

# 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
<b>Part One. Introduction</b>	<b>1</b>
1. On invading species and invaded ecosystems: the interplay of historical chance and biological necessity by F. di Castri	3
<b>Part Two. Plant invasions</b>	<b>17</b>
2. Plant invasions in Central Europe: historical and ecological aspects by J. Kornaś	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. Maillet 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 Palaeoecological 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
<b>Part Three. Animal invasions</b>	<b>201</b>
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 ( <i>Acanthoscelides obtectus</i> ) and its host, the French bean ( <i>Phaseolus vulgaris</i> ): 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
<b>Part Four. Mechanisms of invasions</b>	<b>333</b>
20. In search of the characteristics of plant invaders by J. Roy	335
21. Biogeographical and physiological aspects of the invasion by <i>Dittrichia</i> (ex <i>Inula</i> ) <i>viscosa</i> 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 <sup>Beetle</sup> pollination: a help or a limitation to range extension? by F. Kjellberg and G. Valdeyron	371
24. Genetic differentiation in beech <sup>Beech</sup> ( <i>Fagus sylvatica</i> 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 ( <i>Dactylis glomerata</i> 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