

Contents

<i>List of contributors</i>	page xi
<i>Preface</i>	xv
Part one: Insect migration in relation to weather and climate	1
1 Long-range insect migration in relation to climate and weather: Africa and Europe <i>D.E. Pedgley, D.R. Reynolds and G.M. Tatchell</i>	3
2 Insect migration in North America: synoptic-scale transport in a highly seasonal environment <i>S.J. Johnson</i>	31
3 Migration of the Brown Planthopper <i>Nilaparvata lugens</i> and the White-backed Planthopper <i>Sogatella furcifera</i> in East Asia: the role of weather and climate <i>R. Kisimoto and K. Sogawa</i>	67
4 Migration of the Oriental Armyworm <i>Mythimna separata</i> in East Asia in relation to weather and climate. I. Northeastern China <i>R.-L. Chen, Y.-J. Sun, S.-Y. Wang, B.-P. Zhai and X.-Y. Bao</i>	93
5 Migration of the Oriental Armyworm <i>Mythimna separata</i> in East Asia in relation to weather and climate. II. Korea <i>J.-H. Lee and K.-B. Uhm</i>	105
6 Migration of the Oriental Armyworm <i>Mythimna separata</i> in East Asia in relation to weather and climate. III. Japan <i>K. Hirai</i>	117
7 Insect migration in an arid continent. I. The Common Armyworm <i>Mythimna convecta</i> in eastern Australia <i>G. McDonald</i>	131
8 Insect migration in an arid continent. II. <i>Helicoverpa</i> spp. in eastern Australia <i>P.C. Gregg, G.P. Fitt, M.P. Zalucki and D.A.H. Murray</i>	151

9	Insect migration in an arid continent. III. The Australian Plague Locust <i>Chortoicetes terminifera</i> and the Native Budworm <i>Helicoverpa punctigera</i> in Western Australia <i>K.J. Walden</i>	173
Part two: Adaptations for migration		191
10	Migratory potential in insects: variation in an uncertain environment <i>A.G. Gatehouse and X.-X. Zhang</i>	193
11	Insect migration in heterogeneous environments <i>K. Wilson</i>	243
12	The regulation of migration in <i>Helicoverpa armigera</i> <i>J. Colvin</i>	265
13	Physiological integration of migration in Lepidoptera <i>J.N. McNeil, M. Cusson, J. Delisle, I. Orchard and S.S. Tobe</i>	279
14	Aerodynamics, energetics and reproductive constraints of migratory flight in insects <i>R. Dudley</i>	303
Part three: Forecasting migrant pests		321
15	Operational aspects of forecasting migrant insect pests <i>R.K. Day and J.D. Knight</i>	323
16	Geographic information systems and remotely sensed data for determining the seasonal distribution of habitats of migrant insect pests <i>T.P. Robinson</i>	335
17	Forecasting systems for migrant pests. I. The Brown Planthopper <i>Nilaparvata lugens</i> in China <i>B.-H. Zhou, H.-K. Wang and X.-N. Cheng</i>	353
18	Forecasting systems for migrant pests. II. The rice planthoppers <i>Nilaparvata lugens</i> and <i>Sogatella furcifera</i> in Japan <i>T. Watanabe</i>	365
19	Forecasting systems for migrant pests. III. Locusts and grasshoppers in West Africa and Madagascar <i>M. Lecoq</i>	377
Part four: Overview and synthesis		397
20	Forecasting migrant insect pests <i>J.I. Magor</i>	399
21	Insect migration: a holistic conceptual model <i>V.A. Drake, A.G. Gatehouse and R.A. Farrow</i>	427
Index		459

Note added in proof:

Professor R.-L. Chen died 28/3/95. The author for correspondence for chapter 4 is now Ms Y.-J. Sun.