



Macro Anatomical study of Femur of Domestic Duck (*Anas platyrhynchos domesticus*)

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ABSTRACT

In present study, one pair of femur was utilized. Femur was composed of shaft and two extremities-proximal and distal. Proximal extremities contained trochanter and head with fovea capities. Distal extremities contained two condyle-medial and lateral, trochlea and inter condyloid groove. Lateral condyloid was traversed by a groove. The shaft consisted of four surfaces *viz.*, medial, lateral, cranial and caudal. Lateral surface was wide above and narrow behind. Medial surface and caudal surface was separated by inter muscular line. The nutrient foramen was at the middle of the caudal surface of the shaft.

Keywords: Macro, Anatomy, Femur, Domestic, Duck

The duck population of India is about 25.54 million (Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, 2014). Assam possesses the population with about 8.4 million (Basic Animal Husbandry Statistics, 2014). As such Assam is one of the major duck rearing state in India. Assam, one of the states in the North East and it possess second position in the Indian population (Islam *et al.* 2007). Femur is strong tubular bone of duck. It maintains the balanced of the birds. Since there is very scanty literature on the detailed anatomy of femur of domestic duck of Assam. Therefore, being a local variety of Assam the present study was designed to establish gross anatomical norms on the femur of domestic ducks of Assam.

MATERIALS AND METHODS

The current study was conducted on the femur of a domestic duck (*Anas platyrhynchos*

domesticus) of Assam. After slaughter, the skeleton of the duck was processed as per the method of Young (1980). Then the femur was removed and gross anatomical studies were made on it.

RESULTS AND DISCUSSION

In current study, one pairs of femur of domestic duck of Assam were utilized. The femur of domestic duck was consisted of shaft and two extremities-proximal and distal. These findings were in agreement with the findings of Sisson and Grossman (1953). Proximal extremities contained trochanter and head with fovea capities. The shaft of the femur of domestic duck was cylindrical. Similar finding was reported by Raghavan and Kachroo (1964) in Fowl. The length, outer circumferences of shaft and circumferences of head of femur were 5.6 cm, 1.8 cm and 1.4 cm, respectively. The head of the femur was round. The fovea capitis

was directed medially. Similar findings were reported by Nickle *et al.* (1977) in duck and goose. Trochanter major was located at the level of head of the femur. Trochanter minor was in the form of small crest in the femur of domestic duck. These finding was in agreement with the finding of Venkatesan *et al.* (2006) in domestic fowl. Distal extremities contained two condyle-medial and lateral, trochlea, inter condyloid groove and intercondyloid fossa.



Fig. 1: Photograph showing the (A) Trochanter major, (B) Trochanter minor, (C) Shaft and (D) Trochlea of Femur of Domestic duck of Assam



Fig. 2: Photograph showing the (A) Nutrient foramen, and (B) Inter muscular line of shaft of femur of domestic duck of Assam

The intercondyloid groove and intercondyloid fossa were located between the medial and

lateral condyle. These findings were similar with the findings of Chamberlain (1943) in avian. Lateral condyles were divided into two ridges.

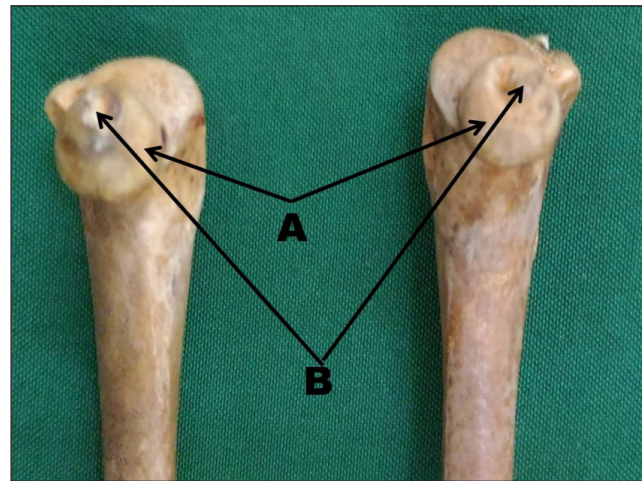


Fig. 3: Photograph showing the (A) Head and (B) Fovea capitis of femur of domestic duck of Assam

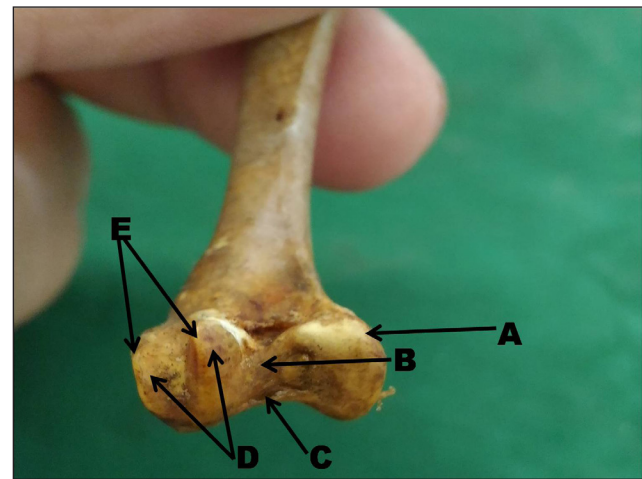


Fig. 4: Photograph showing the (A) Medial condyle, (B) Intercondyloid groove, (C) Intercondyloid fossa, (D) Lateral condyle and (E) Ridges of lateral condyle of femur of domestic duck of Assam

These findings were corroborated with the findings of Nickel *et al.* (1977) in duck and goose. The shaft composed of four surfaces *viz.*, medial, lateral, cranial and caudal. Lateral surface was wide above and narrow behind. Medial surface and caudal surface was separated by inter muscular line. These findings were



inaccordances with the findings of Chamberlain (1943) in avian. The inter muscular line was continuous with the trochanter major. Similar finding was reported by Venkatesan *et al.* (2006) in domestic fowl and guinea fowl. The nutrient foramen was at the middle of the caudal surface of the shaft.

SUMMARY AND CONCLUSION

The shaft of the femur of domestic duck of Assam was cylindrical. Medial surface and caudal surface of shaft of femur was separated by inter muscular line. Trochanter major was located at the level of the head of the femur whereas trochanter minor was in the form of a crest. The head of the femur along with fovea capitis was directed meadially. Lateral condyles of femur of domestic duck were divided into two ridges. This study will help poultry scientists for effective production strategy as well as disease control regime.

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