

**NEW RECORD OF THE MONOCLED COBRA *Naja kaouthia* Lesson, 1831
(SQUAMATA: ELAPIDAE) FROM SON LA PROVINCE,
NORTHERN VIETNAM**

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SUMMARY

In Vietnam, the Monocled cobra *Naja kaouthia* is a poorly known species with few records from Quang Tri, Thua Thien-Hue, Lam Dong, Dong Nai, Ho Chi Minh City, Dak Lak and Kien Giang provinces. The species is diagnosed in morphology as follows: Large head; a cuneated scale between fourth and fifth infralabial; single preocular; postoculars 2 - 3; supralabials 7/7, the third & fourth entering orbit; 4 infralabials contact anterior chin shields; rounded hood with O-shaped marking. Body robust, cylindrical; scales smooth, mid-body scale rows 19 - 21 (usually 21); ventrals 164 - 197. Tail short, tapering; paired subcaudals 43 - 61. During recent herpetological survey in the karst forest of Van Ho District, Son La Province, Vietnam, a female specimen of the genus *Naja* was collected at an elevation of 800 m a.s.l. in a mixed habitat of the secondary karst forest and agricultural area. Based on morphological examination, our specimen is totally agreed with the Monocled cobra *Naja kaouthia* Lesson, 1831 description of Smith (1943), Das (2010), Chan-ard et al. (2015) and Vassilieva et al. (2016). Thus, the species is recorded for the first time from Son La Province. The species is listed in the Appendix II of CITES (2019) and Group IIB of the Vietnamese Governmental Decree No 06/2019/ND-CP.

Keywords: Morphology, *Naja kaouthia*, new record, Son La province.

1. INTRODUCTION

Monocled cobra *Naja kaouthia* Lesson, 1831 was originally described based on the holotype collected from Bengal, India. The species is diagnosed based on the following characters from Smith (1943), Das (2010), Chan-ard et al. (2015) and Vassilieva et al. (2016): total length 1500 - 2300 mm; body robust; head large, distinct from neck; frontal short, squarish; a cuneate usually present; single preocular; postoculars 2 - 3; supralabials 7/7; supralabials III-IV contact orbit; 4 infralabials contact anterior chin shields; hood rounded; eye moderate; pupil rounded; tail short; dorsals smooth, glossy; 25 - 31 scales on the neck, 19 - 21 scales on midbody (usually 21, rarely 23), 17 or 15 scales in front of the vent; ventrals 164-197; subcaudals 43 - 61, paired. Coloration: Dorsal surface brown, greyish-brown, blackish-brown or pale yellow; some with darker bands; hood marking typically a light circle, or mask-shaped with a dark centre; 1 - 2 dark spots sometimes present in pale oval portion; light throat colour with paired lateral spots; rest of ventral surface similar to dorsal surface or with dark pigmentation towards tail; subcaudals dark-edged. The species is known to occur from India,

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Nepal, Bangladesh, China, Myanmar, Laos, Thailand, Cambodia, Vietnam to Malaysia (Das, 2010; Chan-ard et al., 2015; Vassilieva et al., 2016). However, it is a poorly known species in Vietnam with few records from Quang Tri, Thua Thien-Hue, Dak Lak, Lam Dong, Dong Nai, Ho Chi Minh City and Kien Giang provinces (Nguyen et al., 2009; Vassilieva et al., 2016).

During a recent herpetological survey, an adult female of the genus *Naja* was found on a milpa near Hua Tat village, Van Ho commune, Van Ho district, Son La province. Based on morphological examination of this specimen, we herein report the first record of *Naja kaouthia* from Son La province.

2. RESEACH METHODOLOGY

Sampling

A field survey was conducted in the karst forest of Van Ho commune, Van Ho district, Son La province by Pham Trung Hieu and Trinh A Phan in May 2021. The specimen was anaesthetized with ethyl acetate, fixed in approximately 85% ethanol, and then transferred to 70% ethanol for permanent storage (Simmons, 2002). The specimen was subsequently deposited in the collection of the Vietnam National University of Forestry (VNUF), Hanoi, Vietnam.

Morphological characters

Identification of sex was performed by inspection of presence of hemipenes. Measurements (in mm) were taken in the preservative specimen with a measuring tape. Scale counts were taken following Luu et al. (2018). The number of ventral scales was counted according to Dowling (1951). The numbers of dorsal scale rows (DSR) are given at one head length behind head, at midbody, and at one head length before vent, respectively. Scallation was studied by using a binocular. Bilateral values were given as left/right. Measurements were abbreviated as snout-vent length (SVL) and tail length (TaL). For identification, we referred to the data provided by Smith (1943), Das (2010), Chan-ard et al. (2015) and Vassilieva et al. (2016).

3. RESULTS

Naja kaouthia Lesson, 1831

Monocled cobra/ Rắn hổ mang một mắt kính (Fig. 1)

Specimen examined (n = 1). One adult

female, VNUF R.2021.1 (field number VH.01) was collected on 30th May 2021 by Pham Trung Hieu and Trang A Phan on a milpa (20^o46'330"N/104^o 46'230"E, at an elevation of 800 m a.s.l.) of Hua Tat village, Van Ho commune, Van Ho district, Son La province, Vietnam.

Morphological characters. The specimen from Son La agreed well with the descriptions of Smith (1943), Das (2010), Chan-ard et al. (2015), Vassilieva et al. (2016): SVL 1275 mm, TaL 24 mm; body robust; head large, distinct from neck, with blunt sloping snout; eye large, with a round pupil; loreal absent; internasal shorter than prefrontal; preocular 1/1; postoculars 2/2; anterior temporals 2/2, posterior temporals 2/3; supralabials 7/7, third to fourth entering orbit; infralabials 8/8, first to fourth bordering anterior chin shields, a cuneate present between the fourth and fifth of infralabials (both side); dorsal scale rows 27-21-15, smooth and glossy; ventrals 196; cloacal undivided; subcaudals 4 (tail lost), divided.



Figure 1. (A) Dorsal view; (B) Ventral view; (C) Lateral dead view, a small cuneate present between the fourth and fifth of infralabials; (D) Hook O – shaped.

(Photos: Luu Quang Vinh)

Coloration in preservative. Dorsum blackish-brown; a large snake with a hood with a single O-shaped; 2 black spots on the lower surface of the hood on both side; a black cross-bar (about 6 ventral scales wide) on the belly behind it; light throat colour, white cream from chin to the neck, rest of ventral with dark pigmentation towards tail; subcaudals dark-edged.

Distribution. In Vietnam, this species is known to occur in Central and southern Vietnam including: Quang Tri, Thue Thien-Hue

(Thua Luu), Dak Lak (Chu Yang Sin), Lam Dong (Da Lat), Dong Nai, Ho Chi Minh City, Kien Giang (U Minh Thuong) (Nguyen et al., 2009; Vassilieva et al., 2016). This is the first recorded of the species in Son La province. Elsewhere, this species recorded from Northeastern India, Nepal, Bangladesh, Myanmar, Laos, Thailand, Cambodia, southern China and northern West Malaysia (Nguyen et al., 2009; Vassilieva et al., 2016).

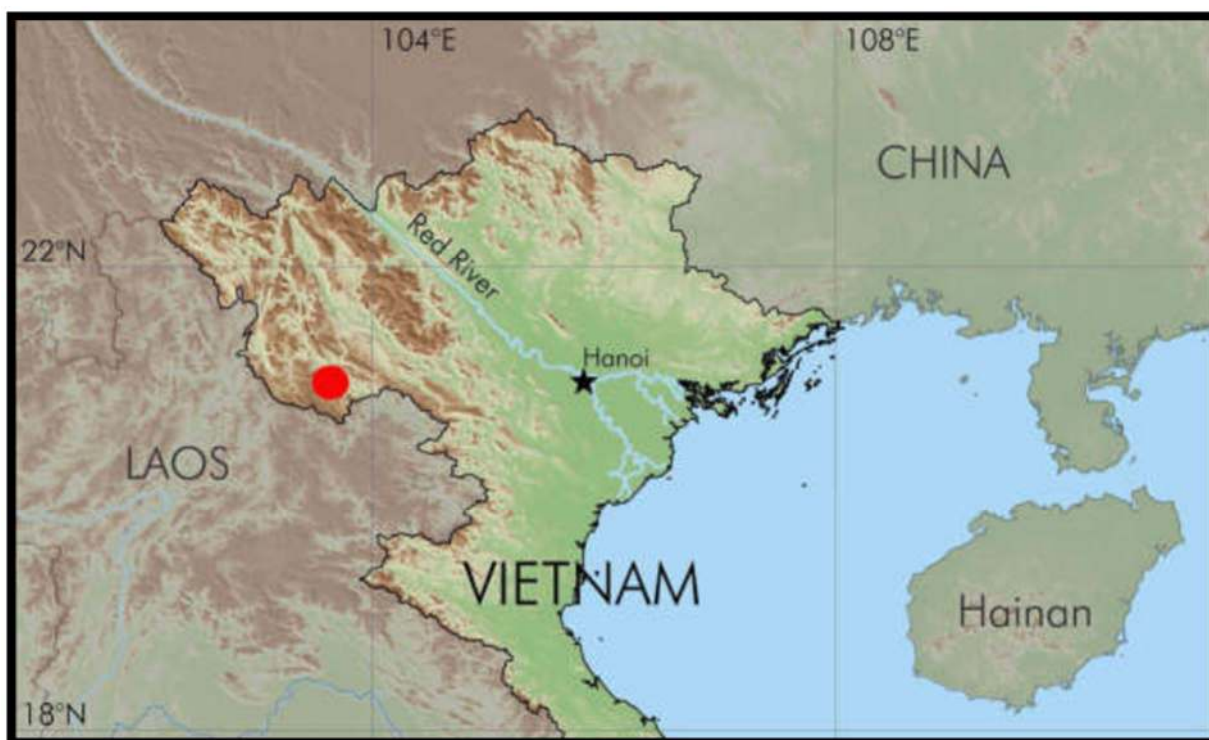


Figure 2. Map showing the new distribution record of *Naja kaouthia* (red circle) in Son La province, Northern Vietnam

Ecological notes. The individual was collected at 14:19 on the ground while crawling, at an elevation of about 800 m a.s.l. The surrounding habitat was milpa, near the karst forest.

4. DISCUSSION

Interviews with local people indicated that the species has been recognized to occur in the recorded site for a long time. Local people have sighted and collected the species for food and traditional medicine. Captive farms of snakes is unknown so far in the village. Thus, it seems to represent an overlooked population of the species in this province. In addition, the

recorded site is only 70 km away from the Vietnam-Laos border where the species is naturally distributed. Therefore, morphological and genetic variations of the species across its distribution range should be investigated. In terms of conservation concern, *Naja kaouthia* was listed in the Appendix II of the CITES (2019) and in the Group IIB of the Vietnamese Governmental Decree No 06/2019/ND-CP on the management of endangered wild flora and fauna.

5. CONCLUSION

We report the Monocled cobra *Naja kaouthia* for the first time from Son La province

based on morphological characters of one female specimen collected in Van Ho district, Son La province, Northern Vietnam. The species is listed in the CITES (2019) and the Vietnamese Governmental Decree No 06/2019/ND-CP on the management. Further research on distribution, population status and threats to the species is needed to provide baseline data for conservation measures.

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GHI NHẬN MỚI LOÀI RẮN HỔ MANG MỘT MẮT KÍNH *Naja kaouthia* Lesson, 1831 (SQUAMATA: ELAPIDAE) TẠI TỈNH SƠN LA, MIỀN BẮC VIỆT NAM

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TÓM TẮT

Ở Việt Nam, Rắn hổ mang một mắt kính rất hiếm gặp và chỉ được ghi nhận ở các tỉnh Quảng Trị, Thừa Thiên-Huế, Lâm Đồng, Đồng Nai, Thành phố Hồ Chí Minh, Đắk Lắk và Kiên Giang. Rắn hổ mang một mắt kính được nhận biết bởi các đặc điểm: đầu rộng, một vảy nhỏ hình tam giác nằm ở giữa tấm môi dưới thứ 4 và thứ 5, 1 tấm trước mắt, 2 đến 3 tấm sau mắt; 7 tấm môi trên, tấm thứ 3 và thứ 4 chạm mắt; tấm môi dưới thứ 4 tiếp xúc với tấm cằm trước; phần cổ ở mặt lưng có một hình chữ O màu sáng. Thân to khỏe, hình trụ, vảy nhẵn, hàng vảy giữa thân 19 - 21 (thường 21); vảy bụng 164 - 197. Đuôi ngắn, thon; vảy dưới đuôi kép 43 - 61. Trong đợt điều tra gần đây về các loài bò sát và ếch nhái ở rừng trên núi đá vôi ở huyện Vân Hồ, tỉnh Sơn La, Việt Nam, một cá thể cái của giống Rắn hổ mang đã được ghi nhận ở độ cao 800 m so với mực nước biển, ở sinh cảnh rừng thứ sinh trên núi đá vôi và khu vực nông nghiệp. Dựa vào phân tích hình thái, mẫu vật của chúng tôi phù hợp với mô tả loài Rắn hổ mang một mắt kính *Naja kaouthia* Lesson, 1831 của Smith (1943), Das (2010), Chan-ard et al. (2015) and Vassilieva et al. (2016). Do vậy, loài này được ghi nhận lần đầu tiên cho tỉnh Sơn La. Rắn hổ mang một mắt kính được liệt kê trong phụ lục II của Công ước CITES (2019) và nhóm IIB của nghị định 06/2019 ND-CP của chính phủ Việt Nam.

Từ khóa: Ghi nhận mới, hình thái, *Naja kaouthia*, tỉnh Sơn La.

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