

Contents

Preface	xi
Acknowledgements	xv
1. Evolution and Adaptation	1
Origins	1
Natural selection	2
Conflicting demands	3
The flexible phenotype	5
2. Environment and History	7
Climate and seasonality	8
Geology	13
Soils	14
Environmental history	16
3. Climate and the Hong Kong Biota	25
Vascular plants	26
Fauna	28
4. Seasonality	33
Plant seasonality: leafing	34
Plant seasonality: reproduction	36
Bird migration	39

Contents

Seasonality and breeding by terrestrial animals: vertebrates	41
Seasonality and breeding by terrestrial animals: invertebrates	43
Seasonality of aquatic animals: invertebrates	49
Seasonality of aquatic animals: vertebrates	59
5. Succession and Climax	63
Succession	63
Fire and cutting	65
Seed dispersal	66
Secondary forests	70
<i>Feng shui</i> woods	72
Montane woodland	74
Plantations	75
Animals in succession	76
6. Land and Water	79
The stream and its valley	79
The influence of physical factors	80
Longitudinal zonation	82
A functional approach	92
The River Continuum Concept	94
Terrestrial vegetation and Hong Kong streams	97
Land-water interactions: streams	99
Land-water interactions: Plover Cove Reservoir	102
7. Foods and Feeding	105
Primary production	105
Herbivores	107
Detritivores	111
Coprophages	115
Nectarivores and other flower visitors	117
Frugivores and seed predators	120
Carnivores and prey defensive adaptations	123
Terrestrial carnivores	126
Foraging theory	132
Carnivores in streams	139
8. Aliens	143
Plants	144

Birds	146
Other terrestrial vertebrates	148
Terrestrial invertebrates	151
Aliens in streams	152
The impact of alien species	156
9. Conservation	159
Protected areas	161
Protected species	167
Environmental impact assessment	169
Restoration	172
Glossary	175
Further Reading	193
Bibliography	201
Index	213