

OPEN ACCESS



The Journal of Threatened Taxa (JoTT) is dedicated to building evidence for conservation globally by publishing peer-reviewed articles online every month at a reasonably rapid rate at www.threatenedtaxa.org. All articles published in JoTT are registered under [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/) unless otherwise mentioned. JoTT allows unrestricted use, reproduction, and distribution of articles in any medium by providing adequate credit to the author(s) and the source of publication.

Journal of Threatened Taxa

Building evidence for conservation globally

www.threatenedtaxa.org

ISSN 0974-7907 (Online) | ISSN 0974-7893 (Print)

NOTE

BLACK-BELLIED CORAL SNAKE *SINOMICRURUS NIGRIVENTER* (WALL, 1908) (ELAPIDAE): AN EXTENDED DISTRIBUTION IN THE WESTERN HIMALAYA, INDIA

Sipu Kumar, Jignasu Dolia, Vartika Chaudhary, Amit Kumar & Abhijit Das

26 June 2021 | Vol. 13 | No. 7 | Pages: 18939–18942

DOI: [10.11609/jott.7022.13.7.18939-18942](https://doi.org/10.11609/jott.7022.13.7.18939-18942)



For Focus, Scope, Aims, and Policies, visit https://threatenedtaxa.org/index.php/JoTT/aims_scope

For Article Submission Guidelines, visit <https://threatenedtaxa.org/index.php/JoTT/about/submissions>

For Policies against Scientific Misconduct, visit https://threatenedtaxa.org/index.php/JoTT/policies_various

For reprints, contact [<ravi@threatenedtaxa.org>](mailto:ravi@threatenedtaxa.org)

The opinions expressed by the authors do not reflect the views of the Journal of Threatened Taxa, Wildlife Information Liaison Development Society, Zoo Outreach Organization, or any of the partners. The journal, the publisher, the host, and the partners are not responsible for the accuracy of the political boundaries shown in the maps by the authors.

Publisher & Host





Black-bellied Coral Snake *Sinomicrurus nigriventer* (Wall, 1908) (Elapidae): an extended distribution in the western Himalaya, India

Sipu Kumar¹ , Jignasu Dolia² , Vartika Chaudhary³ , Amit Kumar⁴ & Abhijit Das⁵

^{1,2,4,5} Wildlife Institute of India, Post Box # 18, Dehradun, Uttarakhand 248002, India.

³ Forest Research Institute, P.O. New Forest, Dehradun, Uttarakhand 248006, India.

¹ sipukumar@wii.gov.in, ² jdolia@gmail.com, ³ vartikapanwar75@gmail.com, ⁴ amit@wii.gov.in,

⁵ abhijit@wii.gov.in (corresponding author),

The Indian Himalaya region (IHR) is bestowed with rich and endemic biodiversity (Pandit et al. 2007). It is broadly categorized into the western Himalaya, central Himalaya, and northeastern Himalaya (Nautiyal et al. 2005). The western Himalayan region has a unique topography, great variation in altitude and a broad range of vegetational and faunal diversity. The region serves as home for a variety of endemic and threatened fauna (Maikhuri 2018). Nested in the western Himalaya, the state of Uttarakhand possesses a distinct identity of its natural ecosystems, which supports a remarkable diversity of fauna, including at least 72 species of reptiles and amphibians (Vasudevan & Sondhi 2010). Interestingly, several studies on snake ecology have been conducted in the world, but a comprehensive understanding in terms of range distribution and population biology of many snakes is still deficient (Mullin & Seigel 2009).

Coral snakes are a large group of elapid snakes (Döring 2020), which are venomous but commonly less involved in envenomation (Richardson & Little 2012). Generally, elapid snakes are fossorial and show solitary behaviour (Döring 2020). Currently, 107 species

of coral snakes belonging to five genera are recognized in the world, most of them (~76%) being found in the New World (Uetz et al. 2020). India is home to seven coral snake species (Whitaker & Captain 2004; Smith et al. 2012; Mirza et al. 2020), of these *Sinomicrurus maclellandi* (Reinhardt, 1844) was considered to have a wide distribution across the Himalaya, the northeastern hills, and adjoining countries, represented by at least five distinct 'colour forms' (Smith 1943).

The Black-bellied Coral Snake was initially described by British naturalist Col. Frank Wall as a variety of the Maclelland's Coral Snake *Sinomicrurus maclellandi*; however, in a recent study, Mirza et al. (2020) rediscovered this snake from Himachal Pradesh and compared it with existing museum specimens of *Sinomicrurus* spp. Based on morphological and molecular data, the authors concluded that *Sinomicrurus nigriventer* (earlier considered as a variety of *Sinomicrurus maclellandi*) deserves to be considered a distinct species.

Until now, *S. nigriventer* was only known to occur from Solan District (Kasauli and Nairani localities) of Himachal Pradesh, the western Himalaya (Wall 1908; Mirza et al. 2020). The current communication reports

Editor: Raju Vyas, Vadodara, Gujarat, India.

Date of publication: 26 June 2021 (online & print)

Citation: Kumar, S., J. Dolia, V. Chaudhary, A. Kumar & A. Das (2021). Black-bellied Coral Snake *Sinomicrurus nigriventer* (Wall, 1908) (Elapidae): an extended distribution in the western Himalaya, India. *Journal of Threatened Taxa* 13(7): 18939–18942. <https://doi.org/10.11609/jott.7022.13.7.18939-18942>

Copyright: © Kumar et al. 2021. Creative Commons Attribution 4.0 International License. JoTT allows unrestricted use, reproduction, and distribution of this article in any medium by providing adequate credit to the author(s) and the source of publication.

Funding: None.

Competing interests: The authors declare no competing interests.

Acknowledgements: The authors wish to acknowledge the Director and Dean, Wildlife Institute of India, Dehradun for institutional support and Uttarakhand Forest Department for necessary field permission and constant support. Thanks to Deepak Veerappan (NHM, UK) for exchanging taxonomic information and Monika Sharma for helping in preparation of map.



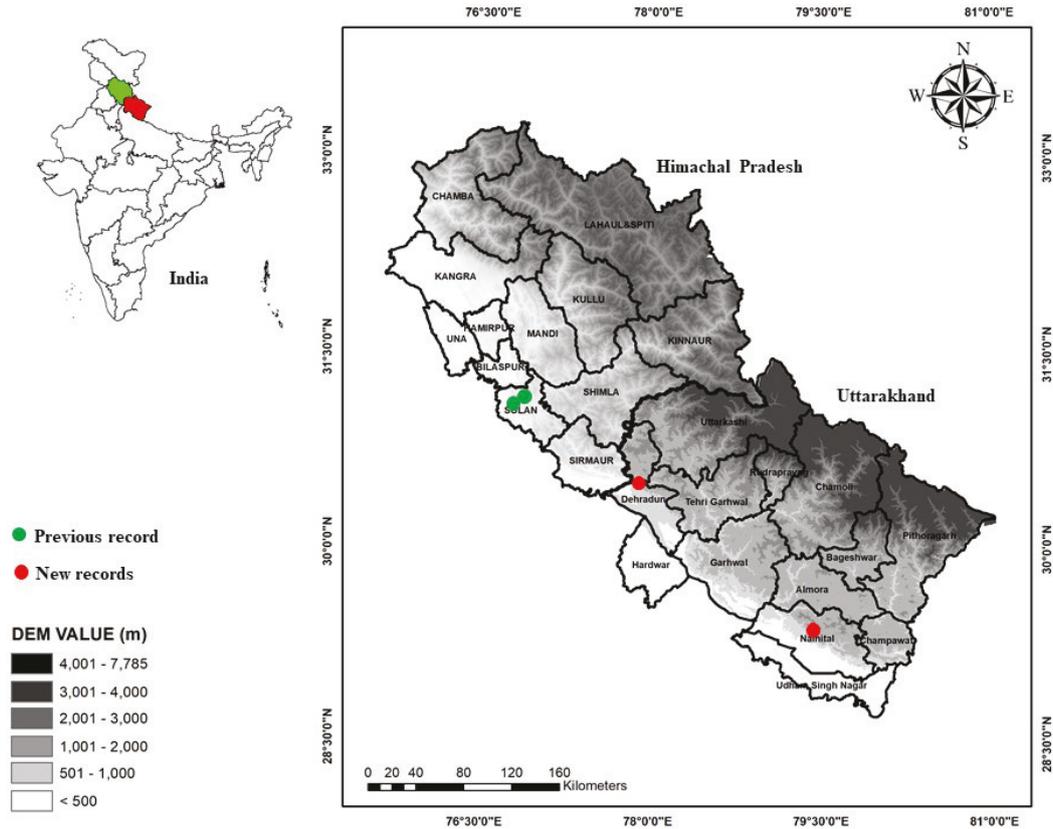


Figure 1. Distribution records of *Sinomicrurus nigriventer* in Himachal Pradesh and Uttarakhand in the western Himalaya.

for the first time, two confirmed distributional records of *S. nigriventer* from the adjoining Himalayan state of Uttarakhand (Figure 1), extending the geographic range of this newly proposed species further south and east along the western Himalaya.

During recent field explorations in the Kumaon and Garhwal regions of this largely mountainous state, the authors recorded a dead and a live specimen each. A detailed scrutiny of literature such as Reinhardt (1844), Wall (1908), Whitaker & Captain (2004), and Mirza et al. (2020) along with morphological characteristics revealed that both these individuals belong to the *Elapidae* family of *Sinomicrurus* genus, namely, *S. nigriventer*.

The first observation consists of a dead specimen of *S. nigriventer* found on 11 August 2019 from Nainital Forest Division at an elevation of 1,113 m (29.343°N, 79.621°E). The specimen was found upturned by the side of a small foot-bridge crossing a flowing stream (Image 1). Judging from its intact body, and the fact that no rigor mortis had set in, it appeared that this black-bellied coral snake had died recently, but the cause of death could not be ascertained although ants were seen feeding on it. The specimen was collected, fixed and preserved in 70% ethanol and deposited in the museum

of the Wildlife Institute of India, Dehradun (WIID724). The total length of the snake recorded was 380 mm and tail length was 36 mm. The scale count of this specimen include dorsals 13:13:13, ventrals 231, sub-caudals 29 (paired), supralabials 7/7 and infralabials 7/7. The sighting location consisted of rocky slopes amidst riverside and major vegetation observed nearby were *Bauhinia vahlii*, *Debregeasia hypoleuca*, *Woodfordia fruticosa*, *Ricinus communis*, *Ageratina adenophora*, *Urtica dioica*, *Rubus ellipticus*, *Lantana camara*, and *Rumex nepalensis*.

The second, more recent observation consists of a live specimen of *S. nigriventer* encountered in the Bhadrak Block of Benog Wildlife Sanctuary (BWS) in Mussoorie Forest Division (Image 2). The snake was sighted on the way to Bhadrak temple (30.470°N, 77.970°E) during daylight (12:47 h) on 20 September 2020 at an elevation of 1,914 m. Information on the snake species was recorded, the snake was photographed and identified visually based on coloration and body pattern. BWS mainly constitutes of Ban oak *Quercus leucotrichophora* forest with dominant species such as *Rhododendron arboreum*, *Lyonia ovalifolia*, *Berberis* spp. and *Ageratina adenophora* and undulating terrain consisting of



Image 1. A dead individual of *Sinomicrurus nigriventer* found in Nainital Forest Division: A—ventral aspect | B—dorsal aspect. © Jignasu Dolia.

dense grassy slopes (Kumar et al. 2012). The area is characterized by small natural water catchments, although stagnant.

The first record of *S. nigriventer* is an important addition to the knowledge of medically important snakes of Uttarakhand. The recent specimen from Himachal Pradesh was reported from 870m elevation (Mirza et al. 2020) and the two specimens from Uttarakhand were found at 1,100m and 1,900m. Interestingly, both specimens were found during the monsoon period, which may suggest some seasonal activity pattern. Moreover, considering the limited distribution records of the Black-bellied Coral Snake from the western Himalaya, the current communication with a report on its occurrence in Nainital and Mussoorie forest divisions indicates that the cool sub-tropical and temperate forests (1,000–2,000 m) with dense grassy slopes are under-explored in terms of reptilian diversity. Further

field investigations are required to determine the status of this venomous snake and to investigate if the species also occurs in similar habitats of the western Himalaya.

References

- Döring M. (2020). Elapidae, English Wikipedia - Species Pages. *Wikimedia Foundation*. Checklist dataset. Accessed via GBIF.org on 18 November 2020. <https://doi.org/10.15468/c3kkgh>
- Kumar, A., M. Mitra, G. Singh & G.S. Rawat (2012). An inventory of the flora of Binog Wildlife Sanctuary, Mussoorie, Garhwal Himalaya. *Indian Journal of Fundamental and Applied Life Sciences* 2(1): 281–299.
- Maikhuri, R.K. (2018). Biodiversity of Indian West Himalaya. *The Himalayan Biodiversity* 4:24–28.
- Mirza, Z.A., V. Varma & P.D. Campbell (2020). On the systematic status of *Calliophis maccllellandi nigriventer* Wall, 1908 (Reptilia: Serpentes: Elapidae). *Zootaxa* 4821(1): 105–120.
- Mullin S. & Seigel (2009). *Snakes: Ecology and Conservation*. Cornell University Press, Comstock Publishing Associates, vi+384pp.
- Nautiyal, S., K.S. Ranjan & R.S.C. Shibasaki (2005). Interaction of biodiversity and economic welfare- A case study from the Himalayas of India. *Journal of Environmental Informatics* 6(1): 16–24.



Image 2. *Sinomicrurus nigriventer* recorded in Benog Wildlife Sanctuary, Uttarakhand. © Vartika Chaudhary.

Pandit, M.K., N.S. Sodhi, L.P. Koh, A. Bhaskar & B.W. Brook (2007). Unreported yet massive deforestation driving loss of endemic biodiversity in Indian Himalaya. *Biodiversity and Conservation* 16(1): 153–163.

Reinhardt, J.T. (1884). Description of a new species of venomous snake, *Elaps macclellandi*. *Journal of Natural History* 4: 532–534.

Richardson, J.A. & S.E. Little (2012). Chapter 31: Toxicology, pp. 914–933. In: *The Cat. Clinical Medicine and Management*. Elsevier Inc., 1398pp. <https://doi.org/10.1016/B978-1-4377-0660-4.00031-4>

Smith, M.A. (1943). *Fauna of British India, Ceylon and Burma, including the whole of the Indo-Chinese Sub-region. Reptilia and Amphibia*. Vol. 3. Serpentes. Taylor and Francis, London, 583pp.

Smith, E.N., H. Ogale, V. Deepak & V.V.B. Giri (2012). A new species of coral snake of the genus *Calliophis* (Squamata: Elapidae) from the

west coast of peninsular India. *Zootaxa* 3437(1): 51–68. <https://doi.org/10.11646/zootaxa.3437.1.5>

Stephen J.M. & A.S. Richard (2009). *Snakes - Ecology and Conservation*. Cornell University Press, New York, xviii+381pp.

Uetz, P., P. Freed & J. Hosek (eds). (2020). The Reptile Database. <http://www.reptile-database.org>. Accessed on 14 December 2020.

Vasudevan, K. & S. Sondhi (2010). *Amphibians and reptiles of Uttarakhand, India*. Wildlife Institute of India, Dehradun, 94pp.

Wall, F. (1908). A new colour variety of MacClelland's Coral Snake (*Calliophis macclellandi*) and extension of the habitat of the species. *Journal of the Bombay Natural History Society* 19: 266.

Whitaker, R. & A. Captain (2004). *Snakes of India. The Field Guide*. Draco Books, Chennai, 481pp.



www.threatenedtaxa.org

OPEN ACCESS



The Journal of Threatened Taxa (JoTT) is dedicated to building evidence for conservation globally by publishing peer-reviewed articles online every month at a reasonably rapid rate at www.threatenedtaxa.org. All articles published in JoTT are registered under [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/) unless otherwise mentioned. JoTT allows unrestricted use, reproduction, and distribution of articles in any medium by providing adequate credit to the author(s) and the source of publication.

ISSN 0974-7907 (Online) | ISSN 0974-7893 (Print)

June 2021 | Vol. 13 | No. 7 | Pages: 18679–18958
Date of Publication: 26 June 2021 (Online & Print)
DOI: 10.11609/jott.2021.13.7.18679-18958

Communications

Persistence of *Trachypithecus geei* (Mammalia: Primates: Cercopithecidae) in a rubber plantation in Assam, India

– Joydeep Shil, Jihosuo Biswas, Sudipta Nag & Honnavalli N. Kumara, Pp. 18679–18686

Population assessment of the endangered Western Hoolock Gibbon *Hoolock hoolock* Harlan, 1834 at Sheikh Jamal Inani National Park, Bangladesh, and conservation significance of this site for threatened wildlife species

– M. Tarik Kabir, M. Farid Ahsan, Susan M. Cheyne, Shahrul Anuar Mohd Sah, Susan Lappan, Thad Q. Bartlett & Nadine Ruppert, Pp. 18687–18694

Assessment of changes over a decade in the patterns of livestock depredation by the Himalayan Brown Bear in Ladakh, India

– Aishwarya Maheshwari, A. Arun Kumar & Sambandam Sathyakumar, Pp. 18695–18702

Habitat selection of Himalayan Musk Deer *Moschus leucogaster* (Mammalia: Artiodactyla: Moschidae) with respect to biophysical attributes in Annapurna Conservation Area of Nepal

– Bijaya Neupane, Nar Bahadur Chhetri & Bijaya Dhama, Pp. 18703–18712

Sero-diagnosis of tuberculosis in elephants in Maharashtra, India

– Utkarsh Rajhans, Gayatri Wankhede, Balaji Ambore, Sandeep Chaudhari, Navnath Nighot, Vitthal Dhaygude & Chhaya Sonekar, Pp. 18713–18718

Avian species richness in traditional rice ecosystems: a case study from upper Myanmar

– Steven G. Platt, Myo Min Win, Naing Lin, Swann Htet Naing Aung, Ashish John & Thomas R. Rainwater, Pp. 18719–18737

Conservation status, feeding guilds, and diversity of birds in Doroji Sloth Bear Sanctuary, Karnataka, India

– M.N. Harisha, K.S. Abdul Samad & B.B. Hosetti, Pp. 18738–18751

Birds of Surat-Dangs: a consolidated checklist of 75 years (1944–2020) with special emphasis on noteworthy bird records and bird hotspots from northern Western Ghats of Gujarat, India

– Nikunj Jambu & Kaushal G. Patel, Pp. 18752–18780

Identification of a unique barb from the dorsal body contour feathers of the Indian Pitta *Pitta brachyura* (Aves: Passeriformes: Pittidae)

– Prateek Dey, Swapna Devi Ray, Sanjeev Kumar Sharma, Padmanabhan Pramod & Ram Pratap Singh, Pp. 18781–18791

Underestimated diversity of *Cnemaspis* Strauch, 1887 (Sauria: Gekkonidae) on karst landscapes in Sarawak, East Malaysia, Borneo

– Izneil Nashriq & Indraneil Das, Pp. 18792–18799

***Aborichthys barapensis*, a new species of river loach (Cypriniformes: Nemacheilidae) from Arunachal Pradesh, the eastern Himalaya, India**

– P. Nanda & L. Tamang, Pp. 18800–18808

A study on the community structure of damselflies (Insecta: Odonata: Zygoptera) in Paschim Medinipur, West Bengal, India

– Pathik Kumar Jana, Priyanka Halder Mallick & Tanmay Bhattacharya, Pp. 18809–18816

New distribution and range extension records of geometrid moths (Lepidoptera: Geometridae) from two western Himalayan protected areas

– Pritha Dey & Axel Hausmann, Pp. 18817–18826

Butterfly diversity of Putalibazar Municipality, Syangja District, Gandaki Province, Nepal

– Kismat Neupane & Mahamad Sayab Miya, Pp. 18827–18845

New records and distribution extension of *Nassarius persicus* (Martens, 1874) and *N. tadjillii* Moolenbeek, 2007 (Mollusca: Gastropoda: Nassariidae) to India

– Sayali Nerurkar & Deepak Apte, Pp. 18846–18852

Flowering plants of Agumbe region, central Western Ghats, Karnataka, India

– G.S. Adithya Rao & Y.L. Krishnamurthy, Pp. 18853–18867

Population assessment and habitat distribution modelling of the threatened medicinal plant *Picrorhiza kurroa* Royle ex Benth. in the Kumaun Himalaya, India

– Naveen Chandra, Gajendra Singh, Shashank Lingwal, M.P.S. Bisht & Lalit Mohan Tewari, Pp. 18868–18877

Occurrence of gilled fungi in Puducherry, India

– Vadivelu Kumaresan, Chakravarthy Sariaha, Thokur Sreepathy Murali & Gunasekaran Senthilarasu, Pp. 18878–18887

Short Communications

First photographic evidence and distribution of the Indian Pangolin *Manis crassicaudata* (Mammalia: Pholidota: Manidae) in Sariska Tiger Reserve, Rajasthan, India

– Hemant Singh, Gobind Sagar Bhardwaj, N. Gokulakannan, Saket Agasti & K. Aditya, Pp. 18888–18893

Population and conservation threats to the Greater Flamingos *Phoenicopterus roseus* (Aves: Phoenicopteriformes: Phoenicopteridae) at Basai Wetland and Najafgarh Jheel Bird Sanctuary, Haryana, India

– Amit Kumar & Sarita Rana, Pp. 18894–18898

First report on the occurrence of Sargassum Weed Fish *Histrio histrio* (Lophiliformes: Antennariidae) in Nigeria deep water, Gulf of Guinea

– Abdul-Rahman Dirisu, Hanson S. Uyi & Meshack Uyi, Pp. 18899–18902

A new distribution record of stomatopods *Odontodactylus japonicus* (De Haan, 1844) and *Lysiosquilla tredecimdentata* (Holthuis, 1941) from the Puducherry coastal waters, east coast of India

– S. Nithya Mary, V. Ravitchandirane & B. Gunalan, Pp. 18903–18907

New records of *Agriocnemis keralensis* Peters, 1981 and *Gynacantha khasiaca* MacLachlan, 1896 (Insecta: Odonata) from Maharashtra, India

– Yogesh Koli, Akshay Dalvi & Dattaprasad Sawant, Pp. 18908–18919

A new distribution record of the Horn Coral *Caryophyllia grandis* Gardiner & Waugh, 1938 (Anthozoa: Scleractinia) from the Karnataka Coast, India

– J.S. Yogesh Kumar & C. Raghunathan, Pp. 18920–18924

Re-collection, extended distribution, and amplified description of *Vaccinium paucicrenatum* Sleumer (Ericaceae) from the Arunachal Himalaya in India

– Subhasis Panda, Pp. 18925–18932

Notes

Photographic record of the Rusty-spotted Cat *Prionailurus rubiginosus* (I. Geoffroy Saint-Hilaire, 1831) (Mammalia: Carnivora: Felidae) in southern Western Ghats, India

– Devika Sanghamithra & P.O. Nameer, Pp. 18933–18935

Natural history notes on the highly threatened Pinto's Chachalaca *Ortalis remota* (Aves: Cracidae)

– Carlos Otávio Araujo Gussoni & Marco Aurélio Galvão da Silva, Pp. 18936–18938

Black-bellied Coral Snake *Sinomicrurus nigriventer* (Wall, 1908) (Elapidae): an extended distribution in the western Himalaya, India

– Sipu Kumar, Jignasu Dolia, Vartika Chaudhary, Amit Kumar & Abhijit Das, Pp. 18939–18942

First record of the Afghan Poplar Hawkmoth *Loathoe witti* Eitschberger et al., 1998 (Sphingidae: Smerinthinae) from India: a notable range extension for the genus

– Muzafar Riyaz, Pratheesh Mathew, Taslima Shiekh, S. Ignacimuthu & K. Sivasankaran, Pp. 18943–18946

The tribe Cnodalonini (Coleoptera: Tenebrionidae: Stenochiinae) from Maharashtra with two new records

– V.D. Hegde & D. Vasanthakumar, Pp. 18947–18948

Do predatory adult odonates estimate their adult prey odonates' body size and dispersal ability to proceed with a successful attack?

– Tharaka Suresh Priyadarshana, Pp. 18949–18952

Rediscovery of *Ophiorrhiza incarnata* C.E.C. Fisch. (Rubiaceae) from the Western Ghats of India after a lapse of 83 years

– Perumal Murugan, Vellingiri Ravichandran & Chidambaram Murugan, Pp. 18953–18955

Response

Comments on the "A checklist of mammals with historical records from Darjeeling-Sikkim Himalaya landscape, India"

– P.O. Nameer, Pp. 18956–18958

Publisher & Host

