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## A new genus and species of xenodermatid snake (Squamata: Caenophidia: Xenodermatidae) from northern Lao People's Democratic Republic

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### Abstract

A male snake collected in Louangphabang Province and a second specimen observed in Houaphan Province, North Laos, share morphological characters with the Asian genus *Fimbrios* Smith, 1921, including erected edges on the first supra- and infralabial scales, but differ in the following morphological characters: fewer dorsal scale rows (25–27 vs. 30–33), fewer maxillary teeth (27 vs. 30–35), posterior teeth progressively slightly enlarged, and especially the correspondence of two dorsal scale rows per ventral plate throughout the body (i.e. the first dorsal scale row made of a small scale above the fore part of a ventral, followed by a much larger scale above its hind part), a condition known only in *Xenodermus* Reinhardt, 1836. As the Laotian specimens differ in morphological characters from other genera and species in the family Xenodermatidae, and on the basis of molecular analyses showing a large genetic divergence from the genus *Fimbrios* (p-distance  $\geq 14.7\%$ , mitochondrial COI gene), we place these specimens in a new genus, *Parafimbrios* **gen. nov.**, and describe them as a new species, *Parafimbrios lao* **sp. nov.** Besides the characters mentioned above, the new species is diagnosed by a combination of the following ones: small, strongly keeled dorsal scales; rostral and first four supra- and infralabials with raised, erected edges; horizontal tissue ridges above the rostral; loreal single, large, elongate; ventral scales 177–189; subcaudals 55–56, undivided; dorsal colour purplish-grey, neck with a broad, very pale grey collar reaching downwards the pale grey colour of the venter. The morphological characters of the new genus are compared with those of the genera *Fimbrios* Smith, 1921, *Xenodermus* Reinhardt, 1836, *Stoliczkaia* Jerdon, 1870, *Achalinus* Peters, 1869, and *Xylophis* Beddome, 1878. A key to the genera *Achalinus*, *Fimbrios* and *Parafimbrios* **gen. nov.** is provided. *Parafimbrios lao* **spec. nov.** is the 111<sup>th</sup> snake species currently recorded from Laos.

**Key words:** *Fimbrios*, *Parafimbrios* **gen. nov.**, *Parafimbrios lao* **spec. nov.**, morphology, phylogeny, Laos

### Introduction

According to Vidal (2002) and the Reptile Database (Uetz & Hošek 2014), the Asian family Xenodermatidae currently includes five genera: *Xenodermus* Reinhardt, 1836 (1 species), *Achalinus* Peters, 1869 (9 species), *Fimbrios* Smith, 1921 (2 species), *Stoliczkaia* Jerdon, 1870 (2 species), and *Xylophis* Beddome, 1878 (3 species), for a total of 17 species. The Philippine genus *Oxyrhabdium* Boulenger, 1893 (2 species) has been removed from the family based on molecular data, nevertheless, its phylogenetic position should be further investigated as it is now classified as *Elapoidea incertae sedis* (Vidal *et al.* 2008). This family has long been considered to be a

5D) but not clearly the range of *Parafimbrios lao* which is not located in montane refuges. Additional surveys of the herpetofauna of Laos should show whether these geographic distributions are the consequence of zoogeographic barriers or, merely of our very limited knowledge of the reptile diversity in Laos.

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## APPENDIX. Examined specimens.

- Fimbrios klossi* ( $n = 6$ ). **Vietnam**. Lam Dong Province. BMNH 1946.1.15.87, “Da Lat”, now Da Lat, Langbian Plateau; BMNH 1946.1.15.88, BMNH 1965.1, Cam Ly. Quang Tri Province. MNHN 1938.0152, “Dong Tam-ve”, now Dong Tam Ve. Quang Ngai Province. IEBR 3275, Ba To. Gia Lai Province. IEBR A.2013.56, Kon Ka Kinh. – **Laos**. Champasak Province. MNHN K 3517, near Paksong, Boloven Highlands. – **Cambodia**. Kampot Province. BMNH 1965.2, BMNH 1965.639, “Bockor, Elephant Mts.”, now Bokor.
- Fimbrios smithi* ( $n = 1$ ). **Vietnam**. Quang Binh Province. IEBR 3157, Phong Nha-Ke Bang National Park.
- Achalinus ater* ( $n = 5$ ). **Vietnam**. Vinh Phuc Province. MNHN 1935.0049, MNHN 1938.0128, MNHN 1948.0076, MNHN 1958.471, “Tam Dao”, Tram Tam Dao (Tam Dao Hill Station). Bac Kan Province. MNHN 1948.77, “Ngan Son”, now Ngan Son District.
- Achalinus niger* ( $n = 1$ ). **Taiwan**. MNHN 1993.0858, no locality information.
- Achalinus rufescens* ( $n = 6$ ). **Vietnam**. Vinh Phuc Province. MNHN 1935.0439–0041, MNHN 1935.0051, MNHN 1958.0472, MNHN 1958.0475, “Tam Dao”, now Tam Dao.
- Achalinus spinalis* ( $n = 7$ ). **Vietnam**. Lao Cai Province. MNHN 1948.0078, MNHN 1958.0469–0470, “Chapa”, now Sa Pa. Vinh Phuc Province. MNHN 1935.0050, MNHN 1935.0442, “Tam Dao”, now Tam Dao. – **China**. MNHN 5225–5226, no locality information.
- Xenodermus javanicus* ( $n = 1$ ). **Indonesia**. Sumatra. Province of Sumatera Barat. Specimen photographed and examined but not collected, vicinity of Lubuksao.