

Contents

General Preface to the Series	iii
Preface	iii
1 Ecology and Respiration	1
2 Respiration and Electron Transport	5
2.1 Oxidation and electron transfer	2.2 The mitochondrion
2.3 Electron transport in biological systems	
3 Oxidative Phosphorylation	23
3.1 Introduction	3.2 Substrate-linked phosphorylation
3.3 Membrane-linked phosphorylation	
4 Doing Without Oxygen	38
4.1 Aerobiosis and anaerobiosis	4.2 The evolution of mitochondria
4.3 The sulphide layer	4.4 The oxygen debt
4.5 Diving animals	4.6 Hibernation
4.7 Diapause	
5 A Long-term Solution – Anaerobiosis in Intestinal Helminths	54
5.1 Introduction	5.2 Metabolic pathways in parasites
5.3 Electron transport in parasites	5.4 The switch mechanism
5.5 Carbon dioxide and anaerobiosis	
6 Conclusions	61
Further Reading	64