

A Mating Congregation of Yellow-lipped Sea Kraits, *Laticauda colubrina* (Schneider 1799), from the Andaman Islands, India

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India is home to two species of sea kraits, the Blue-lipped Sea Krait (*Laticauda laticaudata*) and the Yellow-lipped Sea Krait (*Laticauda colubrina*), both of which are found along the coasts of the Andaman and Nicobar Archipelago (Bhaskar 1996; Whitaker and Captain 2004; Rangasamy et al. 2018; Tyabji et al. 2018) and in a few instances along the coasts

of Calcutta (Smith 1943). The ecology of these species in India is known from a few studies in the Andaman Islands (Baskar 1996; Shetty and Prasad 1996a, 1996b; Shetty and Sivasundar 1998; Tyabji et al. 2018). Herein we report a congregation of Yellow-lipped Sea Kraits from Rutland Island, Andaman, India.

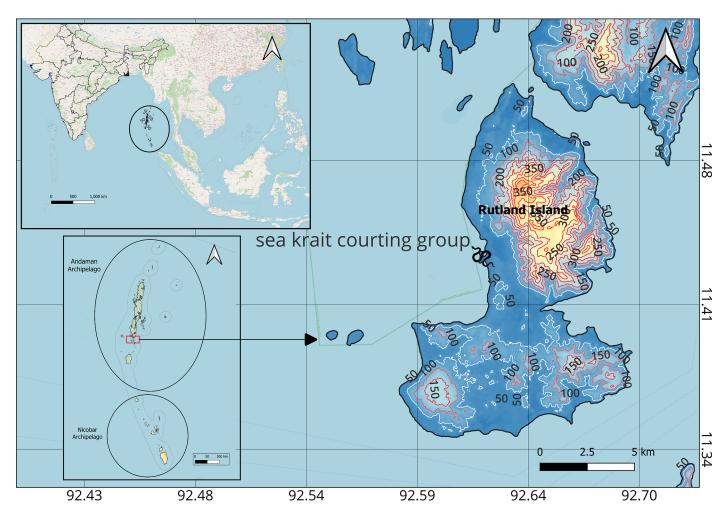


Figure 1. A map indicating the location of the Yellow-lipped Sea Krait (Laticauda colubrina) congregation observed on Rutland Island.

On 22 September 2022, our research team visited Rutland Island in the Andaman Archipelago as a part of a long-term mangrove vegetation monitoring program. At around 1920 h, while walking back to our base camp at Rangachang (Badakhadi) village (11.4328 N, 92.6217 E; Fig. 1), we observed a congregation of Yellow-lipped Sea Kraits (*L. colubrina*) inside the cavity of a dead tree (*Manilkara littoralis*) at a height of about 1.5 m above the ground. The species was identified by their characteristic bluish-gray body color with black bands (annuli), pale yellow ventral scales, and yellow coloration on the sides of the head and supralabials (Smith 1943; Whitaker and Captain 2004). We observed two males with a female inside the cavity of the tree, before another male entered the cavity from above (Fig. 2).

Sea kraits exhibit sexual dimorphism in which the females are larger than males in terms of length, girth, and head size, but have a relatively smaller tail (Bhaskar 1996; Shetty 2000). The two males were closely aligned with the female's body, flicking their tongues and twitching their bodies. This is a typical courting behavior in sea kraits when many males gather around a female and twitch spasmodically (Shetty 2000; Shetty and Shine 2002). Apart from the courting group, the presence of three males of varying sizes (70–120 cm) on an adjacent log suggests that they might have been attracted to the female (Bhaskar 1996; Shetty 2000; Shine 2003). During our 15 minutes of observation, we did not observe actual copulation. The next morning at around 0730 h we found the courting group in the same location as on the previous evening.

Our observation on Rutland Island adds to the list of known breeding populations for the Yellow-lipped Sea Krait in the Andaman and Nicobar Archipelago. Sea kraits are highly philopatric and considered to be seasonal breeders (Shetty 2000; Shetty and Shine 2002). Bhaskar (1996)



Figure 2. The courting group of Yellow-lipped Sea Kraits (*Laticauda colubrina*) inside the tree cavity (female body visibly larger than the males). Photography by Karthy Sivapushanam.

and Tyabji et al. (2018) observed courting groups of Yellow-lipped Sea Kraits during the months of November and December in the South Reef and New Wandoor regions of the Andaman Islands, respectively, while Shetty and Shine (2002) observed frequent courting in the months of October and November in Fijian populations and Brischoux and Bonnet (2009) observed courting of *Laticauda saintgironsi* during November and December in New Caledonia. Our record of a courting group in September shows that breeding might commence earlier than has been previously recorded in Andaman populations.

Acknowledgements

We thank the Department of Environment and Forest, Andaman and Nicobar Islands, for the necessary permits and for facilitating the fieldwork. We thank the Department of Science and Technology for funding our research under the INSPIRE Faculty scheme [DST/INSPIRE/04/2018/001071]. We also thank Chennai Snake Park and Dr. S.R. Ganesh, Scientist and Deputy Director, Chennai Snake Park, India, for guidance and support. Finally, we thank our field assistants, Mr. Nikunj and Mr. Justin, for being a great support to our research.

Literature Cited

Bhaskar, S. 1996. Sea kraits on South Reef Island, Andaman Islands, India. *Hamadryad* 21: 27–35.

Brischoux, F., X. Bonnet, and D. Pinaud. 2009. Fine scale site fidelity in sea kraits: implications for conservation. *Biodiversity and Conservation* 18: 2473–2481. https://doi.org/10.1007/s10531-009-9602-x.

Rangasamy, V., C. Sivaperuman, G. Gokulakrishnan, and P. Parthipan. 2018. Herpetofauna of Andaman and Nicobar Islands, pp. 37–56. In: C. Sivaperuman, and K. Venkataraman (eds.), *Indian Hotspots. Vertebrate Faunal Diversity, Conservation and Management.* Volume 2. Springer Nature, Singapore.

Shetty, S. and K.V. Devi Prasad. 1996a. Studies on the terrestrial behaviour of Laticauda colubrina in the Andaman Islands, India. Hamadryad 21: 23–26.

Shetty, S. and K.V. Devi Prasad. 1996b. Geographic variation in the number of bands in *Laticauda colubrina*. *Hamadryad* 21: 44–45.

Shetty, S. and A. Sivasundar. 1998. Using passive integrated transponders to study the ecology of *Laticauda colubrina*. *Hamadryad* 23: 71–76.

Shetty, S. 2000. Behavioural ecology of the yellow-lipped sea krait, *Laticauda colubrina*, in the Fiji Islands. M.Sc. thesis. School of Biological Sciences, Faculty of Science, University of Sydney, Sydney, Australia.

Shetty, S. and R. Shine. 2002. The mating system of Yellow-lipped Sea Kraits (*Laticauda colubrina*: Laticaudidae). *Herpetologica* 58: 170–180. https://doi.org/10.1655/0018-0831(2002)058[0170:TMSOYS]2.0.CO;2.

Shine, R. 2003. Reproductive strategies in snakes. *Proceedings of the Royal Society of London. Series B: Biological Sciences* 270: 995–1004. https://doi.org10.1098/rspb.2002.2307

Smith, M.A. 1943. Fauna of British India, Ceylon and Burma, Including the Whole of the Indo-Chinese Sub-Region. Vol. III.—Serpentes. Taylor and Francis, London, UK

Tyabji, Z., N.P. Mohanty, E. Young, and T. Khan. 2018. The terrestrial life of sea kraits: insights from a long-term study on two *Laticauda* species (Reptilia: Squamata: Elapidae) in the Andaman Islands, India. *Journal of Threatened Taxa* 10: 12443–12450. https://doi.org/10.11609/jott.4311.10.11.12443-12450.

Whitaker, R. and A. Captain. 2004. Snakes of India. The Field Guide. Draco Books, Chennai, India.