

Contents

Contributors—ix

- Andreas Schmidt-Rhaesa
1. **Gastrotricha, Cycloneuralia and Gnathifera: General History and Phylogeny—1**
 - 1.1. The large worms—1
 - 1.2. The discovery of microscopically small animals—1
 - 1.3. Changing relationships—2
 - 1.4. From typological classification to phylogenetic systematics—4
 - 1.5. The contribution of molecular studies—6
 - 1.6. Outlook—7
 2. **Gastrotricha, Cycloneuralia and Gnathifera: The Fossil Record—11**
 - 2.1. Gastrotricha—11
 - 2.2. Gnathifera—11
 - 2.3. Cycloneuralia—11
- Andreas Schmidt-Rhaesa
3. **Nematomorpha—29**
 - Introduction—29
 - 3.1. Morphology—29
 - 3.2. Reproduction and development—62
 - 3.3. Physiology—95
 - 3.4. Phylogeny—96
 - 3.5. Systematics—96
 - 3.6. Biogeography—122
 - 3.7. Paleontology—122
 - 3.8. Ecology—123

- Andreas Schmidt-Rhaesa
4. **Priapulida—147**
 - Introduction—147
 - 4.1. Morphology—147
 - 4.2. Reproduction and development—163
 - 4.3. Physiology—164
 - 4.4. Phylogeny—165
 - 4.5. Systematics—166
 - 4.6. Biogeography—174
 - 4.7. Palaeontology—175
 - 4.8. Ecology—176
- Birger Neuhaus
5. **Kinorhyncha (= Echinodera)—181**
 - Introduction—181
 - 5.1. Morphology—183
 - 5.2. Reproduction and development—260
 - 5.3. Physiology—271
 - 5.4. Phylogeny—271
 - 5.5. Systematics—273
 - 5.6. Biogeography—308
 - 5.7. Paleontology—323
 - 5.8. Ecology—323
- Iben Heiner Bang-Berthelsen, Andreas Schmidt-Rhaesa and Reinhardt Møbjerg Kristensen
6. **Loricifera—349**
 - Introduction—349
 - 6.1. Morphology—349
 - 6.2. Reproduction and development—362
 - 6.3. Phylogeny—364
 - 6.4. Diversity—365
 - 6.5. Ecology—370