

**FIRST RECORD OF *Opisthotropis durandi* TEYNIÉ, LOTTIER, DAVID,  
NGUYEN & VOGEL, 2014 (SQUAMATA: NATRICIDAE) FROM VIETNAM**

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**ABSTRACT**

We provide the first country record of *Opisthotropis durandi* Teynié, Lottier, David, Nguyen & Vogel, 2014 from Vietnam based on a single snake specimen from Dien Bien Province. The species previously was only known from the Lao People's Democratic Republic (Laos). DNA sequence data of a male specimen from Vietnam match those of a specimen of *O. durandi* from Phongsali province, Laos, and the newly collected individual from Vietnam also corresponds to *O. durandi* in terms of diagnostic morphological features, except for a slightly higher ventral number (185 versus 177–181).

**Keywords:** New record, taxonomy, morphology, molecular, snake, Dien Bien, Vietnam.

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## INTRODUCTION

The genus *Opisthotropis* has a wide distribution in Asia, from Southeast Asia to China and Japan (Uetz et al., 2022). *Opisthotropis* is one of the most poorly studied genera of snakes with 25 recognized species at the time and 10 new species having been described since 2000 (Uetz et al., 2022). At present eight species of this genus have been recorded from Vietnam (Uetz et al., 2022). Orlov et al. (1998) described the first new species from Vietnam (*Opisthotropis daovantieni* Orlov, Darevsky & Murphy, 1998), and four new taxa were subsequently discovered from this country, namely *Opisthotropis tamdaoensis* Ziegler, David & Vu, 2008; *Opisthotropis cucae* David, Pham, Nguyen & Ziegler, 2011; *Opisthotropis voquyi* Ziegler, David, Ziegler, Pham, Nguyen & Le, 2018; and *Opisthotropis haihaensis* Ziegler, Pham, Nguyen, Nguyen, Wang, Wang, Stuart, & Le, 2019 (Ziegler et al., 2008; David et al., 2011; Ziegler et al., 2018, 2019).

During a recent survey on the herpetofauna in Dien Bien Province in the North of Vietnam, a colubrid snake specimen was collected, which based on integrative taxonomic analyses revealed to be the first country record of *Opisthotropis durandi*, an only recently described species that previously was only known from Laos, from Vietnam.

## MATERIALS AND METHODS

A field survey was conducted in Dien Bien district, Dien Bien province in March 2019. The single snake was collected at 20: 39 h. The specimen was anaesthetized and subsequently euthanized with ethyl acetate, then fixed in 80% ethanol for five hours and subsequently transferred to 70% ethanol for permanent storage. The tissue sample was preserved separately in 90% ethanol prior to fixation. The specimen was deposited in the collections of the Vietnam National University of Forestry (VNUF).

Morphological characters. Identification of sex was performed by inspection of

copulatory organs. Snout-vent length and tail length were measured after preservation using a measuring tape. Head length was taken with a caliper to the nearest 0.1 mm. The number of ventral scales was counted according to Dowling (1951). The number of dorsal scale rows was counted at one head length behind head, at midbody (at number of VEN/2), and at one head length before vent, respectively. Head length was measured from tip of snout to posterior margin of parietal; Maxillary teeth were counted by investigating the left maxilla for teeth/sockets. Scallation and maxillary teeth were examined by using a binocular dissecting microscope. Bilateral values were given as left/right. Abbreviations of morphological characters used in the text are as follows: Measures and ratios: HL: head length (from tip of snout to posterior edge of parietals); SVL: snout-vent length (from tip of snout to cloaca); TaL: tail length (from cloaca to tip of tail); TL: total length (SVL + TaL); TaL/TL: ratio tail length/total length. The remaining characters followed Ziegler et al. (2018).

Morphological comparisons of *O. durandi* from Laos were based on data from Teynié et al. (2014) and Brakels et al. (2021).

We used the protocol of Le et al. (2006) for DNA extraction, amplification, and sequencing. A fragment of the mitochondrial cytochrome *b* was amplified using the primer pair L14910/H16064 (Burbrink et al., 2000). The sequence was compared with those from GenBank using a Basic Local Alignment Search Tool (BLAST) searches.

## RESULTS

### *Opisthotropis durandi* Teynié, Lottier, David, Nguyen & Vogel, 2014

*Specimen examined* (n = 1). One adult male VNUF R.2019.09 (Field no. PT09R) collected by Pham N. S. on 30 March 2019, in the transformed secondary forest of Pa Thom commune, Dien Bien district, Dien Bien province (21°18.383'N 102°55.990'E, at an elevation of 469 m) (Fig. 1).

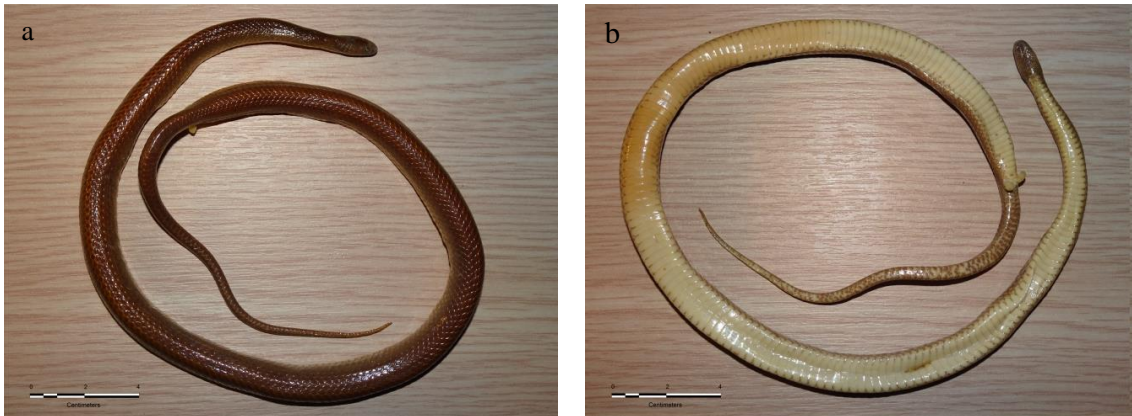


Figure 1. Dorsal (a) and ventral (b) views of *Opisthotropis durandi* from Vietnam [Photos by: Thomas Ziegler]

### Description

The morphological characters of the specimen from Dien Bien Province agreed well with the description of Teynié et al. (2014) (Fig. 2).

TL 510 mm (SVL 384 mm, TaL 126 mm); TaL/TL 0.25; body stout, cylindrical; HL 9.0 mm, undistinguished from the thick neck, depressed, flat anterior to eyes, dorsally covered with large plates; eye small, with circular pupil; maxillary teeth 22.

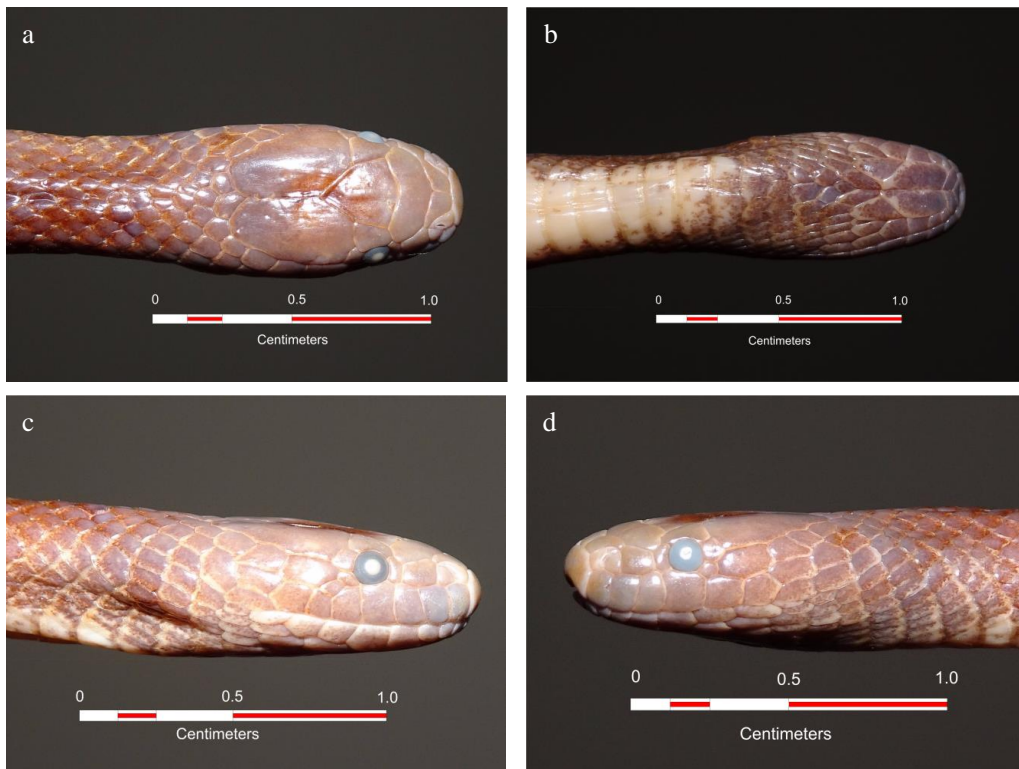


Figure 2. *Opisthotropis durandi* in preservative. Dorsal view (a), ventral view (b), right side (c), left side (d) of head [Photos by: Thomas Ziegler]

Rostral small, pentagonal, visible from above; two internasals, narrow, triangular, strongly curved with its apex directed outwards and widely divergent from each other; each internasals in contact with rostral, nasal, loreal and prefrontal; prefrontal single, subrectangular-shaped, 2.7 times broader than long, in contact with the preocular and the loreal on each side; frontal hexagonal with its apex directed posteriorly; parietals long and wide, in contact for 1.1 times length of frontal; one supraocular; supralabials seven (left) and eight (right), the fourth largest and in contact with the eye; one small mental, followed by eight infralabials; first pair of infralabials in contact with mental; first five infralabials in contact with the first pair of chin shields.

Dorsal scales smooth (but some with longitudinal scratches) from the neck region onwards, in 19 rows at the anterior part of the body, 17 scale rows at midbody, and 17 rows at posterior body; ventrals 185 (including preventrals), laterally round; subcaudals 87, divided; cloacal plate single.

#### *Coloration in preservative*

Dorsal surface bronze brown, the posterior part and head turning to dark brown. Ventral surface of body cream; chin, throat with dark greyish brown; ventral surface of the tail greyish brown.

*Ecological notes.* The specimen was found at 20:39 in a stream. The surrounding habitat was transformed into a secondary evergreen forest (Fig. 3).



Figure 3. Microhabitat of *Opisthotropis durandi* from Pa Thom commune, Dien Bien district, Dien Bien province, Vietnam [Photo by: Pham S. N.]

#### *Distribution*

The species was previously known only from Luang Prabang, Bokeo, and Phongsali provinces, Laos (Teynié et al., 2014; Brakels

et al., 2021; <https://collections.natural-sciences.org/search/herpetology>). The new record of this species in northern Vietnam is approximately 70 km distant from the type locality in Luang Prabang Province (Fig. 4).

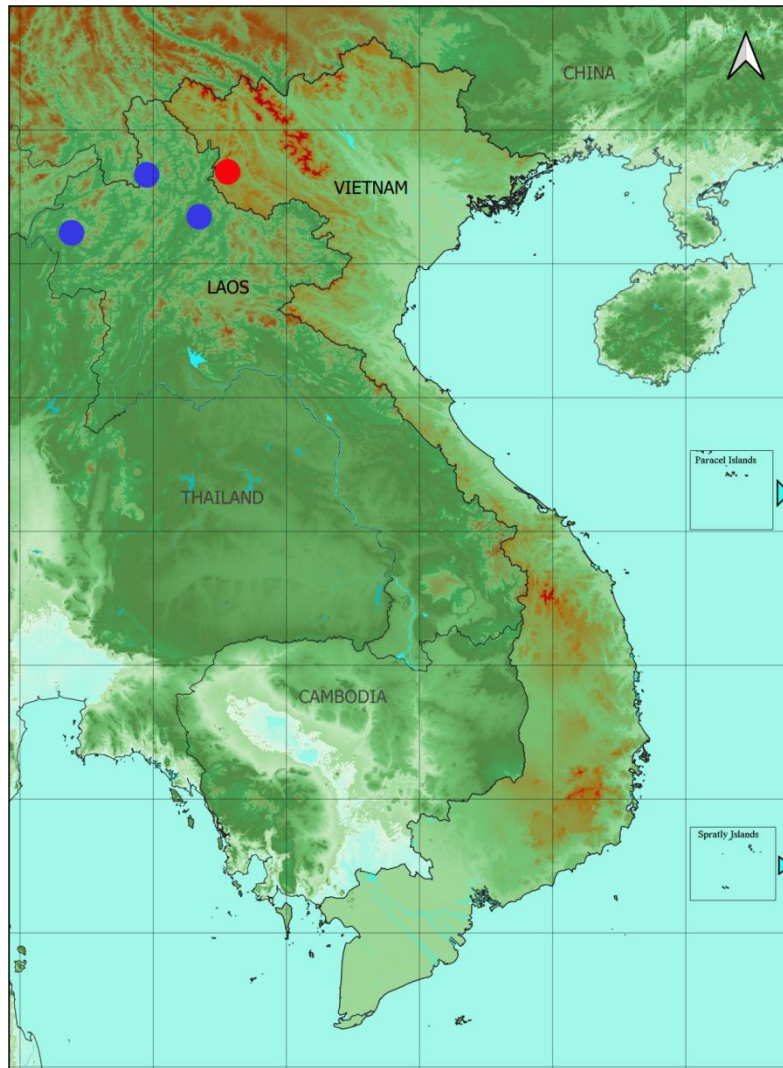


Figure 4. Distribution map of *Opisthotropis durandi* with the new record (red dot) from Dien Bien province, Vietnam and records from Laos (blue dots)

### Remarks

The male specimen from Dien Bien Province, Vietnam, slightly differs from the original description of Teynié et al. (2014) from Luang Prabang Province, Laos by having more ventrals (185 versus 177–181) and fewer subcaudals (87 versus 88+), and from the description of Brakels et al. (2021) from Bokeo Province, Laos, by having more ventrals (185 versus 180) and more subcaudals (87 versus 85). A sequence fragment of the cytochrome b gene was generated with a length of 1074 bps (VNUF

R.2019.09) with GenBank accession number OQ476086. Our BLAST analysis shows that it was identical to that of *Opisthotropis durandi* (NCSM 80739) with GenBank accession number MK941137.

### DISCUSSION

*O. durandi* was originally described from Ngoi District, Luang Prabang Province, Laos by Teynié et al. (2014) based on adult female and adult male specimens. To date, it still is a poorly known species, known only from Luang Prabang and Bokeo provinces of Laos

(Teynié et al., 2014; Brakels et al., 2021). However, in their paper, Wang et al. (2020) provided incorrect information regarding the location of an *O. durandi* specimen (NCSM 80739) in Table 1. It should be noted that the specimen of *O. durandi* was collected in Phongsali Province, Laos, instead of in Vietnam (see more details at the link: <https://collections.naturalsciences.org/search/herpetology>). In particular, the record of the type specimen from Luang Prabang Province is close to the Vietnamese border, opposite to Dien Bien and Son La provinces. Herein, we report the first country record of the species from Vietnam in Dien Bien province and *O. durandi* is expected to be found in Son La province as well.

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