

CONTENTS

I Systematics	
Simuliid Taxonomy The Contemporary Scene	3
Cytotaxonomy: Principles and their Application to some Northern Species-Complexes in Simulium	19
Cytotaxonomy of the Simulium damnosum Complex	31
Morphological Means of Separating Siblings of the Simulium damnosum Complex (Diptera: Simuliidae)	45
Geographical Distribution of Simuliidae	57
II Control Methods	
The Origins of Blackfly Control Programmes	71
Blackfly Control Occasioned by Major Hydroelectrical Projects in the USSR from 1955-1965	75
World Health Organization Onchocerciasis Control Programme in the Volta River Basin	85
Onchocerciasis Control Pilot Project	105
Control of Simulium arcticum Malloch in Northern Alberta, Canada	117
A Small-scale Environmental Approach to Blackfly Control in the USA	133
III Predators, Parasites and Pathogens	
Predators upon Blackflies	139
Mermithid Nematodes of Blackflies	159
Mermithidae: Taxonomic Criteria for their Juvenile Stages and Blackfly Biocontrol Prospects	171
Diseases of Blackflies	181
IV Physiology	
Blackfly Physiology	199
V Ecology	
Preimaginal Blackfly Bionomics	209
Hydro-chemical and Physical Characteristics of the Larval Sites of Species of the Simulium damnosum Complex	227
The Effect of Chemical Treatments Against Blackfly Larvae on the Fauna of Running Waters	237
Bionomics of Adult Blackflies	259
VI Trapping Technology	
Trapping Technology Larval Blackflies	283
Sampling Methods for Adults	287
VII Colonization	
Laboratory Colonization of Blackflies	299
Present Progress Towards the Laboratory Colonization of Members of the Simulium	

Damnosum Complex	307
VIII Mass Production of Pathogens and Parasites	
Mass Production of Pathogens	319
Potential of Mermithids for Control and In Vitro Culture	325
Factors Affecting Industrialization of Entomopathogens	335
References	341
Index	389
Glossary	399