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SHORT COMMUNICATION

FIRST RECORD OF THE LARGE-BILLED CROW *CORVUS MACRORHYNCHOS* WAGLER, 1827 PREDATING ON THE VULNERABLE INDIAN ROOFED TURTLE *PANGSHURA TECTA* (GRAY, 1831) IN INDIA

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ABSTRACT

The Vulnerable Indian Roofed Turtle *Pangshura tecta* (Gray, 1831) (Testudines: Geoemydidae) occurs in the Sub-Himalayan lowlands of India, Nepal, Bangladesh, and Pakistan. Little is known about its natural history, no studies have been conducted revealing its natural predators. In this study, a group of Large-billed Crow *Corvus macrorhynchos* Wagler, 1827 (Passeriformes: Corvidae) was observed hunting and predating on an Indian Roofed Turtle carcass in the bank of river Kuakhai, Bhubaneswar, India. The first record of this predation behaviour is reported and substantiated by photographic evidence.

Keywords: Crow, First record, Natural predator, River, Turtle.

INTRODUCTION

In Asia, the large-billed crow *Corvus macrorhynchos* Wagler, 1827 is a widespread species of crow, formerly known as the jungle crow (Avibase, 2018). The distribution of this species is extensive, extending from the northeastern Asian seaboard to Afghanistan and eastern Iran in the west, through South and Southeast Asia to the Lesser Sundas and Cambodia in the southeast (BirdLife International, 2022). This species is known for its wide range of food preferences. It adapts well to a wide variety of food sources and can survive on most kinds of food. The diet of this species is probably influenced by the local habitat of the ecosystem varies from region to region. Among the foods they eat are insects, bird eggs, and chicks, as well as scavenging for dead animals (Kurosawa *et al.*, 2003).

Indian roofed turtle *Pangshura tecta* (Gray, 1831) is member of the Geoemydidae family, including many highly endangered species of Southeast Asia. These herbivorous turtles are

First record of the Large-billed crow

fully aquatic and live in fresh waters with lush vegetation (Van Dijk *et al.*, 2000; Baruah *et al.*, 2016). The reported prey species Indian roofed turtle has been listed as Vulnerable due to excessive levels of exploitation. Over the next three generations (36 years), this species' global population is predicted to decline by over 30% (Vyas, 2001). It is one of the lesser-known Indian turtles. Omnivorous in nature, this species inhabits slow-moving rivers and stagnant water bodies, such as ponds, puddles, tanks, and roadside ditches (Vyas, 2001). Wild populations of the species are declining rapidly due to abiotic and biotic pressures. As a result of anthropogenic interference, the habitat of the species has altered or changed in many regions of its distribution range. Furthermore, it has been noticed quite recently that the species' hatchlings have been rounded up from the wild and sold domestically and internationally as pets (Baruah *et al.*, 2016). Their distribution spans the Indus, Sabarmati, Mahi, Narmada, Ganga, and Mahanadi rivers across India, Nepal, Bangladesh, and Pakistan (Das, 1985, 2001; Iverson, 1992; Ahmed *et al.*, 2021).

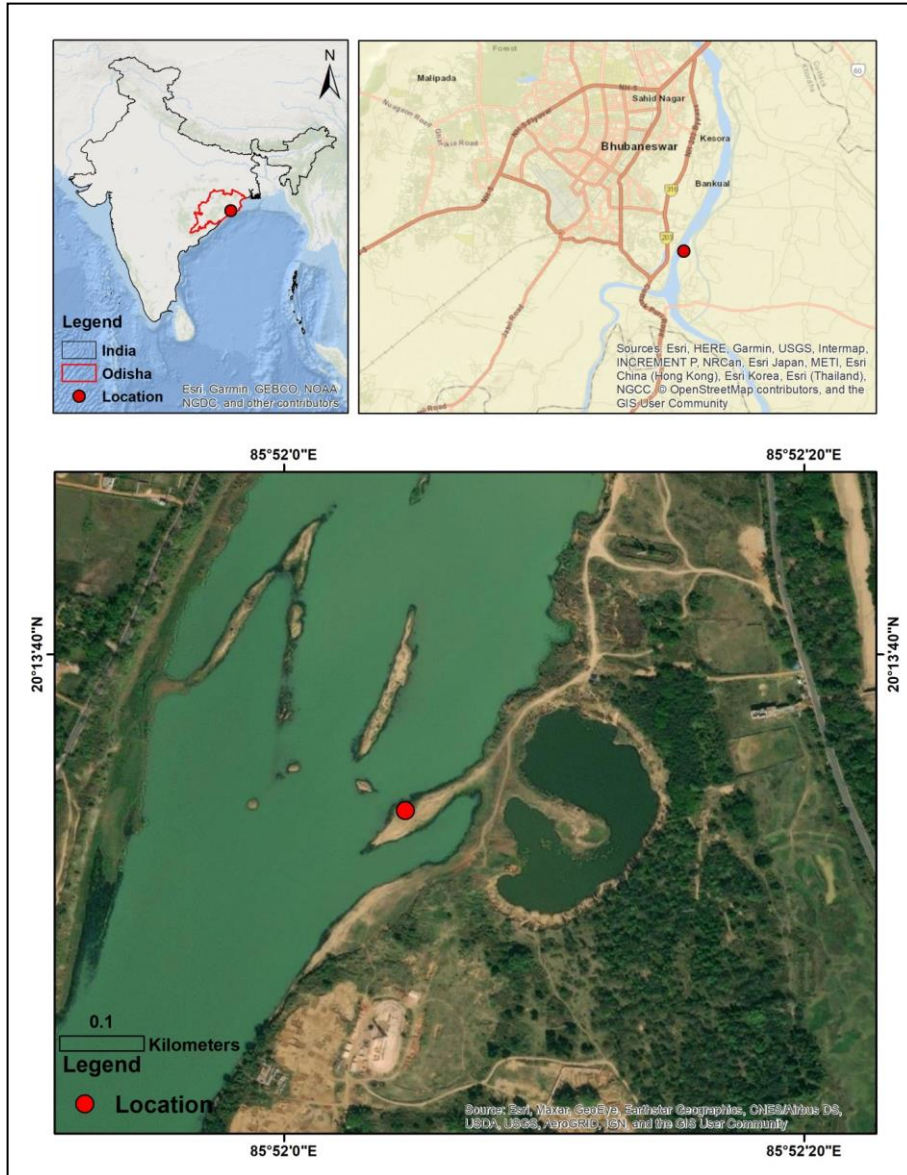
In this article, the unusual hunting behaviour of the Large-billed crow on an Indian Roofed Turtle from India was recorded. There is still little information about the natural history of this species, and no specific records describing such predation event are available in the literature.

NOTES AND OBSERVATION

On 18th of December, 2020 at 08:10 AM, during an avian survey, a peculiar behaviour of the Large-billed crow predated on the Indian roofed turtle near the eastern bank of the Kuakhai River (20° 13' 33.999"N & 85° 52' 4.6518"E) was recorded (Map 1). This river flows in the north and east of Bhubaneswar city, capital of Odisha state, and east of India. During this two hours of avian survey, two Large-billed crows were observed through Nikon Monarch 7 8X30 binocular. Suddenly those two birds flew into the fringe of the river and started pecking on the head and neck region of the turtle.

The turtle was reacting very slowly and moved very less; then the crows started dragging the turtle from the water. This hunting behaviour was observed for five minutes where the crows dragged the turtle out of water and successfully killed it (Pl. 1). This behaviour was clearly observed through binocular from a distance around 200 meters, and the turtle appeared to be alive at the time. It took around five minutes to reach the spot for taking photographs. The turtle was already dead at the time of photography, and those crows began feeding on it starting from its lower abdomen region near hind flippers of ventral side. This whole predation behaviour observation was recorded lasted for 20 minutes. After obtaining the photographic evidence (Pl. 1), the turtle species was confirmedly identified as an Indian roofed turtle.

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Map (1): The location in Kuakhai River where the recent observation was made.

The Large-billed crow is known as an omnivorous bird and also feed on small turtle hatchlings of Olive ridley *Lepidochelys olivacea* (Pandav *et al.*, 1998), but predation on the Indian roofed turtle is recorded for the first time. This is the first report of avian predators like crows preying on Indian roofed turtles. This feeding behaviour of Large-billed crow was observed and this species was also recorded as a natural predator of the Indian roofed turtle.

First record of the Large-billed crow

Despite the unknown status of the Indian Roofed Turtle in the area, the exposure to an opportunistic predator is most likely the cause of the Large-billed crow's predation. Despite being a common bird species, there is a lack of ecological and behavioral researches done on the Large-billed crows. Added to this, the Indian Roofed Turtle is also a less studied reptile's species; therefore, this report will support further ecological research on these two species.

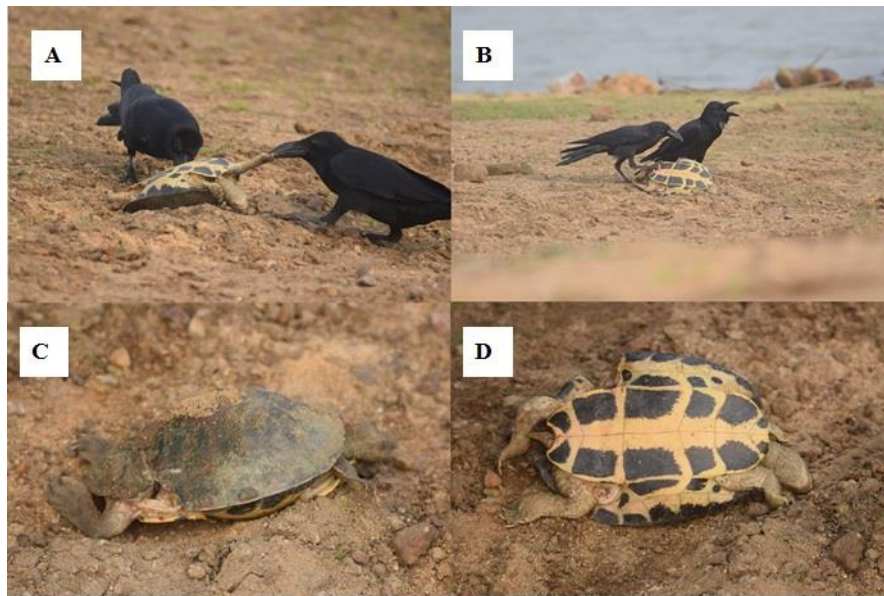


Plate (1): Photographic evidence of Large-billed crow *Corvus macrorhynchos*; (A) Dragging out, (B) Predating on the Indian roofed turtle *Pangshura tecta*, (C) Dorsal and (D) Ventral part of the turtle. (Photographs taken by Dr. Bibhu Prasad Panda)

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CONFLICT OF INTEREST STATEMENT

“The authors have no conflicts of interest to declare”

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التسجيل الأول للغراب ذو المنقار الكبير *Corvus macrorhynchos* Wagler, 1827
كمفترس على السلحفاة الهندية *Vulnerable Indian Roofed Turtle*
***Pangshura tecta* (Gray, 1831) في الهند**

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الخلاصة

السلحفاة الهندية *Pangshura tecta* (Gray, 1831) Indian Roofed Turtle (Testudines: Geoemydidae) تظهر في الأراضي المنخفضة في شبه الهمالايا في الهند ونيبال وبنغلاديش وباكستان. لا يُعرف سوى القليل عن تاريخها الطبيعي، ولم يتم إجراء أي دراسات تكشف عن مفترساتها الطبيعية.

في هذه الدراسة، لوحظت مجموعة من غراب *Corvus macrorhynchos* Wagler, 1827 (Passeriformes: Corvidae) وهي تصطاد و تفترس جثة سلحفاة هندية مسقوفة في ضفة نهر كواخي، بوبانسوار، الهند. تم الإبلاغ عن السجل الأول لسلوك الافتراس هذا و إثباته بالأدلة الفوتوغرافية.