



Recent Record of the Rare Travancore Catsnake, *Boiga dightoni* (Boulenger 1894) (Reptilia: Colubridae), from the Ponmudi Hills in the Southern Western Ghats, India

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The Travancore Catsnake (*Boiga dightoni*), also known as the Pirmad Catsnake or Dighton’s Catsnake, is a little-known Western Ghats endemic (Smith 1943) first described as *Dipsas dightoni* by Boulenger (1894) based on a specimen collected by S.M. Dighton from “Pirmaad” (also spelled Pirmad, Pirmed, Peermade, Peermad, and Pirmedu) (or Azhutha, ca. 9.58N, 77.01E *vide* Wallach et al. 2014) in Travancore (now in Kerala), India. Boulenger (1896) assigned this species to the genus *Dipsadomorphus*, an arrangement followed by Annandale (1904) and Wall (1909, 1924). Smith (1943) reassigned it to the genus *Boiga* and provided an account based on the type specimen. After many decades, Inger et al. (1984) reported a male and a female from the Ponmudi Hills and Murthy (1985) reported a specimen from the Anamalai Hills, both in the southern Western Ghats. Subsequent treatises on Indian snakes (Daniel 2002; Whitaker and Captain 2004) shed no new light on this species. Vijayakumar et al. (2001) listed a roadkill as *B. dightoni* from Valparai in the Anaimalai Hills but provided no further information. Das (2002) furnished what is perhaps the only color photograph of this species based on documentation of the snakes recorded by Inger et al. (1984). Checklists of Indian snakes regularly list this species but without new information (see Wallach et al. 2014), and recent surveys (Chandramouli and Ganesh 2010) in the region did not record this species. Ganesh et al. (2020) depicted the holotype and provided morphological data for two previously unreported historical topotypes (BNHS 1839, 2813) collected by C.D.S. Nicholl in 1966 that were consistent with data from known specimens (Inger et al. 1984). Herein we report a recent record of a Travancore Catsnake.

On 20 October 2011, we found a dead adult *B. dightoni* (Fig. 1) in the Aanapaara Range of the Palode Reserve Forest located at the base of the Ponmudi Hills (8.69°N, 77.10°E; elev. 586 m asl), part of the Agasthyamalai Massif, which is the



Fig. 1. Details of a Travancore Catsnake (*Boiga dightoni*) from the Ponmudi Hills in the southern Western Ghats. Photographs by Arun Kanagavel.

southernmost range of the Western Ghats Biodiversity Hotspot. Other than some superficial lacerations on the right side of the neck, we found no other evidence of external injuries. This snake was in an area of semi-evergreen vegetation, typical of a lower-elevation zone with tall evergreen rainforests. We did not collect the specimen as our permits issued by the Department of Wildlife and Forests in Kerala sanctioned only a visual survey. We did, however, deposit a photographic voucher series in the Lee Kong Chian Natural History Museum, National University of Singapore (ZRC (IMG) 2.560a–d). The identity of the snake was confirmed by Ashok Captain.

Of the six species in the genus *Boiga* known from the Western Ghats (Giri et al. 2019; Ganesh et al. 2020), this new specimen differs from *B. beddomei*, *B. flaviviridis*, and *B. thackerayi* by having 21 midbody scale rows and lacking either bold (e.g., *B. thackerayi*) or obscure (*B. flaviviridis*) blackish cross bars on the body; from *B. trigonata* by possessing a totally different dorsal color pattern; from *B. nuchalis* by the presence of a subtle dorsal and ventral pattern and salmon-pink ventrolateral coloration. Because the present specimen matches descriptions of *B. dightoni* (see below) and its provenance is from within the region of a previous authenticated record (Inger et al. 1984), we allocated this snake to *B. dightoni* as currently understood. This report, which is the only confirmed record of the species since 1984, represents a significant finding after nearly three decades (i.e., 1982–2011).

This individual (total length approximately 1.25 m) conforms to descriptions of *Boiga dightoni* by Boulenger (1894; Fig. 2), Smith (1943), Inger et al. (1984), Das (2002), and Ganesh et al. (2020) in terms of scalation (Table 1) and color pattern. Smooth dorsal scales were in 21:21:15 oblique rows; vertebral series hexagonal, slightly larger than those in the other rows; 248 ventrals; 4 preentrals; 118 paired

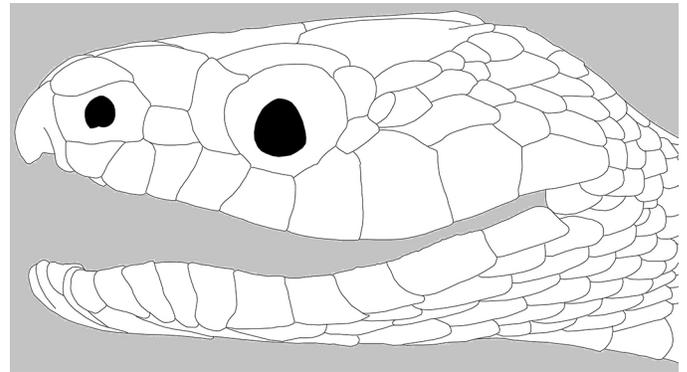


Fig. 2. Head of the holotype of the Travancore Catsnake (*Boiga dightoni*) (BMNH 1946.1.1.32). Drawing by Ashok Captain.

subcaudals; cloacal undivided; 8 supralabials (3–5 touching the eye); 1 preocular touching the frontal; 2 postoculars; 1 loreal; 2+2 small temporals subequal to lateral body scales; anterior genials slightly smaller than the posterior pair; body compressed near the extremities; head very distinct from the neck; supralabials, loreal, and nasals creamy yellow; infralabials and gular region more or less white with scattered orange specks; sides of head, especially along the lips, with tiny dark dots; underside of head white; dorsum copper-brown to rich orange or ochre with rather obscure darker patches on the vertebral series; anterior venter cream to yellow, orange color increasing in intensity posteriorly and most pronounced laterally; iris reddish orange with a black vertically elliptical pupil.

Boulenger (1894, 1896) listed ventral and subcaudal counts of the holotype as 241 and 95, respectively, whereas we counted 242 and 99/98 (Ganesh et al. 2020). Although Wall (1924) reported the lowest ventral count (228), the lowest count in specimens we have examined was 235. The

Table 1. Selected scalation characters of the Travancore Catsnake (*Boiga dightoni*) from the Aanapaara Range of the Palode Reserve Forest located at the base of the Ponmudi Hills in the southern Western Ghats compared to records in literature (Boulenger 1894 [holotype]; Smith 1943; Inger et al. 1984; Das 2002; Ganesh et al. 2020).

Specimen	Dorsals	Ventrals	Cloacal	Subcaudals	Supralabials	Preocular	Temporals
ZRC (IMG) 2.560	21:21:15	242	1 entire	118 pairs	8, 3–5 touching eye	1 touching frontal	Subequal to costal body scales
BMNH 1946.1.1.32	23:23:15	242	1	99 pairs	8, 3–5 touching eye	1 not touching frontal	Subequal to costal body scales
FMNH 217699	23:23:15	248	1	112 pairs	8, 3–5 touching eye	1 touching frontal	Subequal to costal body scales
BNHS 1839, 2813	21:21:15	235–248	1	102 74 + ?	8, 4–5 touching eye	1 touching frontal	Subequal to costal body scales

subcaudal count of 118 on the complete tail of the new specimen, the highest recorded to date, suggests that it was a male, more closely approximating that of a confirmed male (112; Inger et al. 1984) than that of a confirmed female (99; Boulenger 1894). Both Boulenger (1894) and Inger et al. (1984) described the dorsum as brownish with darker series of markings on the back and the venter as yellowish to tan with darker flecks. Boulenger (1894) and Smith (1943) also mentioned the salmon-pink lateral edges of ventrals present in the new specimen. Some publications (e.g., Murthy 1985) described a form with more distinct dorsal crossbars all along its back. However, those crossbars were not dark reddish brown as in typical *B. nuchalis* (see Ganesh et al. 2020) but a more sober fawn color (Fig. 3; also see Das 2002). Given the subtle differences between *B. dightoni* and *B. nuchalis* and their overlapping geographic ranges, identifying variants that resemble *B. nuchalis* more than *B. dightoni* can be difficult.

Boulenger (1894) described *B. dightoni* based on a single specimen. Shortly thereafter, Ferguson (1895) stated that three specimens were taken from Pirmed, and Annandale (1904) reported procuring a specimen for the Indian Museum of Calcutta (now the Zoological Survey of India) in an exchange with the Trivandrum Museum. Wall (1924) reported examining three specimens, all of Pirmad. As per the jar label, at least one of the two BNHS topotypes were collected in 1966, which precludes the possibility of them being the two specimens mentioned by Ferguson (1895). However,

Wall's (1924) mention of a subcaudal count of 102 matches one of the specimens in the jar labeled 1966. Therefore the status, identities, and whereabouts of the remaining two specimens other than the holotype are unclear (see also Wallach et al. 2014; Ganesh et al. 2020).

Inger et al. (1984) reported that *B. dightoni* was active on bushes at night, suggestive of nocturnal behavior like most congeners (Smith 1943; Das 2002; Daniel 2002; Whitaker and Captain 2004). As the new specimen was found in the early afternoon and still retained its orange iris color indicates that it might have either died in the early dawn while active or have been killed by animals or people when it was disturbed during the day. Also, this specimen was found at an elevation of about 590 m asl on the lower slopes (with the caveat that the snake was found dead on the forest floor with the cause of death unknown), whereas the observations by Inger et al. (1984) occurred at 700–840 m and the type specimen was collected at an elevation of 1,000 m (Boulenger 1894).

Additionally, we take this opportunity to illustrate (Fig. 4) and describe the hemipenes of *B. dightoni* for the first time based on a male (FMNH 217699) also from the Ponmudi Hills (Inger et al. 1984). We examined the everted hemipenes *in situ*. The organ is rather short and thick, five subcaudal scales in length, and not forked at the tip; pedicel length was nearly twice its width; in asulcal view, the organ was covered with small short homogenous cursive spiny flounces that are equally dense at the base, midtrunk, and apex; callices extend to the apex.



Fig. 3. A Collared Catsnake (*Boiga nuchalis*) with typically orange-brown crossbars (as opposed to much darker reddish brown bars) from Valparai in the Anamalai Hills of the Western Ghats. Photograph by S.R. Chandramouli.



Fig. 4. An everted hemipenis of a Travancore Catsnake (*Boiga dightoni*) (FMNH 217699) collected by R.F. Inger in the Ponmudi Hills in the southern Western Ghats. Photograph by Gernot Vogel.

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