

## Comparative histomorphology of skeletal muscle of Nilgai (*Boselaphus tragocamellus*) and Sambar (*Cervus unicolor*)

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### Abstract

The skeletal muscles of nilgai and sambar were compared on the basis of histomorphology. In general, the fascicle sizes as well as size of myofibrils were larger in sambar as compared to nilgai. The study indicated muscular differences amongst the species.

**Keywords:** Histomorphology, Skeletal muscle, Nilgai, Sambar

### Introduction

The bone muscle joint complex of domestic animals has been extensively studied; however such studies are scanty in veterinary literature. The present study was undertaken to explore the interspecies variations in skeletal musculature.

### Materials and Methods

The muscle samples were collected from the animals brought for postmortem examination. The samples were washed and processed by routine paraffin technique. The section of 6-8 $\mu$ m thickness on rotary microtome and stained by haematoxylin and eosin method. (Singh and Sulochana,1978).

### Results and Discussion

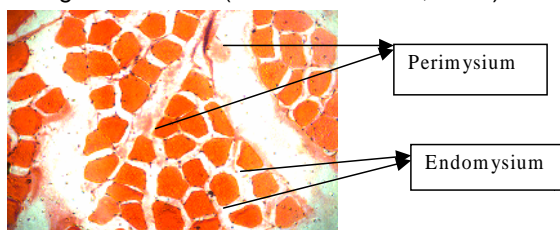
The peculiar endomysial vasculature pattern and comparative size variations of myofibrils in the present study were indicative of criteria for distinguishing the musculature of sambar from that of nilgai. The epimysium was comprised of sheets of dense irregular collagenous fibers arranged in two layer outer circular and inner longitudinal. Below the epimysium the individual muscle fascicles were separated by thin layer of perimysium also rich in collagenous fibers. (Bacha and Linda, 1990).

The perimysium contained blood vessels nerve fibers and ganglia. (Dellaman and Brown 1987). The muscle fascicles were of different sizes i.e. small, medium and large sizes in nilgai where as they were mostly large size in sambar. In sambar the muscle fascicles were comparatively well invested with thick epimysium, perimysium and endomysium as compared to nilgai.( Fig 1 &2)

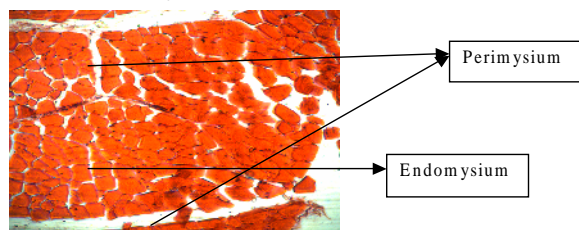
In case of sambar myofibrils were large 12 to 15  $\mu$  in diameter, oval and blunted while in nilgai they were comparatively smaller 8 to 10 $\mu$  in diameter, oval and sharply angulated with compact fascicular arrangement. The present study indicated that the sambar muscles were stronger than that of nilgai.

### References

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1) Photograph of skeletal muscle of Sambar  
1.Perimysium 2. Endomysium



2) Photograph of skeletal muscle of Nilgai  
1.Perimysium 2. Endomysium