Indian Vet. J. 70, June, 1993 : 540-542

SCAPULA OF THE GREAT INDIAN RHINO (RHINOCEROS UNICORNIS)

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The scientific investigation on the bony skeleton of great Indian one horned rhino could not be traced out in the available literature. Hence, the present investigation was undertaken to elucidate some gross anatomical features of the scapula of *Rhinoceros* unicornis, found in Assam forests.

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The scapulae of six adult rhino were collected from the National Park, Kaziranga and State Zoo-cum-Botanical Garden, Guwahati, Assam. They were subsequently brought to the Department of Anatomy and Histology, processed and prepared as per routine technique recommended by Young (1980).

web the service element of the Results and Discussion

The scapula of rhino was a well-developed but less triangular flat bone. It was placed obliquely downward and forward on the anterolateral aspect of the thoracic cavity. It presented two surfaces, three borders and three angles. Such characteristic features of this bone including its relative position, were reported in ox and horse (Getty, 1975; Nickel *et al.*, 1986). However, the other structural characteristics, like less triangularity, more thickness and massiveness in structure warranted a unique structural peculiarity to this species.

The lateral surface of the scapula was divided nearly into two equal deeper fossae by the presence of a well-developed triangular scapular spine (Fig. 1), which differred from that of the ox and horse where the fossae were unequal and less shallow (Raghavan, 1964; Sisson and Grossman, 1970). The tuber spine was tuberous, rough, well-developed and triangular in shape, which was found to curve greatly in its middle part. and almost overhanged the infraspinatus fossa (Fig.1). Such a phenomenon of overhanging tuber spine interestingly could not be compared in other large domesticated animals. Both the infraspinatus and supraspinatus fossae "were concave and deeper which demonstrated uneven surfaces (Fig.1). There were two distinct nutrient foramina, one at the distal extremity of the spine and the other at the distal extremity of the infraspinatus fossa. The scapular spine diminished from the tuber spine to the distal part without forming the acromion process (Fig. 1). The presence of some wide and smooth oblique impressions just below the nutrient foramina were also marked. These findings on the scapula of rhino, were more or less dissimilar to that of ox and horse. However, the absence of the acromion process was similar to that of the horse (Getty, *loc. cit.*; Nickel *et al.*, *loc. cit.*).

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The medial surface of the rhino scapula was wide and relatively shallow, which was divided by a serrated irregular horizontal line into two nearly equal halves. The proximal half of this surface was rough while the distal half was smooth which were further divided into two relatively deeper subscapular fossae (Fig. 2). These current findings disagree with the findings in ox, horse, sheep and goat (Sisson and Grossman, *loc. cit*; May, 1970; Nickel *et al.*, *loc. cit.*). However, the subscapularis fossae were relatively shallower and almost identical to that of ox (Getty, *loc. cit.*).

The anterior border was convex, rough proximally and smooth distally, while the posterior border was thick and rough above, which was found to incline laterally to form the well developed infraspinatus fossa. The dorsal border was rough and curved cranio-caudally. The anterior angle was wider, while the caudal angle was rough and thick. The ventral angle revealed a well-developed glenoid canity which was wide and shallow. Besides, the neck of the scapula was wider and shorter (Fig. 2). These findings on the scapular borders and angles were more or less similar to the findings on the description of the scapula of large animals reported in the standard text books. However, the well-developed tuber scapulae (Fig.2) which were placed further cranially from the neck and the rim of the glenoid cavity was in agreement with that of Dyce *et al.* (1987).

The present investigation on the scapula of rhino was marked by the absence of coracoid process and gleniod notch in the tuber scapulae and glenoid rim, respectively (Fig.2). These records were contradictory to the findings of large animals like ox and horse (Getty, *loc. cit*;. Nickel *et al.*, *loc. cit*.) but were similar with those of sheep (Bone, 1988).

Summary

The scapulae of six adult great Indian rhino were studied. The scapula was less triangular and more massive. The snpraspinatus and infraspinatus fossae were more deep while the subscapularis fossae were shallower. The tuber spine was well-developed, triangular in shape and it almost overhanged the infraspinatus fossa. The distal part of the spine did not exhibit acromion process. The medial surface was divided into nearly two equal halves by a serrated irragular horizontal line. The glenoid notch and the coracoid process were also found absent in the distal part of the scapula.

Acknowledgement

The authors are grateful to the authorities of the Assam Agricultural University for providing necessary help during this investigation. Authors are also grateful for the help and co-operation provided by the Forest Department, Govt. of Assam.

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