Biological Invasions in Europe and the Mediterranean Basin

Edited by
F. di Castri, A. J. Hansen & M. Debussche

Kluwer Academic Publishers
Dordrecht / Boston / London
Contents

Preface v

Part One. Introduction 1
1. On invading species and invaded ecosystems: the interplay of historical chance and biological necessity
   by F. di Castri 3

Part Two. Plant invasions 17
2. Plant invasions in Central Europe: historical and ecological aspects
   by J. Kornas 19
3. History of the impact of man on the distribution of plant species
   by K.V. Sykora 37
4. Recent plant invasions in the Circum-Mediterranean region
   by P. Quezel, M. Barbero, G. Bonin and R. Loisel 51
5. The invading weeds within the Western Mediterranean Basin
   by J.L. Guillerm, E. Le Floc'h, J. Maillot and C. Boulet 61
6. Widespread adventive plants in Catalonia
   by T. Casasayas Fornell 85
7. History and patterns of plant invasion in Northern Africa
   by E. Le Floc'h, H.N. Le Houerou and J. Mathez 105
8. Invasions of adventive plants in Israel
   by A. Dafni and D. Heller 135
9. Man and vegetation in the Mediterranean area during the last 20,000 years
   by J.-L. Vernet 161
10. Plant invasions in Southern Europe from the Paleoecological point of view
   by A. Pons, M. Couteaux, J.L. de Beaulieu and M. Reille 169

11. Mediterranean weeds: exchanges of invasive plants between the five Mediterranean regions of the world
   by M.D. Fox 179

Part Three. Animal invasions 201

12. The invasion of Northern Europe during the Pleistocene by Mediterranean species of Coleoptera
   by G.R. Coope 203

13. Migratory Phenomena in European animal species
   by G. Marcuzzi 217

14. The bean beetle (Acanthoscelides obtectus) and its host, the French bean (Phaseolus vulgaris): a two-way colonization story
   by V. Labeyrie 229

15. Some recent bird invasions in Europe and the Mediterranean Basin
   by P. Isenmann 245

16. Of mice and men
   by J. Michaux, G. Cheylan and H. Croset 263

17. Invasions by parasites in continental Europe
   by C. Combes and N. Le Brun 285

18. Human activities and modification of ichthyofauna of the Mediterranean sea: effect on parasitosis
   by C. Maillard and A. Raibaut 297

19. Influence of environmental factors on the invasion of molluscs by parasites: with special reference to Europe
   by T.C. Cheng and C. Combes 307

Part Four. Mechanisms of invasions 333

20. In search of the characteristics of plant invaders
   by J. Roy 335

21. Biogeographical and physiological aspects of the invasion by Dittrichia (ex Inula) viscosa W. Greuter, a ruderal species in the Mediterranean Basin
   by J.P. Wacquant 353

22. Invaders and disequilibrium
   by P.H. Gouyon 365
23. Species-specific pollination: a help or a limitation to range extension?
   by F. Kjellberg and G. Valdeyron 371

24. Genetic differentiation in beech (*Fagus sylvatica* L.) during periods of invasion and regeneration
   by B. Thiebaut, J. Cuguen, B. Comps and D. Merzeau 379

25. Invasion of natural pastures by a cultivated grass (*Dactylis glomerata* L.) in Galicia, Spain: process and consequence on plant-cattle interactions
   by R. Lumaret 391

26. Introduced and cultivated fleshy-fruited plants: consequences of a mutualistic Mediterranean plant-bird system
   by M. Debussche and P. Isenmann 399

27. Fire as an agent of plant invasion? A case study in the French Mediterranean vegetation
   by L. Trabaud 417

List of contributors 439

Index of Genera and Species 443

General index 458