

Research Paper

Conservation of Malkangiri ponies, a native breed in Southern Odisha

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ABSTRACT

The Malkangiri pony, a unique indigenous horse breed found in Southern Odisha, India, plays a crucial role in preserving biodiversity and supporting local livelihoods. The present study was aimed to evaluate the pony in its native tract. The average height at withers of these ponies was recorded as 125.86 ± 0.34 and 123.77 ± 0.38 cm in male and female, respectively. Height at croup was found to be around 3 cm less than the height at withers. Body length was 106.85 ± 0.19 cm in stallion and corresponding value for mares was 105.26 ± 0.23 cm. An adult pony of either sex is capable of carrying up to 120 kg of weight in undulated hilly terrain. Age at first foaling was estimated as 45.53 ± 1.25 months. The mean foaling interval of these ponies was found as 19.45 ± 0.64 months with gestation period of 11 months. Preserving the Malkangiri pony not only contributes to the genetic diversity of livestock but also supports local agriculture, transportation and tourism, triggering enhancement of livelihood of the stakeholders.

Keywords: Biodiversity, Breed, Conservation, Indigenous, Malkangiri pony

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INTRODUCTION

The advent of horses revolutionized human mobility, communication and trade networks. DNA analysis indicates that horses were domesticated approximately 2200 BCE, with early evidence of domestication dating back to 5,500 years ago by the Botai people in Kazakhstan. Horses have been an integral part of the Indian subcontinent since the middle of the second millennium BC, with archaeological evidence tracing back to the early Swat culture around 1600 BC. Culturally, horses held a prominent position among various Indian kingdoms and communities, as exemplified in mythology, architecture, folklore, and other cultural expressions.

Chitrakonda block under Malkangiri district in Southern Odisha and adjoining Andhra Odisha border that comes under the Eastern Ghats is home to a non-descriptive pony breed, locally known as Malkangiri pony. The Malkangiri pony was named after the Malkangiri district in Odisha, where its demography is primarily spread. These are domesticated species which are scientifically identified as '*Equus ferus caballus*'. Their native tract is distributed over an area of around 5791 sq km.

The draft capability (or more commonly referred to as the horsepower) of horses and ponies played an important role in warfare, trade, agriculture and mobility. Though initially bred for agricultural and transport purposes, a significant turning point on the utility of the species came with the introduction of horses in battle grounds. The Malkangiri pony is a distinctive breed that has over time adapted to the hilly terrain. Though much literature is not available on the breed itself, certain inferences can be made on the evolutionary adaptations. It may be assumed that the topography of the area, selective breeding based on the utility in the landscape and carrying the breed from one generation to another through transferred knowledge systems within isolated tribal communities, native to the region, resulted in its current genetic orientation.

MATERIALS AND METHODS

A survey was conducted by Watershed Support Services and Activities Network (WASSAN) under the Special Programme for Promotion of Integrated Farming in Tribal Area (SPPIF) during the year 2023-24. Under this survey, systemic characterization of the indigenous horse population of Eastern Ghats Odisha's Malkangiri district was carried out, identifying 1080 indigenous

horses, predominantly reared by the Gadaba, Kondh, Kotia, Kondadora, and Paroja tribal communities in the isolated region of Swabhimani Anchal in 3 blocks viz. Pedabayalu, G Madugula and Chitrakonda. Local farmers were recruited as resource persons to collect the primary data on body conformation traits through measurements and reproduction traits along with management through personal interviews and focus group discussions (FGDs), administering a semi-structured questionnaire. The data were collected in collaboration with the Odisha University of Agriculture and Technology (OUAT) and Local Block Veterinary officers of the Department of Animal Husbandry & Veterinary Services (DAH & VS).

RESULTS AND DISCUSSION

A comprehensive breed descriptor was developed based on collected data regarding the physical characteristics, feed and feeding practices, and general information on Malkangiri pony.

1. Utility of the breed

Earlier, the pony played a primary role and has been considered to be a lifeline for navigating through the tough terrain. Today the connectivity of the region has improved due to construction of roads which are functional in all the weathers. People now afford motor bikes and primarily use them as vehicles for trade and transport. The Malkangiri pony is popular for its high longevity (25 years) and the longer period it can provide as a draft animal. It has been observed that these animals have always proved to be very effective under harsh climatic conditions (both in hot summer and cold winter, are adapted to the hilly terrain and undulated fields throughout their native habitat). Historically, the primary economy/dependence of the inhabitants of the Malkangiri region was on farm and forest produce that were bartered for other necessities. Items such as millets, pulses, oilseeds, wild fruits, honey, roots and mushrooms were collected and taken to the markets in the plains. In exchange, cooking oil, kerosene, salt, rice and other supplies were brought back. Today the medium of exchange is currency. The Malkangiri pony was the primary vehicle earlier which is now replaced by a motor bike and goods exchanged have also become diverse. An adult pony is capable of carrying up to 120 kg of weight in undulated hilly terrain. It is observed that a person or two in some cases along with around 50 kg load is managed by this breed of pony in its native tract.

2. Socio-cultural milieu

The reliance on the pony for day-to-day activities depends on various engagement of the communities. The isolation and lack of connectivity might be

the major factor for the pony's domestication and management for a sustained period of time. As a consequence, it has become an integral part of the culture (as a companion and a symbolic entity of its own) for the tribal communities inhabited in the area. It is also important to note the default skill the people receive under the circumstances that reinstates the identity of the people and gets transmitted through generations. Children in the region ride the pony at a young age without any requirement for protection, saddle or other training equipment. As they grow, they become experts in navigating harder terrains. During festivals and special occasions, they take the lead in decorating and presenting their prized ponies in front of the rest of the community.

3. Physical characteristic

Malkangiri pony is a small-sized, strong and docile animal with an elegant look. These ponies are incredibly powerful considering their size. Major coat colors are Bay, Chestnut, Grey and a few rare colors like Dun and Roan. Bay is the predominant and preferred coat colour. Blaze is seen in a good number of animals. Docile with their rearers/owners, they can be uncomfortable and ferocious with outsiders. The Malkangiri ponies have oval-shaped hooves and long tails with switches extending below the hock. The head of the pony is large, thick and elongated in comparison with its body. Other distinctive features include a short tail, very short hair and slender legs. The mane is a region with coarse hairs, which extends along the dorsal side of the neck like in other horses. The nuchal ligament in Malkangiri pony is very powerful, which helps the animal to walk and carry load in steep mountains. General body appearance is compact with short and straight neck and back. The croup region is sloping. The body of Malkangiri pony is more or less slender and well-muscled. Malkangiri pony has a short head, large eyes and small ears with a heavy hair coat. Withers are not very prominent. The shoulders are generally strong, well-built and sloping. The neck is of medium length but is also strong, muscular, and well proportionate to the size of the body. Legs are comparatively shorter, squarely set and balanced. These ponies are endowed with broad knees, and short cannon bones. Hooves are very strong and compact. These physical characteristics allow Malkangiri ponies to travel long distances with heavy load despite their small stature.

4. Health status

Malkangiri ponies are resistant to many diseases and have the capacity to survive in adverse climatic conditions. The general health condition of Malkangiri ponies is good. As many of the villages or hamlets domesticating these ponies are situated in very

remote areas, pony owners have adopted indigenous knowledge systems - ethno-veterinary practices to cure minor diseases or problems. However, the Veterinarians also often visit the animals and enquire about the health status and extend assistance if needed.

5. Body measurements

Detail average body measurements are presented in Table 1. The average height at withers of these ponies was recorded as 125.86 ± 0.34 and 123.77 ± 0.38 cm in male and female, respectively. Height at croup was found to be around 3 cm less than the height at withers. Body length was 106.85 ± 0.19 cm in stallion and corresponding value for mares was 105.26 ± 0.23 cm. Ear length of these ponies was around 13 cm. Tail of both stallion and mares was around 75 cm, extending below the hock. The present findings are in line with the findings of Mishra *et al.*, (2023).

6. Reproductive performance

The females mature at 27.65 ± 0.58 months. Males recorded 6 months early maturity than female counterparts. Age at first foaling was estimated as 45.53 ± 1.25 months in the present study. The mean foaling interval of these ponies was found as 19.45 ± 0.64 months with gestation period of 11 months (Table 2). The present findings corroborate with the findings of Mishra *et al.*, (2023).

Table 1: Body measurements of Malkangiri ponies

Traits	Male (N = 86)	Female (N = 54)
Height at withers (cm)	125.86 ± 0.34	123.77 ± 0.38
Height at croup (cm)	122.25 ± 0.22	121.35 ± 0.31
Body length (cm)	106.85 ± 0.19	105.26 ± 0.23
Chest girth (cm)	121.86 ± 0.28	118.79 ± 0.32
Face length (cm)	45.24 ± 0.24	44.56 ± 0.24
Ear length (cm)	13.12 ± 0.13	13.28 ± 0.12
Tail Length (cm)	74.28 ± 0.35	75.44 ± 0.38

Table 2: Reproductive performance of Malkangiri ponies

Traits	Average
Age at puberty in male (months)	21.86 ± 0.24 (64)
Age at sexual maturity in female (months)	27.65 ± 0.58 (62)
Age at first foaling (months)	45.53 ± 1.25 (62)
Foaling interval (months)	19.45 ± 0.64 (62)
Gestation period (days)	329.62 ± 0.12 (62)

*Figures in parentheses indicate the number of observations

CONCLUSION

The number of Malkangiri ponies is decreasing at a faster rate as a result of availability of motorable roads and bridges in the native tract. The animals are unique and need to get registered as a separate horse breed, which will promote its conservation and improvement. Realizing the importance of this horse germplasm, the local governance, under the Panchayat Raj system, is making concentrated efforts to sustain the local pony population. Besides, non-government agencies and social workers in collaboration with educated and conscious villagers are advocating for sustainable use of this unique horse/pony through eco-tourism and regular horse shows highlighting the need for its conservation. These efforts are fruitful, but its registration as a separate breed may attract the development and formulation of strategic policy to save this unique species from extinction.

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