

Contents

Earthworms in North America	1
The Earthworms in Their Native Habitats	1
Introduction and Spread	2
Ecological Effects	4
Interacting Alien Species	7
Economic and Human Health Impacts	7
Control Efforts	8
Current Status and Likely Future	9
Public Perception and Current Policies	9
References	9
Zebra Mussels in Western Europe and North America	11
Cautionary Tale	11
The Mussel in Its Native Habitat	11
The Spread to Western Europe	13
Effects of the Zebra Mussel in Newly Invaded Waters in Western Europe	15
After Their Introduction, What Happened Next in Western Europe? ..	16
The Spread to North America and Further Invasion There	18
Ecological Effects of the Zebra Mussel in North America	19
The Quagga Mussel, <i>Dreissena rostriformis bugensis</i>	24
Economic Effects of the Zebra Mussel in North America	25
The Likely Future	26
Summary	27
References	27
Canadian Waterweed in Europe	31
Some Basic Plant Facts	31
Introduction and Spread in Europe	32
Ecological Effects of Dense Stands of Canadian Waterweed	34
Control Attempts	34

Then, What Happened?	35
What About the Exceptions?	36
Economic Effects	36
References	36
Himalayan Balsam in Europe	39
The Plant Itself	39
The Further Spread in Europe and Current Distribution.	41
Ecological Effects of the Himalayan Balsam	43
Plant Species Diversity.	44
Effects of Himalayan Balsam on the Diversity of Plant-Associated Fauna	46
Himalayan Balsam on Riverbanks and Increased Erosion.	47
Some Observations of the Spread and Impact of the Himalayan Balsam in the Flatlands of Southwestern Sweden	48
Attitudes, Classifications, and Extermination and Control Attempts	50
Economic Aspects of Himalayan Balsam.	51
Current Trends and the Likely Future of the Himalayan Balsam Invasion in Europe	52
References.	53
The House Sparrow in North America	55
A Little About the Bird Itself	55
Introduction to North America	58
The Economic and Ecological Effects of the House Sparrows.	62
Then What Happened?	63
How Do the House Sparrows Fare in Their Native Countries?	66
Some Loose Treads (Starlings and Predatory Birds)	67
The Eurasian Tree Sparrow (<i>Passer montanus</i>) as Comparison	68
An Interesting Sidetrack	69
Summary	70
References.	70
Rabbits in Australia	73
The European Rabbit	73
Introduction and Release in Australia.	74
The Population Explosion and Spread	76
Ecological Effects	78
Economic Effects	80
Control Attempts.	81
Foxes	82
Rabbit-Proof Fences.	83
Myxomatosis	86
Rabbit Hemorrhagic Disease	87
Current Control Status	87
A Side Story About the Dingoes.	88
References.	88

Crayfish Plague in Europe 91

 The Pathogen 92

 The Spread 93

 The First Phase. 93

 The Second Phase 96

 Ecological Effects 97

 Economic Effects 98

 Control Attempts. 98

 On the Virtues or Lack Thereof of Introducing the Signal
Crayfish to Europe 100

 Official Policies and Public Perception. 101

 References. 101

The Colorado (Potato) Beetle. 105

 How It Went from Obscurity to Becoming a Plague 105

 Some Biological Facts About the Colorado Beetle Itself 106

 The Colorado Beetle in Europe and Asia 107

 An Agent of Biological Warfare? 109

 The Damage Inflicted by the Colorado Beetle 110

 How to Control the Beetle? Mechanical, Chemical,
and Biological Attempts 111

 Economic Aspects of the Colorado Beetle Infestation 114

 Current Trends and the Most Likely Future 114

 Summary. 115

 References. 115

Water Hyacinths in Africa and Asia 117

 The Plant. 117

 Introduction and Spread to Africa and Asia 118

 A Different School of Thoughts as to the Spread. 119

 Ecological Effects 119

 Economic Effects 120

 Case Story: Lake Inle 120

 Case Story: East Bengal 122

 Case Story: The Nile River. 123

 Case Story: Lake Victoria 125

 Control Measures 127

 Utilization of Water Hyacinths 130

 Current Status 134

 References. 134

Starlings in North America 137

 A Little About the Bird Itself 137

 Introduction to North America and the Subsequent Spread 139

 Ecological Effects 141

 Economic Effects 141

 Control Efforts 142

Public Perception and Official Policies. 142

The Role of Diseases and Parasites. 144

Another Possibly Contributing Factor to the Invasive Success. 145

How Do the Starlings Fare in Their Native Europe? 145

Summary 146

References. 146

The Argentine Ant on Mediterranean Shores 149

 The Ant Itself 149

 Introductions to the Mediterranean Area 150

 Supercolonies: How and Why? 152

 Ecological Effects of the Argentine Ant in the Mediterranean Area 153

 Control of the Argentine Ant 155

 Economic Aspects of the Argentine Ant Invasion 156

 The Mediterranean Supercolony: Current Population Trend 157

 Summary 158

 References. 159

Dutch Elm Disease in Europe and North America 161

 A Short Presentation of the Main Actors 161

 Elm Trees: The Victims and Hosts. 161

 The Beetles: The Vectors of the Spread 164

 The Fungi: The Perpetrators. 165

 Introduction and Spread 166

Ophiostoma ulmi 166

Ophiostoma novo-ulmi. 167

 Early Signs and Progress of the Disease. 168

 Ecological Effects. 170

 Economic Effects 171

 Control Attempts. 171

 Public Perception and Official Policies. 174

 What Could Be in Store for the Future? 174

 References. 175

American Mink in Europe 177

 Something About the Biology and Habits of the American Mink 178

 European Competitors to the American Mink 180

 The Further Spread in Europe. 183

 Ecological and Economic Effects 187

 What Mink Eats 187

 A Personal Experience. 188

 Effects of Mink on Other Species and Vice Versa 189

 Economic Effects of Mink 190

 Divergent Trends Between Farmed and Feral Minks 190

 Control and Extermination Attempts 191

 The Future. 191

 Summary. 192

 References. 193

Marine (Cane) Toad on Pacific Islands	197
A Marine Toad That Is Not “Marine” at All	197
Marine Toads in Puerto Rico: A Success Story?	198
The Marine Toad, Its Original Distribution and Natural Enemies	199
Toxicity and Defensive Strategies	200
Some Notes on the Biology and Habits of the Marine Toad	202
The Marine Toad Here, There, Everywhere	202
Hawaii	203
Philippines	203
Fiji	205
New Guinea	205
Guam, Palau, and Marshall Islands	206
Japan	206
Australia	207
Ecological and Economic Aspects of Marine Toad Invasions	209
Eradication and Control Attempts	210
The Marine Toad and the Human Environment	211
Human Utilization of Marine Toads	211
Summary	212
References	213
Raccoons in Europe (Germany)	217
How They Got to Europe	217
In Systema Natura, Where Do They Belong?	218
Some Raccoon Facts	219
“Demographics” of Raccoons in Their Natural Habitats	220
Urban Raccoons	222
The Development of the German Raccoon Population	222
Ecological Effects of Invasive Raccoons in Europe	224
The Raccoon as a Disease Transmitter in Europe	226
Economic Aspects of Raccoons in Europe	227
Ausländisch oder heimisch? (Alien or Native?)	227
The Future of Raccoons in Europe	228
References	228
Canadian Beavers in Tierra del Fuego	231
Introduction and Spread of the Canadian Beaver	232
The Canadian Beaver (<i>Castor canadensis</i>)	234
Ecological Effects of Beavers in Its Native Range	238
Beavers as Symbols and Mascots	241
Tierra del Fuego	241
Ecological Effects of Beavers on Tierra del Fuego	243
The Beaver as a Tourist Attraction	246
A Joint Argentine-Chilean Eradication Attempt	248
References	248

African “Killer Bees” in the Americas	251
The Honey Bee	251
The African Honey Bee and Beekeeping in Southern Africa	252
Honey Bees in America	253
Introduction of African Bees to the Americas	253
“Killer Bees”: The Role of Generals and the Media.	254
The Spread of African and Africanized Bees	255
Ecological Effects	256
Economic Effects	257
Control Attempts	258
Current Situation	258
Public Perception and Official Policies	259
Summary	259
References	260
The Warty Comb Jelly in the Black Sea	261
Biology and Original Zoogeography of the Warty Comb Jelly	262
The Black Sea	262
The Sea of Azov	264
The Introduction, Spread, and Population Explosion of the Warty Comb Jelly	266
Ecological Effects of the <i>M. leidyi</i> Invasion from Late 1980 to Late 1990	267
Zooplankton	267
Jellyfishes and Jellies	268
Fish	268
Effects of <i>M. leidyi</i> on Nutrient Status and the Vertical Transportation of Matter	271
Cascading Effects	271
<i>Beroe ovata</i>	272
The Warty Comb Jelly After 1997 and Consequences of the New Regime	273
Economic Effects	273
Some Dissenting Views	275
Brief Comments on Some Other Areas with Invasive Warty Comb Jellies	275
Summary	276
References	277
Some Concluding Remarks Emanating from the Case Studies	279
Delayed Invasiveness	283
Ecological Effects of Invasive Species	284
Assessments of Economic Effects of Invasive Species	287
What Can We Expect from Ongoing Invasions?	288
A Bleak Future (?)	290
References	290
Index	291