

A SYSTEMATIC STUDY OF THE MAIN ARTERIES IN THE REGION OF THE HEART—AVES XX

CAPRIMULGIFORMES, PART 1¹

FRED H. GLENNY

Department of Anatomy, The Ohio State University, Columbus 10

Studies on 12 species of Caprimulgiformes, shows the basic arterial arrangement-pattern in the neck and thorax to be that referred to as bicarotid-normales. The laevo-carotid variation was observed, however, in representatives of two families within the order. Furthermore, an evolutionary tendency sometimes observed in a few other orders of birds was noted in the different families of this order. This characteristic tendency is the rather singular lateral migration of the sterno-clavicular or coracoid arteries from a normal position on the subclavian between the common carotid and axillary arteries to one on the pectoral stem just lateral to the axillary and medial to the internal mammary or intercostal artery.

The following observations characterize the materials studied.

STEATORNITHIDAE:

Steatornis caripensis Humboldt (USNM #18308): bicarotid; both ligamentum aortae and ligamentum botalli present; coracoid arises from subclavian medial to origin of axillary; ductus shawi sends branches to oesophagus and trachea as well as posteriorly to bronchi and connective tissues of the thorax; common carotid then sends off a short thyroid artery before dividing to form a superficial cervical (ascending oesophageal on the right side), vertebral, and internal carotid (trunk) artery.

Garrod (1873) observed that both carotids are present in *Steatornis caripensis*.

PODARGIDAE:

Laevo-carotidinae; ligamentum aortae present; ligamentum botalli reduced to a linea or entirely lacking; coracoid opposite or just lateral to axillary; right common carotid reduced giving rise to an ascending oesophageal artery in addition to the normal superficial cervical and finally the vertebral artery; left carotid divides to form the superficial cervical, vertebral, and internal carotid (trunk) arteries; ductus shawi and thyroid artery arise as branches of both left and right carotids.

Podargus strigoides strigoides (Latham) (USNM #19361): the coracoids are opposite the axillaries.

Batrachostomus hodgsoni indochinae Stresemann (USNM #321751): the coracoids are just lateral to the axillaries.

NYCTIBIDAE:

Nyctibius griseus (Gmelin) (USNM #346233): laevo-carotidinae; ligamentum aortae present; coracoid lateral to axillary; ductus shawi prominent; common carotid divides into superficial cervical and vertebral arteries (right side) and superficial cervical, vertebral and internal carotid (trunk) arteries after giving off the thyroid artery.

CAPRIMULGIDAE:

Bicarotid normales; ligamentum aortae present; ligamentum botalli present and reduced or lacking; coracoids medial or lateral to axillary; ductus shawi and thyroid artery arise as branches of carotid before it divides to form the superficial cervical, vertebral, and internal carotid (trunk) arteries.

¹Contribution of Blue Sea Lake Biological Laboratory, Messines, Quebec.

Coracoid artery medial to axillary artery:

Chordeiles virginianus = *Chordeiles minor minor* (Forster), *Podager nacunda nacunda* (Vieillot), *Nyctidromus albicollis albicollis* (Gmelin), *Scotornis fossii fossii* (Hartlaub), and *Hydropsalis brasiliana furcifera* (Vieillot).

Coracoid artery opposite or just lateral to axillary artery: *Chordeiles minor vicinus* Riley.

Coracoid artery lateral to axillary artery:

Nyctiprogne latifascia (USNM #319819) and *Caprimulgus carolinensis* Gmelin.

Garrod (1873) pointed out that *Chordeiles acutipennis texensis* Lawrence and *Caprimulgus europaeus* Linnaeus both present two carotid arteries which enter the hypapophysial canal.

It may be concluded, from the above observations, that the members of this order and especially the families within the order are undergoing noticeable anatomical evolution especially with respect to the arrangement of arteries in the neck and thorax. Such major differences as are herein noted may have some taxonomic significance.

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REFERENCE

- Garrod, A. H. 1873. On the carotid arteries in birds. Proc. Zoo. Soc., London, pp. 457-472.
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