

**HUNTER IN THE SHADOWS: VERTEBRATE DIET OF BROWN FISH OWL
(*KETUPA ZEYLONENSIS*) AT SATCHARI NATIONAL PARK IN BANGLADESH**

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The Brown Fish Owl (*Ketupa zeylonensis*), belonging to the family Strigidae is one of the 15 owls and 731 bird species in Bangladesh (Samad, 2019; Thompson and Chowdhury, 2025). This bird of prey is widely distributed throughout southern and southeastern Asia and across all habitat types in Bangladesh (IUCN Bangladesh, 2015; BirdLife International, 2016; Dias and Borker, 2023). According to the IUCN Red List of Threatened Species, this nocturnal bird is listed as Least Concern in Bangladesh, although its global status has not been evaluated yet (IUCN Bangladesh, 2015). In Bangladesh, Brown Fish Owl is widely distributed across various habitats, including deciduous and semi-evergreen woods, wetlands, and urban areas near water bodies (IUCN Bangladesh, 2015). Despite its wide distribution throughout the country, research on the Brown Fish Owl has been relatively neglected in Bangladesh. Few studies have been conducted on its diet elsewhere, reporting that they primarily feed on fish (Ali, 2002; Bindu and Balakrishnan, 2015; Grewal *et al.*, 2016; Dias and Borker, 2023; Lakshmanan *et al.*, 2024). Detailed information regarding its predation habits is scant in Bangladesh. Since this owl species is known to inhabit surrounding waterbodies and primarily feed on fish, we aimed to examine the preference of alternative food items in wooded areas. With this point of view, we investigated the predation behaviour and vertebrate prey items of Brown Fish Owl (*Ketupa zeylonensis*) at Satchari National Park in Bangladesh, where permanent water bodies are largely unavailable.

Satchari National Park (SNP) (242.91 ha) is a mixed-evergreen forest and a small part of Raghunandan Hill Reserve Forest (1520 ha) in northeastern Bangladesh (Ahmed and Naher, 2021). During our nocturnal mammal survey from 2020 to 2023, we recorded eight events of vertebrate predation by Brown Fish Owl (*Ketupa zeylonensis*) in SNP, whereas seven predation events were recorded during 2020 to 2021, and another in 2023 (Table 1). All the observations were made between 20:00 and 23:59 hours on different nights. We observed each predation event using a headlamp, a pair of binoculars from a safe distance and photographed when possible and recorded the location using a handheld GPS navigator (Garmin; eTrex10). We identified each vertebrate prey

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item up to genus or even species level using field guides (Hasan *et al.*, 2014; Khan, 2018) and consultation with experts. Brown Fish Owl used to catch the vertebrate prey with their strong legs and talons. They grabbed the prey by gliding over it using their extending talons and killed their prey and tore it into small pieces using talons and beak and then consumed it (Fig. 1A). All the herpetofauna predation events by *K. zeylonensis* were recorded during the monsoon (June to September) season near streams and artificial ponds. The mammal species was grabbed from human settlements in Satchari National Park.

The diet of Brown Fish Owl generally consists of a variety of foods, such as crabs, fish, frogs, reptiles, birds, mammals, and carrion (Ali, 2002; Bindu and Balakrishnan, 2015; Grewal *et al.*, 2016). Our study indicates, among the diet of Brown Fish Owl, amphibians comprised the major part (50%) followed by reptiles (25%), and mammals (25%) which is aligned with other studies by Lakshmanan *et al.*, (2024) (amphibians 61.18%, reptiles 6.58% and mammals 12.51%), and Dias and Borker, (2023) (amphibians 8.02 %, and reptiles 2.83%) in India. However, we found only one species of rodents (*Sancus murinus*) from our study (Fig. 1B), where four species of rodents, such as *Bandicota bengalensis*, *Millardia meltada*, *Mus booduga*, and *Tatera indica*, were previously reported from India (Neelanarayanan *et al.*, 1996; 1997).

Table 1: Vertebrate prey items of Brown Fish Owl (*Ketupa zeylonensis*)

Sighting No.	Sighting Date	Time	Prey Species
1	23/08/2020	20:17 hour	<i>Sancus murinus</i>
2	10/04/2021	21:16 hour	<i>Gecko gecko</i>
3	03/06/2021	22:14 hour	<i>Polypedates sp.</i>
4	27/06/2021	20:39 hour	<i>Calotes sp.</i>
5	08/07/2021	23:07 hour	<i>Polypedates sp.</i>
6	09/07/2021	21:55 hour	<i>Sancus murinus</i>
7	02/09/2021	22:33 hour	<i>Hoplobatrachus sp.</i>
8	06/07/2023	20:57 hour	<i>Microhyla sp.</i>

In our study, we followed the direct observation method and photographic evidence record to identify the prey items up to the genus or even species level. This approach is similar to the study used by Samad (2019), where some vertebrate prey groups (amphibians, reptiles and mammals) reported in the diet of the Brown Fish Owl from Bangladesh. However, this study (Samad 2019) didn't identify the prey items to the genus or species level. In earlier studies, prey items identified and reported through examining regurgitated pellets (Wadatkar *et al.*, 2014; Grewal *et al.*, 2016; Dias and Borke, 2023; Lakshmanan *et al.*, 2024) and genetic analysis (Callopy, 1983; Marti *et al.*, 2015). The observation from our study provides insight into the vertebrate prey items of Brown Fish Owl, other than fish, where unstable water sources like streams and small artificial ponds are only available as the source of drinking water for wildlife. Based on opportunistic sightings and small data samples, we disagree with stating strictly that the Brown Fish Owl's diet restricted to vertebrate items compared to aquatic fish items in this habitat. However, this study therefore recommends further systematic and long-term studies in mixed-evergreen habitats to emphasize the details diet chart and the ecological factors affecting their diet to adapt between habitat types in Bangladesh.

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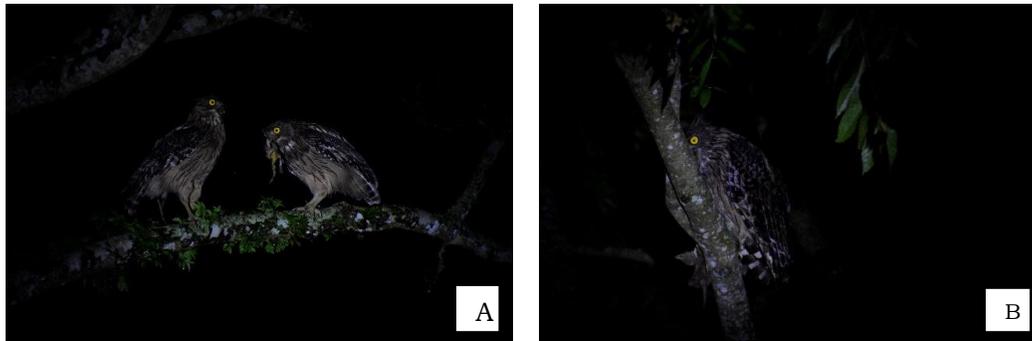


Fig. 1: Brown Fish Owl (*K. zeylonensis*) with their vertebrate preys (A: *Microhyla* sp. B: *Sancus murinus*)

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