

A rare case of army ant predation on Diard's Blind Snake (*Argyrophis diardii*) in Northeast Bangladesh

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ABSTRACT

Predation of vertebrates by social insects is rarely documented in South Asia. During a biodiversity survey in Lawachara National Park, Bangladesh, I observed an adult Diard's blind snake (*Argyrophis diardii*) being attacked and subdued by a swarm of army ants. The snake was immobilized within four minutes, after which the ants began consuming it on site. This reversed predator-prey interaction is the first documented case of army ant predation on *A. diardii* in Bangladesh, highlighting the vulnerability of fossorial reptiles when exposed on the surface.

Keywords: Blind snake, army ants, reversed predation, *Argyrophis diardii*, *Dorylus*.

INTRODUCTION

A fundamental goal of ecology is to describe how organisms co-exist in environments, including predator-prey interactions (Nordberg et al., 2018). Although vertebrates are often considered dominant predators, numerous studies have documented "reverse trophic interactions" where invertebrates prey on vertebrates (Kamalakaran et al., 2025). Invertebrate predators of vertebrates have been well documented in aquatic environments mainly. In terrestrial environments, there are far fewer examples for which invertebrates are well documented as important predators of vertebrate prey (Toledo, 2005; Nyffeler and Knornschild, 2013; Nyffeler et al., 2017). A majority of observations of invertebrates preying on vertebrates come from anecdotal observations and natural history descriptions appearing in the literature as natural history notes (Mitchell, 1990; Raven, 1990; Bastos et al., 1994; Owen and Johnson, 1997; Blackburn et al., 2002). Social insects such as army ants are known for aggressive and coordinated foraging behavior, occasionally preying upon small vertebrates, including amphibians and reptiles. However, such interactions are rarely documented in South Asia (Cerdá & Dejean, 2011). Blind snakes are fossorial

reptiles that primarily feed on ants and termites and are infrequently observed on the surface (Jono et al., 2019). *Argyrophis diardii* has been reported from various habitat types in Lawachara National Park and is occasionally encountered on the surface, including streambanks in mature forest habitats (Hakim et al., 2020). Here, I report a rare observation of predation on blind snake by army ants from Lawachara National Park, Bangladesh.

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MATERIALS AND METHODS

I recorded this observation incidentally during a routine biodiversity survey conducted in Lawachara National Park, Sylhet Division, Moulvibazar District, Bangladesh. The site was located near a small forest stream close to Lawachara Station (24°20.11'N,

91°50.66'E). The predation event was observed directly with the naked eye and documented through a series of photographs and videos capturing the progression of the army ant swarm raid, subjugation, and eventual consumption of the snake. Observations were conducted using ad libitum sampling and sequence sampling (Altmann, 1974), which are appropriate for documenting rare, opportunistic, or unpredictable behavioral events (Sazima, 2017). No specimens were collected during the study.

The snake was identified based on distribution and external morphological characters visible in the field and from photographs, following published descriptions (Hakim et al., 2020). Ants involved in the predation event were identified to subfamily level based on observed foraging behavior and morphology.

RESULTS AND DISCUSSION

On 28 October 2025, at approximately 0900 h, an adult Diard's blind snake (*Argyrophis diardii*) was observed moving across a dry, sandy area next to a forest stream. As the snake passed an active colony of ants, a large number of army ants (Formicidae: Dorylinae) initiated a sudden and coordinated attack (Fig. 1A). Within seconds, the ants surrounded the snake and attached themselves to various parts of its body. In the first minute, the snake exhibited rapid defensive movements, including vigorous jerking

and writhing. However, its movements gradually decreased, and within about four minutes the snake became immobile and was presumed dead (Fig. 1B). After immobilization, the ants began consuming the snake at the site of the attack.

This observation documents a rare reversal of the typical predator-prey relationship between blind snakes and ants, which has been linked to limited records of social insects preying on small vertebrates in South Asia (Cerdá & Dejean, 2011; Kamalakannan et al., 2025). The snake's surface activity on a dry streambank, consistent with previously reported microhabitat use by *Argyrophis diardii* (Hakim et al., 2020), likely increased the risk of contact with nearby ant colonies. Although the blind snake shows a defensive response (Jono et al., 2019), the collective assembly and continuous biting behavior of army ants quickly overwhelms the prey. This case highlights how even specialized fossorial predators can become vulnerable when exposed to surface-active social insects under certain ecological conditions, illustrating the complexity of food chain interactions in tropical leaf litter. To our knowledge, this is the first documented case of army ant predation on Diard's Blind Snake (*Argyrophis diardii*) in Bangladesh.

I conducted a comprehensive literature review using online databases and scholarly search engines such as Google Scholar, ScienceDirect, and PubMed, and found no prior documented evidence of such an

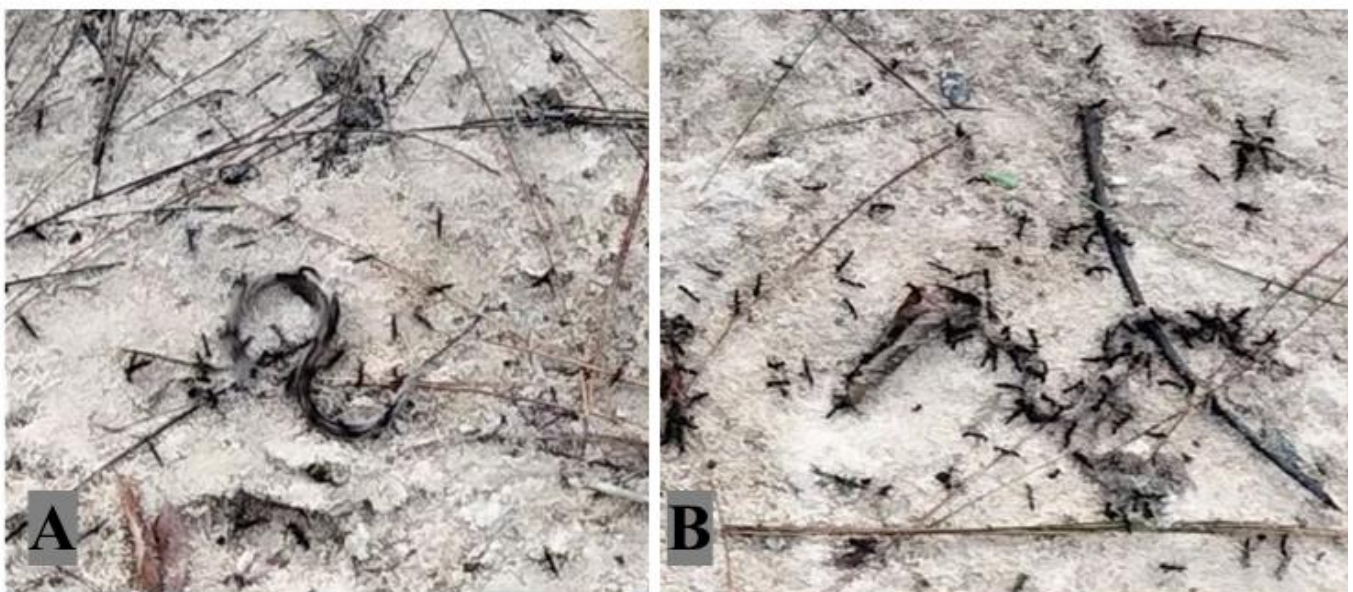


Figure 1(A). Army ants attacking an adult *Argyrophis diardii*. **(B)** Army ants consuming the immobilized *Argyrophis diardii* in Lawachara National Park, Bangladesh.

interaction in Bangladesh, thereby confirming this as the first recorded case, despite previous reports of other rare predation events in the country (Mithu et al., 2024). This report documents a rare case of vertebrate predation by social insects in South Asia, highlighting the vulnerability of fossorial reptiles during surface activity. Further studies are needed to assess the frequency of such events and the ecological factors influencing encounters with army ant swarms, particularly in tropical forest ecosystems where such interactions are likely underreported.

CONCLUSION

This study presents the first documented record of army ant predation on Diard's Blind Snake (*Argyrophis diardii*) in Bangladesh, providing new evidence of an unusual vertebrate-invertebrate predator-prey interaction. The observation demonstrates that fossorial reptiles can become highly vulnerable during periods of surface activity, particularly when encountering aggressive army ant swarms. Such rare natural history records contribute to a better understanding of trophic dynamics and ecological interactions in tropical forest ecosystems. Given the scarcity of similar reports from South Asia, further field observations and long-term ecological studies are needed to determine the prevalence, drivers, and ecological significance of such reverse predation events.

Conflicts of Interest

We thank the Forest Department of Bangladesh for granting permission to work in Lawachara National Park. We are also grateful to field companions for their support during the survey.

Conflicts of Interest

Authors declare that there is no conflict of interests regarding the publication of this paper.

Author's Contribution- Sajid Hassan Prangon conducted the field observation, performed the species identification, analyzed the event, and wrote the manuscript.

Funding- No specific grant or external funding was received for this study.

Ethics Statement - This study was based entirely on an opportunistic, non-invasive field observation. No

animals were collected, handled, or manipulated in any way.

Informed Consent - NA

Data Availability

All data generated or analyzed during this study are included within this published article.

References

- [1] Altmann, J. 1974. Observational study of behaviour: sampling methods. *Behaviour* 49: 227-267.
- [2] Bastos, R.P., Oliveira, O.C., Pombal, J.P., Jr., 1994. *Hyla minuta* (NCN). Predation. *Herpetol. Rev.* 25, 118.
- [3] Blackburn, L.M., Hoefler, C.D., Nanjappa, P., 2002. *Acris crepitans blanchardi* (Blanchard's Cricket Frog). Predation. *Herpetol. Rev.* 33, 299.
- [4] Cerdá, Xim & Dejean, Alain. (2011). Predation by ants on arthropods and other animals.
- [5] Hakim, J., Trageser, S. J., Ghose, A., Rashid, S. M. A., & Rahman, S. C. (2020). Amphibians and reptiles from lawachara national park in Bangladesh. *Check List*, 16(5), 1239-1268.
- [6] Jono T, Kojima Y, Mizuno T. Novel cooperative antipredator tactics of an ant specialized against a snake. *R Soc Open Sci.* 2019 Aug 14;6(8):190283. doi: 10.1098/rsos.190283. PMID: 31598235; PMCID: PMC6731735.
- [7] Kamalakannan, M., Mondal, R., & Banerjee, D. (2025). Centipede predation on vertebrates: a review with the first bat case from Asia. *Frontiers in Ecology and Evolution*, 13, 1634037.
- [8] Mitchell, J.C., 1990. *Pseudacris feriarum* (Upland Chorus Frog). Predation. *Herpetol. Rev.* 21, 89-90.
- [9] Mithu, A. I., Ridoy, M. M. M., & Prangon, S. H. (2024). Predation on Asian Common Toad (*Duttaphrynus melanostictus*) by Bengal monitor lizard (*Varanus*) in National Botanical Garden, Bangladesh. *Bangladesh Journal of Zoology*, 52(1), 133-137.
- [10] Nordberg, E. J., Edwards, L., & Schwarzkopf, L. (2018). Terrestrial invertebrates: An underestimated predator guild for small vertebrate groups. *Food Webs*, 15, e00080.
- [11] Nyffeler, M. Maxwell, M.R., Remsen, J.V., 2017. Bird predation by praying mantises: a global perspective. *Wilson J. Ornithol.* 129, 331-344.

- [12] Nyffeler, M., Knornschild, M., 2013. Bat predation by spiders. *PLoS ONE*, 8: e58120.
- [13] Owen, R.D., Johnson, S.A., 1997. *Pseudacris ocularis* (Little Glass Frog). Predation. *Herpetol. Rev.* 28, 200.
- [14] Raven, R.J., 1990. Spider predators of reptiles and amphibian. *Mem. Queensland Mus.* 29, 448.
- [15] Sazima, I. (2017). New World Army Ants *Eciton burchellii* kill and consume leaf-litter inhabiting lizards in the Atlantic Forest, Southeast Brazil. *Tropical Natural History*, 17(2), 119-122.
- [16] Toledo, L.F., 2005. Predation of juvenile and adult anurans by invertebrates: Current knowledge and perspectives. *Herpetol. Rev.* 36, 395-400.