REPTILES & AMPHIBIANS

Use of Roads by Rainbow Mudsnakes (*Enhydris enhydris*) during Parturition

Azizul Islam Barkat, Md. Rokonuzzaman, and Md. Fazle Rabbe

Department of Zoology, University of Dhaka, Dhaka, Bangladesh (AIB: 0000-0002-0338-4199; MR: 0000-0003-4477-8546; MFR: fazle_zool@du.ac.bd, 0000-0002-3135-2776)

Snakes in the family Homalopsidae are viviparous and semi-aquatic (Murphy et al. 2002) and are commonly found in ponds, wetlands, marshes, rivers, and estuaries. Five homalopsid species (Glossy Marsh Snake, *Gerada prevostiana*; Crab-eating Snake, *Fordonia leucobalia*; Siebold's Mudsnake, *Ferania sieboldin*; Rainbow Mudsnake, *Enhydris enhydris*; and Dog-faced Watersnake, *Cerberus rynchops*) occur in Bangladesh (IUCN Bangladesh 2015). The Rainbow Mudsnake (*Enhydris enhydris*) is the most common homalopsid in Bangladesh, where it occupies shallow freshwater environments with muddy substrates in rural and urban areas throughout the country. Breeding usually occurs in October–November and parturition in March (Sarker 2015). However, the species can have a prolonged or even two annual breeding seasons, with parturition in April–May and November–December (Murphy et al. 2002).

After observing Rainbow Mudsnakes giving birth on roads when the expected instinct would be to hide eggs or offspring in a safe place, we searched for data regarding breeding behavior of the species on social media (e.g., Facebook) and collected information from citizen scientists from January to December 2021. Social media platforms can be effective tools for monitoring biodiversity in Bangladesh (Chowdhury et al. 2023). We found 18 instances with photographic evidence of the species on a road. The identity of the species was confirmed using herpetofaunal field guides (e.g., Khan 2018).

Fourteen of the records were of snakes merely crossing a road but four were of females on roads in Narayanganj (11 May), Jessore (3 June), Chittagong (14 June), and Satkhira (24 June) Districts releasing offspring. Also, a road-killed Rainbow Mudsnake with fully developed young was found in Singapore (Figueroa et al. 2022). We suggest that the use of roads by these snakes is for friction, which presumably facilitates parturition and is unavailable in typically inhabited muddy places. Unfortunately, this renders them vulnerable to being discovered and killed by local residents or run over by vehicles (Fig. 1).

Literature Cited

Chowdhury, S., U. Aich, M. Rokonuzzaman, S. Alam, P. Das, A. Siddika, S. Ahmed, M. Labi, M. Di Marco, R.A. Fuller, and C.T. Callaghan. 2023. Increasing biodiversity knowledge through social media: A case study from tropical Bangladesh. *BioScience* 73: 453–459. https://doi.org/10.1093/biosci/biad042.

Figueroa, A., S. Seet, and T.H. Bing. 2022. Biodiversity Record: Dead-on-road rainbow mud snakes at Kranji. *Nature in Singapore* 15: e2022005. https://doi.org/10.26107/NIS-2022-0005.

IUCN Bangladesh. 2015. *Red List of Bangladesh Volume 4: Reptiles and Amphibians.* International Union for Conservation of Nature, Bangladesh Country Office, Dhaka, Bangladesh.

Khan, M.M.H. 2018. *Photographic Guide to the Wildlife of Bangladesh.* Arannayk Foundatiion, Dhaka, Bangladesh.

Murphy, J.C., H.K. Voris, B.L. Stuart, and S.G. Platt. 2002. Female reproduction in the rainbow water snake, *Enhydris enhydris* (Serpentes, Colubridae, Homalopsinae). *The Natural History Journal of Chulalongkorn University* 2: 31–37.

Sarker, M.A.R. 2015. *Enhydris enhydris*, p. 160. In: *Red List of Bangladesh. Volume 4: Reptiles and Amphibians.* IUCN, International Union for Conservation of Nature, Bangladesh Country Office, Dhaka, Bangladesh.

Figure 1. A road-killed female Rainbow Mudsnake (*Enhydris enhydris*) with fully developed offspring on 15 June 2020. Photograph by Azizul Islam Barkat.