



GROSS ANATOMICAL STUDIES OF THE SCAPULA IN LEOPARD (*Panthera pardus*)

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Abstract

A study was conducted on the scapula of two leopards (*Panthera pardus*). The scapula presented two surfaces, three borders and three angles as in other species. Spine of scapula divided the lateral surface into a supraspinous and an infraspinous fossa. Ventral end of the spine presented acromion or hamate process. Above the hamate process a small suprahamate process was also noticed. The medial surface presented a shallow subscapular fossa and facies serrata. Supraglenoid tubercle and coracoid process were recorded proximal to the glenoid cavity.

Key words: Scapula, anatomy, leopard

Scapula is a large flat bone of the pectoral girdle (Evans and Christensen, 1979). Literature available on the anatomy of scapula of leopard is scanty. Hence, an attempt has been made to record the gross anatomical characteristics of the scapula of this species.

Materials and Methods

The present study was conducted on the scapula of two leopards brought for post-mortem examination at the College of Veterinary and Animal Sciences, Pookode, Wayanad, from the Department of Forest, Government of Kerala. The fore limb was resected from the trunk and the bones were macerated and prepared according to the methods of Young (1980).

Results and Discussion

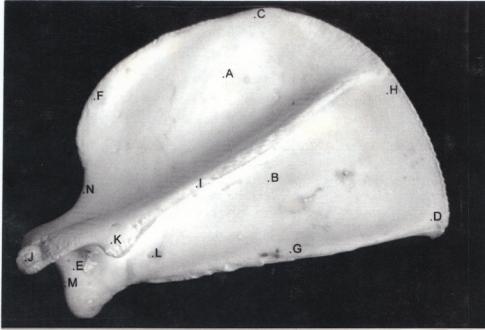
The scapula presented two surfaces – lateral and medial; three borders – cranial, caudal and dorsal and three angles – cranial, caudal and ventral as in various species of domestic animals (Nickel *et al.*, 1986). The lateral surface was divided by the spine of scapula into two unequal fossae viz., a cranial supraspinous fossa and a caudal triangular infraspinous fossa (Fig.1). Unlike in the case of domestic animals, the supraspinous fossa was larger in leopard. Near the middle third of the dorsal border of scapula, the spine appeared as a low thick ridge and gradually increased in height distally. It presented a cranial and a caudal surface throughout its length as reported by Evans and Christensen (1979) in dogs. The acromion or hamate process was present at the ventral end of the spine as recorded in dogs (Budras *et al.*, 1994). A small caudally directed triangular suprahamate process was noticed above the hamate process as in cats (Nickel *et al.*, 1986). A nutrient foramen was observed in the infraspinous fossa in the distal third. This concurs with the findings of Nickel *et al.* (1986) in various species of domestic animals.

The medial surface presented a shallow subscapular fossa (Fig. 2). The cranial and caudal angles of this surface showed two rough areas -the facies serrata, of which the cranial one was more prominent, larger and triangular in shape. These are in partial

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agreement with the findings of Evans and Christensen (1979) in dogs, who have observed rectangular shape for the facies serrata cranialis. The ventral third of this surface also showed a nutrient foramen.

Fig.1. Scapula of leopard- lateral surface



- A. Supraspinous fossa
- B. Infraspinous fossa
- C. Cranial angle
- D. Caudal angle
- E. Ventral angle
- F. Cranial border
- G. Caudal border
- H. Dorsal border
- I. Spine of scapula
- J. Hamate process
- K. Suprahamate process
- L. Nutrient foramen
- M. Scapular notch
- N. Glenoid notch

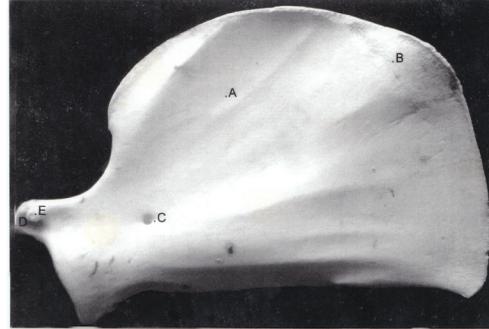
The cranial border was strongly convex proximally and formed an arc that continued distally as a deep concave scapular notch and thus formed a distinct neck for the scapula. These are in agreement with the observations of Evans and Christensen (1979) in dogs and Nickel *et al.* (1986) in carnivores.

Distal to the scapular notch, the cranial border presented a distinct supraglenoid tubercle. Medial surface of the supraglenoid tubercle showed a hook like coracoid process as in various domestic animals (Nickel *et al.*, 1986). The caudal border was thick, rough and straight and near the glenoid angle it showed an infraglenoid tubercle. This is in agreement with the findings of Smith (1999) in canines. The dorsal border was thick and pitted for the scapular cartilage and was slightly convex.

The cranial angle was more obtuse than the caudal angle. The ventral or glenoid angle presented a shallow, oval glenoid cavity. The cavity extended to the ventral surface of the supraglenoid tubercle. The glenoid notch was noticed on the lateral rim of the glenoid

cavity at its middle. These are in accordance with the reports of Nickel *et al.* (1986) in canines. The medial border of the glenoid rim formed a larger arc than the lateral border, as observed by Evans and Christensen (1979) in canines.

Fig.2. Scapula of leopard - medial surface



- A. Subscapular fossa
- B. Facies serrata
- C. Nutrient foramen
- D. Supraglenoid tubercle
- E. Coracoid process

References

- Budras, K.D., Wolfgang, F., Mc McCarthy, H.P. and Wolfe, M. 1994. *Anatomy of the dog- an Illustrated Text*, 3rd ed. Schlutersche Verlagsanstalt and Dreckerei Gmbh Co., Hannover. 114 p.
- Evans, H.E. and Christensen, G. C. 1979. *Miller's Anatomy of the Dog*, 2nd ed. W.B. Saunders Co., Philadelphia. pp. 68-70.
- Nickel, R., Schummer, A. and Seiferle, E. 1986. *The Anatomy of Domestic Animals- Vol.1.*, Verlag Paul Parey, Berlin, Hamburg. 499 p.
- Smith, J.B. 1999. *Canine Anatomy*, Lippincott Williams and Wilkins, Philadelphia. 619 p.
- Young, J.H. 1980. Preparation of the skeletal specimen. *Equine Practice*, 2: 29-32

