

2698-2339



Soil Biology Guide



Edited by

DANIEL L. DINDAL

*Distinguished Teaching Professor
of Soil Ecology
State University of New York
College of Environmental
Science and Forestry
Syracuse, New York*



WILEY

A Wiley-Interscience Publication

JOHN WILEY & SONS

New York • Chichester • Brisbane • Toronto • Singapore

Contents

1 INTRODUCTION	1
<i>Daniel I. Dondal</i>	
2 SOIL BACTERIA	15
<i>I. R. G. Gray</i>	
3 ACTINOMYCETES	33
<i>J. C. Hunter-Coxeter</i> <i>Douglas T. L. Delough</i>	
4 SOIL FUNGI	49
<i>W. Bruce Kendrick</i> <i>Dennis Parkinson</i>	
5 SOIL ALGAE	69
<i>Patricia A. Archibald</i>	
6 SOIL PROTOZOA	97
<i>J. Daniel Lousser</i> <i>Stuart S. Bamforth</i>	
7 TURBELLARIA: TRICLADIDA: TERRICOLA	137
<i>Ian R. Ball</i> <i>Ronald Sluys</i>	
8 NEMATODA	155
<i>Diana W. Freckman</i> <i>James G. Baldwin</i>	

9 TERRESTRIAL GASTROPODA	201
<i>J. B. Burch</i>	
<i>Timothy A. Pearce</i>	
10 OLIGOCHAETA : ENCHYTRAEIDAE	311
<i>Madhab C. Dash</i>	
11 OLIGOCHAETA : LUMBRICIDAE	341
<i>Donald P. Schwert</i>	
12 OLIGOCHAETA : MEGASCOLECIDAE and Other Earthworms from Western North America	357
<i>William M. Fender</i>	
<i>Dorothy McKey-Fender</i>	
13 OLIGOCHAETA : MEGASCOLECIDAE and Other Earthworms from Southern and Midwestern North America	379
<i>Samuel W. James</i>	
14 TERRESTRIAL HIRUDINEA	387
<i>Roy T. Sawyer</i>	
15 TARDIGRADA	393
<i>Diane R. Nelson</i>	
<i>Robert P. Higgins</i>	
16 SCORPIONES, SOLIFUGAE, and Associated Desert Taxa	421
<i>Clifford S. Crawford</i>	
17 LITTER ARANEAE (ARANEIDA)	477
<i>C. D. Dondale</i>	
18 PSEUDOSCORPIONIDA	503
<i>William B. Muchmore</i>	
19 OPILIONES (PHALANGIDA)	529
<i>Arlan L. Edgar</i>	
20 ACARINA : MESOSTIGMATA (GAMASIDA)	583
<i>G. W. Krantz</i>	
<i>B. D. Ainscough</i>	
21 ACARINA : PROSTIGMATA (ACTINEDIDA)	667
<i>John Kethley</i>	
22 ACARINA : ASTIGMATA (ACARIDIDA)	757
<i>James R. Philips</i>	
23 ACARINA : ORIBATIDA	779
<i>Roy A. Norton</i>	

24 TERRESTRIAL ISOPODA	805
<i>William B. Muchmore</i>	
25 CHILOPODA	819
<i>Peter Mundel</i>	
26 DIPLOPODA	835
<i>Richard L. Hoffman</i>	
27 PAUROPODA	861
<i>Ulf Scheller</i>	
28 SYMPHYLA	891
<i>Clive A. Edwards</i>	
29 INSECTA: PROTURA	911
<i>T. P. Copeland</i> <i>Gentaro Imadate</i>	
30 INSECTA: MICROCORYPHIA AND THYSANURA	935
<i>Lynn M. Ferguson</i>	
31 INSECTA: DIPLURA	951
<i>Lynn M. Ferguson</i>	
32 INSECTA: COLLEMBOLA	965
<i>Kenneth A. Christiansen</i>	
33 INSECTA: ISOPTERA	997
<i>W. L. Nutting</i>	
34 INSECTA: PSOCOPTERA	1033
<i>Alfonso Neri García Aldrete</i>	
35 INSECTA: COLEOPTERA CARABIDAE (Adults and Larvae)	1053
<i>Ross T. Bell</i>	
36 INSECTA: COLEOPTERA PTILIIDAE	1093
<i>Henry S. Dybas</i> <i>Linda Dybas</i>	
37 INSECTA: COLEOPTERA SILPHIDAE	1113
<i>Stewart B. Peck</i>	
38 INSECTA: COLEOPTERA STAPHYLINIDAE (Adults and Larvae)	1137
<i>Alfred F. Newton, Jr.</i>	
39 INSECTA: COLEOPTERA PSELAPHIDAE	1175
<i>Donald S. Chandler</i>	

40 INSECTA : COLEOPTERA SCARABAEIDAE (Larvae)	. . .	1191
<i>Haruo Tashiro</i>		
41 INSECTA : DIPTERA (Adults)	1211
<i>J. F. McAlpine</i>		
42 INSECTA : DIPTERA (Larvae)	1253
<i>H. J. Teskey</i>		
43 INSECTA : HYMENOPTERA FORMICIDAE	1277
<i>George C. Wheeler</i>		
<i>Jeanette Wheeler</i>		
INDEX	1295