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*Chapter 4*

**THE BLOOD VASCULAR SYSTEM  
OF BIRDS**

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I. Introduction .....	158
II. Avian Hematology .....	159
A. The Erythrocytes .....	159
B. The Leucocytes .....	161
C. Thrombocytes .....	163
III. Morphology of the Blood Vascular System .....	164
A. Heart and Major Blood Vessels .....	164
B. The Arterial System .....	177
C. The Venous System .....	190
D. The Pulmonary Vascular Bed .....	193
E. The Lymphatic System .....	195
IV. The Electrophysiology of the Heart .....	196
V. General Hemodynamics .....	201
A. The Cardiac Output .....	202
B. Resistance and Capacitance of the Circulation .....	206
C. The Blood Pressure .....	208
D. Blood Flow .....	213
E. The Relationship Between Pressure and Flow .....	216
VI. Regulation of the Cardiovascular System .....	218
A. Autoregulation of Blood Flow and Reactive Hyperemia .....	219

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B.	Central Nervous Regulation of Cardiovascular Function .....	221
C.	Peripheral Nervous System and Cardiovascular Control .....	223
D.	Baroreceptor Reflexes .....	230
E.	Cerebral Ischemic Reflexes .....	233
F.	Blood Volume Regulation .....	233
VII.	Cardiovascular Adjustments to (Habitual) Diving and Alterations in Ambient Gas Composition .....	234
A.	Cardiovascular Responses to Natural Diving and Experimental Submergence .....	234
B.	Cardiovascular Responses to Changes in Environmental Gas Composition .....	247
VIII.	Cardiovascular Performance During Flight .....	251
A.	Heart Rate .....	251
B.	Stroke Volume .....	252
C.	Arterial-Venous Oxygen Difference .....	253
D.	Oxygen Uptake ( $A \times B \times C$ ) .....	253
IX.	The Cardiovascular System and Gas Exchange .....	255
X.	The Role of the Cardiovascular System in Excretion and Osmoregulation .....	260
XI.	The Role of Peripheral Circulation in Temperature Regulation .....	264
	References .....	270

## I. Introduction

It is unfortunate but not surprising that the circulatory physiology of birds is often interpreted in the light of more sophisticated experiments that have been performed on mammals. The reason for this association, aside from dubious similarities such as possession of "warm blood" and pseudonymenclature as "higher vertebrates," is perhaps the lack of knowledge concerning circulatory dynamics and their regulation in birds.

There can be no doubt that phylogenetically the avian and mammalian stocks have been long separated. The heart of birds retains typical reptilian characters, and the mammals must have branched off and diverged from the common amniote ancestor before the reptilian type of specialization had begun (Goodrich, 1930). Although in both birds and mammals the circulation is completely divided into lung and body circuits, the mode of division of the heart by the interventricular septum is different. However, birds and mammals share a common feature in that the persisting systemic originates from the left side of the ventricle; but this is where the similarity ends, for in birds it is the right systemic arch and in mammals the left. Many other differences in the morphology of the avian and mammalian circulation exist, and time to produce these differences has also been