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T Gyaneshori Devi
Assistant Professor,
Department of Livestock
Production and Management,
College of Veterinary Sciences
& AH, Jalukie, Nagaland,
India

Keneisezo Kuotsu
Department of Veterinary
Clinical Complex, College of
Veterinary Sciences & AH,
Jalukie, Nagaland, India

Kh. Shamungou
Ex.HoD, Department of
Zoology, D.M College of
Science and Chairman, State
Environment Impact
Assessment Authority
(SEIAA), Imphal, Manipur,
India

N Linda
Department of Livestock Farm
Complex, College of Veterinary
Sciences & AH, Jalukie,
Nagaland, India

K Merina Devi
Department of Gynaecology
and Obstetrics, Siksha
O.Anusandhan, Bhubaneswar,
Odisha, India

Corresponding Author:
T Gyaneshori Devi
Assistant Professor,
Department of Livestock
Production and Management,
College of Veterinary Sciences
& AH, Jalukie, Nagaland,
India

The Sangai deer (*Rucervus eldii eldii*): An ecological study on the 'Dancing deer' of Manipur and the alarming threats to its survival

T Gyaneshori Devi, Keneisezo Kuotsu, Kh. Shamungou, N Linda and K Merina Devi

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Abstract

The Sangai (*Rucervus eldii eldii*) is found only in the Manipur's Keibul Lamjao National Park (KLNP). The Sangai is peculiar, being the "only deer to adapt to a floating wetland habitat." The reasons why there are conservation. Despite a population recovery from near threats to the Sangai's very existence will, for the purpose of this paper, assume that there are efforts to learn more about the basic characteristics that define the deer, regarding its population and approaches to conservation. Despite a population recovery from near-extinction in 1960s, the species remains in danger of extinction due to its habitat deterioration the by Loktak Hydro Electric Project, loss of genetic diversity, poaching, and disturbance of the overall ecosystem of Loktak Lake by human activities.

Keywords: Sangai, Keibul Lamjao, *Rucervus eldii eldii*

Introduction

In local legend, the Sangai represents the association between humans and nature, marking its immense cultural importance. It is also the State Animal of Manipur. The Sangai belongs to the family of *Cervidae*, genus *Rucervus*, common name 'Manipur Brow-Antlered Deer', and it is a species of *Eld's deer* (*Rucervus eldii*) (Juvin Jose *et.al* 2018) ^[12]. The Sangai's unique antler contains a characteristic brow tine that forms a constant curve with the main beam and is marked by its length, bow, and separation. The female Sangai has a reddish-brown coat. The males grow up to a height of 110 to 120 cm and weighs 80 to 110 kg. The Sangai was declared to be extinct in 1951 but was rediscovered in 1953 (Madras Courier, 22nd Aug 2024) and has since then received focused efforts for conservation. The current IUCN Status is endangered with stable population but vulnerable so it is under Schedule I, Wildlife (Protection) Act, 1972 (IUCN Red List, Highest protection in India).

Based on the review from relevant scientific literature, the information's on Sangai deer was gathered from published books, research papers, census reports, Government publications, and conservation newsletters. A set of biological variables was identified and integrated, with general ecological principles applied to frame these within a larger biological conservation field.

Habitat and Ecology

Keibul Lamjao National Park (KLNP), located within the Bishnupur District of the state of Manipur in North East India, has the uniqueness of being the only floating national park in the whole world. The Sangai deer is found in the southern portion of Loktak Lake (Ramsar Site) (Tuboi, *et al.* 2018) ^[9], which is the largest freshwater lake within Northeast India. The Sangai can exist in the wild because of the presence of *Phumdis* (floating mats of a complex assemblage of soil, vegetation, and organic material in various stages of decomposition). The deer has been able to cope with this marshy, unstable matting by developing the characteristics of a split hoof and long pasterns. As the deer moves on the *Phumdis*, the ground wavers, giving the appearance that the deer is dancing so called as the "Dancing Deer."



Fig 1: Sangai deer *Rucervus eldii eldii*

Biological Parameters

They are herbivores that tend to be very active at dawn and dusk and have adapted to move freely on the unstable *Phumdis*. They mostly occur singly or in small herds. (Shamungou and Gyaneshori, *et al.*, 2017) ^[6]. The deer feed mostly on the available aquatic and semi-aquatic plants found in the *Phumdis*. (Tuboi, *et al.*, 2013) ^[7]. Their diet consists of various species of grasses which include *Saccharum latifolium* (Khoimom), *Zizania latifolia* (Ishing-Kambong), *Phragmites karka* (Tou), *Erianthus procerus* (Singnang), *Carex cruciata* (Humdang), *Leersia hexandra* (Hup), *Capillipedium spicigerum* (Wana-maanbi), *Brachiaria mutica* (Alien Para grass) though it is a fodder, overgrowth has pose to a challenged to the park ecosystem), *Cynodon dactylon* (Tingthou napi), etc. (Shamungou, *et al.*, 2017) ^[6]. The gestation period of Sangai is about 237-240 days (Wemmer and Grodinsky, *et al.*, 1988) ^[5] or 7.5-8 months, and they normally gives birth to a single fawn. The breeding season of the Sangai deer falls from late winter to early spring. The occasional matting is seen from January to March or continuously up to April with the prime being late February and the end of March. (Shamungou, *et al.*, 2017) ^[6] The average longevity for the Sangai deer in the wild is estimated to be about 10-15 years. Male as well as female Sangai deer's attain sexual maturity at an age ranging between 1.5 to 2 years; although successful breeding may begin at an older age. Typically, females give birth for the first time when they are 2-3 years of age after their first conception. They can reproduce through their entire lifetime, mainly up to 10-12 years of age, depending on their health and environmental conditions.

Population Estimation & Method of Counting

The population of the Sangai has slowly increased from its lowest count of 14 in 1975 to 260 in 2016 (Anupam Chakravartty, 2026). According to a report by the Times of India dated September 23rd 2023, during the annual research seminar at the Wildlife Institute of India, Mirza Ghazanfarullah Ghazi stated, "The population of Sangai has drastically decreased to 64 individuals in 2023." (WII-Project Sangai Reports, 2023) ^[3]. If this report is accurate, the population of Sangai is genuinely at risk of extinction, necessitating urgent conservation measures. Due to the harsh floating habitat and high vegetation density, unique methods of counting have to be employed to estimate the number of Sangai deer. Direct count method/Block count method, Line transect/Belt transect, Pellet group count,

Camera trapping, GIS remote sensing and Survey drones are some of the counting methods followed by researchers and forest officials.

Common Diseases of Sangai Deer: Although there are no serious records of diseases that have affected the Sangai species, the possible threats can include Bacterial Diseases like Anthrax, Haemorrhagic Septicaemia, Brucellosis, and Viral disease like Foot-and-mouth Disease, Parasitic Diseases, Flukes and waterborne diseases.

Why the Situation is "Alarming" (Threat Analysis)

The Sangai deer is presently experiencing a "silent crisis" that may trigger a sudden extinction because of several factors. The most significant threat that comes from the Ithai Barrage, which is part of the Loktak Hydroelectric Project, is thinning of *Phumdis*. Large areas of *Phumdis* of the park are becoming too thin to sustain the weight of the deer; thus they drown or are packed into smaller areas. Since all the existing *Sangai*'s are the offspring of the 14 deer's discovered in 1975, this leads to a very low genetic diversity and inbreeding, making them vulnerable to diseases.

Conclusion and Recommendations

Given that the number of Sangai deer has increased from 14 to over 200, conservation efforts are considered successful. However, being confined to a single spot and habitat in a thin, sinking *Phumdis* is akin to being atop a ticking time bomb. The water level in the Ithai Barrage must therefore be controlled in order to preserve this unusual "Dancing Deer Sangai." In order to provide Sangai with a second house, the state must take action. In order to give the local community a stake in deer conservation, eco-tourism should be encouraged so they can profit from the tourism sector. Every year from November 21 to 30, the state of Manipur holds the Sangai festival to raise awareness of the need to protect the state animal.

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