

Preface · ix

## 1 **Discovery of a Unifying Principle** · I

*A Brief History* · 4

*Detecting Character Displacement* · 10

*Phenomena Mistaken for Character Displacement* · 14

*What Constitutes Character Displacement? Conflation of Process  
and Pattern* · 19

*Reproductive Character Displacement versus Reinforcement* · 20

*Terminology* · 21

*Box 1.1: Alternative Manifestations of Character Displacement* · 22

*A Unifying Principle* · 25

*Box 1.2: Suggestions for Future Research* · 26

*Summary* · 27

*Further Reading* · 27

## 2 **Why Character Displacement Occurs** · 29

*Why Ecological Character Displacement Occurs* · 30

*Box 2.1: Alternative Models of Species Coexistence* · 36

*Box 2.2: Is Competitively Induced Plasticity Character Displacement?* · 44

*Why Reproductive Character Displacement Occurs* · 48

*Box 2.3: Suggestions for Future Research* · 53



Summary · 54

Further Reading · 54

**3 When Character Displacement Occurs · 57**

*Facilitators of Character Displacement · 58*

*Variation in the Expression of Character Displacement · 65*

*How Ecological and Reproductive Character Displacement Facilitate Each Other · 69*

*How Ecological and Reproductive Character Displacement Can Impede Each Other · 77*

Box 3.1: *Suggestions for Future Research · 78*

Summary · 78

Further Reading · 79

**4 How Character Displacement Unfolds · 81**

*Mechanisms of Divergence · 82*

*Tempo and Mode of Character Displacement · 93*

Summary · 102

Box 4.1: *Suggestions for Future Research · 103*

Further Reading · 104

**5 Diversity and Novelty Within Species · 105**

*How Intraspecific Character Displacement Works · 106*

*Intraspecific Character Displacement: Observational Evidence · 108*

*Intraspecific Character Displacement: Experimental Evidence · 110*

*Evolution of Alternative Phenotypes · 111*

*Intraspecific Character Displacement and Species Diversity · 126*

*Character Displacement Within Versus Between Species · 129*

Summary · 130

Box 5.1: *Suggestions for Future Research · 131*

Further Reading · 131

**6 Ecological Consequences · 133**

*Evolution of the Niche · 134*

*Partitioning of Resources and Reproduction: A Reprise · 136*

Box 6.1: *Individual Variation and the Coexistence of Species · 139*

*Community Organization · 143*

*Character Displacement and Darwinian Extinction · 146*

*Species Distributions and Geographic Mosaics · 150*

*Character Displacement and Species Ranges · 151*

Summary · 153

Box 6.2: *Suggestions for Future Research · 154*

Further Reading · 155



<b>7</b>	<b>Sexual Selection</b>	· 157
	<i>How Sexual Selection Works</i>	· 159
	<i>How Character Displacement Affects Sexual Selection</i>	· 160
	<i>Implications of the Effects of Character Displacement on Sexual Selection</i>	· 168
	<i>How Sexual Selection Affects Character Displacement</i>	· 174
	<i>A Cautionary Note: Process Versus Pattern</i>	· 175
	<i>Box 7.1: Suggestions for Future Research</i>	· 176
	<i>Summary</i>	· 176
	<i>Further Reading</i>	· 177
<b>8</b>	<b>Speciation</b>	· 179
	<i>What Are Species?</i>	· 179
	<i>How Are Species' Boundaries Maintained?</i>	· 182
	<i>The Evolution of Isolating Mechanisms</i>	· 183
	<i>Box 8.1: Selection and the Evolution of Reproductive Isolation</i>	· 186
	<i>Character Displacement's Role in Speciation</i>	· 189
	<i>Summary</i>	· 202
	<i>Box 8.2: Suggestions for Future Research</i>	· 203
	<i>Further Reading</i>	· 203
<b>9</b>	<b>Macroevolution</b>	· 205
	<i>Competition in the Fossil Record</i>	· 207
	<i>Methods for Studying Macroevolution: Replaying the Tape of Life</i>	· 211
	<i>Adaptive Radiation</i>	· 213
	<i>Evolutionary Escalation</i>	· 224
	<i>Macroevolution: Red Queen or Court Jester?</i>	· 228
	<i>Summary</i>	· 229
	<i>Box 9.1: Suggestions for Future Research</i>	· 230
	<i>Further Reading</i>	· 230
<b>10</b>	<b>Major Themes and Unsolved Problems</b>	· 233
	<i>Major Themes of the Book</i>	· 234
	<i>Some Unsolved Problems</i>	· 238
	<i>Summary</i>	· 242
	<i>References</i>	· 243
	<i>Index</i>	· 291