REPTILES & AMPHIBIANS

New Distributional Record of the Sikkim Grass Lizard, *Takydromus sikkimensis* (Günther 1888) (Squamata: Lacertidae), in Gorumara National Park, West Bengal, India

Rabina Mothey, Ananta Rai, and Basundhara Chettri

Department of Zoology, School of Life Sciences, Sikkim University, Tadong, Gangtok, East Sikkim, India (bchettri01@cus.ac.in)

The genus *Takydromus* comprises 24 recognized species globally (Wang et al. 2019), of which four species are reported from the northeastern part of India, namely: the Goalpara Grass Lizard *Takydromus haughtonianus* (Jerdon 1870), the Khasi Hills Long-tailed Lizard *Takydromus khasiensis* (Boulenger 1917), the Asian Grass Lizard *Takydromus sexlineatus* (Daudin 1802) and the Sikkim Grass Lizard *Takydromus sikkimensis* (Günther 1888). *Takydromus sikkimensis* is an endemic lizard of Sikkim Himalaya in the family Lacertidae (Bhupathy et al. 2009). The name was given by A. Günther in 1888 on the basis of the description of grass lizards from Sikkim by F. Stoliczka in 1872. This species remained taxonomically imprecise until its rediscovery by Bhupathy et al. (2009) from a small pocket of South Sikkim, India. This rare and unique lizard in Sikkim Himalaya has been listed as Endangered during the most recent assessment of the IUCN Red List of Threatened Species (IUCN 2021).

During a field survey in March 2021, we recorded *T. sikkimensis* on the outskirts of the Gorumara National Park, Jalpaiguri District, West Bengal, India (Fig. 1). This is the first record of *T. sikkimensis* extending its distribution further eastward beyond Darjeeling-Sikkim Himalaya. The Gorumara National Park (79.99 km^2) is part of the Gangetic Plains biogeographic zone situated in the sub-montane terai belt of the Eastern Himalaya on the floodplains of the Murti and Reydak Rivers of Doors, Jalpaiguri District, West Bengal (Rodgers et al. 2002; Raychaudhuri and Saha 2015). Terai grassland interspersed with riverine forest has nurtured a rich assemblage of floral and faunal diversity with 50 species of mammals,193 birds, 22 reptiles, 27 fishes, and 7 species of turtles plus other macro and micro fauna (Das et al. 2019). The mammalian fauna includes the Indian Elephant, Indian Bison, Malayan Giant Squirrel, Wild Pig, Leopard, Indian One-horned Rhinoceros, and Barking Deer. The park also serves as an important corridor for Asian Elephants *Elephas maximus* (Mallick 2010).

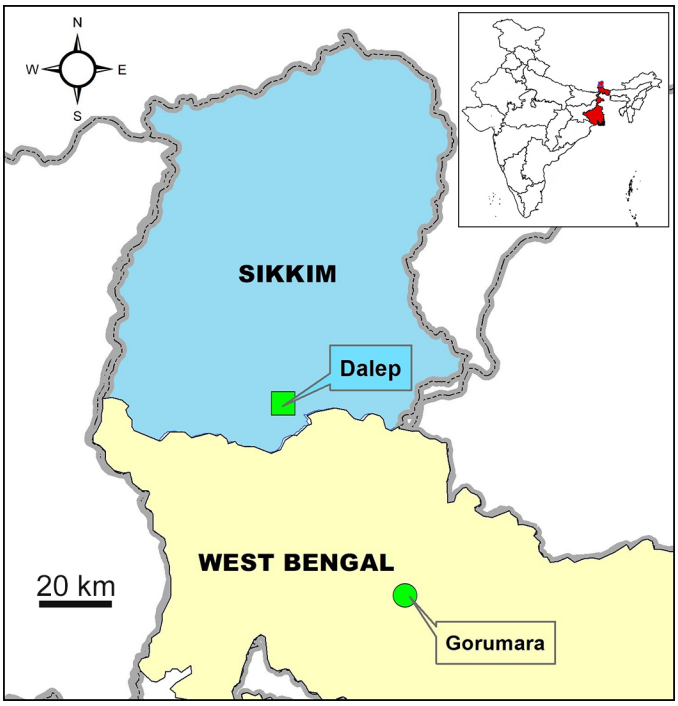

Fig. 1. Map showing the new distribution record of the Sikkim Grass Lizard (*Takydromus sikkimensis*) in the Gorumara National Park, West Bengal, India (green dot). The previous record at Dalep, Sikkim, India, is marked with a green square.

During a field survey on 18 March 2021, we encountered three females of *Takydromus sikkimensis* outside the Gorumara National Park. We sighted lizards approximately 200 m away from the main highway (NH 717) near the Gorumara Forest Beat Office (26.725500 °N, 88.773919 °E). We manually caught the lizards and photographed them (Fig. 2A). After recording morphometric characters for later identification and species confirmation, we released them into their natural habitat.

Patterns of scutellation were as follows: supranasals were in contact with each other, single fronto-nasal (longer than wider),

Reptiles & Amphibians ISSN 2332-4961
https://doi.org/10.17161/randa.v29i1.17057

Fig. 2. A Sikkim Grass Lizard (*Takydromus sikkimensis*) from the outskirts of the Gorumara National Park, West Bengal, India (A), with four active pores on each hindlimb (B) and three pairs of chinshields (C). Photographs by Ms. Rabina Mothey.

prefrontals in contact with each other, three supraoculars (one small and two large, the anterior one being the largest). All three specimens had 11 supraciliary granules, their fronto-parietals were in contact with each other, inter-parietal smaller than fronto-parietal, loreal in contact with supraocular, anterior loreal smaller than posterior, six supralabials and five infralabials.

The dorsal plates were keeled, seven in the anterior body and four in the mid-body in a transversal series while along the longitudinal series there were 28 scales (from the beginning of the transversal series of dorsal scales until the vent). On the ventral side, there are 12 rows of enlarged, keeled scales on the mid-body in a transversal series, 25 in the longitudinal series between the collar and the groin. In between enlarged dorsal and ventral scales, there are 12 rows of granules in the flanks. Single anal plates, flanked by two small plates; four continuous pre-anal plates and two irregularly arranged rows of scales between vent and post-anal plates. Twelve circum-caudal scales (posterior to two rows below pos-anal scale) and 172 entire dorsal scales from behind the head to the tip of the tail. The SVL (snout-vent length) of the specimens ranged from 45 to 50 mm and TL (tail length) ranged from 170 to 186 mm. All specimens had four active femoral pores on both sides (Fig. 2B) and three pairs of chin shields (Fig. 2C).

Takydromus sikkimensis has a bronze-brown dorsum with a relatively darker head. A darker brown stripe extends from the loreal region through the eye and tympanum until mid-body (Fig. 3). The ventral side is pale yellow to pinkish (Bhupathy et al. 2009). The color description of our individuals matched with that described by Bhupathy et al (2009) except for an additional few lines of intermittent dark spots on the dorsum (Fig. 3). These dark spots could be either regional variation or breeding morphs, but further morphological observations of *T. sikkimensis* need to be done in other parts of Sikkim and West Bengal to investigate these hypotheses. All three females were identified as adult *T. sikkimensis*. The characteristics that we measured matched those given by Bhupathy et al. (2009).

We compared *T. sikkimensis* with *T. khasiensis,* which we observed on 21 February, 2021 in Assam (Lakhicherra, Cachar District). We found *T. sikkimensis* to be different from *T. khasiensis* by the greater number of rows of granules on the flank (14–16 vs. 7–9) between the enlarged dorsal and ventral scales, higher number of femoral pores (3–5 vs. 2–3) and the life color (dorsum and flanks without obvious mark-

Fig. 3. A Sikkim Grass Lizard (*Takydromus sikkimensis*) from the outskirts of the Gorumara National Park, West Bengal, India (left) with dark brown stripes extending from the loreal region through the eyes and tympanum to midbody (right) with rows of black dots on the dorsum. Photograph by Ms. Rabina Mothey.

ings vs. a light dorsolateral streak from eye to tail base bordered above and below by a black border or series of spots).

Takydromus sikkimensis differs from *T. sexlineatus* by a greater number of enlarged scales across midbody (12 vs. 10), greater number of rows of granules on the flank (14–16 vs. 7–10) between the enlarged dorsal and ventral scales. *Takydromus sikkimensis* does not have obvious markings along the dorsum and flanks, whereas *T. sexlineatus* has a green dorsolateral stripe present from above the eye to the tail base, edged above and below by a black border with white ocelli (Bhupathy et al. 2009). Similarly, *T. sikkimensis* differs from *T. haughtonianus* by the lower number of enlarged dorsal plates at midbody (4 vs. 6). It further differs from all three of these species by the greater number of femoral pores (3–6 vs. 1 in *T. haughtonianus*, 1–2 in *T. sexlineatus*, and 2–3 in T. *khasiensis* (Bhupathy et al. 2009).

There had been no record of *T. sikkimensis* from West Bengal, India to date. However, *T. khasiensis* has been reported from the same locality earlier by Das et al. (2019), although we could not record *T. khasiensis* from this area. It has been suggested that due to the close proximity of Sikkim to western Bhutan, eastern Nepal, northern West Bengal and far northern Bangladesh, *T. sikkimensis* may be found in one or more of these areas (Bauer and Gunther 1992; Das and Palden 2000; Schleich and Kastle 2002; Khan 2004). Validating this statement, we have recorded *T. sikkimensis* for the first time in the outskirts of Gorumara National Park, Jalpaiguri District, West Bengal, India. This record of *T. sikkimensis* extends the distribution of this species from Sikkim towards the Gangetic Plain Landscape of West Bengal, India.

Acknowledgements

We express our sincere gratitude to the funding agency DST SERB (Department of Science and Technology - Science and Engineering Research Board) grant no-SERB/F/9844/2018-2019. We also extend our gratitude to the West Bengal Biodiversity Board (ref no: 966/IL (Bio-4/2007) for granting us the necessary permission to conduct our field survey. We thank Sikkim University for providing the facility to conduct this research.

Literature Cited

Bhupathy, S., B. Chettri, and A.M. Bauer. 2009. Rediscovery and revalidation of *Takydromus sikkimensis* Günther, 1888 (Squamata: Lacertidae) from Sikkim India. *Journal of Herpetology* 43: 267–274. http://dx.doi.org/10.1670/08-136R1.1.

Boulenger, G.A. 1917. A revision of the lizards of the genus *Tachydromus*. *Memoirs of the Asiatic Society of the Bengal* 5: 207–235. https://doi.org/10.5962/bhl.title.11966.

Bauer, A.M. and R. Gunther. 1992. A preliminary report on the reptile fauna of the Kingdom of Bhutan with the description of a new species of scincid lizard (Reptilia: Scincidae). *Asiatic Herpetological Research* 4: 23–36.

Das, I. and J. Palden. 2000. A herpetological collection from Bhutan, with new country records. *Herpetological Review* 31: 256–258.

Das, S., B. Tripathy, and Deuti. K. 2019. Range extension for the Khasi Hill Long-Tailed Lizard, *Takydromus khasiensis* Boulenger, 1917 (Squamata: Lacertidae) from India's north eastern region into the Gangetic Plains landscape at Gorumara National Park, West Bengal. *Herpetology Notes*12: 83–85.

Daudin, F.M. 1802. *Histoire Naturelle, Génerale et Particulière des Reptiles; Ouvrage Faisant Suite aux Oeuvres de Leclerc de Buffon, et Partie du Cours Complet d'Histoire Naturelle Rédigé par C.S. Sonnini, Membre de Plusieurs Sociétés Savantes*. Tome Septième. F. Dufart, Paris.

IUCN. 2021. The IUCN Red List of Threatened Species. 2021:3. <https://www.iucnredlist.org>.

Jerdon, T.C. 1870. Notes on Indian herpetology. *Journal and Proceedings of the Asiatic Society of the Bengal* 1870: 66–85.

Khan, M.A.R. 2004. Checklist of the herpetofauna of Bangladesh. *Cobra* 57: 1–29.

Mallick, J.K. 2010. Past and present status of the Indian Tiger in northern West Bengal, India: an overview. *Journal of Threatened Taxa* 2: 739752. https://doi.org/10.11609/JoTT.o2212.739-52.

Raychaudhuri, D. and S. Saha. 2015. Spiders (Araneae: Arachnida) of Reserve Forests of Dooars: Gorumara National Park, Chapramari Wildlife Sanctuary and Mahananda Wildlife Sanctuary. *World Scientific News* 20: 1–336.

Rodgers, W.A., H.S. Panwar, and V.B. Mathur. 2002. Wildlife Protected Area Network in India. A Review (Executive Summary). Dehradun, Uttarakhand, India, Wildlife Institute of India.

Schleich, H.H. and W. Kastle (eds.). 2002. *Amphibians and Reptiles of Nepal*. A.R.G GantnerVerlag K.G., Ruggell, Liechtenstein.

Wang, J., Z.T. Lyu, C.Y. Yang, Y.L. Li, and Y.Y. Wang. 2019. A new species of the genus *Takydromus* (Squamata, Lacertidae) from southwestern Guangdong, China. *ZooKeys* 871: 119–139. https://dx.doi.org/10.3897%2Fzookeys.871.35947.