

Contents

<i>List of contributors</i>	vii
<i>Preface</i>	ix
<i>Acknowledgements</i>	xi
1 Introduction <i>Brent B. Nickol</i>	1
2 Anton Meyer <i>D.W.T. Crompton</i>	5
3 Harley Jones Van Cleave: 40 years with the Acanthocephala <i>Wilbur L. Bullock</i>	15
4 Classification <i>Omar M. Amin</i>	27
5 Functional morphology <i>Donald M. Miller and T.T. Dunagan</i>	73
5.1 External features	73
5.2 Tegumental organization	76
5.3 Lemnisci	82
5.4 Lacunar system	84
5.5 Muscles	87
5.6 Nervous system	95
5.7 Sensory receptor system	102
5.8 Excretory system	107
5.9 Reproductive system	111
6 Feeding, nutrition and metabolism <i>Jane A. Starling</i>	125
6.1 Introduction	125
6.2 The acanthocephalan digestive-absorptive surface	125
6.3 Feeding mechanisms and related phenomena	138
6.4 Nutrition	162
6.5 Tissue carbohydrates and lipids and their metabolism	170
6.6 Energy metabolism	189
6.7 Conclusions	212
7 Reproduction <i>D.W.T. Crompton</i>	213
7.1 Introduction	213
7.2 Prepatent period	215

vi	<i>Contents</i>	
7.3	Sex determination and sex ratio	217
7.4	Sexual dimorphism	220
7.5	Gonads and gametogenesis	221
7.6	Sexual congress, copulation and insemination	245
7.7	Fertilization	252
7.8	Egg release and egg production	258
7.9	An ecological perspective of acanthocephalan reproduction	263
8	Development and life cycles <i>Gerald D. Schmidt</i>	273
8.1	Introduction	273
8.2	Postzygotic development	273
8.3	Life cycles	286
9	Epizootiology <i>Brent B. Nickol</i>	307
9.1	Introduction	307
9.2	Transmission	308
9.3	Establishing infection	330
9.4	Epizootics	341
9.5	Regulation of numbers	346
10	Life history models <i>A.P. Dobson and A.E. Keymer</i>	347
10.1	Introduction	347
10.2	Model framework	347
10.3	Empirical estimates of model parameters	358
10.4	Basic reproductive rate	359
10.5	Dynamical properties of the model	365
10.6	Field studies of acanthocephalan population behaviour	371
10.7	More complex models for three-host life cycles	376
10.8	Discussion	378
	Appendix 1	379
	Appendix 2	380
	Appendix 3	382
11	Regulation and dynamics of acanthocephalan populations <i>C.R. Kennedy</i>	385
11.1	Introduction	385
11.2	Theoretical background to studies on regulation and stability of parasites	386
11.3	Regulation and dynamics of acanthocephalan infrapopulations	387
11.4	Regulation and dynamics of acanthocephalan suprapopulations	412
11.5	General conclusions	414
	References	417
	Author index	471
	Index to acanthocephalan species	481
	Subject index	513