



Research Paper

First record of Russell's Kukri Snake *Oligodon russelius* (Daudin, 1803) (Serpentes, Colubridae) from Sagar district, Madhya Pradesh (India), with systematic account and distribution

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Abstract: *Oligodon russelius* (Daudin, 1803) the Russell's Kukri Snake, is very closely related to *Oligodon arnensis* (Shaw, 1802), the Common Kukri Snake and hence mostly confused with it which has been clarified here with its systematic account, distribution and other aspects on the material first time sighted from Sagar district, Madhya Pradesh (India).

Keywords: First record, *Oligodon russelius*, Sagar, Madhya Pradesh.

Introduction:

Reptile fauna of Madhya Pradesh has attracted the attention of various workers during the past (Nelson, 1903; Smith, 1931, 1943; Agrawal, 1976, 1977, 1981; Sharma, 1976; Vyas et al., 1981; Kalaiarasan et al., 1991; Saxena, 1991; Vyas, 1993; Sanyal, 1995; Sanyal and Sur, 1995; Pasha et al., 2000; Ingle, 2002; Chandra and Gajbe,

2003, 2005; Negi, 2004; Chandra et al., 2008; Whitaker and Captain, 2008 (map, in part); Chandra, 2009, Dubey and Khare, 2013; Pragatheesh and Rajvanshi, 2013; Fellows, 2014, 2015; Manhas et al., 2015a,b, 2016,a,b, 2017, 2018; Khare and Singh, 2018; Verma et al., 2020) but no record of *Oligodon russelius* (Daudin, 1803) the Russell's Kukri Snake, falling under family Colubridae and order Serpentes, was recorded from Sagar district.

Recently a good specimen of the same was sighted in the campus of Shri Rajiv Gandhi Government College, Banda, District Sagar, Madhya Pradesh (India) and reported here as new for the area with its systematic account, distribution and other aspects.

STUDY SITE: Banda, District Sagar, Madhya Pradesh (India).

Physiography: Banda is city and tehsil headquarter in Sagar district of Madhya

Pradesh (central India) in India and located at 24.04°N and 78.96°E with an average elevation of 508 m (1669 ft). The district has an area of 10,252 km², surrounded by Uttar Pradesh and Ashoknagar on north, Vidisha and Raisen on west, Narsinghpur on south, Damoh and Chhatarpur districts on east, flowing with Bewas, Bina, Dhasan and Sunar major rivers and is situated in Vindhyan mountain ranges and eastern part of Malwa plateau.

Climate: The state is having three major seasons, viz. summer (March-June), monsoon (mid-June-September), and winter (November-January/February). In summer season temperature ranges above 34.6. South-west monsoon receives rainfall between ranging between 800-1500 mm, depending the region. In winter daily maximum temperature ranges between 15 and 18 °C and having average rainfall of about 1,194 mm.

Flora: *Buchanania cochinchinensis*, *Lannea coromandelica*, *Mangifera indica* (Anacardiaceae), *Holarhenna pubescens*, *Wrightia arborea*, *Wrightia tinctoria*, (Apocynaceae), *Anogeissus latifolia*, *A. pendula*, *Boswellia serrata* (Burseraceae), *Terminalia anogeissiana*, *T. arjuna*, *T. bellerica*, *T. chebula*, *T. elliptica*, *T. pendula*, *T. tomentosa* (Combretaceae), *Diospyros melanoxylon* (Ebenaceae), *Acacia catechu*, *A. leucophloea*, *A. nilotica*, *Albizia lebbek*, *Bauhinia racemosa*, *B. variegata*, *Butea monosperma*, *Cassia fistula*, *Dalbergia lanceolaria*, *D. latifolia*, *D. sissoo*, *Leucaena leucocephala*, *Pongamia pinnata*, *Pterocarpus marsupium*, *Senegalia catechu*, *Vachellia leucophloea* (Fabaceae), *Tectona grandis* (Lamiaceae), *Lagerstroemia parviflora* (Lythraceae), *Bombax ceiba*, *Firmiana simplex*, *Grewia tiliifolia* and *Kydia calycina* (Malvaceae), *Melia azedarach* (Meliaceae), *Ficus hispida*,

F. racemosa and *F. religiosa* (Moraceae), *Moringa oleifera* (Moringaceae), *Psidium gujava*, *Syzygium cumini* and *S. heyneanum* (Myrtaceae), *Bridelia retusa*, *Phyllanthus emblica* (Phyllanthaceae), *Zizyphus jujuba* and *Z. xylopyrus* (Rhamnaceae), *Mitragyna parvifolia* and *Gardenia latifolia* (Rubiaceae), *Aegle marmelos*, *Feronia limonia* and *Limonia acidissima* (Rutaceae), *Madhuca longifolia* var. *latifolia* (Sapotaceae), *Holoptelea intergrifolia* (Ulmaceae) and *Tectona grandis* (Verbenaceae) (Pathak et al., 2013; Kumar et al., 2022).

Note: Listed for overall ecology of the district.

SYSTEMATIC ACCOUNT, DISTRIBUTION AND OTHER ASPECTS

Oligodon russelius (Daudin, 1803)

Coluber russelius Daudin, 1803. *Histoire Naturelle Generale et Particuliere des Reptiles*, 6: 395, pl. lxxvi, fig. 2 (based on Russell's fig.) (type-locality: Vizahapatam now Visakhapatnam], Andhra Pradesh, eastern peninsular India by Bandra et al., 2022).

Coronella russelli, Schlegel, 1837. *Histoire Naturelle Generale at Particuliere des Reptiles*. Vol. 6: 79.

Simotes russelii, Dumeril et al., 1854. *Erpetologie generale ou Histoire Naturelle complete de Reptiles*, Vol. 7 (1): 628; Jan, 1965. *Iconographie generele des ophidiens*, 11.

Simotes arnensis, Boulenger, 1890 (partim). *The Fauna of British India, including Ceylon and Burma, Reptilia and Batrachia*: 314.

Oligodon arnensis, Wall, 1921 (partim). *Ophidia Taprobanica or the Snakes of Ceylon*: 231-238, figs. 48, 49; Smith, 1943. *The Fauna of British India, Ceylon and*

Burma, including the whole of the Indo-Chinese Sub-Region, Reptilia and Amphibia, 3 (Serpentes): 225-226; Whitaker & Captain, 2008 (partim). *Snakes of India, The Field Guide*: 144-145 (figs.).

Oligodon churahensis Mirza et al., 2021. *Evolutionary Systematics*, 5 (2): 335-345 (type-locality: near Thanei Kothi village, Churah Valley, Chamba district, Himachal Pradesh).

Oligodon russelius, Bandara et al., 2022. *Herpetologica*, 78 (1): 51-73; Barkat & Rabbe, 2022. *Taprobanica*, 11 (1): 44.

Etymology: Named after Patrick Russell, a British medical doctor.

Common Name: Russell's Kukri Snake.

Classification: Class Reptilia, order Squamata, suborder Serpentes, family Colubridae, subfamily Colubrinae, genus *Oligodon* Boie in Fitzinger, 1826.

Sighting: 1 example; Shri Rajiv Gandhi Government College Campus, Banda, District Sagar, Madhya Pradesh (India); 8.x.2024; by 2nd author (AKD).

Description:

Morphology: Body cylindrical, head very slightly broader than neck, eyes with rounded pupil, tail short with pointed tip.

Scalation: Preocular single, postoculars two, loreal single, nasal completely divided, temporals 1-2, supralabials 7- 3rd and 4th touching eye, dorsal scale rows 17-17-15, ventrals 169-180 in males and 183-207 in females, cloacal plate divided, subcaudals 46-54 in both males and females combined.

Colouration: Olive-brownish above with 30-45 more or less equal in size, pale-edged black cross stripes along body and 6-10 on tail, two inverted V-shaped black markings on inter-orbital and parietal-frontal regions, another inverted Y-shaped black marking on nape; uniform cream/glossy whitish below. Hatchlings usually brighter in colour but

with faded and less prominent cross stripes having with distinct white margins.

Size: Adults reach maximum SVL 650 mm, tail 17.0-18.9% of total length in males (Bandara et al., 2022); SVLs of the hatchlings around 181-193 mm (en.wikipedia.org).

Distribution:

India:

Madhya Pradesh:

Sagar district: Banda (new record).

Rest of India: Central, northern and eastern parts (Bandara et al., 2022).

Elsewhere: Bangladesh (Zhirkupara, Godagari, Rajshahi) (Barkat & Rabbe, 2022), Nepal and North-east Pakistan (en.wikipedia.org).

Habitat: Termite mounds, crevices, tree holes, shutter-rails and human dwellings (Whitaker & Captain, 2008; www.inaturalist.org).

Food & Feeding: Adults feed on eggs, and small lizards (en.wikipedia.org), juveniles feed on insects and spiders (Whitaker & Captain, 2008).

Breeding: Oviparous, clutch having 4-5 elongate eggs, hatchling and juveniles mostly seen during summer and winter both (en.wikipedia.org).

Nature: Nocturnal and non-venomous.

Threats: Often get killed by humans because of krait-like look and road kills.

Remarks: *Oligodon russelius* (Daudin, 1803) the Russell's Kukri Snake, is very closely related to *Oligodon arnensis* (Shaw, 1802), the Common Kukri Snake and hence mostly confused with it. As per recent morphological and biogeographical evaluation, two colour morph populations of *O. russelius* have been found, viz. (i) north Indian, with narrow-cross bands in northern India including Himalayan foot hills and (ii) central Indian, with comparatively complete laterally and wider anterior cross bands, in

central part of India, southern Andhra Pradesh and eastern Maharashtra and Madhya Pradesh (considered earlier as *Oligodon arnensis*). The remaining South Indian and Sri Lankan form belongs to *O. arnensis*. In view of this, considering *russelius* as synonym of *arnensis* in some literature is not justified (Bandara et al., 2022). In view of this, distribution of *O. arnensis* (sensu lato) as 'throughout India', 'Bangladesh' and 'Sri Lanka' by Whitaker & Captain (2008) is not correct.

Bandara et al. (2022) resurrected *Coluber russelius* Daudin, 1803 from the synonymy of *O. arnensis*, designated a lectotype and restrict its type locality Vizahapatam [now Visakhapatnam], Andhra Pradesh, eastern peninsular India.

The literature on herpetofauna of Bangladesh provide reports of *O. arnensis*, but as *O. arnensis* is confined to southern India and Sri Lanka (Bandara et al. (2022) and Bandera et al. (2022) assigned northern records to the resurrected *O. russelius*, with a range limit in India near the border with Bangladesh, Barkat and Rabbe (2022) found the previous records from Bangladesh (Whitaker & Captain, 2008) belonging to *O. russelius*.

Lee et al. (2023) synonymized *Oligodon churahensis* Mirza et al., 2021 (type-locality: from near Thanei Kothi village, Churah Valley, Chamba district, Himachal Pradesh, India) with *O. russelius* (Daudin, 1803) (vide reptile-database).

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[https://reptile-database.reptarium.cz/genus/Oligodon & species russelius](https://reptile-database.reptarium.cz/genus/Oligodon&species=russelius)



Figure 1a. *Oligodon russelius*, the Russell's Kukri Snake



Figure 1b. *Oligodon russelius*, the Russell's Kukri Snake



Figure 1c. *Oligodon russelius*, the Russell's Kukri Snake