



The Indian Egg-Eating Snake, *Elachistodon westermanni* (Colubridae): Comments on Distribution and New Localities from Gujarat, India

Raju Vyas¹, Harshil Patel², and Bhautik Dudhatra³

¹505, Krishnadeep Tower, Mission Road, Fatehgunj, Vadodara-390002, Gujarat, India

²Department of Biosciences, Veer Narmad South Gujarat University, Surat-365007, Gujarat, India (harshilpatel121@gmail.com)

³93, Kohinoor Complex, Kohinoor Society, Mini Bazar, Varacha, Surat-395007, Gujarat, India

The Indian Egg-eating Snake (*Elachistodon westermanni* Reinhardt 1863; Fig. 1) might be one of the rarest and most poorly studied colubrine snakes of the Indian Subcontinent (Smith 1943; Daniel 2002). Its distribution extends from Bangladesh (Reinhardt 1863) to Nepal (Fleming and Fleming 1974; Mitchell and Zug 1995) and India (Smith 1943). One of the rarest snakes in southern Asia (Sharma 2007), this species is listed under Schedule I of the Indian Wildlife (Protection) Act of 1972. However, it is listed as being of Least Concern in the IUCN Red List of Threatened Species (Srinivasulu et al. 2013) “because, although it is seldom recorded, it has a relatively wide distribution, is tolerant of a broad range of habitats, and because it is unlikely to be declining fast enough to qualify for listing in a more threatened category.” At one time, this species was considered to be extinct by many herpetologists (e.g., Murty et al. 1993), until Captain et al. (2005) reported the presence of the species in Maharashtra.

Information pertaining to this species is largely limited to distributional records, threats, and feeding behavior. The range in peninsular India includes nine states: Bihar (Blanford 1875), West Bengal (Wall 1913), Uttarakhand (Rosenberg and Gans 1976), Maharashtra (Captain et al. 2005; Dandge 2008; Nande and Deshmukh 2007; Narayanan 2012; Deshmukh et al. 2015), Gujarat (Vyas 2006, 2010, 2013, 2016), Madhya Pradesh (Thakur 2011; Sharma 2014), Punjab (Sharma 2014), Telangana (Vishvanathan 2015), and Rajasthan (Khandal et al. 2016). Most locality records are from the dry, arid regions of western India, especially in Gujarat (Vyas 2006, 2010, 2013), where this species has been recorded from various microhabitats and different ecoregions (Vyas 2016). Herein we provide new information about the distribution and natural history of *E. westermanni* in Gujarat. This information is gathered from various sources, includ-



Fig. 1. An adult Indian Egg-eating Snake (*Elachistodon westermanni*) from Gujarat, India. Photograph by Raju Vyas.

ing local snake rescuers, live snakes, and roadkilled specimens (Table 1; Fig. 2). All information has been confirmed by photographic evidence, and details for each locality and other relevant information for each specimen are provided below.

Locality 1. An adult snake at Kangvai, Chikhali, Navsari District was actively crossing the road, perhaps in search of food. Surrounding habitat was an expanse of agricultural fields. Previously, two adults (total lengths = 60.5 and 68 cm) were recorded nearby at night.

Locality 2. In response to a phone call, a subadult (TL = 45.0 cm) was rescued from the industrial area of Vadiya Village, Palitanha, Bhavnagar District. The surroundings consisted of hilly/rocky terrain with scrub vegetation. The snake was released the next day.

Table 1. Records of Indian Egg-eating Snakes (*Elachistodon westermanni*) in Gujarat State, India. Lengths are total lengths.

Locality (location/tehsil/district)	Date	Length	Habitat	Source
1 Kangvai, Chikhali, Navsari 20°51'30.3"N, 73°11'07.6"E	15 Mar 2015	45.7 cm	Scrubland Crossing road at night	P. Patel
2 Vadiya, Nr. Palitana, Bhavnagar 21°32'58.83"N, 71°48'21.52"E	13 Jul 2015	45.0 cm	Industrial and agricultural areas, some scrub Late evening	V. Thakur
3 Gujarada, Gariyadhar, Bhavnagar 21°26'57.35"N, 71°36'58.96"E	23 Sep 2015	60.0 cm	Agricultural fields At night	V. Thakur
4 Pratapnagar, Chikhali, Navsari 20°47'39.0"N, 73°13'17.5"E	Sep 2015	42.7 cm	Human habitation Roadkill	S. Patel
5 Netrang, Valia, Bharuch 21°34'42.1"N, 73°11'06.2"E	15 Oct 2015	25.5 cm	Mixed agriculture and scrub Roadkill	D. Patel VNC
6 Bardoli, Surat 21°07'10.6"N, 73°05'27.6"E	21 Aug 2016	60.2 cm	Human habitation Rescue (injured)	J. Rathod
7 Talala Gir, Gir Somnath 21° 4'22.64"N, 70°32'53.74"E	25 Aug 2016	43.5 cm	Dry deciduous forest, roadside plantation Crossing road	M. Patel VNC Photo: H. Trivedi
8 Agricultural College Campus Navsari, Navsari 20°55'39.8"N, 72°53'51.1"E	12 Oct 2016	76.5 cm	Agricultural field Rescue	R. Sondarva

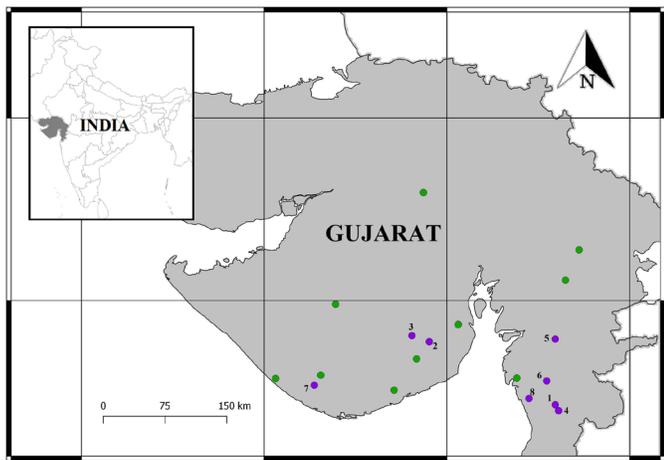


Fig. 2. The distribution of the Indian Egg-eating Snake (*Elachistodon westermanni*) in Gujarat, India; purple circles indicate new localities (Table 1), green circles indicate previously reported localities (Vyas 2016).

Locality 3. An adult was rescued from a farmer’s hut at Gujarada Village, Gariyadhar Tehsil, Bhavnagar District. The habitat is entirely agricultural. Most local farmers consider this a venomous species, hence it is locally known as “Padaku Sap”; elsewhere, “Padaku Sap” is the vernacular name for the Saw-scaled Viper (*Echis carinatus*).

Locality 4. A road-killed snake of medium size (SVL = 35.2 cm, tail length = 7.5 cm) was found at night in the newly developed area of Chikhli Town, Navsari District.

Locality 5. A small road-killed snake (SVL = 21.0 cm, tail length = 4.5 cm) was found at night near Netrag Village, Valia Tehsil, Bharuch District. It presumably was crossing the road from a roadside plantation to a nearby patch of dry deciduous Teak (*Tectona grandis*) forest. This left the snake exposed to passing traffic (Fig. 3). The entire area is a forest preserve with a roadside plantation. Meristic details are in Table 2.



Fig. 3. A road-killed young Indian Egg-eating Snake (*Elachistodon westermanni*) from Netrang, Bharuch, Gujarat, India. Photograph by D. Patel.

Table 2. Details of scales and measurements of three Indian Egg-eating Snakes (*Elachistodon westermanni*). Scale rows were measured one head-length behind the head, at midbody, and one head-length anterior to the vent.

	Specimen 1	Specimen 2	Specimen 3
Location	Netrang	Bardoli	Navsari
SVL (cm)	21.0	50.0	66.0
Tail length (cm)	4.50	10.2	10.5
Body scale rows (smooth)	19:15:15	19:15:15	19:15:15
Supralabials R/L (touch eye)	7/7 (3 & 4)	7/7	7/7
Infralabials R/L	10/11	10/10	10/10
Preoculars	2	1	1
Supraoculars	1	1	1
Postoculars	2	2	2
Temporals (both sides)	2+2 (both to end of parietals)	2+2 (both to end of parietals)	2+2 (1st pair not to end of parietals)
Ventrals	197	206	220
Subcaudals (divided)	58	63	60
Cloacal Plate	Single	Single	Single
Sex	—	—	Female



Fig. 4. A large adult Indian Egg-eating Snake (*Elachistodon westermanni*) with the frontal scale lost to an injury. Photograph by Bhautik Dudhatra.

Locality 6. An adult (SVL = 50 cm, tail length = 10.2 cm) was rescued from a car showroom in Bardoli Town, Surat District. Its head was damaged, the missing frontal scale exposing the skull (Fig. 4). Meristic details are in Table 2.

Locality 7. During the monsoons, a snake was encountered at night in close proximity to the Gir National Park and Sanctuary near Talala, Gir Somnath District. This snake was moving from a roadside forest preserve across a road toward agricultural fields.

Locality 8. An adult was rescued by a local volunteer from the campus of the Agricultural College, Navsari City. It was slender, healthy, and very active. The snake was released the next day into a nearby field. Meristic details are in Table 2.

Many reports involve road-killed snakes (Captain et al. 2005; Dandge 2008; Vyas 2010, 2013, 2016; Sharma 2014; Khandal et al. 2016). Dange and Tiple (2016) evaluated various threats and considered roads the major factor threatening the species. Our data include two roadkills and two live snakes crossing roads, supporting the contention that roadways are threats second only to habitat loss, alteration, and destruction.

Vyas (2016) reported this species from nine districts in the state: Bhavnagar (Victoria Park and Jesar), Surat (Piplod), Amreli (Hindorana), Junagadh (Man-Khetra), Gir-Somnath (Sasan), Surendranagar (Kharaghoda), Vadodara (Diwalipura), Rajkot (Gondal), and Panchmahal (Halol). The records presented herein extend the range to two additional districts (Navsari and Bharuch) of southern Gujarat, indicating that these snakes occur essentially statewide in Gujarat, excluding only the dry, most arid areas of the Kutch District.

Acknowledgements

We are very grateful to our friends, Parimal Patel (Kangvai, Navsari), Vishal Thakur (Vadodara), Sunil Patel (Chikhali, Navsari), Jatin Rathod (Bardoli), Ramesh Sondarva (Navsari), Dhaval Patel and Mehul Patel (Anand and Dhava Villages) for sharing valuable information and providing photographs. The second author (HP) thanks the Department of Science and Technology (DST), New Delhi, India for support (Fellowship IF 130480).

Literature Cited

Blanford, W.T. 1875. Note on (i) *Elachistodon westermanni*, (ii) *Platyceps semifasciatus*, and (iii) *Ablepharus pusillus* and *Blepharosteres agilis*. *Journal of the Asiatic Society of Bengal* 44: 207–209.

- Captain, A., F. Tillack, A. Gumprecht, and P. Dandge. 2005. First record of *Elachistodon westermanni* Reinhardt, 1863 (Serpentes, Colubridae, Colubrinae) from Maharashtra State, India. *Russian Journal of Herpetology* 12: 121–123.
- Dandge, P.S. 2008. Food and feeding habits of *Elachistodon westermanni* Reinhardt, 1863, *Hamadryad* 32: 75–77.
- Dandge, P.H. and A.D. Tiple. 2016. Notes on natural history, new distribution records and threats of Indian egg eater snake *Elachistodon westermanni* Reinhardt, 1863 (Serpentes: Colubridae): Implications for conservation. *Russian Journal of Herpetology* 23(1): 55–62.
- Daniel, J.C. 2002. *The Book of Indian Reptiles and Amphibians*. Bombay Natural History Society, Oxford University Press, Bombay, India.
- Deshmukh, R.V., A.S. Deshmukh, and S.A. Badekar. 2015. Rescued records of snakes from Nagpur District, Maharashtra with data on unrecorded species. *Reptile Rap* 17: 34–45.
- Fleming, R.L. Jr. and R.L. Fleming Sr. 1974. Some snakes from Nepal. *Journal of the Bombay Natural History Society* 70: 426–437.
- Khandal, D., Y.K. Sahu, and V. Sharma. 2016. New record of *Elachistodon westermanni* Reinhardt, 1863 (Serpentes, Colubridae) for Rajasthan State, India. *Russian Journal of Herpetology* 23: 249–253.
- Mitchell, J.C. and G.R. Zug. 1995. Keys to the known amphibians and reptiles of the Royal Chitwan National Park, Nepal. *Smithsonian Herpetology Information Service* 106: 1–15.
- Murty, T.S.N., D.P. Sanyal, and B. Duttagupta. 1993. Rare snakes of India. *The Snake* 25: 135–140.
- Nande, R. and R. Deshmukh, 2007. Snakes of Amravati District including Melghat, Maharashtra, with important records of the Indian Egg-eater, Montane Trinket Snake and Indian Smooth Snake. *Zoos' Print Journal* 22: 2920–2924.
- Narayanan, A. 2012. Records of Indian egg eater snake *Elachistodon westermanni* in the localities of Shegaon, District Buldhana, Maharashtra, India. *Reptile Rap* 14: 9–12.
- Reinhardt, J. 1863. Om en ny Slægt af Slangefamilien Rachidontidae. *Oversigt over det Kongelige Danske Videnskabernes Selskabs forhandlinger og dets medlemmers arbejder* 1(2): 198–210, plate 1.
- Rosenberg, H.I. and C. Gans C. 1976. Lateral jaw muscles of *Elachistodon westermanni* Reinhardt (Reptilia: Serpentes). *Canadian Journal of Zoology* 54: 510–521.
- Sharma, R.C. 2007. *Fauna of India and the Adjacent Countries, Reptilia, Serpentes, Volume-III*. Zoological Survey of India, Kolkata.
- Sharma, V. 2014. On the distribution of *Elachistodon westermanni* Reinhardt, 1863 (Serpentes, Colubridae). *Russian Journal of Herpetology* 21: 161–165.
- Smith, M.A. 1943. *The Fauna of British India, including Ceylon and Burma. Reptilia and Amphibia. Vol. III.—Serpentes*. Taylor and Francis, London, UK.
- Srinivasulu, C., B. Srinivasulu, R. Vyas, S. Thakur, P. Mohapatra, and V. Giri. 2013. *Elachistodon westermanni*. The IUCN Red List of Threatened Species 2013: e.T7091A3136878.
- Thakur S. 2011. A note on snakes of Kanha National Park and surrounding areas. *Reptile Rap* 11: 2–5.
- Vishvanathan, A.C. 2015. Natural history notes on *Elachistodon westermanni* Reinhardt, 1863. *Hamadryad* 37: 132–136.
- Vyas R. 2006. Story of a snake's photograph from Gujarat and notes on further distribution of the Indian egg-eater snake. *Herpinstance* 3(2): 1–4.
- Vyas R. 2010. Distribution of *Elachistodon westermanni* in Gujarat. *Reptile Rap* 10: 7–8.
- Vyas R. 2013. Notes and comments on distribution of a snake: Indian Egg Eater (*Elachistodon westermanni*). *Russian Journal Herpetology* 20: 39–42.
- Vyas, R. 2016. 2016. Distribution of the Indian Egg-eater (*Elachistodon westermanni* Reinhardt, 1864), with three new records from Gujarat, India, and descriptions of its pholidosis and hemipenis morphology. *Sauria* 38(1): 3–14.
- Wall, F. 1913. A rare snake *Elachistodon westermanni* from the Jalpaiguri District. *Journal of the Bombay Natural History Society* 22: 400–401.