

Active bait-fishing in Indian Pond Heron *Ardeola grayii*

Michel Antoine Réglade, Mohammed E. Dilawar & Ulhas Anand

Réglade, M. A., Dilawar, E. M., & Anand, U., 2015. Active bait-fishing in Indian Pond Heron. *Ardeola grayii*. *Indian BIRDS*. 10 (5): 124–125.

Michel Antoine Réglade, 18 rue de Garin, 31500 Toulouse, France. E-mail : reglade@hotmail.fr [MAR]

Mohammed E. Dilawar, Nature Forever Society, Row House No-17, Gayatri Nagar, Nashik Pune Road, Nashik 422011, Maharashtra, India.

E-mail: dilawarmohammed@gmail.com [MED]

Ulhas Anand, 11/3, UM Road, Shankarapuram, Bengaluru 560004, India. E-mail: ulhaspa@gmail.com [UA]

Manuscript received on 14 May 2014.

Introduction

An active bait-fishing bird places and manipulates an edible (bait), or an inedible (lure) item, within striking range to attract or distract fish (Ruxton & Hansell 2011). It has been suggested that many heron species (Ardeidae) are capable of using this method to hunt for food, if necessary (Voisin 1991). Several observations of Indian Pond Herons *Ardeola grayii* manipulating pieces of bread, or an artificial lure, corroborate this prediction.

Observations

In the mid-1990s, between April and June, early on a summer morning while jogging around the Lalbagh Lake in Bengaluru [then Bangalore], UA noticed, without binoculars, an adult Indian Pond Heron in non-breeding plumage (Anand 2013). There were pieces of bread on the ground, and in the water, because walkers, especially from the Jain community, regularly feed ants, fish, and birds around the lake. He observed that the heron picked up a floating piece of bread, walked a few steps to the edge, cast it as bait on the water and waited intently. As nothing happened, the bird picked up the same piece, went a couple of steps away, and put it in the water again. Several Jungle Crows *Corvus macrorhynchos*, which were feeding on the bread pieces, eventually mobbed and chased away the heron, after it spent a few unsuccessful minutes trying to catch fish in this manner.

In 2004, during multiple outings of the Bangalore bird-watching group to Lalbagh botanical gardens, Little Egret *Egretta garzetta*, and more often, Indian Pond Heron actively bait fishing both, during low, or high, water levels (both species on one occasion) were observed. As in the previous observation, these behaviours were possibly noticed, because of the morning walkers. When competition for food pieces increases, a frenzy of activity ensues amongst the fish, and birds in trying to get their share. On several instances, the Little Egret was seen picking up a piece of bread and flying away to a distance to use it as bait. On other occasions, both species would sometimes pull the pieces of bread closer, within striking distance, to themselves. Finally, Pond Herons were successful many a times in catching small fish (J. N. Prasad, *verbally*). Several participants photographed this behaviour, and even shot some video footage (J. N. Prasad, *verbally*). Despite requests, we were unable to procure any of these.

Most recently, on 08 January 2013 at 1720 hrs, MED observed for two to three minutes, an adult Pond Heron baiting with a small piece of polystyrene foam from the edge of a little pond filled with *Typha* sp. in Bina, Madhya Pradesh. The bird picked up the bait, threw it on the water, and watched keenly in a

crouched posture. But the bait drifted due to a weak winter wind and ripples on the surface. The bird retrieved it, cast it, and waited again. It repeated this process several times for a few minutes, without success.

In summary, these birds manipulated either food discarded by humans (bread, biscuit), or an artificial item (polystyrene) as bait or lure; they retrieved and replaced these items either when nothing happened, or when the item drifted away. This is a known behaviour that is already described for different heron species, e.g., for the Little Egret (Post *et al.* 2009), and of which, the two sibling species of the genus *Butorides* are most famous (Lovell 1958; Higuchi 1986).

Discussion

Since the first observation in 1957 of an active bait-fishing Green Heron *Butorides virescens* (Lovell 1958), and with these evidence for Indian Pond Heron, this unusual behaviour has now been reported for 17 bird species of which 11 are herons (Réglade *et al.* 2015). Green-, and Striated Heron *B. striata*, are the most studied of these species. They use a great variety of bait (bread, popcorn, biscuits, fish pellets, insects, earthworms), and lures (feathers, plant materials, plastic foam) (Higuchi 1986, 1988). Some of these items are man made while others are not. The reported observations occurred in man-made environments as well as in preserved wild areas.

Reports of such observations are important because they constitute the raw material for scientific research in animal cognition, which compares the rate of innovation and brain size among taxonomic groups in a larger perspective of studies on innovation mechanisms in vertebrates (Overington *et al.* 2009). Moreover, future observations of bait-fishing Indian Pond Heron will be welcome and help complete a larger picture of this behaviour, hopefully with instances of use of human-independent bait (e.g. insects, earthworms, etc.), and of involvement of immature birds in this behaviour.

More generally, regardless of the species already known for using, or not using bait, we felt all observations of active bait-fishing birds should be published to better estimate the frequency of this behaviour. Its apparent rarity, both within, and across bird species, may be due to possible cognitive or ecological constraints. Perhaps this behaviour is rarely more profitable than other fishing techniques (Ruxton & Hansell 2011). Furthermore simply low reporting rates of observations may also be creating gaps in our knowledge on this behaviour. For instance in India only one observation of a bait-fishing Striated Heron has been published to date (Bhat 1990).

References

- Anand, U., 2013. A heron uses a piece of bread as bait to catch fish. URL: <https://groups.yahoo.com/neo/groups/bngbirds/conversations/messages/24393>. [Accessed on 13 May 2014.]
- Bhat, H., 1990. Baiting habit of the Little Green Heron. *Newsletter for Birdwatchers* 30 (9&10): 9.
- Higuchi, H., 1986. Bait fishing by the Green-backed Heron *Ardeola striata* in Japan. *Ibis* 128: 285–290.
- Higuchi, H., 1988. Bait-fishing by Green-backed Herons in south Florida. *Florida Field Naturalist* 16: 8–9.
- Lovell, H. B., 1958. Baiting of fish by a Green Heron. *The Wilson Bulletin* 70 (3): 280–281.
- Overington, S. E., Morand-Ferron, J., Boogert, N. J., & Lefebvre, L., 2009. Technical innovations drive the relationship between innovativeness and residual brain size in birds. *Animal Behaviour* 78: 1001–1010.
- Post, R. J., Post, C. P. K., & Walsh, J. F., 2009. Little Egret (*Egretta garzetta*) and Grey Heron (*Ardea cinerea*) using bait for fishing in Kenya. *Waterbirds* 32: 450–452.
- Réglade, M. A., Carlos dos Santos, A., & Mitchell, K., 2015. First records of active bait fishing for Great (White) Egrets (*Ardea alba*). *Journal of Heron Biology and Conservation*, Article 12. Website URL: www.heronconservation.org.
- Ruxton, G. D., & Hansell, M. H., 2011. Fishing with a bait or lure: A brief review of the cognitive issues. *Ethology* 117: 1–9.
- Voisin, C., 1991. *The herons of Europe*. London. ✪

Sighting of Western Reef Egret *Egretta gularis* in Sirohi District, Rajasthan

Vivek Sharma, Rakesh Kumar Kumawat, Dinesh Meena, Divaker Yadav, Abdhesh Kumar, Naresh Kumar Kumawat & K. K. Sharma

Sharma, V., Kumawat, R. K., Meena, D., Yadav, D., Kumar, A., Kumawat, N. K., & Sharma, K. K., 2014. Sighting of Western Reef Egret *Egretta gularis* in Sirohi District, Rajasthan. *Indian BIRDS* 10 (5): 125.

Vivek Sharma, Biodiversity Research Laboratory, Department of Zoology, Maharshi Dayanand Saraswati University, Ajmer, Rajasthan, India. Email: vivekherps@gmail.com [Corresponding author].

Rakesh Kumar Kumawat, Biodiversity Research Laboratory, Department of Zoology, Maharshi Dayanand Saraswati University, Ajmer, Rajasthan, India.

Dinesh Meena, Biodiversity Research Laboratory, Department of Zoology, Maharshi Dayanand Saraswati University, Ajmer, Rajasthan, India.

Divaker Yadav, Biodiversity Research Laboratory, Department of Zoology, Maharshi Dayanand Saraswati University, Ajmer, Rajasthan, India.

Abdhesh Kumar, Biodiversity Research Laboratory, Department of Zoology, Maharshi Dayanand Saraswati University, Ajmer, Rajasthan, India.

Naresh Kumar Kumawat, Biodiversity Research Laboratory, Department of Zoology, Maharshi Dayanand Saraswati University, Ajmer, Rajasthan, India.

K. K. Sharma, Biodiversity Research Laboratory, Department of Zoology, Maharshi Dayanand Saraswati University, Ajmer, Rajasthan, India.

Manuscript received on 05 July 2013.

This note describes the sighting of a Western Reef Egret *Egretta gularis* from the wetlands of Sheoganj, Sirohi District (Rajasthan, India) on 12 February 2013, and on 18 March 2013. Sheoganj is located on the banks of Jawai River. During winter we were surveying birds of select wetlands of Sheoganj near the temple of Kambeshwar Mahadev (25°15'N, 73°07'E; c. 260 m asl). These were small pockets of freshwater with slight vegetation cover that are used by several bird species. While listing and photographing the avian diversity of these wetlands we noticed a grey-coloured egret, which resembled a juvenile Grey Heron *Ardea cinerea*. It stood on a small rock on the margin of the wetland. It was smaller than a Grey Heron, but darker than it. We noticed that it had a white patch on its throat and upper fore-neck, and had yellow feet. We photographed it [114] and, with the help of Grimmett *et al.* (1999), and Kazmierczak (2000), identified it as a Western Reef Egret. According to Grimmett *et al.* (1999), the intermediate morph of the Western Reef Egret is easily distinguishable from intermediate morphs of the Pacific Reef Egret *E. sacra* due to the presence of the distinct white patch on the former's throat and upper fore-neck.

The Western Reef Egret is a resident of mainly the western- and south-eastern coastal areas, and prefers saline coastal waters (Ali & Ripley 1968; Grimmett *et al.* 1999; Kazmierczak 2000). There is an earlier record of the Western Reef Egret from Dungolav Talab, Tal Chhapar, Churu, Rajasthan, when it was photographed

on 28 July 2010; the bird was at that location for about ten days (H. S. Sangha, *verbally*). Hence this is a second photographic record of Western Reef Egret from Rajasthan.

Acknowledgement

We acknowledge the contributions of Umesh Dutt (Lecturer, Department of Zoology, SMPPG Govt. College, Sheoganj, Sirohi) and Ranjeet Singh (Arya Bal Uchch Madhyamik Vidhyalya, Sheoganj), during our stay at the Sheoganj, Sirohi and near by areas.

References

- Ali, S., & Ripley, S. D., 1968. *Handbook of the birds of India and Pakistan together with those of Nepal, Sikkim, Bhutan and Ceylon. Divers to hawks*. 1st ed. Bombay: (Sponsored by the Bombay Natural History Society) Oxford University Press. Vol. 1 of 10 vols. Pp. 2 ll., i–lviii, 1–380, 1 l.
- Kazmierczak, K., 2000. *A field guide to the birds of India, Sri Lanka, Pakistan, Nepal, Bhutan, Bangladesh and the Maldives*. 1st ed. New Delhi: Om Book Service. Pp. 1–352.
- Grimmett, R., Inskipp, C., & Inskipp, T., 1999. *Pocket guide to the birds of the Indian Subcontinent*. New Delhi: Oxford University Press. Pp. 1–384.
- Grimmett, R., Inskipp, T., & Mehra, S. P., 2004. *Uttar Bharat ke pakshi [Birds of northern India]*. 1st ed. London: Christopher Helm. Pp. 1–308. [In Hindi.] ✪



114. Western Reef Egret *Egretta gularis* at wetlands of Sheoganj, Sirohi, Rajasthan. Photo: Dinesh Meena