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KEY WORDS: Reptilia: Squamata: Ophidia: Colubridae: *Rhynchocalamus melanocephalus satunini*, morphology, pholidosis, distribution, Türkiye

SUBMITTED: January 4, 2007

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First record of the snake *Dendrophidion bivittatus* (DUMÉRIL, BIBRON & DUMÉRIL, 1854) and taxonomic remarks on the Genus in Ecuador

The Genus *Dendrophidion* FITZINGER, 1843 includes fast moving snakes of medium size and diurnal activity. At present, this genus is constituted by eight species distributed from Mexico over Middle America to northern South America (PETERS & OREJAS-MIRANDA 1986; LIEB 1988; PÉREZ-SANTOS & MORENO 1991). From Ecuador, four species are reported, namely *D. brunneus* (GÜNTHER, 1858), *D. nuchalis* (PETERS, 1864) and *D. percarinatus* (COPE, 1863), in the western slopes, and *D. dendrophis* (SCHLEGEL, 1837) in the eastern slopes of the Andes (ALMENDÁRIZ 1991; PÉREZ-SANTOS & MORENO 1991; COLOMA et al. 2000). This investigation presents the first record of the species *D. bivittatus* (DUMÉRIL, BIBRON & DUMÉRIL, 1854) in Ecuador with a detailed description of the specimen.

All the measurements of the individual collected were done using a metallic rule. Comparisons with other species were based on direct observation and information in PETERS & OREJAS-MIRANDA (1986) and PÉREZ-SANTOS & MORENO (1989b). All material here reported is deposited at the Fundación Herpetológica Gustavo Orcés (FHGO).

Dendrophidion bivittatus (DUMÉRIL, BIBRON & DUMÉRIL, 1854) previously has been reported in highlands of Colombia and the Darién, Panama (PETERS & OREJAS-MIRANDA 1986; PÉREZ-SANTOS & MORENO 1989a). In Ecuador, the checklists of reptiles of PETERS (1960) and MIYATA (1982) include *D. bivittatus* without certain evidence of specimens. Later, the taxonomic review by LIEB (1988), excludes this snake as did all other checklists published up to date (MIYATA 1982; PETERS & OREJAS-MIRANDA 1986; PÉREZ-SANTOS & MORENO 1989a; ALMENDÁRIZ 1991; COLOMA et al. 2000). Herein, we report on an individual (FHGO 5461) collected in the zone of Intag, parish Selva Alegre, canton Otavalo, Province of Imbabura (00°16'01" N, 78°35' 24" W, ca. 1700 m a.s.l., Fig. 1), on March 16, 2006, at about 12:00. The site was a

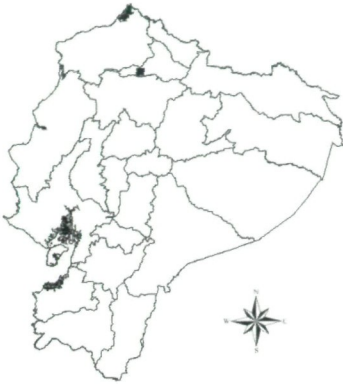


Fig. 1: Record locality (■) of *Dendrophidion bivittatus* (DUMÉRIL, BIBRON & DUMÉRIL, 1854) (FHGO 5461) at 00°16'01" N, 78°35'24" W, ca. 1700 m a.s.l. in the zone of Intag, parish Selva Alegre, canton Otavalo, Province of Imbabura, Ecuador.

remnant of secondary vegetation, where the snake was moving across leaf litter of the forest floor. The zone of Intag is located on the edge of the Reserva Ecológica Cotacachi-Cayapas, in the Cordillera Toisán, Bioregion of Chocó, recognized throughout the world by its important biological value (BIODIVERSITY SUPPORT PROGRAM et al. 1995). The Reserve which is constituted by Montane and High Montane Evergreen Forest (SIERRA et al. 1999) is on top of the list of threatened ecosystems.

Diagnosis: A snake of small size (snout-vent length 22.1 cm) and relatively long tail (tail length 10.7 cm; 32% of the total length of the snake); head prolonged, clearly differentiated from the body, tip of mouth rounded, eyes prominent, pupil black and round, bordered by tan reddish color. Internasals wider than long and smaller than parietals; loreal wider than long, preoculars 2/2; postoculars 2/2; temporals 2+2; supralabials 9/9, fourth, fifth and sixth in contact with the orbit; infralabials 9/9, nasal divided. Dorsal scales 17+17+15, slightly keeled, with two apical pits, ventrals 161, anal scale divided, subcaudals 129.

Color in life (Fig. 2): Dorsum ground color yellowish brown with numerous oblique dark brown bars, separated from each other by 1 to 2 scales paralleling the dorsal scale rows. In the vertebral region, the



Fig. 2: *Dendrophidion bivittatus* (DUMÉRIL, BIBRON & DUMÉRIL, 1854) (FHGO 5461) from Ecuador.

merging of these bars is prevented by a stripe that becomes more evident in the second quarter of the body and extends towards the tail; in the last quarter of body, there are two parallel dark stripes – each 1 scale wide – which finally fuse in the tail. The head and the nuchal region are of greenish color, the neck laterally bearing yellowish spots alternating with dark brown spots. As the series of yellow spots extends backwards their color changes to the yellowish brown of the ground color. The supralabials and ventrals including all scales of the mental region are of cream color.

Coloration in preservative: Dorsum and head brown with numerous transverse bands of darker brown, vertebral and para-vertebral stripes evident in the last quarter of body. In the nuchal region brown transversal bars alternate with bluish striping. Venter greyish except chin region and supralabial scales which are cream.

Similar species: *Dendrophidion bivittatus* differs from *D. dendrophis* both in color-pattern, consisting of dun greyish cross bars separated from each other by more than 1 (2 - 3) scale rows and a higher number (> 175) of ventral scales; moreover it is distributed in the lowlands of the Ecuadorian Amazonia. *Dendrophidion nuchale* is different from *D. bivittatus* by its black or dark nuchal band, the color of its tail which is brighter than the rest of the body and the presence of numerous circular spots towards the posterior part of the body. In *D. percarnatus* the transversal bands can be irregular

and often are bordered by another row of scales of blackish color, lateral lines are not evident. *Dendrophidion bivittatus* can be confused with snakes of the Genus *Liophis* WAGLER, 1830, in peculiar those of the *epinephelus* group, which also possess longitudinal lines, but they differ in having smooth scales, 8 supralabials and 1+2 temporals.

The record of *Dendrophidion bivittatus* in the zone of Intag confirms the presence of this species on the western slope of the Andes. From its coloration this species is easily confused with *D. dendrophis*. ALMENDÁRIZ (1991) added the latter to the list of snakes occurring on the western slopes of Andes, but our record of *D. bivittatus* suggests that *D. dendrophis* may have been included erroneously. According to TOUZET (pers. com.) an individual of *D. bivittatus* was found in Cononaco (01°31' 00"S, 75°36'00"W), Amazonian province of Pastaza in Ecuador. In 2001 one of us (JHV) checked this specimen deposited in the FHGO Reference Collection, at the Fundación Herpetológica Gustavo Orcés (Quito) and observed remarkable differences in coloration and number of scales when compared with other species of *Dendrophidion* (*brunneus*, *dendrophis*, *nuchale*, *percarinatus*), but also with the specimen from Intag concerning the absence of apical pits, increased number of infralabial scales, and dorsal coloration. We suggest that the specimen collected in Pastaza represents a species different from all other species mentioned previously; however it is necessary to obtain additional material of reference to determine its taxonomic status with certainty.

ACKNOWLEDGMENTS: We are especially grateful to María Elena BARRAGÁN and Gabriela MONTENEGRO (FHGO) for their comments on the manuscript and its translation into English; to Fernando NOGALES for help in providing the distribution map; to Jean-Marc TOUZET and Alexis BARAHONA for comments and support in the laboratory. This investigation was supported by the Fundación Herpetológica Gustavo Orcés (FHGO) and the Vivarium of Quito, Ecuador.

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SUBMITTED: January 21, 2007

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Salamandra atra LAURENTI, 1768 in the Ötztaler Alpen Massif (Austria, Italy)

According to GUÉX & GROSSENBACHER (2004) it is hard to find another European amphibian species in which the detailed distribution is as little known as for the Alpine Salamander *Salamandra atra* LAURENTI, 1768. Even within the largely interconnected alpine range areas of the typical subspecies *S. a. atra*, there is lack of records in certain tracts. The entire Ötztaler Alpen Massif represented one of these distributional gaps (CABELLA & GRILLITSCH 2001; GUÉX & GROSSENBACHER 2004; BONATO & FRACASSO 2006).

Two research trips to the Ötztaler Alpen Massif were both conducted in July, the most promising month for studying *S. atra*

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Jahr/Year: 2007

Band/Volume: [20_1_2](#)

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Artikel/Article: [First record of the snake *Dendrophidion bivittatus* \(Dumeril, Bibron & Dumeril, 1854\) and taxonomic remarks on the Genus in Ecuador 86-88](#)