

A new primate species from Laos – genus *Trachypithecus*

Tilo Nadler¹, Vuethao Vangkhoul², Jochen Menner³ and Jeremy Phan²

¹ Cuc Phuong Commune, Ninh Binh Province, Vietnam

² Lao Conservation Trust for Wildlife, Laos

³ Prigen Conservation Breeding Ark, Java, Indonesia

Corresponding author: <tilo.nadler@gmail.com>

Tilo Nadler ORCID <https://orcid.org/0009-0002-2421-572X>

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Summary

The occurrence of langurs in Laos that cannot be definitively assigned to a specific species is mentioned in the scientific literature. Interviews with residents and hunters in Bolikhamxai Province also suggested this. Two photographs taken by a staff member of the Saola Foundation reinforced the suspicion that a previously undescribed primate species exists.

During several surveys in Bolikhamxai Province, photographs of langurs were taken. Analysis of the photographs reveals significant differences in tail length and thickness compared to the two known southern species of so-called limestone langurs: the Hatinh langur (*Trachypithecus hatinhensis*) and the Lao langur (*T. laotum*). Although no type specimen or genetic samples exist to confirm its differentiation from the known species, we consider the available evidence sufficient to describe this langur as a new species. We name it the short-tailed langur (*Trachypithecus brevicaudus*).

Một loài linh trưởng mới ở Lào – chi *Trachypithecus*

Tóm tắt

Sự xuất hiện của đàn voọc ở Lào mà không thể xác định chắc chắn thuộc loài nào đã được đề cập trong tài liệu khoa học. Các cuộc phỏng vấn với người dân và thợ săn ở tỉnh Bolikhamxai cũng cho thấy điều này. Hai bức ảnh do một nhân viên của Quỹ Bảo tồn Saola chụp đã củng cố thêm nghi ngờ về sự tồn tại của một loài linh trưởng chưa được mô tả trước đây.

Trong một số cuộc khảo sát ở tỉnh Bolikhamxai, ảnh chụp loài voọc này đã được ghi lại. Phân tích các bức ảnh cho thấy sự khác biệt đáng kể về chiều dài và độ dày đuôi so với hai loài voọc đã biết ở phía Nam: Voọc Hatinh (*Trachypithecus hatinhensis*) và voọc Lào (*T. laotum*). Mặc dù không có mẫu vật điển hình hoặc mẫu di truyền nào tồn tại để xác nhận sự khác biệt của nó với các loài đã biết, nhóm khảo sát chúng tôi cho rằng bằng chứng hiện có đủ để mô tả loài voọc này là một loài mới. Chúng tôi đặt tên cho nó là voọc đuôi ngắn (*Trachypithecus brevicaudus*).

Introduction

The systematics and distribution of primates in Indochina remained unclear until very recently. Over the last three decades, significant progress has been made through more intensive fieldwork by institutes, universities, and especially NGOs, as well as the application of genetic methods. Genetic studies have led to a clarification of the taxonomic position of primates and thus to a stable systematics upon which conservation activities can be planned and carried out. These studies confirmed the status of the *Trachypithecus* species, of which the species of the so-called *francoisi*-group are also known as limestone langurs.

This group includes the four species with a northern distribution, Francois' langur (*T. francoisi*), white-headed langur (*T. leucocephalus*), Cat Ba langur (*T. poliocephalus*), Delacour's langur (*T. delacouri*) and two southern species, Hatinh langur (*T. hatinhensis*) with two color morphs and Lao langur (*T. laotum*) (Roos et al. 2001; Roos 2003; 2004; Osterholz et al. 2008). Another clarification

was the separation of the silvered langurs into two species, the Annamese silvered langur (*T. annamensis*) and the Indochinese silvered langur (*T. germaini*) (Roos et al. 2008), the splitting of the black gibbons into a western and an eastern species (*Nomascus concolor* and *N. nasutus*) (Roos 2004; Roos et al. 2007), and most recently the splitting of the pygmy loris into a northern and a southern species (*Xanthonycticebus intermedius* and *X. pygmaeus*) (Blair et al. 2023).

Of particular importance was the genetic confirmation of the newly discovered primate species in Vietnam: the grey-shanked douc langur (Nadler 1997; Roos & Nadler 2001) and the Annamese gibbon (Van Ngoc Thinh et al. 2010a; 2010b; 2010c; 2011). These discoveries also demonstrate that surprises can still occur even among primates that are now relatively well-studied.

Older reports (Boonratana 1998; Robichaud 1998; Steinmetz 1998; Duckworth et al. 1999; Evans et al. 2000; Duckworth et al. 2010) mention sporadic observations of phenotypically distinct langurs in central Laos: completely black, black with a white beard, and black with a white head. However, the taxonomic classification of the observed individuals was unclear, and they were mostly placed *sensu lato* with François langurs. Duckworth et al. (1999) mention that, according to information from locals, undocumented forms may still exist in some areas - without specifying them.

A photograph of a black langur, taken by a staff member of the Saola Foundation, with a tail length and thickness that differed significantly from those of known langurs, raised the suspicion that the existence of a previously unknown form might be confirmed. These suspicions, based on the photograph, were presented by the Saola Foundation at the EAZA Conservation Forum 2022 in Zagreb and at the EAZA Annual Conference 2023 in Helsinki. However, conclusive evidence was still lacking.

To date, the occurrence of 20 primate species in Laos has been documented: 5 macaque species, 6 colobine species, 6 gibbon species, and 3 loris species. The colobine species include the red-shanked and grey-shanked douc langur (*Pygathrix nemaeus* and *P. cinerea*). The grey-shanked douc langur, whose main distribution area is in Vietnam, occurs only in a very limited area in the far southeast of Laos, within the Dong Amphan National Protected Area. Representatives of the genus *Trachypithecus* include the Indochinese silvered langur and the limestone langurs Hatinh langur, including the black morph *ebenus* and the Lao langur.

Methods

For more than 15 years, the first author has conducted numerous primate surveys in Laos, particularly on the distribution of limestone langurs of the genus *Trachypithecus*. In 2025, three surveys were carried out in the limestone areas of Bolikhamxai Province. Surveys in February and May 2025 were interview surveys to obtain information from locals about the occurrence of primates, especially limestone langurs. During a survey in November/December 2025, the first photographs of limestone langurs were taken in the area of the village Na Di. Two further surveys in January and March 2026 yielded observations and photographs of another group of limestone langurs in the area of the village of Khamkouna (Houay Khang).

The habitat of these langurs consists of rugged limestone formations with typical sparse limestone forest. In narrow valleys and gorges, the vegetation and tree cover are often denser. These are often preferred feeding places of langurs (Figs. 1, 2).



Fig.1. Typical habitat of the short-tailed langur. Photo: Tilo Nadler.



Fig.2. The typical limestone forest consists mainly of thin-trunked trees and bushes. These are the feeding grounds of leaf-eating langurs. Photo: Tilo Nadler.

Material

The first photograph of a previously undescribed langur was taken on May 1, 2024, by Souksamian Laladeth, a staff member of the Saola Foundation (Figs. 3, 4), and is published on the Saola Foundation website. A series of photographs of langurs was taken by TN on December 2, 2025, in the limestone area surrounding the village of Na Di (Figs. 5, 6). Another series of photographs of a group of limestone langurs was taken in January 2026 in the limestone area surrounding the village of Khamkouna, and it is highly likely that the same group was photographed again in March 2026 (Figs. 7, 8, 9).



Fig.3. The first published photo of a short-tailed langur. Photo: Souksamian Laladeth, Saola Foundation.



Fig.4. The same animal during the jump. Photo: Souksamlam Laladeth, Saola Foundation.



Fig.5. Male short-tailed langur of a group. Photo: Tilo Nadler.



Fig.6. Short-tailed langur of a group. Photo: Tilo Nadler.



Fig.7. A group of short-tailed langurs consisting of five adults (four in the photo) and two juveniles, approximately 1.5 to 2 years old. Photo: Tilo Nadler.



Fig.8. The langurs eat the buds of the leaves. Photo: Tilo Nadler.



Fig.9. One male (in the middle) and two females. As with other limestone langurs, the females are recognizable even from a greater distance by their white pubic patch. Photo: Tilo Nadler.

Results

The photographs of the langurs show animals that resemble the black morphé *ebenus* of the Hatinh langurs in both appearance and coloration. The striking difference, however, is the significantly shorter and thicker tail. To allow a comparison with known and very likely closely related species, enlarged photographs were measured. For this purpose, photographs were selected that showed the animals as clearly as possible from the side. Since the usual measurement of the head-body length is not possible with an animal lying stretched out, the measurement of the back length – from the neck to the base of the tail – and the tail length was chosen (Fig. 10). When measuring animals of the previously undescribed species with limestone langurs of the southern group, Hatinh langur, including morphé *ebenus* and the Lao langur, the following average results were obtained for the back length to tail length ratio:



Fig.10. The back and tail lengths were measured from photographs of six different short-tailed langur individuals and of 20 langurs from the southern limestone langur group. Photos: Tilo Nadler.

For 6 individuals of the previously undescribed form: 1:1.80
For 10 individuals Hatinh langurs: 1:2.14
For 4 individuals Hatinh langurs of morphe *ebenus*: 1:2.10
For 6 individuals Laos langurs: 1:2.18

Despite the inherent uncertainty of the measurement method, the difference in tail length is clearly evident (Figs. 11, 12). Measuring tail thickness would introduce even greater uncertainty, but the difference is visually apparent.

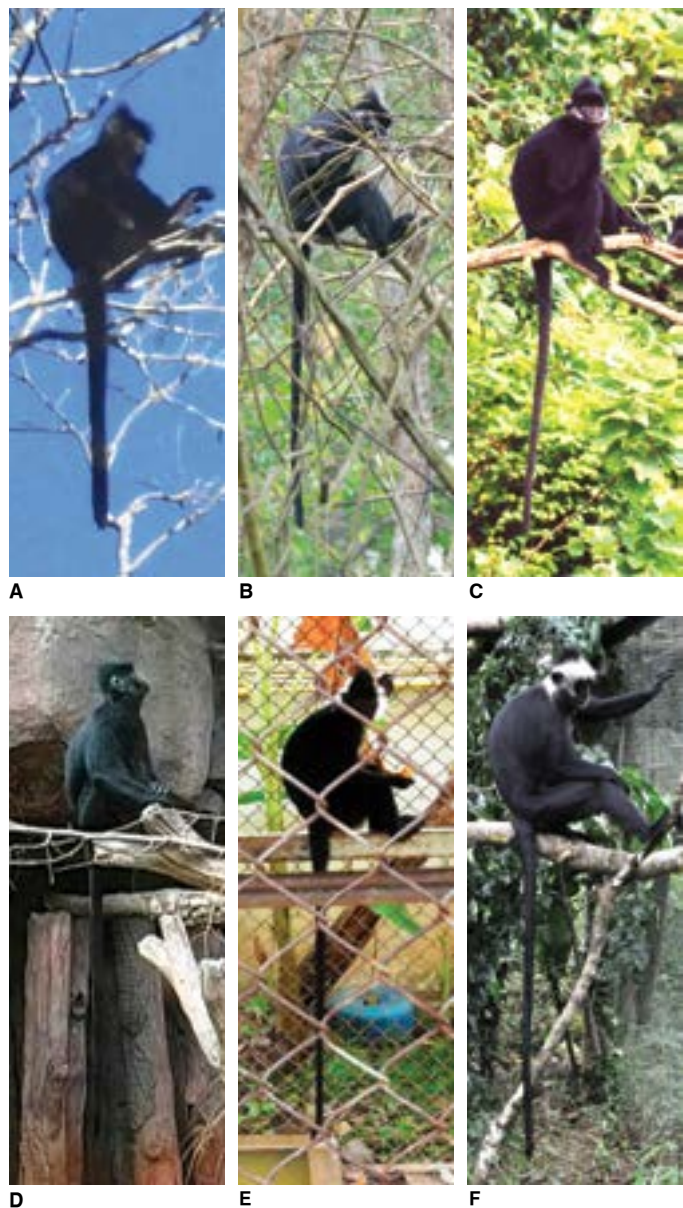
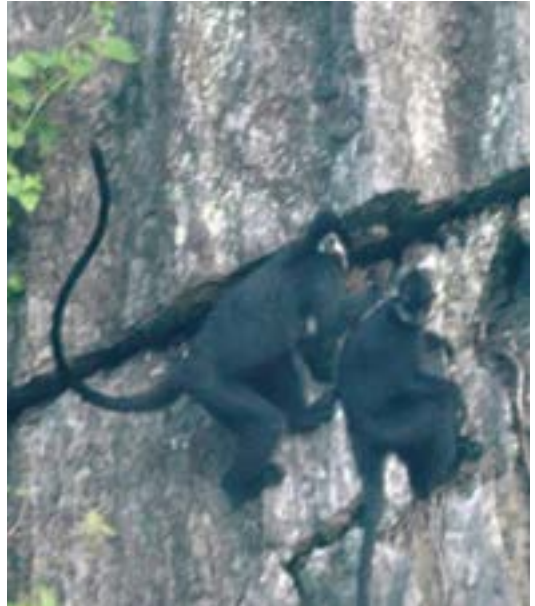


Fig.11. Comparison of tail lengths of the limestone langurs of the southern group: A – short-tailed langur, Photo: Tilo Nadler. B and C – Hatinhlangur, Photo: Tilo Nadler. D – Hatinhlangur morphe *ebenus*, Photo: Roland Männel. E – Hatinhlangur morphe *ebenus*, Photo: Tilo Nadler. F – Laoslangur, Photo: Tilo Nadler.



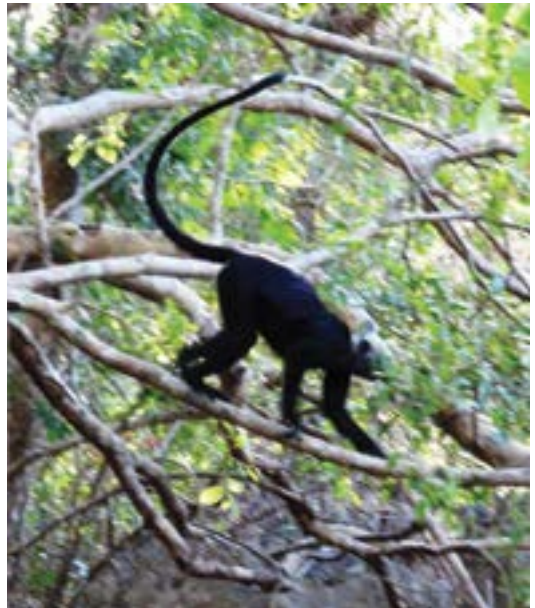
A



B



C



D

Fig.12. The tail, which is held forward over the back and is typical for the southern group of limestone langurs, shows a clear difference in tail length and tail thickness between short-tailed langur (A and C), Hatinhlangur (B) and Laoslangur (D). Photos: Tilo Nadler.

Discussion

The various photos of animals of this previously unknown form show a clear difference in tail length and thickness compared to known southern limestone langur species. The northern limestone langurs, Francois' langur, white-headed langur, Cat Ba langur, and Delacour's langur, differ from the southern limestone langurs in various morphological characteristics and also in tail thickness,

although the tail length is approximately the same as in the southern group (Nadler 2026; Nadler & Brockman 2014). However, a measurable comparison of tail thickness is difficult, but visually quite noticeable. Delacour's langur, with its long-haired tail, is an exception.

The most reliable and comprehensive measurements of tail length and other body masses probably exist from the Endangered Primate Rescue Center, Vietnam (Nadler & Brockman 2014).

The tail length of Hatinh langurs is 75–95 cm in males, averaging 87.5 cm, and 73–96 cm in females, averaging 84 cm. Given a tail length ratio of 1.80 to 2.14 for the previously undescribed species to Hatinh langurs the tail length of the undescribed species is approximately 11–15 cm shorter, or about 63–80 cm.

This difference is roughly equivalent to the difference in tail length between the *Pygathrix* species red- and black-shanked douc langur (*P. nemaeus* and *nigripes*) (Nadler & Brockman 2014).

Regarding tail thickness, one might also assume that this form is possibly closely related to the Francois langur. However, this is contradicted by the tail length of the Francois' langur, which is approximately 80–90 cm, and quite clearly also by the tail carriage, which unequivocally assigns this form to the southern group of limestone langurs (Fig. 12) (Nadler 2026).

This also raises the question of taxonomic classification, as a species or subspecies of one of the known species. However, the significant difference in tail length and shape leaves little doubt that this form should be granted species status. Based on morphology, behavior and habitat use, there is also no doubt that this form of langur belongs to the southern group of limestone langurs and the genus *Trachypithecus*.

However, the establishment of a new species lacks both a type specimen and a sample for genetic substantiation. In the past, hunting of these langurs was quite intensive. Poppies were cultivated for opium production in the rather inaccessible mountains and their rocky areas. Daily returns of the farmers to the villages in the valley were not possible when working the fields, and therefore supplies were primarily obtained through hunting, with langurs being a relatively common prey. Both poppy cultivation and hunting of now-protected species, including langurs, are punishable offenses, which has led to a widespread cessation of poaching. In particular, the arduous climb into the rocky massifs to reach the langur habitats is disproportionate to a questionable hunting outcome. During the interview surveys, the villagers were also asked about any remaining traces of langurs that might be present. However, according to numerous sources, all such remains, especially bones, were sold long ago to Vietnamese wildlife traders who frequented the villages and acquired such wildlife remains for the production of traditional medicine.

It will certainly be a future problem in the description of newly discovered species, especially larger mammals that existing laws and regulations prevent the collection of voucher specimens from the wild, and even samples for genetic identification are often unavailable.

Against this backdrop, we describe a species here based solely on clear photographic differences from known species. We would like to name this species:

Short-tailed langur

Trachypithecus brevicaudus

Description

A completely black langur, comparable to the black morph *ebenus* of the Hatinh langur. This species, however, has a tail length of 63–80 cm, on average 11–15 cm shorter than the other southern limestone langurs, the Hatinh langur, including their black morph *ebenus*, and the Lao langur. In contrast, its tail thickness is significantly greater compared to these other species. The tail carriage is similar to that of southern limestone langurs, with the tail held forward over the back (Nadler 2026). We refer to the male animal in Fig. 5 as the “photographic holotype”.

Juveniles are born with yellow fur, as is the case with all other limestone langurs. Observations of juveniles with yellowish heads indicate that they also undergo a color change.

Etymology

The scientific species name *brevicaudus* comes from Latin and means short-tailed, a combination of *brevis*-short and *cauda*-tail. The name thus describes the distinctive morphological characteristic of this species.

Type Locality

The species has been recorded on two limestone blocks, southeast and east of the district center of Viengthong (Fig. 13). The southeastern block near the village of Na Di 18°18'...18°21'/104°32'...104°36' is considered the type locality and covers an area of approximately 3600 ha. The northeastern limestone block at 18°30'...18°33'/ 104°40'...104°42' covers an area of approximately 3000 ha. The distance between these two limestone blocks is about 20 km, and smaller limestone formations lie between them. Neither area has protected status. The northeastern area borders the Phou Sithone Endangered Species Conservation Area, a provincial protected area of approximately 14,000 hectares, established in 2010.



Fig.13. Confirmed occurrences of the short-tailed langur (*Trachypithecus brevicaudus*).

Habitat

The occurrence of this species is most likely, like that of other limestone langurs, restricted to rugged limestone outcrops. It is also likely that this species uses caves or niches in the rocks as sleeping places.

Distribution

Due to the limited number of records, it is not possible to make a statement about the overall distribution of this species. However, it is very likely that it has an insular and allopatric distribution among the Hatinh and Lao langur (Fig. 13).

Threats

Based on reliable information gathered during four surveys in the species' range, hunting pressure appears to be very low. Working in the former opium poppy fields left relatively ample time for hunting. With the still widespread illegal logging, time spent in the forest is used for processing timber, which is more valuable than hunting game, which is difficult to obtain.

The limestone langurs, Lao langur and Hatinh langur found in Laos, including the morph *ebenus*, are listed as 'Endangered' on the IUCN Red List of Threatened Species. The short-tailed langur likely has the same assessments to also be classified as 'Endangered'.

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