ETHIOPIAN RIFT VALLEY LAKES

edited by

C.Tudorancea and W.D. Taylor



TABLE OF CONTENTS

Preface Acknowledg Authors' add		ix xi xiii
Chapter 1.	Introduction C. Tudorancea & W.D. Taylor	1
Historical ba Physiograph Climate		1 3 8
Chapter 2.	The Main Ethiopian Rift System: an overview on volcanic, tectonic, rifting, and sedimentation processes G. WoldeGabriel	13
	ogy of the Main Ethiopian Rift history of the Main Ethiopian Rift sector ector	13 16 19 23 23 27 33
	and contrasts	38 39
Chapter 3.	Lake morphology and chemistry R.M. Baxter	45
Water chemi The Bishoft	ric and hydrological characteristics of the lakes stry	45 45 49 54 57
Chapter 4.	Phytoplankton distribution in lakes of the Ethiopian Rift Valley Elizabeth Kebede	61
Introduction Background Species com		61 62 62

	•	76		
Phytoplankton biomass Crater lakes				
Seasonality		85		
Long term	cnanges	86		
Chapter 5.	Primary and secondary production in the pelagic			
•	zone of Ethiopian Rift Valley lakes			
	W.D.Taylor, Elizabeth Kebede & Zinabu Gebre-Mariam	95		
Introduction	1	95		
Primary pro	oduction	95		
Zooplankto		102		
Bacteriopla		104		
Synthesis a	nd prospectus	105		
Chapter 6.	Zoobenthic and weed – bed faunas			
Chapter o.	C. Tudorancea	109		
Introduction	n	109		
-	n and abundance of benthic fauna in the rift lakes	110		
	na of the crater lakes	120		
	e fauna associated with the aquatic vegetation	122		
	ribution in relation to water depth and sediments	125		
•	f benthic fauna and water chemistry	132		
Seasonal va	riations	134		
Chapter 7.	Free-living aquatic nematodes of the Ethiopian Rift Valley			
Chapter	Eyualem Abebe	143		
Introduction		143		
Species con		-144		
Species dis	cribution	149		
Diversity		152 152		
	Abundance of nematodes			
Spatial and	temporal distribution within lakes	153		
Chapter 8.	A general view on the communities of the Chironomidae			
-	adults in the Ethiopian Rift Valley lakes			
	A.D. Harrison	157		
Introduction		157 157		
Non-saline lakes				

Table	of	Contents
-------	----	----------

	•	٠
ν	1	1
		-

Bottom dwellers Weed bed dwellers Saline lakes Conclusions	158 158 161 161		
Chapter 9. Ostracoda in the Ziway-Shala-Awasa Basins K. Martens	163		
Introduction The Limnocythere species flock Speciation in Limnocythere	163 163 165		
Chapter 10. Fishes of the Ethiopian Rift Valley A.S. Golubtsov, Yu. Yu. Dgebuadze & M.V. Mina	167		
Introduction Sampling localities and methods Taxonomy, life history and distribution of the Ethiopian Rift Valley fishes Introduced exotic species Discussion Endemic fish species in the Ethiopian Rift Valley Distribution of fish species within the Ethiopian Rift Valley Ethiopian Rift Valley within a framework of the ichtyofaunal provinces Problems of conservation of fish faunas in the Ethiopian Rift Valley Appendix. An artificial key to fish species of the Ethiopian Rift Valley	167 172 173 229 230 230 232 236 242 256		
Chapter 11. The Ethiopian Rift Valley lakes: major threats and strategies for conservation Zinabu Gebre-Mariam	259		
Introduction Problems related to human activity Land use and modifications Irrigation Urbanization and human settlement Industrial uses of water Examples from other Ethiopian lakes Problems due to human inactivity Lack of information Absence of lake monitoring systems Absence of water use policies Strategies for conservation Recognition of the problem	259 260 261 262 262 264 265 265 266 266 266 267 267		
Limnological research and education			

Consideration of environment problems with developmental planning	268
Integrated management	268
Local environmental legislation and sustainable water use policy	269
Participatory approach to water management	270
Subject index	273
Taxonomic index	281