

Burmese/Malayan Spotted dove (*Spilopelia chinensis tigrina*) (Aves: Columbiformes) in rural and urban areas of Bangladesh

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Abstract

In nature both rural and urban areas are significant for avian diversity. In Bangladesh, spotted dove (*Spilopelia chinensis tigrina*) is very common and widely distributed (Figure 1; Plates 1-2). If a bird is available in nature, we should try to find the reasons for their ultimate conservation. In this regard, this article could initiate to establish birds that are less in nature. At the time of journey, living in rural or urban and workplace helped to write this article on the availability and breeding of spotted dove. A pair of binoculars used to identify dove species. In addition, an android mobile phone and DSLR camera was helpful for sufficient snaps. Result suggested based on the dove species especially emphasized in four districts of Bangladesh—Kushtia, Rajshahi, Nilphamari, and Dinajpur. Out of 15 pairs and from 17 squab, the survival young were 9 (52.94%) (Table 1).

Introduction

The number of spotted dove (*Streptopelia chinensis tigrina*) in rural and urban areas of Bangladesh are remarkable. Spotted doves are very clean and have good interaction with humans. The global distribution of this dove is Bangladesh, India, Myanmar, Sri Lanka, Assam, USA, Australia, and New Zealand. The alternative names of this dove are lace-necked dove, necklace dove, pearl-necked dove, Chinese spotted dove, Spotted turtle-dove, and Indian dove accordingly. IUCN Bangladesh (2015) mentioned this species as Eastern spotted dove (total length 30 cm) with the subspecies *tigrina* recently and in the country its status is Least Concern (LC); it has two synonyms—*Columba chinensis*, and *Stigmatopelia chinensis*. Cantonment areas [15], and its teachers' quarters [17], and rice mills are target places for many birds as well as pigeons and doves [19]. Phenotypically, subspecies *tigrina* is small, highly patterned *suratensis* with the nominate *chinensis*, and intermediate populations occur near the India-Burma border [3]. Outer rectrices show more extensive white than *suratensis* but less than in *chinensis* [9]. [4], [11], and Gibbs *et al.*, (2001) mentioned four, five and seven subspecies of this spotted dove in their books. Himalayan populations move to lower altitudes in winter; and a summer visitor to northern Pakistan, although some remain in winter at lower altitudes [29]. The spotted dove (*Streptopelia chinensis*) is more common and familiar species around human habitation in India [2]. It is seen in open forests, secondary growth, wooded and cultivated country, parks and gardens, verandas of houses, inhabited bungalows, and agricultural fields [2]. In Australia, it has a large population [7]. The molecular

phylogeny is related to laughing dove (*Spilopelia senegalensis*) and *Nesoenas* [9]. The objective of this study is to observe the distribution, abundance, and breeding activities of this dove both in rural and urban areas of Bangladesh.

Classification

Phylum-	Chordata
Subphylum-	Vertebrata
Class-	Aves
Order-	Columbiformes
Family-	Columbidae
Genus-	<i>Spilopelia</i>
Species-	<i>chinensis</i>
Subspecies-	<i>tigrina</i>
Trinomial name:	<i>Spilopelia chinensis tigrina</i> (Temminck, 1809)





Materials and Methods

Spotted doves were observed through the window of vehicles at the time of any journey. A pair of binoculars (vixen, joyful H6×18 mm, palm-sized compact binoculars) used to observe this species. A DSLR camera (Canon, EOS Rebel T3i) camera helped to take remarkable snaps in order to identify the taxonomy. At the jogging time at dawn, and in living places, an android mobile phone (oppo) was good for taking occasional photographs and voice recordings. From morning to evening, doves observed with their number, habitat, and breeding biology.

Results and Discussion

Food source of doves

People throw food waste from the kitchen, so their numbers were significant. This dove sometimes takes winged termite [28]. A study on this dove in Hawaiian Islands noted 55 species of plants, 07 species of animals, both 77% of grits and seeds, and 23% fruits in their gizzard [27]. In residential areas, doves take cat and dog food from outdoor pet dishes. The food habit of this dove is mainly plants and sometimes they take few animals [5]. About 90 percent of the kitchen waste is plant-based [32] in northern China to attract the spotted doves. China's kitchen waste recycling system is not perfect, so this is rich source of food for spotted doves [7].

Predator of doves

Many squabs fall from the trees during fledging, and street dogs, cats, and mongooses catch them for their food. In Australia, the predator of dove is Nankeen kestrel (*Falco cenchroides*) [22]. Predation of adults, juveniles, nestlings, and eggs by mongooses (*Herpestes javanicus*) is commonplace in Hawaiian Islands; other predators include roof rats (*Rattus rattus*) and common myna (*Acridotheres tristis*) [27]. House crow (*Corvus splendens*), Indian treepie (*Dendrocitta vagabunda*), and peregrine falcon (*Falco peregrinus*) are the major avian predators for pigeons in Bangladesh [18].

Breeding biology

They make nest near human habitation (adjacent trees, side of pond, creeks of building, under roof, etc.). Most of the time, doves cannot settle their nest for human activities in urban and rural areas. Fifty percent of nesting success for the spotted dove was also reported in earlier works [30]. For every attempt at breeding, the pair laid two eggs (Kumar, 1981; 2; 1) or rarely three [2]. [25] reported that young left the nest three weeks after hatching when under captive breeding. Nidification parameters include the number of eggs, egg-laying frequency, incubation period, and hatching were similar in captivity [23].

Male appears to take lead in selecting nest site [12]. Their nest is usually simple and consists of only dozens of twigs [33]. It has three moulting stages—pre-juvenile moult (30-35 days), prebasic moult (60-70 days), definitive prebasic moult (variable timing, sexes indistinguishable by plumage) [9]. In cities birds have fewer predators than the wild [34]. This dove could breed throughout the year [2; 1; 24; 13].

Population trends in California probably are affected by landscape changes with increasing urbanization and loss of agricultural and natural habitats. However, increasing human density in expanding urban regions and cumulative loss of open space and old trees may be factors in the doves' decline. The same statement is applicable in the case of Bangladesh. There is a correlation between local spotted dove declines and increasing populations of the American crow (*Corvus brachyrhynchos*) and eastern fox

Table 1. Observed the breeding biology of some pairs of spotted doves

<i>Observed pairs</i>	<i>Rural and urban areas</i>	<i>Continuity of breeding</i>	<i>Total squabs</i>	<i>Luck/Fate</i>	<i>Survival of squab</i>
<i>Pair 1</i>	<i>Moragacha</i>	<i>Yes</i>	<i>2</i>	<i>Captured by boys; 1 was caught by roof rat</i>	<i>1</i>
<i>Pair 2</i>	<i>Cantonment Public School</i>	<i>No</i>	<i>-</i>	<i>-</i>	<i>-</i>
<i>Pair 3</i>	<i>Cantonment Public School</i>	<i>Yes</i>	<i>1</i>	<i>Kept with fawn dove</i>	<i>1</i>
<i>Pair 4</i>	<i>Saidpur Upazila</i>	<i>Yes</i>	<i>2</i>	<i>Captured by vagabond; finally died</i>	<i>0</i>
<i>Pair 5</i>	<i>Bheramara</i>	<i>Yes</i>	<i>2</i>	<i>Captured by boys; finally died</i>	<i>0</i>
<i>Pair 6</i>	<i>Bheramara</i>	<i>Yes</i>	<i>1</i>	<i>Survive</i>	<i>1</i>
<i>Pair 7</i>	<i>Bangalipur</i>	<i>No</i>	<i>-</i>	<i>-</i>	<i>-</i>
<i>Pair 8</i>	<i>Bangalipur</i>	<i>No</i>	<i>-</i>	<i>-</i>	<i>-</i>
<i>Pair 9</i>	<i>Parbatipur road</i>	<i>Yes</i>	<i>2</i>	<i>Survive</i>	<i>2</i>
<i>Pair 10</i>	<i>Parbatipur road</i>	<i>No</i>	<i>-</i>	<i>-</i>	<i>-</i>
<i>Pair 11</i>	<i>Teachers' quarters</i>	<i>Yes</i>	<i>2</i>	<i>Caught by domestic cat</i>	<i>0</i>
<i>Pair 12</i>	<i>BAUST area</i>	<i>Yes</i>	<i>1</i>	<i>Caught by domestic cat</i>	<i>0</i>
<i>Pair 13</i>	<i>Rajshahi</i>	<i>Yes</i>	<i>1</i>	<i>Survive</i>	<i>1</i>
<i>Pair 14</i>	<i>Kushtia</i>	<i>Yes</i>	<i>1</i>	<i>Survive</i>	<i>1</i>
<i>Pair 15</i>	<i>Saidpur town</i>	<i>Yes</i>	<i>2</i>	<i>Survive</i>	<i>2</i>
<i>Total</i>			<i>17</i>		<i>9 (52.94%)</i>

squirrels [9]. In Bangladesh, house crow (*Corvus splendens*) is major avian pest for pigeons and doves. Subspecies *tigrina* trapped or shot for food in northern Thailand without decrease in population [6], but in Bangladesh some tribal people are culturally habituated to hunt this dove for their meat consumption [20]. The overall issue of management of nonnative nongame bird species (*Streptopelia* doves, waterfowl, various parrots, *Euplectes* bishops, and *Lonchura* mannikins) in California has not formally addressed [8]. Since in Bangladesh, there is no hunting season to hunt animals nationally. Spotted dove remains abundant in much of the greater Los Angeles urban area [9]. As a common bird in many cities in China, the spotted dove's feeding choice may determine its dominant position in the urban ecosystem. The same abundance of spotted dove in most rural and urban areas of Bangladesh is comparable with this quote. Birds have more nesting sites and less predator in cities [31], and food is relatively more abundant in urban areas. Birdseed vendors are available at the seaside and parks [26]. This study is agreed with this statement as a whole.

Conclusions

Due to extensive forests in South East Asia, wild doves are usually found abundantly [16]. A core part of the urban ecosystem, birds provide high research value. The spotted dove might be a model species for studies of urban succession [9]. The culture to keep the spotted doves in cage has replaced by foreign doves (fawn doves and diamond doves). Sometimes, vagabonds are captured the adult or squab of this dove, but insufficient knowledge on care influence to die those chicks. Tribal people of Bangladesh trained doves for hunting other doves [20] and sold for meat consumption, but this scenery is rare now. The situation of spotted dove in rural and urban areas of Bangladesh described, and provided information for improving the biodiversity of both ecosystems based on the living status of the spotted dove (*Spilopelia chinensis tigrina*).

References

1. Ali, S. 1996. *The Book of Indian Birds* (12th edn.). Bombay Natural History Society & Oxford University Press. Pp. i-iiiv, 1-354.
2. Ali, S. and Ripley, S. D. 1983. *Handbook of the Birds of India and Pakistan together with those of Bangladesh, Nepal, Bhutan and Sri Lanka* (Compact edn.). Oxford University Press, Delhi, Pp. i-xiii, 1 i., pp. 1-737, 56 ii.
3. Ali, S. and S. D. Ripley. 1969. *Handbook of the Birds of India and Pakistan* (Vol. 3): Stone curlews to owls. Oxford University Press, New York.
4. Ali, S. and S. D. Ripley. 2001. *Handbook of the Birds of India and Pakistan* (vol. 3). Oxford University Press, New Delhi, India. 327 pp.
5. Anhou, Y. and Jinsheng, M. 1992. A preliminary observation on the ecology of the pearl-necked turtle dove, in Chinese Journal of Zoology edited by Editorial Board of Chinese Journal of Zoology, pp. 38-52.
6. Deignan, H. G. 1945. *The Birds of Northern Thailand*. United States National Museum Bulletin 186.
7. Fan, Y. 2010. Influence of spotted doves' diet on their survival in China urban areas. *The 2nd International Conference on Biological Engineering and Medical Science*. DOI:10.54254/2753-8818/4/20220616

8. Garrett, K. L. 1998. Population trends and ecological attributes of introduced parrots, doves and finches in California. In: *Proceedings of the 18th Vertebrate Pest Conference* (eds. Baker, R. O. and Crabb, A. C.). University of California, Davis, CA, USA.
9. Garrett, K. L. and R. L. Walker. 2022. Spotted Dove (*Spilopelia chinensis*), version 1.1. In: *Birds of the World* (ed. Sly, N. D.). Cornell Lab of Ornithology, Ithaca, NY, USA. <https://doi.org/10.2173/bow.spodov.01.1>
10. Gibbs, D., Barnes, E., Cox, J. 2001. *Pigeons and Doves: A Guide to the Pigeons and Doves of the World*. Pica Press. 615 pp.
11. Goodwin, D. 1970. *Pigeons and Doves of the World* (2nd edn.). British Museum (Natural History). 446 pp.
12. Goodwin, D. 1983. *Pigeon and Doves of the World* (3rd edn.). Cornell University Press, Ithaca, NY, USA.
13. Grimmett, R. and Inskipp, T. 2005. *Birds of Southern India* (1st edn.). London: Christopher Helm. Pp.1-240.https://www.google.com/search?q=map+of+bangladesh&sca_esv=573472004&tbm=isch&source=lnms&sa=X&ved=2ahUKEwjE2cGe8vWBAXUv8TgGHXVhABIQ_AUoAXoECAMQAw&biw=1536&bih=731&dpr=1.25#imgrc=rTXudIH-w1wA4M
14. IUCN Bangladesh. 2015. *Red List of Bangladesh (Vol. 3): Birds*. IUCN, International Union for Conservation of Nature, Bangladesh Country Office, Dhaka, Bangladesh. pp. xvi+676.
15. Kabir, A. 2012. Breeding birds in Saidpur cantonment area, Bangladesh. *International Journal of Biochemistry and Bioinformatics* 2(10): 216-219.
16. Kabir, A. and Hawkeswood, T. J. 2021. A compilation on the taxonomic distribution of wild pigeons/doves in some parts of Asia and Australia. *Calodema* 972: 1-10.
17. Kabir, A. and Hawkeswood, T. J., Makhan, D. 2020. The vertebrate fauna of the teachers' quarters-2 of Saidpur Cantonment Public School and College, Nilphamari, Bangladesh. *Calodema* 730: 1-6.
18. Kabir, A. M. 2018. Common wildlife pests in pigeon keeping of Bangladesh. *Journal of Dairy, Veterinary & Animal Research* 7(5): 227-229.
19. Kabir, A., Makhan, D., Hawkeswood, T. J. 2019. Abundance of birds at roadside rice mills in Bangladesh. *Calodema* 727: 1-5.
20. Kabir, M. A. 2019. Birds were hunted through making trap in the past of Bangladesh. *EC Veterinary Science* 4(8): 681-683.
21. Kumar, S. A. 1981. A close study of the spotted dove. *Newsletter for Birdwatchers* 21(7): 5-9.
22. Pacher, J. 2010. Nankeen Kestrel takes Spotted Dove. *Australian Field Ornithology* 27(1): 35-37.
23. Rajashekara, S. and Rajashekara, M. G. 2016. On the breeding of Spotted Dove *Streptopelia chinensis*. *Indian Birds* 11(4): 91-93.
24. Rasmussen, P. C. and Anderton, J. C. 2005. *Birds of South Asia: the Ripley Guide* (1st edn.). Washington, D. C. and Barcelona: Smithsonian Institution and Lynx Editions. 2 vols. Pp. 1-378; 1-683.
25. Saxena, V. L., Pandey, E., Agarwal, S., Saxena, A. K. 2008. Execution of breeding and nidification

- behaviour in pigeon (*Columba livia*) and dove (*Streptopelia chinensis*). *Asian Journal of Experimental Science* 22(3): 405-410.
26. Schoech, S. J. and Bowman, R. 2001. Variation in the timing of breeding between suburban and wildland Florida scrub-jays: do physiologic measures reflect different environments? Edited by Marzluff, J. M. *et al.* Avian Ecology and conservation in an urbanizing world, 289-306.
 27. Schwartz, C. W. and E. R. Schwartz. 1949. A reconnaissance of the game birds of Hawaii. Territory of Hawaii: Board of Commissioners of Agriculture and Forestry.
 28. Sivakumaran, N. and Rahmani, A. R. 2005. Spotted Dove *Streptopelia chinensis* feeding on winged termites. *Journal of the Bombay Natural History Society* 102(1): 115.
 29. Spierenburg, P. 2005. *Birds in Bhutan: Status and Distribution*. Oriental Bird Club, Bedford, UK.
 30. Verghese, A. and Chakravarthy, A. K. 1978. Nesting activities and habitat preference of spotted dove, *Streptopelia chinensis* Scopoli in Bangalore. *Myforest* 14(3): 159-165.
 31. Vincze, E., Seress, G., Nagisz, M., Nakagawa, S., Dingemanse, N. J., Sprau, P. 2017. Does urban affect predation of bird nests? A Meta-analysis, *Frontiers in Ecology and Evolution* (Vol. 5).
 32. Yunyun, L., Ling-en, W., Gang, L., Shengkui, C. 2021. Rural household food waste characteristics and driving factors in China, *Resources, Conservation and Recycling* (Vol. 164).
 33. Zhou, Y. B., Zhang, X., Suo, J. Z., Jiang, G. H., Hu, J. C., Chen, J. 2006. Breeding ecology and nest-site selection of the spotted doves in northeastern Sichuan, China. *Chinese Journal of Zoology* 41(3): 7-12.
 34. Zu, K. L., Zhang, W. H., Hou, Y., Li X. Y., Liu, W., Li, Z. J. 2013. Seasonal dynamics and habitat selection of ruddy shelduck (*Tadorna ferruginea*) (Anseriformes: Anatidae) in alpine wetland ecosystem of southwest China. *Acta Zoologica Bulgaria* 65: 469-478.