Nepalese Journal of Zoology

ISSN: 2705-4403 (Print); 2705-4411 (Online)
www.cdztu.edu.np/njz

Volume 9 | Issue 2 | December 2025

https://doi.org/10.3126/njz.v9i2.88226

Short communication

First record of death-feigning behavior in common wolf snake *Lycodon aulicus* (Linnaeus, 1758) from Nepal

Abhisek Sapkota[1,2] | Apekshya Karki[2] | Keshab Raj Sapkota[1] | Rishi Baral[1,3]*

[1] Snake Conservation Society, Nepal, Simpani-1, Pokhara, Nepal
[2] Institute of Forestry, Tribhuvan University, Pokhara Campus, Pokhara 33700, Nepal
[3] Laboratory of Wildlife Biology and Medicine, Department of Environmental Veterinary Science, Graduate School of Veterinary Medicine, Hokkaido University, Sapporo, Japan
*** Correspondence:** right.rishi1@gmail.com

Suggested citation: Sapkota A., Karki A., Sapkota K.R. and Baral R. First record of death-feigning behavior in common wolf snake *Lycodon aulicus* Linnaeus, 1758 from Nepal. Nepalese Journal of Zoology, 9(2):85–88.
https://doi.org/10.3126/njz.v9i2.88226

Article history:
Received: 12 October 2025
Revised: 08 December 2025
Accepted: 09 December 2025

Publisher's note: The statements, opinions and data contained in the publication are solely those of the individual author(s) and do not necessarily reflect those of the editorial board and the publisher of the NJZ.

Abstract

The rare anti-predator behavior of death feigning (thanatosis) is reported in common wolf snake (*Lycodon aulicus*) from Nepal. Herein, we report first documented behavior in *L. aulicus* from Pokhara, Nepal characterized by ventral exposure, immobility, and absence of mouth gaping and contributes important information to limited ethological knowledge of the species. Our observation highlights that snake rescue events offer valuable opportunities to study anti-predator strategies. Additionally, understanding and publicizing such non-aggressive defensive behaviors can enhance community awareness, promote safer human-snake interactions, and reduce unnecessary persecution of this non-venomous species in Nepal.

Keywords: Anti-predator behavior; *Lycodon aulicus*; Pokhara; Nepal; Thanatosis

1 | Introduction

Death-feigning or thanatosis, a form of tonic immobility, is and widely recognized as a last-resort antipredator defense mechanism observed largely across a range of vertebrates, including reptiles (Greene 1988; Gregory et al. 2007). It is typically adopted during the final stages of a predation series and is often triggered by direct physical contact with a predator (Humphreys & Ruxton 2018). In Nepal, death-feigning behavior has been previously reported in only three species; Burmese python (*Python bivittatus*) from Chitwan National Park (Bhattarai et al. 2017), copperheaded trinket (*Coelognathus radiatus*) from Pokhara, Kaski (Giri et al. 2020) and twin-spotted wolf snake (*Lycodon jara*) from Parsa National Park (Luitel & Devkota 2023).

The common wolf snake, *L. aulicus* (Linnaeus, 1758), a non-venomous species is found across Southeast Asia. In Nepal, it ranges from 100 to 2130 m asl and is commonly encountered in open areas like gardens, agricultural lands, and around houses (Shah & Tiwari 2004) and is frequently observed and rescued at night around Kaski district (Baral et al. 2020). This nocturnal species feeds on lizards, rodents, and bats (Shah & Tiwari 2004; Whitakar & Captain 2008; Tank & Sharma 2016). However, it has a similar body pattern and overlapping nocturnal activity with highly venomous species such as kraits (*Bungarus* spp.) lead to frequent misidentification as venomous species. This, coupled with frequent encounters inside homes, results in it being killed on sight in Nepal (Shah & Tiwari 2004; Sharma et al. 2013; Pandey et al. 2016).

Despite its widespread distribution and frequent human encounters, death feigning in *L. aulicus* has not been previously recorded in Nepal, although it is well-documented in populations elsewhere (Mirza et al. 2011; Pawar & Qureshi 2016; Deshmukh et al. 2020) and in congeneric (e.g., *Lycodon capucinus*; (Mirza et al. 2011), *Lycodon flavicolis*; (Muliya et al. 2018), *Lycodon jara* (Mahapatra et al. 2021). This absence presents a clear ethological gap. It remains unclear whether this absence reflected a genuine rarity of the behaviour in Nepalese populations, population-level variation, or simply from limited documentation. This gap is further complicated in Nepalese *L. aulicus* potentially due to limited behavioral studies in Nepal, misperception and misidentification of the species as venomous, leading to immediate killing during encounters (Shah & Tiwari 2004; Sharma et al. 2013; Pandey et al. 2016), preventing any defensive display from being observed.

To address this, present study aimed to clarify whether Nepalese *L. aulicus* exhibits thanatosis consistent with descriptions from other regions, the sequence of behavior when observed during human-snake encounters and consider the broader implications of this behavior for public education and snake conservation. Herein, we report the first instance of death feigning in *L. aulicus* from Nepal, marking the fourth ophidian species and second species in *Lycodon* genus to exhibit this fascinating antipredator strategy. By documenting this first verified record from Nepal, this study provides crucial behavioral insight for the species and underscores the importance of careful observation during snake rescue operations for advancing our understanding of the species ethology.

2 | Materials and methods

This observation took place in a student hostel at the Institute of Forestry, Pokhara Campus which lies in Pokhara Metropolitan City, Ward-15, Kaski District, Gandaki Province, Nepal (28.188658° N, 83.992862° E) (Fig. 1). The campus is adjacent to the Banpale Forest, a mosaic of shrubland and mixed forest, and experiences frequent snake encounters due to its proximity to both forest and human settlements.

Responding to the rescue request, team members of Snake Conservation Society Nepal went to the site. The snake was identified as an adult *L. aulicus* based on key morphological characters, including a brownish dorsal coloration with approximately 18 bifurcated white crossbars and the presence of a distinct whitish occipital blotch formed by the fusion of markings on either side of the head (Shah & Tiwari 2004). To minimize stress during the rescue, the snake was not directly restrained or grabbed. Instead, it was gently guided using a snake hook, allowing it to move voluntarily into a ventilated plastic container for safe relocation. The snake's behavior was observed and documented through direct observation during rescue and release, and photographed during release time.

3 | Results

At 12:51 PM on 4 May 2025, a *Lycodon aulicus* was encountered inside a hostel room. Normal defensive behaviour was displayed immediately as the snake initially attempted to escape, moved behind a table and made short climbing attempts up the wall. When approached closely for relocation, it exhibited defensive behaviour in S-shaped posture and delivered 6-7 rapid, non-contact strikes in the air. The onset of thanatosis occurred after gentle attempt on handling while guiding the snake using a hook. The snake suddenly coiled tightly, covered its head beneath its body, and partially inverted to expose the venter. It remained immobile in this posture for approximately 3-4 minutes, showing key immobility indicators with completely lack of movement, reduced and shallow breathing, absence of tongue flicking for 30 seconds. The snake was then carefully transferred into a well-ventilated plastic container for transport.

At the release site, upon opening the container, the snake remained motionless in a coiled position with slow breathing for nearly 20 seconds, suggesting lifeless (Fig. 2A). When lifted for confirmation (Fig. 2B), it fully inverted into a supine position (Fig. 2C) and maintained complete immobility for an additional 4-5 minutes (Fig. 2D), with slow breathing and no tongue flicking. After approximately 2 minutes of undisturbed observation, it recovered and gradually rolled back into its normal posture and started flicking tongue.

To observe if the behaviour would recur, the snake was gently touched once more. This second stimulus triggered a weaker response as the snake coiled again and hid its head, but did not fully invert this time. After nearly 45 seconds, it regained movement and retreated into nearby leaf litter, where it quickly disappeared. In

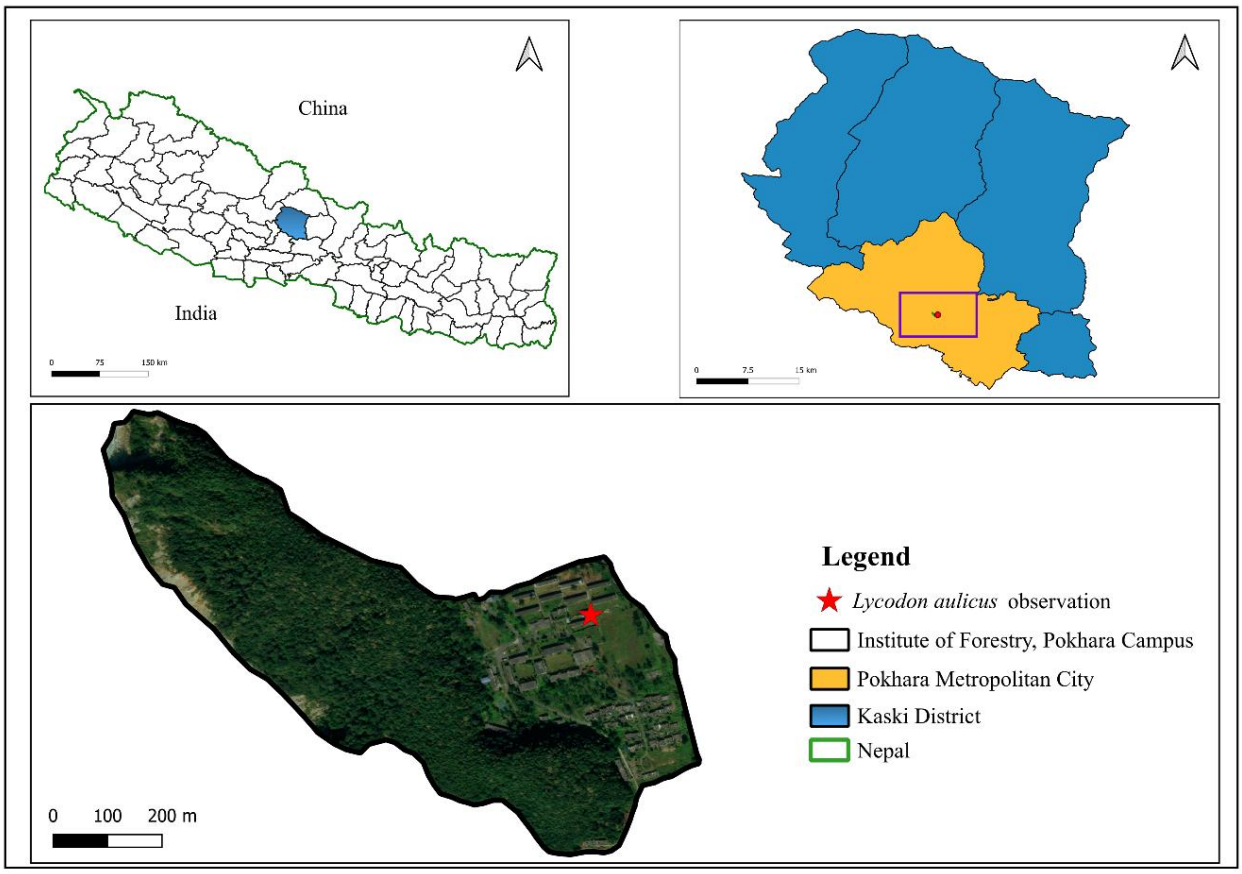

Figure 1. Map showing the location where the behavior was observed at the Institute of Forestry, Pokhara Campus, Kaski District, Nepal.

Figure 2. Death feigning by a common wolf snake (*Lycodon aulicus*) at Institute of Forestry Pokhara Campus, Pokhara, Nepal. **a**. Initial position of snake during release. **b**. Reaction during physical contact. **c**. Supine posture immediately after physical contact. **d**. Snake in an attempt to turn its body invert completely showing venter. All photographs by Abhisek Sapkota.

both rescue and release event, behavioural sequence followed similar pattern; initial defensive strikes, followed by onset of thanatosis after gentle handling, a period of immobility with indicators marked by coiling, head concealment, reduced breathing, lack of tongue flicking and finally a gradual return to normal activity.

4 | Discussion

Our observation confirms the first instance of death-feigning behavior in *Lycodon aulicus* from Nepal adding an important behavioral record for the country and extending what is known for the species across its range. Documenting thanatosis in this species contributes to understanding snake defensive strategies, predator-prey interactions, and ethology in human-disturbed landscapes. Recognizing such behavior in *L. aulicus* helps clarify how this common but frequently persecuted species interacts with both natural predators and humans, providing critical insights for conservation and management.

Death-feigning in *Lycodon* species generally follows a genus-wide pattern, typically triggered by handling or direct physical contact. In our observations, *L. aulicus* ceased all movement, coiled tightly with head concealment, and exposed its ventral scales, without mouth gaping or tongue protrusion. These behaviors align closely with reports from Indian populations of *L. aulicus* (Deshmukh et al. 2020) and other *Lycodon* species, including *L. flavicollis* (Muliya et al. 2018) and *L. jara* (Mahapatra et al. 2021; Luitel & Devkota 2023). Some variation exists among populations and individuals: for instance, (Mirza et al. 2011) observed that only one morph of *L. cf. aulicus* (*L. capucinus*) exhibited this immobility, and the duration of thanatosis ranged from about one minute in some cases to as long as eighteen minutes (Deshmukh et al. 2020). These differences suggest that genetic, ecological, or environmental factors may influence the expression of thanatosis, highlighting the need for future studies on these aspects.

This consistency across geographically distributed *Lycodon* populations suggests a phylogenetically conserved behavioral phenotype within the genus, distinct from "classical" displays shown by north american hognose snakes (*Heterodon spp.*) or European grass snakes (*Natrix natrix*). In *Heterodon spp.*, death-feigning often involves multimodal displays including hissing, puffing, false strikes, and vigorous writhing before the snake flips over, opens its mouth, and extrudes its tongue (Burghardt & Greene 1988; Gregory et al. 2007; Burghardt 2014). This contrasts with typical death-feigning in snakes, which often involves tonic immobility together with mouth gaping and tongue protrusion (Bhosale & Thite 2013). By comparison, *Lycodon* species rely primarily on inversion and immobility, without oral displays, indicating a quieter strategy that may be effective against visually oriented predators. This difference underscores how predator type, ecological context, and evolutionary history shape the expression of defensive behaviors across snake taxa.

Our observations also indicated that "mouth open and tongue extended" can be a visible sign of death-feigning, with mouth gaping often being the most obvious cue. This aligns with reports from other snake taxa, such as grass snakes (*Natrix natrix*), where thanatosis is primarily triggered by handling (Gregory et al. 2007). Similarly, in *L. aulicus*, the behavior was consistently elicited by direct physical contact, reinforcing the interpretation of thanatosis as a last-resort defensive tactic. The intensity of death-feigning may scale with the perceived level of threat (Burghardt & Greene 1988), while prior activity of the snake does not appear to influence its likelihood of exhibiting this behavior (Gregory et al. 2007). This highlights that the defensive response is a context-dependent strategy, primarily deployed when escape or active defense fails.

Additionally, our findings carry direct conservation relevance. *L. aulicus* is often misidentified as venomous kraits (*Bungarus spp.*), leading to frequent killing upon encounter (Shah and Tiwari 2004; Pandey et al. 2016). Since thanatosis typically occurs only after escape or active defense fails (Humphreys & Ruxton 2018),

immediate human persecution likely suppresses its observation. Raising public awareness that motionless individuals may be using a harmless defensive tactic can reduce unnecessary killing, improve handling during rescue or translocation, and inform community education and snakebite-risk mitigation programs. Reporting this behavior from Nepal contributes to the global understanding of snake defensive strategies and highlights the importance of observation-based ethology for conservation planning.

5 | Conclusions

Although, *Lycodon aulicus* is widespread in Nepal, such behavior had not been documented previously. We assume this absence is linked to three factors potentially due to; 1) immediate killing that prevents observation, 2) a lack of detailed behavioral documentation during rescues and 3) the possibility that thanatosis occurs only after direct physical contact, such as handling during snake rescue. Our observation highlights that snake rescue events can provide valuable opportunities to document anti-predator strategies and other behavioral responses of snakes during human interaction.

Acknowledgements

We thank the students, hostel warden and staffs of Institute of Forestry, Pokhara Campus for promptly contacting Snake Conservation Society Nepal and importantly choosing not to harm or kill the snake. We deeply appreciate their cooperation during entire snake rescue and relocation process.

Authors' contributions

A.S. made the behavior observation, rescued and released the snake, prepared the map, drafted and revised the manuscript; A.K. made the behavior observation, assisted in rescue and release and reviewed the manuscript; K.R.S. verified the behavior and reviewed the manuscript; R.B. verified the behavior, supervised the study and contributed to review and revision of manuscript. All authors contributed to the drafts and gave final approval for publication.

Conflicts of interest

The authors declare no conflict of interest.

References

Baral R., Sapkota K.R., Katila M.P., Giri R., Pandey S., Bhandari A. et al. 2020. Diversity of snake in Kaski district of Gandaki Province, Nepal. Nepalese Journal of Zoology, 4(2):101–107. https://doi.org/10.3126/njz.v4i2.33892

Bhattarai S., Pokheral C.P. and Lamichhane B.R. 2017. Death feigning behavior in the Burmese python *Python bivittatus* kuhl, 1820 in Chitwan National Park, Nepal. Russian Journal of Herpetology, 24(4):323–326. https://doi.org/10.30906/1026-2296-2019-24-4-323-326

Bhosale H.S. and Thite V. 2013. Death feigning behavior in large-eyed false cobra *Pseudoxenodon macrops* (Blyth, 1854)(Squamata: Colubridae). Russian Journal of Herpetology, 20(3):190–192. https://doi.org/10.30906/1026-2296-2013-20-3-190-192

Burghardt G.M. 2014. Cognitive ethology and critical anthropomorphism: A snake with two heads and hognose snakes that play dead. In: *Cognitive Ethology* (Eds.). Psychology Press, pp 53–90.

Burghardt G.M. and Greene H.W. 1988. Predator simulation and duration of death feigning in neonate hognose snakes. Animal Behaviour, 36(6):1842–1844. https://doi.org/10.1016/S0003-3472(88)80127-1

Deshmukh R.V., Deshmukh S.A., Badhekar S.A., Udapure U.M. and Hattimare S.K. 2020. Death-feigning behavior in the common sand boa, *Eryx conicus* (Schneider 1801)(Erycidae), and the common wolfsnake, *Lycodon aulicus* (Linnaeus 1758)(Colubridae). Reptiles & Amphibians, 27(1):65–67. https://doi.org/10.17161/randa.v27i1.14457

Giri R., Giri R. and Devkota K. 2020. Death-feigning Behavior by copper-headed trinket snakes, *Coelognathus radiatus* (Boie 1827)(Squamata: Colubridae), in Nepal. Reptiles & Amphibians, 27(2):249–250. https://doi.org/10.17161/randa.v27i2.14196

Greene H.W. 1988. Antipredator mechanisms in reptiles. In: *Biology of the Reptilia*, (Eds.), pp 16(1):1–152.

Gregory P.T., Isaac L.A. and Griffiths R.A. 2007. Death feigning by grass snakes (*Natrix natrix*) in response to handling by human" predators.". Journal of Comparative Psychology, 121(2):123. https://doi.org/10.1037/0735-7036.121.2.123

Humphreys R.K. and Ruxton G.D. 2018. A review of thanatosis (death feigning) as an anti-predator behaviour. Behavioral Ecology and Sociobiology, 72:1–16. https://doi.org/10.1007/s00265-017-2436-8

Luitel S.C. and Devkota K. 2023. First report of death-feigning behavior in twin-spotted wolfsnake, *Lycodon jara* (Shaw 1802), from Nepal. Reptiles & Amphibians, 30(1):e19482-e19482. https://doi.org/10.17161/randa.v30i1.19482

Mahapatra A.D., Ghorai S.K. and Santra V. 2021, *Lycodon jara* (twin-spotted wolf snake). Death feigning. *Herpetological Review* 52(3):671–672.

Mirza Z.A., Vaze V.V. and Sanap R. V. 2011. Death feigning behavior in two species of the genus *Lycodon* of Asia (Squamata: Colubridae). Herpetology Notes, 4:295–297.

Muliya S.K., Nath A. and Das A. 2018. First report of death feigning behaviour in the yellow collared wolf snake (*Lycodon flavicollis*). The Herpetological Bulletin, 143:41–42.

Pandey D.P., Subedi Pandey G., Devkota K. and Goode M. 2016. Public perceptions of snakes and snakebite management: implications for conservation and human health in southern Nepal. Journal of Ethnobiology and Ethnomedicine, 12:1–25. https://doi.org/10.1186/s13002-016-0092-0

Pawar M. and Qureshi A. 2016. Short Note on Death-feigning behaviour of Lycodon aulicus (LINNAEUS, 1758). *Sauria*, 38(1):50–57.

Shah K.B. and Tiwari S. 2004. *Herpetofauna of Nepal : a conservation companion*. https://api.semanticscholar.org/CorpusID:135009633

Sharma S.K., Pandey D.P., Shah K.B., Tillack F., Chappuis F., Thapa C.L., Alirol E. and Kuch U. 2013. *Venomous snakes of Nepal. A Photographic Guide*. BP Koirala Institute of Health Sciences, Dharan, Nepal.

Tank C. and Sharma V. 2016. *Lycodon aulicus* (Common Wolf Snake). Diet. Herpetological Review, 47(3):480.

Whitakar R. and Captain A. 2008. *Snakes of India. The Field Guide* (*2nd Ed*). Draco Books, p 312–313.