



BRIEF CONTENTS

Preface ix

- 1 Zoology: An Evolutionary and Ecological Perspective 1
 - 2 Cells, Tissues, Organs, and Organ Systems of Animals 10
 - 3 Cell Division and Inheritance 35
 - 4 Evolution: History and Evidence 57
 - 5 Evolution and Gene Frequencies 76
 - 6 Ecology: Preserving the Animal Kingdom 90
 - 7 Animal Classification, Phylogeny, and Organization 108
 - 8 Animal-Like Protists: The Protozoa 124
 - 9 Multicellular and Tissue Levels of Organization 142
 - 10 The Triploblastic, Acoelomate Body Plan 163
 - 11 Molluscan Success 182
 - 12 Annelida: The Metameric Body Form 204
 - 13 The Pseudocoelomate Body Plan: Aschelminthes
(Lophotrochozoan and Ecdysozoan Phyla) 220
 - 14 The Arthropods: Blueprint for Success 237
 - 15 The Hexapods and Myriapods: Terrestrial Triumphs 261
 - 16 The Echinoderms 283
 - 17 Hemichordata and Invertebrate Chordates 299
 - 18 The Fishes: Vertebrate Success in Water 311
 - 19 Amphibians: The First Terrestrial Vertebrates 333
 - 20 Reptiles: Nonavian Diapsid Amniotes 351
 - 21 Birds: Reptiles by Another Name 368
 - 22 Mammals: Synapsid Amniotes 387
 - 23 Protection, Support, and Movement 413
 - 24 Communication I: Nervous and Sensory Systems 433
 - 25 Communication II: The Endocrine System
and Chemical Messengers 461
 - 26 Circulation and Gas Exchange 481
 - 27 Nutrition and Digestion 503
 - 28 Temperature and Body Fluid Regulation 526
 - 29 Reproduction and Development 548
- Glossary 570
Credits 599
Index 602