrels, and monitor lizards play a very important role

in nest predation (Pangau-Adam et al. 2006; Nahid et al. 2020).

Our observations provide the initial information on breeding behavior of the Bengal Bushlark. This result will lead



Predated nest of Bengal Bushlark.

to further studies on the breeding biology of this species especially incubation period, nestling, fledgling, and parental behavior. This observation will also help to conserve the breeding ground of the Bengal Bushlark as their nests are at high risks of being predated or destroyed.

References

- Alström, P. (2018).** Bengal Bushlark *Mirafra assamica*. In: del Hoyo, J., A. Elliott, J. Sargatal, D.A. Christie & E. de Juana (eds.). *Handbook of the Birds of the World Alive*. Lynx Editions, Barcelona.
- Begum, S. (2016).** *Birds of Jahangirnagar University Campus*. Dhaka: Arannayk Foundation Bangladesh, 96 pp.
- Haque, E.U. & M. Kamruzzaman (2008).** Bengal Bushlark, pp. 499–500. In: Siddiqui, K.U., M.A. Islam, S.M.H. Kabir, M. Ahmad, A.T.A. Ahmed, A.K.A. Rahman, E.U. Haque, Z.U. Ahmed, Z.N.T. Begum, M.A. Hassan, M. Khondker & M.M. Rahman (eds.). *Encyclopedia of Flora and Fauna of Bangladesh*. Vol. 26: *Birds*. Asiatic Society of Bangladesh, Dhaka.
- Isaksson, D., J. Wallander & M. Larsson (2007).** Managing predation on ground-nesting birds: The effectiveness of nest enclosures. *Biological Conservation* 136: 136–142.
- Khan, S.A., S. Sultana, G.M. Hossain, S.S. Shetu & M.A. Rahim (2021).** Floristic composition of Jahangirnagar University Campus-A semi-natural area of Bangladesh. *Bangladesh Journal of Plant Taxonomy* 28(1): 27–60.
- Nahid, M.I., F. Fossey, B.G. Stokke, S. Begum, E. Røskoft & P.S. Ranke (2020).** How does human disturbance affect brood parasitism and nest predation in hosts inhabiting a highly fragmented landscape? *Global Ecology and Conservation* 24: e01295. <https://doi.org/10.1016/j.gecco.2020.e01295>.
- Nahid, M.I., F. Fossey, S. Begum, E. Røskoft & B.G. Stokke (2016).** First record of Common Tailorbird *Orthotomus sutorius* parasitism by Plaintive Cuckoo *Cacomantis merulinus* in Bangladesh. *Avian Research* 7: 14.
- Nahid, M.I., S. Begum, M.M. Feeroz & M.K. Hasan (2018).** Yellow-footed Green Pigeon: Notes on nesting behaviour of *Treron phoenicoptera* in a semi-urban area of Bangladesh. *Bird-o-soar* #15. In: *Zoo's Print* 33(4): 15–18
- Onu, T. (2015).** *Mirafra assamica*. In: IUCN Bangladesh. *Red List of Bangladesh Volume 3: Birds*. IUCN, International Union for Conservation of Nature, Bangladesh Country Office, Dhaka, Bangladesh, 427pp.
- Pangau-Adam, M.Z., M. Walter & M. Mühlenberg (2006).** Nest predation risk on ground and shrub nests in forest margin areas of Sulawesi, Indonesia. *Biodiversity and Conservation* 15: 4143–4158.
- Acknowledgements:** We are indebted to Md. Yousuf and Monoronjon Baroi for their tremendous help in fieldwork. The authors are grateful to the authority of Wildlife Rescue Center (WRC) for logistics and support during the study.
- Mominul Islam Nahid¹, Md. Nimus Sadat Khan², Sajeda Begum³, Mohammed Mostafa Feeroz⁴ & Md. Kamrul Hasan⁵**
¹⁻⁵ Department of Zoology, Jahangirnagar University, Savar, Dhaka-1342, Bangladesh.
 Emails: ¹nahid_1511@yahoo.com (corresponding author), ²nskhan.ju38@gmail.com, ³bsajeda@yahoo.com, ⁴feerozmm@yahoo.com, ⁵mkhasan@juniv.edu
- Citation:** Nahid, M.I., M.N.S. Khan, S. Begum, M.M. Feeroz & M.K. Hasan (2021). Breeding notes on Bengal Bushlark in a fragmented habitat of Bangladesh. *Bird-o-soar* #106, In: *Zoo's Print* 36(11): 52–55.