



Observations of Himalayan Pitvipers, *Gloydius himalayanus* (Günther 1864), in the Doda District, Jammu and Kashmir, India

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Photographs by the author.

The Himalayan Pitviper (*Gloydius himalayanus*), with a range extending from Pakistan to India, Bhutan, and Nepal (Whitaker 2006; Uetz et al. 2020), has been recorded from the Indian states of Jammu and Kashmir (now a Union Territory), Himachal Pradesh, Punjab, Uttarakhand, Haryana, West Bengal, and Uttar Pradesh (Whitaker 2006) at elevations as high as 4,900 m asl (Wall 1910). *Gloydius himalayanus* has been documented in Jammu and Kashmir by Wall (1910), Murthy and Sharma (1976), Sahi (1979), and Manhas et al. (2018).

From March to August 2017, I conducted surveys at the following localities in the Doda District of Jammu and Kashmir, India (elevational range 1,525–2,532 m asl): R1 = Village Zazinda, R2 = Village Nai-Bhallara, and R3 = Bhaderwah (Fig. 1). I photographed all amphibians and reptiles sighted (using a Sony DSC-HX300), took morphological measurements when possible, and identified species using descriptions in Smith (1943), Sahi (1979), Khan and Tasnim (1986), Whitaker and Captain (2004), and Whitaker (2006).

I encountered a number of Himalayan Pitvipers (Figs. 2 & 3) and consider them common in the region. Variations in color and pattern, meristic characters (Table 1), and body measurements (Table 2) were comparable to those recorded by Sahi (1979), Khan and Tasnim (1986), and Manhas et al. (2018).

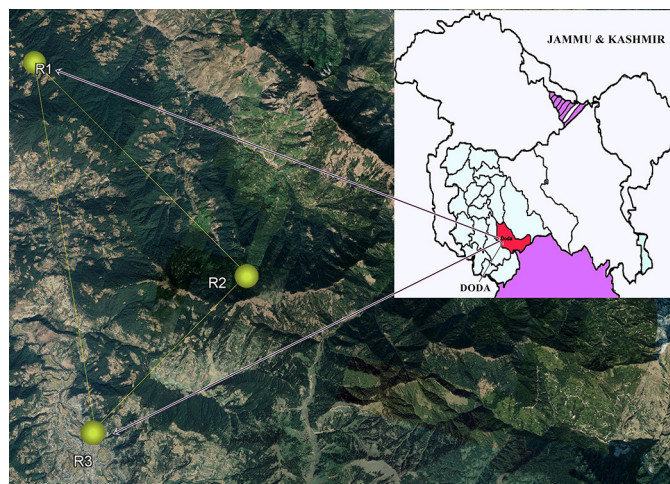


Fig. 1. Google Earth® image depicting the localities in the Doda District of Jammu and Kashmir, India, where observations (R1, R2, R3) of Himalayan Pitvipers (*Gloydius himalayanus*) occurred.

Snakes were primarily nocturnal but sometimes basked during the day in close proximity to refugia in rock crevices and under rocks, logs, and other debris near streams, in open forests, and agricultural fields. I observed snakes taking skins and small birds. Khan and Tasnim (1986) provided similar descriptions of habitat use and diet.



Fig. 2. Himalayan Pitvipers (*Gloydius himalayanus*) from the Doda District of Jammu and Kashmir, India. The most frequently encountered color and pattern with no sign of separation between prefrontal and frontal scales (left), an unusually patterned snake with a small scale separating the prefrontal and frontal scales (center), and a darker individual (right).



Fig. 3. Heads of Himalayan Pitvipers (*Gloydius himalayanus*) from the Doda District of Jammu and Kashmir, India: frontal (left), lateral (center), and dorsal (right) views.

Generally lethargic, snakes responded to threats by attempting to flee or, if cornered, by coiling and sometimes shaking their tails. Although tail waving is used by some

snakes to lure prey (e.g., Allen 1949), tail vibrations usually serve a warning function that, while most frequently associated with rattlesnakes (e.g., Allf et al. 2016), is employed by a number of other species of snakes (e.g., Young 1997), including viperids (e.g., Henry 1925).

Table 1. Meristic characteristics of Himalayan Pitvipers (*Gloydius himalayanus*) from the Doda District of Jammu and Kashmir, India.

Dorsal scale rows (anterior, midbody, posterior)	21:23:17
Supralabials	7/7
Infralabials	11/11
Supraoculars	2
Parietals	2
Prefrontals	2
Temporals	2 + 3
Frontals	1
Ventrals	147–160
Subcaudals	33–48
Cloacal plate	undivided

Table 2. Comparisons of body measurements (in mm) of Himalayan Pitvipers (*Gloydius himalayanus*) from Jammu and Kashmir, India. SVL = snout-vent length, TLL = tail Length, TL = total length.

Source	SVL	TLL	TL
Sahi (1979)	235–468	43–69	278–533
Khan and Tasnim (1986)	455	20	475
Manhas et al. (2018)	480–558	90–100	570–658
Present Study	445–556	75–98	520–654

Despite the abundance of these snakes, I am unaware of any local snakebite cases during the survey period. Local people usually kill Himalayan Pitvipers on sight, even though Wall (1913, 1921) stated that a bite from this species results only in localized swelling and intense pain at the site of envenomation and that these symptoms abate within two to three days and have no long-lasting effects on victims.

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