

**OBSERVATION OF MATING BEHAVIOUR IN PHAYRE'S LANGUR
(*TRACHYPITHECUS PHAYREI*) IN LAWACHARA NATIONAL PARK,
BANGLADESH**

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A mating system represents how reproduction is organized and shared among members within a social group (Petersdorf and Higham, 2018). Primates, an extraordinary group of mammals, lives in social group and exhibit inter-order variations in mating system. There is a relationship between group composition and mating systems in primates, but they are not always compatible (Kappeler and van Schaik, 2002). Different primate social organizations correspond to distinct mating systems, including monogamy, polyandry, polygyny, and polygynandry (Khatun *et al.*, 2018; Petersdorf and Higman, 2018). A small-sized colobine primate of the Cercopithecidae family, Phayre's langur (*Trachypithecus phayrei*) inhabits regions spanning eastern Bangladesh, Northeast India (Assam, Mizoram, Tripura), western Myanmar, and parts of southern China, including areas west of the Chindwin and Ayeyarwady rivers (Roos *et al.*, 2014; Roos *et al.*, 2020; Chetry and Ahmed, 2021). The species is listed as Critically Endangered in Bangladesh and Endangered on the global scale (IUCN Bangladesh, 2015; Chetry and Ahmed, 2021). In Bangladesh, this species occurs in mixed-evergreen forests and nearby plantations, especially bamboo-dominated areas, primarily in the Sylhet and Chittagong districts, as well as the Chittagong Hill tracts (Kabir, 2002; IUCN Bangladesh, 2015). A few studies have been conducted on the population status, behavioral ecology, activity budget, feeding habits, and hybridization with sympatric capped langurs of this species (Kabir, 2002; Adimallaiah *et al.*, 2014; Decemson *et al.*, 2018; Naher *et al.*, 2022; Ahmed *et al.*, 2025), but the information on mating behavior, mating systems and reproductive strategies are scanty. Herein, we present an unusual mating behavior of Phayre's langur (*T. phayrei*) observed in Lawachara National Park, northeastern Bangladesh.

Lawachara National Park (LNP) is a forest patch (1250 ha) situated in Kamalganj Upazilla under Moulvi Bazar District in northeastern Bangladesh (Hasan *et al.*, 2021; Shalauddin *et al.*, 2021) It is a part of the West Bhanugach

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Reserve Forest, located about 160 km northeast of Dhaka and 60 km south of Sylhet (Aziz, 2011). During wildlife photography on 22 March 2017, at 1146 h, a group of Phayre's langur (*T. phayrei*) comprising six individuals with an infant was observed near the ticket counter at Lawachara National Park (24°19'30.33" N, 91°47'13.14" E). We observed a female individual was seated on a tree branch, holding her infant about 10 meters above the ground. A male individual was feeding on another tree about 20 feet away from the female. At 1150 h, the male started approaching the female by leaving the feeding tree and sitting beside it. At 1154 h, the male rubbed his penis and displayed erected genitalia to initiate sexual solicitation with the female. After 2 minutes, at 1156 h, the female groomed the male's shoulder and head. At 1203 h, the female allowed copulation while holding her infant by curling up tail and raising hindlimbs (Fig. 1). The copulation took about 22 seconds during which the female whistled 3 times and the infant whistled 5 times. After successful copulation the couple sat together for 4 minutes during which the infant was whistling occasionally. At 1208 h, the male left the mating tree and moved to join other members of the group. The female didn't move from the tree and started feeding by holding her infant. We observed the mating event using a pair of binoculars and photographed the copulation using a digital camera (Nikon D7100 with 70-300 mm lens).

While polygyny predominates as the primary mating system among Old World monkeys, Phayre's langur (*T. phayrei*) exhibits variation, ranging from polygynous to promiscuous, influenced by group composition (Guo *et al.*, 2010; Lu *et al.*, 2012). Dominant males performed most of the heterosexual mount (50%), whereas other males and sub-adult males performed 33% and 17% copulation, respectively (Kabir, 2002). Colobine females can remain sexually receptive for extended periods of time, copulating outside ovulation and sometimes even while pregnant (Borries *et al.*, 2001; Harris and Monfort, 2006; Sheldrine *et al.*, 2009). On average, female Phayre's langurs become pregnant at 5.3 years of age, experience a 205-day gestation period, and nurse their infants for approximately 22 months, with weaning typically occurring between 19 to 21 month (Borries *et al.*, 2014). Mating patterns in Phayre's langur are influenced by many factors including male quality, reducing infanticide risk by paternity confusion, dependence on male assistance such as infant caring, and intervention in conflicts (Clutton-Brock and McAuliffe, 2009; Lu, 2009). In Bangladesh, Kabir (2002) recorded 12 complete copulations by adult males and 5 pseudo-copulations by infants, but copulation while nursing an infant in Phayre's langur was undocumented. We speculate such copulation might occur because of a strong maternal bond with the infant. Other reasons could be

avoiding the risk of separating the infant during mating which could endanger it, social structures, and other ecological factors. We couldn't understand the reason why the infant was whistling during copulation period. However, the initiation of solicitation by adult male and post-copulation activities recorded in our study aligns with a previous study reported by Lu (2009). To understand the mating patterns in a population, it is necessary to obtain a full picture using data from field observations (Guo *et al.*, 2010). Thus, we recommend detailed studies on the mating behavior, mating patterns, and reproductive strategies of Phayre's langur in Bangladesh.

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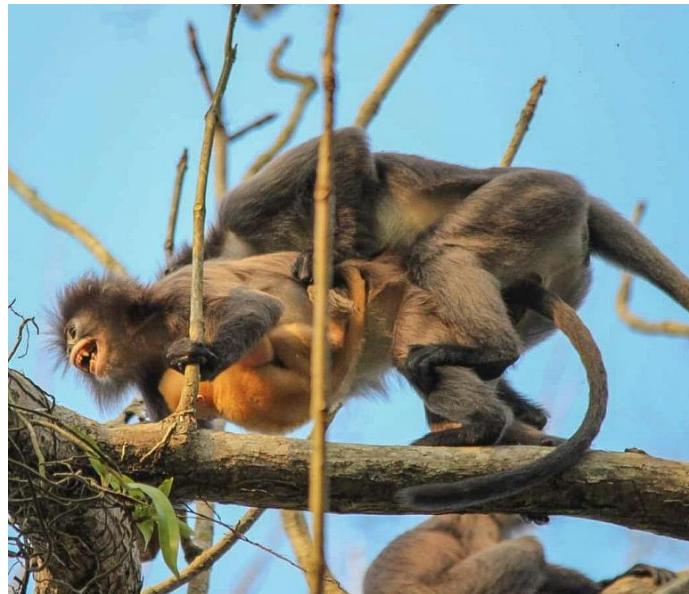


Figure 1. Adult female copulating with adult male while holding her infant.

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