

River Tern *Sterna aurantia* benefiting from the dives of Little Cormorants *Microcarbo niger*

The River Tern *Sterna aurantia* is usually observed flying above water, scanning for fish close to its surface. It is skilled in plunging on to its prey, submerging itself completely in the water and reappearing, almost immediately, with a meal in its beak (Ali 2002). Plunge diving is a foraging method employed by some birds that involves diving underwater to catch prey after detecting it from the air, thus reducing energy expenditure (Ropert-Coudert *et al.* 2004). Another mode of feeding, found among water birds, is commensal association, which involves a 'beater' (one who stirs up the prey while remaining unaffected), and an 'attendant' (one who follows the former and derives benefit in terms of food or protection) (Ehrlich *et al.* 1988; Kajiura *et al.* 2009).

On 28 August 2018, while birding at Timbi Irrigation Reservoir (TIR) (22.31°N, 73.28°E) near Vadodara, Gujarat, we observed a peculiar behaviour of a River Tern flying above two Little Cormorants *Microcarbo niger* that were swimming in the reservoir. As soon as any of the two cormorants dived, the tern also dove at the spot next to the cormorants. It kept hovering over the cormorants, repeating the same behaviour, until it caught a fish.

Birds have been documented indulging in such feeding associations. Large feeding flocks of Indian Cormorants *Phalacrocorax fuscicollis* are known to attract terns and pelicans (Nelson 2005: 425). Earlier reports show such bird-bird feeding associations between cormorants and egrets (Panday 1958), Little Egrets *Egretta garzetta* and Indian Cormorant (Santharam 1991), Snowy Egrets *E. thula* and Red-breasted Merganser *Mergus serrator* (Bennett & Smithson 2001), etc.; and bird-fish associations between White-fronted Tern *S. striata* and Hector's Dolphin *Cephalorhynchus hectori* (Brager 1998), and Double-crested Cormorants *P. auritus* and Southern Stingray *Dasyatis americana* (Kajiura *et al.* 2009). Seabirds, usually, exhibit plunge diving in clear waters. The reservoir's waters were slightly turbid; hence the tern was probably opportunistically following, and

plunge diving for fish flushed by cormorants. Plunge divers often depend on shoals of fish flushed by dolphins (e.g., tuna), both being attracted to the common food source (Au & Pitman 1986). In the present case we observed a River Tern benefitting from cormorant dives.

We used Pittie (2018) for obtaining references for this work.

References

- Ali, S., 2002. *The book of Indian birds*. 13th (Revised) ed. Mumbai: Bombay Natural History Society & Oxford University Press. Pp. i-lvii, 1–326+7.
- Au, D. W. K., & Pitman, R. L., 1986. Seabird interaction with Dolphins and Tuna in the Eastern Tropic Pacific. *Condor*. 88 (3): 304–317.
- Bennett, J., & Smithson, W. S., 2001. Feeding associations between Snowy Egrets and Red-breasted Mergansers. *Waterbirds* 24 (1): 125–128.
- Brager, S., 1998. Feeding associations between White-fronted Terns and Hector's Dolphin in New Zealand. *The Condor* 100: 560–562.
- Ehrlich, P. R., Dobkin, D. S., & Wheye, D., 1988. Commensal feeding. Website URL: https://web.stanford.edu/group/stanfordbirds/text/essays/Commensal_Feeding.html. [Accessed on 9 October 2018.]
- Kajiura, S. M., Macesic, L. J., Meredith, T. L., Cocks, K. L., & Dirk, L. J., 2009. Commensal foraging between Double-crested Cormorants and a Southern Stingray. *The Wilson Journal of Ornithology* 121 (3): 646–648.
- Nelson, J. B., 2005. *Pelicans, cormorants and their relatives. The Pelecaniformes*. 1st ed. Oxford: Oxford University Press. Pp. i-xiv, 1–661.
- Panday, D. J., 1958. Cormorants and Egrets fishing in co-operation. *Journal of the Bombay Natural History Society* 55 (1): 170–171.
- Pittie, A., 2018. Bibliography of South Asian Ornithology. URL: <http://www.southasiaornith.in>. [Accessed on 9 October 2018.]
- Ropert-Coudert, Y., Gremillet, D., Ryan, P., Kato, A., Naito, Y., & Le Maho, Y., 2004. Between the air and water: the plunge dive of the Cape Gannet *Morus capensis*. *Ibis*. 146 (2): 281–290.
- Santharam, V., 1991. Opportunistic feeding by Little Egret. *Newsletter for Birdwatchers* 31 (5-6): 8.

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Errata: Vol. 14 No. 5: On page 144 photograph 159 was taken by Mittal Gala and not Ashok Mashru.

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