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Cover: Emperor Tamarin *Saguinus imperator*: a look into a better world through the mustache lens – mixed media illustration. © Maya Santhanakrishnan.



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NOTE

## Mugger Crocodile *Crocodylus palustris* (Lesson, 1831) predation on Brown Fish Owl *Ketupa zeylonensis* (J.F. Gmelin, 1788), with notes on existing literature regarding their predation on birds

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The Mugger Crocodile *Crocodylus palustris* (Lesson, 1831) is a medium-sized crocodile distributed across the Indian subcontinent and bordering regions. It is listed as a CITES Appendix I species and considered ‘Vulnerable’ by the IUCN Red List (Choudhury & de Silva 2013). Researchers have reported it to be a generalist predator, with its diet at various age classes including invertebrates, fish, amphibians, reptiles, birds, and mammals (Whitaker & Whitaker 1989; Bhatnagar & Mahur 2010).

On 23 March 2023 at 0814 h, the authors were rounding a bend on the Girwa River in Bardiya National Park, Nepal (28.4719 N, 81.2468 E), when an observation of a Brown Fish Owl *Ketupa zeylonensis* (J.F. Gmelin, 1788) wading in shallow water at the river’s edge was made. At that moment, a Mugger Crocodile burst from the water and caught the owl in its jaws. Upon securing the bird, the crocodile appeared to respond to the authors’ presence by swimming away and concealing itself beneath the cover of a submerged tree. The owl was confirmed as a Brown Fish Owl by Valia Pavlou of the Natural History Museum of Crete due to the pattern of the feathers (Valia Pavlou pers. comm. 25.i.2024). Photographic vouchers of the crocodile with the owl

were deposited in the Zoological Reference Collection (ZRC) of the Lee Kong Chian Natural History Museum.

A literature review of observations of birds in the diet of Mugger Crocodiles reveals several instances. Battye (1945) witnessed a crocodile taking a struggling “whistling-teal” that he had just shot in a lake in Basur, Bastar State (modern-day Chhattisgarh, India). Whitaker (1978) reported Cattle Egret *Bubulcus coromandus* feathers in crocodile dung in Gir National Park, Gujarat, India. Whitaker & Whitaker (1989) cited “various authors” as reporting mugger predation on “egrets, herons, kites, waterhens, peacocks, dabchicks, and pigeons”, later specifying the Brahminy Kite *Haliastur indus* in particular. A scat study by Kumar et al. (1995) in Manjira Wildlife Sanctuary, Andhra Pradesh, India, found feathers of Cattle Egret, Little Cormorant *Microcarbo niger*, and Eurasian Coot *Fulica atra* in crocodile dung. The authors of that study also observed direct predation on an Eurasian Coot and Purple Moorhen *Porphrio porphrio*. Jayson et al. (2006) reported that reintroduced Mugger Crocodiles in the Neyyar Wildlife Sanctuary of Kerala, India, preyed on domestic ducks. Venugopal (2006) observed Mugger Crocodiles feeding on a struggling Painted Stork *Mycteria leucocephala* and the

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**Table 1. Documentation of Mugger Crocodile predation on birds.**

Authors	Region	Bird species predated	Evidence
Battye 1945	Barsur, Chhattisgarh, India	“Whistling-teal” <i>Dendrocygna</i> sp.?	Direct observation
Whitaker 1978	Gir National Park, Gujarat, India	Eastern Cattle Egret <i>Bubulcus coromandus</i>	Scat samples
Whitaker & Whitaker 1989	Unspecified	Egrets and herons (Ardeidae) Waterhens (Rallidae) Indian Peafowl <i>Pavo cristatus</i> “dadchicks” Little Grebe <i>Podiceps ruficollis</i> Pigeons (Columbidae) Kites (Accipitridae)	“various authors”
Kumar et al. 1995	Manjira Wildlife Sanctuary, Andhra Pradesh, India	Little Cormorant <i>Microcarbo niger</i> Eurasian Coot <i>Fulica atra</i> Eastern Cattle Egret <i>Bubulcus coromandus</i>	Scat samples
Kumar et al. 1995	Manjira Wildlife Sanctuary, Andhra Pradesh, India	Purple Gallinule <i>Porphyrio martinica</i> Eurasian Coot <i>Fulica atra</i>	Direct observation
Jayson et al. 2006	Neyyar Wildlife Sanctuary, Kerala, India	Domestic Duck <i>Anas platyrhynchos domesticus</i>	Unspecified
Vengopal 2006	Ranganthittu Bird Sanctuary, Karnataka, India	Painted Stork <i>Mycteria leucocephala</i> Black-crowned Night Heron <i>Nycticorax nycticorax</i>	Direct observations
Bhatnagar & Mahur 2010	Baghdarrah Lake, Udaipur, Rajasthan, India	Eastern Cattle Egret <i>Bubulcus coromandus</i> unspecified birds	Direct observations
Vyas 2012	Vishwamitri River, Vadodara City, Gujarat, India	Little Cormorant <i>Microcarbo niger</i> Indian Pond Heron <i>Ardeola grayii</i> Eastern Cattle Egret <i>Bubulcus coromandus</i> Black-crowned Night Heron <i>Nycticorax nycticorax</i> Red-wattled Lapwing <i>Vanellus indicus</i> Black-winged Stilt <i>Himantopus himantopus</i> White-breasted Waterhen <i>Amaurionis phoenicurus</i> Rock Pigeon <i>Columba livia</i>	Direct observations
Dinets et al. 2013		Intermediate Egret <i>Ardea intermedia</i>	Direct observation
Nala et al. 2017	Gir National Park, Gujarat, India	Unspecified birds	Scat samples
Vaghashiya et al. 2020	Girnar Wildlife Sanctuary, Gujarat, India	Eurasian Coot <i>Fulica atra</i>	Direct observation with photograph
Dave & Bhatt 2021	Anand district, Gujarat, India	Unspecified birds	Scat samples
Chavan & Borkar 2023	Savitri River, Maharashtra, India	“egrets and herons predominantly” (Ardeidae)	Direct observations with one photograph
This report	Bardiya National Park, Nepal	Brown Fish Owl <i>Ketupa zeylonensis</i>	Direct observation with photograph

fallen chick of a Black-crowned Night Heron *Nycticorax nycticorax* in Ranganthittu Bird Sanctuary, Karnataka, India.

Vyas (2012) recorded crocodile predation on Little Cormorants, Cattle Egrets, Black-crowned Night Herons, Indian Pond Herons *Ardeola grayii*, Red-wattled Lapwings *Vanellus indicus*, Black-winged Stilts *Himantopus himantopus*, White-breasted Waterhens *Amaurionis phoenicurus*, and Rock Pigeons *Columba livia* in the Vishwamitri River in Gujarat, India. Nala et al. (2017) reported finding bird feathers in eight out of 100 scat samples in Gir National Park, Gujarat. Vaghashiya et al. (2020) observed an adult Mugger feeding on a Eurasian Coot *Fulica atra* in the Girnar Wildlife Sanctuary in Gujarat. Dave & Bhatt (2021), working in various locations in the Anand district of Gujarat, found bird feathers in 11% of scat samples during the hot season, 20% during the monsoon season, and 27% during the winter season. Chavan & Borkar (2023) report that 18%

of Mugger Crocodile prey items in the Savitri River of Maharashtra, India were birds, predominantly egrets and herons. That study also detailed flight initiation times in response to the Mugger approach for 26 bird species across 11 families and suggested that crocodiles were using sticks as bait in order to lure birds closer to them. The results of this review are summarized in Table 1.

The observation thus represents the first published record of Mugger Crocodile predation on an owl (Raju Vyas pers. comm. 8.i.2024; and this review). This event is well-situated within the recorded literature of bird predation by Mugger Crocodiles, which primarily encompasses medium-to-large bird species associated with water—specifically wading birds, large shorebirds, rails, ducks, and aquatic-feeding raptors.

The literature survey also suggests that birds are a regular but not dominant feature of Mugger Crocodile diets in many parts of their range.

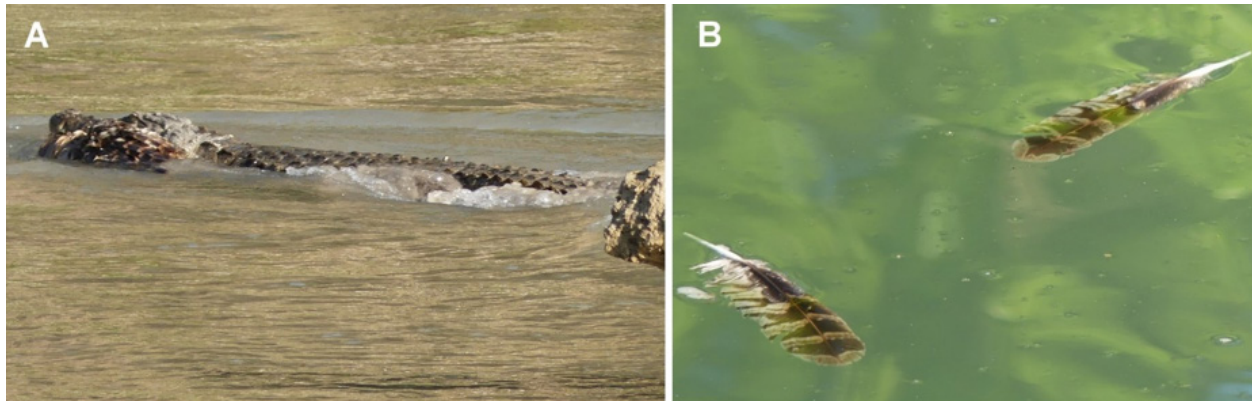


Image 1. Mugger Crocodile predation on owl: A—Mugger Crocodile *Crocodylus palustris* ZRC(IMG) 2.672 having captured Brown Fish Owl *Ketupa zeylonensis* | B—Brown Fish Owl feathers left at the scene of the take. © Jon Hakim.

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