PHYSICAL ENVIRONMENT FOR RIVER INVERTEBRATE COMMUNITIES

ANNEX (DATA)

NRA Anglian Region
Operational Investigation
A13–38A

UNIVERSITY OF LEICESTER
Ecology Unit
May 1991

NRA
National Rivers Authority

PHYSICAL ENVIRONMENT FOR RIVER INVERTEBRATE COMMUNITIES

C.D. Smith, D.M. Harper & P.J. Barham

PROJECT REPORT – ANNEX (DATA)
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CONTENTS

1. WATER AUTHORITY BMWP DATA – WELLAND CATCHMENT 1980-1986

1.1 Welland mainstream, July-September

OS Ref.	1980	1981	1982	1983	1984	1985	1986	mean
SP 696 864	67	71		88		83		77
SP 738 873	52	58		61		54		56
SP 750 883	75, 68	65	65	72		67		69
SP 760 890	12	33	40	57	85	28, 50	78	49
SP 767 925	9, 33	55	71	105	85	55, 120		61
SP 779 924	45	64	73	78			78	68
SP 793 917			90	88				89
SP 845 911	39	66	79	86				68
SP 866 924	24, 50	83		95	67	110	111	77
SP 888 947	60	106	111	101				92
SP 916 976	51	92	110	113				92
SP 955 997	78, 72	102	106	125				97
SK 991 036	79	108	121	135				111
TF 008 062	81	101	121	116	136	122		113
TF 043 075			119	126				122
TF 066 069	94	114	121	145	126	133	140	125
TF 110 086	115	134	141	134				131

1.2 River Gwash, all months

OS Ref.	1980	1981	1982	1983	1984	1985	1986	mean
SK 833 065		64	69	78			72	71
SK 846 064	85	82	72	72, 64				75
SK 874 091	79	50	73	29				46
SK 952 083	90	52, 66		37, 43				58
SK 957 085	135	122	122	122				125
SK 957 084 (u/s)			153	106				130
SK 957 084 (d/s)			184					184
SK 980 086	137	91, 149	124	126	155		132	131
SK 999 091	129	130	130	140, 138				133
TF 021 105	144	136	139	134				138
TF 042 104	130	141	133	121, 115	163	169	133	138
TF 048 076	63	105, 88	125	115				79
SK 952 111			119	113				116
SK 989 094						145		145

1.3 Other sites in the catchment, July-September

OS Ref.	1980	1981	1982	1983	1984	1985	1986	mean
SP 704 922		66		49				58
SP 677 923	75	86						80
SP 741 908		75	76	63	91	36, 92	15	64
SP 750 925		104	91	88	99	16	22	70
SK 770 023		71						71
SP 838 983		89	97	112				99
SP 867 935		143	162	158	137	160	123	147
SP 796 754				54				54
SK 802 047		61	78	64				68
SK 848 037		84	85	77				82
SK 883 035		93	94	103				97
SK 930 031		108	117	119				115
SK 918 012		92	90	92				91
SK 983 044		111	132	140				128
SK 959 029		115	92	123				110

2. RIVER WELLAND MACROINVERTEBRATE SURVEY DATA, 1986-1987

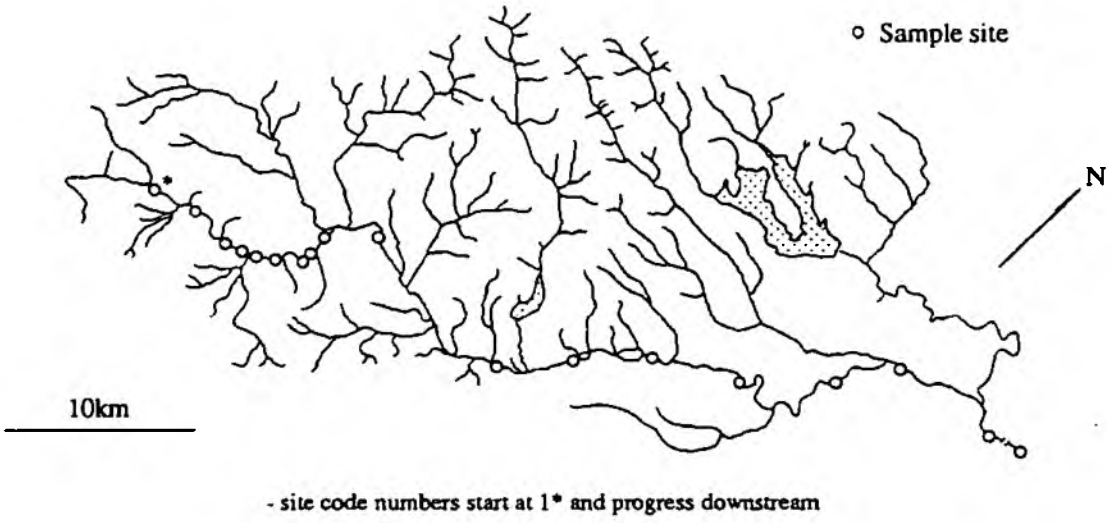

Figure 2.1 Eighteen sites sampled by Anglian Water Authority in 1986/87

2.1 April 1986

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Planariidae			•						•	•		•	•	•	•	•	•	•
Dendrocoelidae									•		•		•	•	•	•		
Oligochaeta	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Piscicolidae				-											•			
Glossiphoniidae	•	•	•	•		•		•	•	•	•	•	•	•	•	•	•	•
Erpobdellidae		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Asellidae	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Gammaridae	•			•	•		•	•	•	•	•	•	•	•	•	•	•	•
Baetidae	•	•			•							•	•	•	•	•	•	•
Leptophlebiidae		•			•													
Caenidae			•			•	•	•	•	•	•	•	•	•	•	•	•	•
Nemouridae			•		•				•			•						
Coenagriidae												•	•		•		•	
Agriidae																	•	
Sialidae																		•
Hydropsychidae											•	•	•	•	•	•	•	•
Hydroptilidae																	•	•
Leptoceridae										•			•	•	•	•	•	•
Sericostomatidae															•			
Elminthidae										•	•	•	•	•	•	•	•	
Haliplidae										•							•	
Dytiscidae										•		•	•	•	•	•	•	•
Hydrometridae																	•	
Corixidae										•		•	•	•	•	•	•	•
Aphelocheiridae																		•
Tipulidae																	•	
Simuliidae		•	•		•				•		•	•	•	•	•	•		
Chironomidae	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Sphaeriidae	•	•	•	•	•	•		•	•	•	•			•	•	•	•	•
Neritidae														•	•	•	•	•
Valvatidae												•	•	•	•	•	•	•
Hydrobiidae	•	•						•				•		•	•	•	•	•
Lymnaeidae			•	•	•		•			•			•		•		•	•
Physidae			•		•							•	•	•	•		•	
Planorbiidae			•	•	•	•								•	•		•	•
Ancylidae		•	•			•		•		•	•		•	•		•	•	

2.2 May 1986

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Planariidae			•			•			•	•		•	•	•	•	•	•	•
Dendrocoelidae									•				•	•	•	•	•	
Oligochaeta	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Piscicolidae													•					•
Glossiphoniidae	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Erpobdellidae	•	•	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•
Asellidae		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Gammaridae	•			•		•	•	•	•	•		•	•	•	•	•	•	•
Baetidae	•	•	•		•				•	•	•	•	•	•	•	•	•	•
Leptophlebiidae												•						
Ephemerellidae												•	•	•	•	•	•	•
Caenidae			•	•	•		•	•	•	•	•	•	•	•	•	•	•	•
Nemouridae	•											•		•				
Coenagriidae										•	•	•	•	•		•		•
Agriidae											•						•	
Sialidae																		•
Hydropsychidae							•				•	•	•	•	•	•	•	•
Hydroptilidae													•				•	•
Limnephilidae										•	•			•				
Leptoceridae										•	•		•	•	•		•	•
Sericostomatidae															•			
Elminthidae	•									•	•	•	•	•	•	•	•	•
Haliplidae		•	•	•	•	•				•	•	•	•			•	•	•
Dytiscidae					•		•	•			•	•	•	•	•	•	•	
Hydrometridae										•								
Corixidae				•							•	•	•	•		•	•	•
Gerridae	•		•	•	•					•	•	•	•		•	•	•	
Notonectidae																•	•	
Aphelocheiridae																		•
Simuliidae		•	•			•	•	•	•		•	•	•	•	•	•	•	•
Chironomidae	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Sphaeriidae	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Neritidae															•	•	•	•
Valvatidae			•		•							•	•	•	•	•	•	•
Hydrobiidae	•	•	•	•	•	•	•		•			•	•	•	•	•	•	•
Lymnaeidae		•	•	•	•	•	•	•		•	•				•		•	
Physidae			•	•	•							•	•		•	•	•	
Planorbiidae	•	•	•	•	•	•	•	•		•		•	•	•	•		•	•
Ancylidae			•			•	•	•		•	•		•	•	•		•	•

2.3 July 1986

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Planariidae			•			•	•	•		•	•	•	•	•	•	•	•	•
Dendrocoelidae			•				•	•		•		•	•	•	•	•	•	
Oligochaeta	•	•	•	•	•	•	•	•					•	•	•	•	•	•
Piscicolidae								•		•		•		•				
Glossiphoniidae	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		•	•
Erpobdellidae	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		
Asellidae	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Gammaridae	•			•			•	•	•			•			•		•	•
Astacidae																	•	
Baetidae	•	•				•	•	•	•	•	•	•	•	•	•	•	•	•
Leptophlebiidae		•																
Ephemerellidae	•		•								•	•	•	•	•	•	•	•
Caenidae			•	•				•			•	•		•	•	•	•	•
Coenagriidae					•	•						•						
Agriidae											•							
Sialidae											•							•
Polycentropodidae														•				•
Hydropsychidae							•		•	•	•	•	•	•	•		•	•
Hydroptilidae									•		•	•			•		•	•
Leptoceridae															•		•	•
Elminthidae	•									•	•	•	•	•	•		•	
Haliplidae		•	•	•	•	•	•	•		•	•	•	•	•	•	•	•	
Dytiscidae		•			•		•	•	•	•	•	•	•	•	•	•	•	•
Gyrinidae	•											•						
Hydrophilidae	•	•		•	•	•	•	•		•	•						•	
Hydrometridae												•	•					•
Corixidae		•					•	•	•	•	•	•	•	•	•	•	•	•
Gerridae	•	•				•	•			•		•	•	•	•	•	•	•
Notonectidae										•		•			•			
Tipulidae		•				•	•				•				•			
Simuliidae						•	•		•				•	•	•		•	•
Chironomidae	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Sphaeriidae	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Neritidae															•	•	•	
Valvatidae			•	•	•							•	•		•	•	•	•
Hydrobiidae	•	•	•	•	•	•	•	•			•	•	•	•	•		•	•
Lymnaeidae	•	•	•	•	•	•	•	•		•	•	•	•	•	•	•	•	
Physidae				•	•	•		•		•	•	•	•	•	•	•	•	•
Planorbiidae	•	•	•	•	•	•	•	•			•	•			•	•	•	•
Ancylidae			•	•					•		•		•	•	•		•	

2.4 September 1986

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Planariidae						•				•	•	•	•	•	•	•	•	•
Dendrocoelidae							•	•	•	•	•	•	•	•	•			
Oligochaeta	•	•	•	•	•	•	•	•	•	•	•	•	•		•	•	•	•
Piscicolidae									•			•		•		•		•
Glossiphoniidae	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Erpobdellidae		•	•			•	•	•	•	•	•	•	•	•	•	•		

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Asellidae	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Gammaridae	•			•		•	•	•	•	•	•	•	•	•	•	•	•	•
Astacidae																•		
Baetidae	•	•				•	•	•	•	•	•	•	•	•	•	•	•	•
Ephemerellidae													•	•	•	•	•	•
Caenidae						•	•		•	•	•	•	•	•	•	•	•	
Coenagriidae										•	•	•	•	•		•		
Agriidae											•			•	•		•	
Sialidae	•																	•
Hydropsychidae							•	•	•	•	•	•	•	•	•	•	•	•
Hydroptilidae															•		•	
Leptoceridae										•		•	•	•	•	•	•	•
Phryganaeidae																	•	
Elminthidae											•	•	•	•	•	•	•	•
Haliplidae	•	•		•		•	•	•	•	•	•	•	•	•	•	•	•	•
Dytiscidae	•						•		•	•		•	•	•			•	•
Hydrometridae															•			
Corixidae		•						•	•	•	•	•	•	•	•	•	•	•
Gerridae		•								•		•	•	•	•		•	•
Notonectidae	•					•					•	•					•	
Aphelocheiridae																		•
Tipulidae															•	•		
Simuliidae		•					•				•		•	•	•	•	•	•
Chironomidae	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Unionidae														•				
Sphaeriidae	•	•				•	•	•	•	•		•	•	•	•	•	•	•
Neritidae														•	•	•	•	•
Valvatidae												•	•	•	•	•	•	
Hydrobiidae	•	•	•			•		•	•			•	•	•	•	•	•	•
Lymnaeidae	•	•	•		•	•	•			•	•	•		•	•	•		•
Physidae						•		•		•	•	•	•	•	•	•	•	•
Planorbiidae	•					•		•				•	•	•	•	•	•	•
Ancylidae						•	•				•		•		•	•	•	

2.5 November 1986

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Planariidae										•	•	•	•	•	•	•		
Dendrocoelidae											•		•	•	•			
Oligochaeta	•	•	•	•	•					•	•	•	•	•	•	•	•	•
Piscicolidae										•			•	•	•	•		
Glossiphoniidae	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Erpobdellidae			•	•	•	•	•	•	•	•	•	•	•	•	•	•		
Asellidae	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Gammaridae	•	•	•			•	•	•		•	•	•	•	•	•	•	•	•
Baetidae	•	•			•		•	•	•	•	•	•	•	•				•
Ephemerellidae	•												•	•				
Ephemeridae															•			
Caenidae				•		•	•	•	•	•	•	•	•	•	•	•	•	
Taeniopterygidae													•	•				
Coenagriidae												•			•			
Agriidae																	•	
Sialidae	•																	•

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Hydropsychidae		•					•	•	•	•	•	•	•	•	•	•	•	•
Hydroptilidae													•		•			
Leptoceridae										•	•	•	•	•	•	•		
Sericostomatidae															•			
Elminthidae					•	•					•	•	•	•	•	•		•
Haliplidae	•	•	•							•	•	•			•			
Dytiscidae	•	•		•							•			•				
Hydrophilidae						•							•	•				
Corixidae		•		•						•	•	•	•	•	•	•		
Notonectidae				•														
Aphelocheiridae																		•
Tipulidae	•		•				•	•			•		•			•		
Simuliidae											•			•				
Chironomidae	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Unionidae														•				
Sphaeriidae	•	•				•	•	•	•	•		•	•	•	•	•	•	•
Neritidae														•	•			•
Valvatidae												•		•	•			•
Hydrobiidae	•	•				•									•	•		
Lymnaeidae	•	•	•		•	•		•	•	•	•	•	•	•	•	•		
Physidae										•		•	•	•	•	•	•	•
Planorbiidae	•	•					•		•			•	•	•	•		•	•
Ancylidae	•	•				•	•				•		•	•	•	•		•

2.6 January/February 1987

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Planariidae										•	•	•	•	•	-	-	•	-
Dendrocoelidae								•		•	•		•		-	-		-
Oligochaeta	•	•	•	•	•	•	•	•		•	•	•	•	•	-	-	•	-
Piscicolidae										•					-	-	•	-
Glossiphoniidae	•	•	•	•		•		•		•	•	•	•		-	-	•	-
Erpobdellidae		•	•	•		•	•	•	•	•	•		•		-	-	•	-
Asellidae	•	•	•		•	•	•	•	•	•	•	•	•	•	-	-	•	-
Gammaridae	•	•	•	•	•	•		•		•	•	•		•	-	-	•	-
Baetidae	•	•		•		•						•			-	-	•	-
Leptophlebiidae	•														-	-		-
Caenidae	•		•	•	•	•	•	•	•	•	•	•	•	•	-	-	•	-
Nemouridae						•									-	-	•	-
Leuctridae	•														-	-		-
Hydropsychidae							•	•	•	•	•		•		-	-	•	-
Hydroptilidae															-	-	•	-
Limnephilidae												•			-	-	•	-
Leptoceridae		•								•	•	•	•	•	-	-	•	-
Sericostomatidae															-	-		-
Elminthidae						•	•				•	•	•	•	-	-	•	-
Haliplidae												•			-	-	•	-
Dytiscidae	•									•					-	-		-
Corixidae											•	•			-	-	•	-
Tipulidae	•	•				•							•		-	-		-
Simuliidae	•	•		•						•	•	•	•	•	-	-	•	-
Chironomidae	•	•	•	•	•	•	•	•	•	•	•	•	•		-	-	•	-
Sphaeriidae	•	•			•	•	•	•	•	•		•	•	•	-	-	•	-

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Neritidae															-	-	•	-
Valvatidae												•			-	-	•	-
Hydrobiidae	•	•										•			-	-	•	-
Lymnaeidae	•		•			•				•					-	-	•	-
Physidae						•				•		•	•		-	-	•	-
Planorbiidae	•					•						•	•		-	-	•	-
Ancylidae	•				•	•			•		•				-	-	•	-

2.7 March 1987

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Planariidae				-	-							•	•	•	•	•	•	
Dendrocoelidae				-	-			•	•	•		•	•	•				
Oligochaeta	•	•	•	-	-		•			•	•	•	•	•	•	•	•	•
Piscicolidae				-	-												•	•
Glossiphoniidae			•	-	-			•		•		•	•	•	•	•	•	•
Erpobdellidae		•	•	-	-	•	•	•	•	•	•	•	•	•	•	•	•	
Asellidae		•	•	-	-	•	•	•	•	•	•	•	•	•	•	•	•	•
Gammaridae	•			-	-	•	•	•	•	•		•	•	•	•		•	•
Baetidae	•	•		-	-	•	•						•	•	•	•	•	•
Caenidae				-	-			•	•	•			•	•	•	•	•	
Nemouridae				-	-					•				•				
Sialidae				-	-													•
Hydropsychidae				-	-				•		•	•	•	•	•		•	•
Hydroptilidae				-	-									•				
Limnephilidae				-	-							•						
Leptoceridae				-	-							•	•	•	•		•	
Sericostomatidae				-	-										•			
Elminthidae	•			-	-								•	•	•	•	•	•
Dytiscidae				-	-							•			•			
Gyrinidae				-	-							•						
Corixidae				-	-							•	•			•	•	•
Aphelocheiridae				-	-													•
Tipulidae	•	•		-	-			•	•		•		•	•			•	
Simuliidae	•	•		-	-	•		•	•	•	•	•	•	•	•	•	•	•
Chironomidae	•	•	•	-	-	•	•	•	•	•	•	•	•	•	•	•	•	•
Sphaeriidae		•		-	-	•				•		•	•			•	•	•
Neritidae				-	-										•	•	•	•
Valvatidae				-	-							•	•			•		•
Hydrobiidae		•		-	-							•			•	•		
Lymnaeidae		•		-	-	•				•		•				•	•	•
Physidae				-	-					•		•			•		•	•
Planorbiidae				-	-	•						•				•		•
Ancylidae	•			-	-	•			•		•		•		•		•	

2.8 May 1987

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Planariidae			•						•		•	•	•	•	•		•	•
Dendrocoelidae	•												•	•	•			
Oligochaeta	•	•	•	•	•	•	•	•	•	•		•	•	•	•	•	•	•

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Piscicolidae												•					•	
Glossiphoniidae	•	•	•	•	•	•	•			•	•	•	•	•	•		•	•
Erpobdellidae		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
Asellidae		•			•	•	•			•	•	•	•	•	•		•	•
Gammaridae	•	•			•	•	•		•	•	•	•	•	•	•		•	•
Baetidae	•	•	•		•	•	•			•	•	•	•	•	•	•	•	•
Leptophlebiidae		•					•						•					
Ephemerellidae											•		•	•	•		•	
Caenidae		•			•		•	•	•	•	•	•	•	•	•		•	•
Coenagriidae										•		•			•			
Agriidae											•					•		
Hydropsychidae									•	•	•	•	•	•	•		•	•
Hydroptilidae														•	•		•	
Limnephilidae					•												•	
Leptoceridae										•		•	•	•	•		•	•
Sericostomatidae															•			
Elminthidae		•									•	•	•	•	•	•	•	•
Haliplidae										•	•	•		•				
Dytiscidae	•	•				•				•	•	•	•	•	•		•	
Gyrinidae											•							
Curculionidae																		•
Hydrometridae																	•	
Corixidae		•								•				•			•	
Gerridae		•			•							•		•			•	
Aphelocheiridae																		•
Tipulidae										•					•			
Simuliidae	•					•	•			•	•		•	•	•		•	•
Chironomidae	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Sphaeriidae	•	•				•	•		•	•	•	•	•	•	•		•	•
Neritidae															•	•	•	•
Valvatidae												•	•	•	•		•	
Hydrobiidae	•	•				•	•				•	•	•	•	•		•	•
Lymnaeidae		•	•			•				•		•			•	•	•	•
Physidae												•	•	•	•		•	
Planorbiidae			•									•	•		•			•
Ancylidae	•	•				•	•			•	•		•		•		•	•

2.9 August 1987

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Planariidae						•				•	•	•	•	•	•	•	•	•
Dendrocoelidae							•	•						•		•	•	
Oligochaeta	•		•	•	•	•	•	•		•	•	•	•	•	•	•	•	
Piscicolidae							•			•		•			•	•		
Glossiphoniidae	•	•	•	•	•	•	•	•	•	•		•	•	•	•	•	•	•
Erpobdellidae	•	•	•	•	•	•	•	•	•	•	•		•	•	•	•	•	•
Asellidae	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Gammaridae	•		•	•	•	•	•	•	•		•	•	•	•	•		•	•
Baetidae	•	•				•	•	•	•	•	•	•	•	•	•	•	•	•
Leptophlebiidae										•								
Ephemerellidae											•	•	•	•	•	•	•	•
Ephemeridae															•			
Caenidae						•				•		•			•			•

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Coenagriidae										•	•	•						
Agriidae										•	•						•	
Sialidae	•																	•
Polycentropodidae																	•	•
Hydropsychidae							•			•		•	•	•	•		•	
Hydroptilidae													•		•	•	•	
Leptoceridae		•								•		•	•	•	•		•	•
Elminthidae							•			•	•	•	•	•	•	•	•	•
Haliplidae	•	•		•	•	•	•	•		•	•	•	•		•	•	•	•
Dytiscidae										•	•	•	•	•	•	•	•	
Hydrophilidae										•			•	•				
Hydrometridae													•		•			•
Nepidae												•						
Corixidae	•	•						•		•		•	•	•	•	•	•	•
Gerridae		•								•	•	•	•	•	•	•	•	
Notonectidae											•						•	•
Aphelocheiridae																		•
Tipulidae	•				•	•					•	•	•		•	•	•	
Simuliidae									•		•	•	•	•	•		•	•
Chironomidae	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Unionidae																		•
Sphaeriidae	•	•	•			•	•		•		•	•	•	•	•	•	•	•
Neritidae														•	•	•	•	•
Valvatidae												•	•		•	•	•	
Hydrobiidae	•	•	•		•				•		•	•		•	•		•	•
Lymnaeidae	•	•	•	•	•	•	•		•	•	•	•	•		•	•	•	
Physidae										•	•		•	•	•	•	•	•
Planorbiidae	•	•	•	•		•	•			•		•	•		•	•	•	•
Ancylidae	•	•			•		•				•		•	•	•	•	•	•

2.10 December 1987

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Planariidae										•		•		•	•	•	•	
Dendrocoelidae				•		•		•	•				•	•	•	•	•	
Oligochaeta	•	•	•	•		•	•	•		•	•	•	•	•		•	•	•
Piscicolidae							•									•		•
Glossiphoniidae	•	•	•	•	•			•			•	•	•	•	•	•	•	
Erpobdellidae	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Asellidae	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Gammaridae	•					•	•	•	•			•	•	•	•	•	•	•
Baetidae	•	•	•										•	•			•	•
Caenidae		•				•	•	•	•	•	•	•	•	•	•	•	•	•
Coenagriidae										•			•			•		
Agriidae														•				
Hydropsychidae		•					•	•	•		•	•	•	•	•		•	•
Hydroptilidae															•		•	•
Leptoceridae		•									•	•	•	•	•		•	•
Sericostomatidae														•	•			
Elminthidae	•	•				•					•	•	•	•	•	•	•	•
Dytiscidae										•							•	
Corixidae										•	•	•	•	•	•	•		
Aphelocheiridae																		•

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Tipulidae							•	•							•		•	
Simuliidae		•											•	•	•			
Chironomidae	•	•			•	•	•	•	•	•		•				•		•
Sphaeriidae						•		•	•		•	•	•	•	•	•	•	•
Neritidae														•	•		•	•
Valvatidae												•		•	•		•	
Hydrobiidae		•			•						•	•		•	•	•		•
Lymnaeidae	•	•	•	•	•	•			•	•		•	•		•	•	•	•
Physidae	•		•	•	•					•		•	•	•	•	•	•	•
Planorbiidae				•								•				•		•
Ancylidae	•		•		•		•	•	•		•		•	•	•		•	•

3. DISCHARGE AT THREE STATIONS IN THE DEEPINGS AREA, 1968-1986

3.1 Equivalent runoff (mm) over the catchment

3.1.1 Tallington Main Weir (Maxey Cut)

Year	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
68/69	0.2	1.8	0.5	15.6	3.8	17.0	16.3	30.0	24.6	36.3	38.3	30.6	215.0
69/70	5.5	30.9	10.1	4.0	1.9	0.0	0.1	2.5	13.6	16.2	29.7	24.3	138.8
70/71	19.1	5.1	0.2	0.6	0.2	0.0	0.0	6.2	4.8	26.3	10.2	11.7	84.4
71/72	6.9	0.7	1.3	0.1	2.0	0.1	0.1	1.6	2.9	14.7	14.7	16.9	62.0
72/73	3.5	1.2	0.2	0.0	0.1	0.1	0.0	0.0	14.7	3.0	0.8	1.7	25.3
73/74	0.2	1.0	6.8	4.6	0.0	0.0	0.0	0.0	0.1	6.9	14.3	7.4	41.3
74/75	0.4	0.0	0.0	0.0	0.1	0.5	16.7	24.7	11.7	26.3	7.5	40.0	127.9
75/76	19.6	5.5	0.6	2.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	28.0
76/77	0.0	0.2	0.9	1.5	1.3	1.3	5.1	4.2	11.0	44.9	76.8	24.6	171.8
77/78	6.6	10.5	5.2	2.5	0.6	0.1	0.0	0.0	3.1	15.8	20.4	6.3	71.1
78/79	1.3	12.7	2.0	2.3	2.9	1.7	0.2	0.0	23.6	14.8	36.1	38.4	136.0
79/80	45.5	15.5	6.3	3.1	3.6	1.2	0.6	0.2	20.2	10.9	27.0	16.8	150.9
80/81	7.1	2.6	4.3	4.4	14.5	0.7	8.2	10.3	13.6	11.5	3.1	32.7	113.0
81/82	24.0	14.4	10.0	3.9	4.5	3.8	3.4	2.1	10.9	31.8	5.4	36.0	150.2
82/83	4.3	2.8	9.6	3.7	3.5	2.0	3.8	15.2	17.8	11.5	16.7	5.5	96.4
83/84	19.4	35.9	11.6	4.5	3.1	2.2	0.9	0.9	4.6	17.8	17.6	14.2	132.7
84/85	2.7	3.5	1.6	1.2	1.3	1.0	1.8	8.4	8.4	13.3	10.4	9.8	63.4
85/86	12.2	6.0	10.7	4.3	3.3	1.5	1.2	2.2	28.9	29.4	17.6	7.8	125.1
Mean	9.9	8.3	4.5	3.2	2.6	1.8	3.2	6.0	11.9	18.4	19.3	18.0	107.4

3.1.2 Lolham Mill Stream

Year	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
68/69	2.4	4.5	3.4	5.9	7.0	6.6	4.3	6.3	4.9	6.1	7.1	11.0	69.5
69/70	8.1	9.4	3.7	5.8	5.9	3.6	3.1	3.5	6.7	10.6	9.6	6.8	76.8
70/71	8.6	4.6	3.4	2.7	2.6	2.0	1.8	3.4	6.1	7.9	7.2	7.5	57.8
71/72	6.3	5.2	4.9	3.3	3.3	2.1	3.0	3.2	5.1	7.8	8.2	7.3	59.7
72/73	5.2	4.3	3.3	2.1	2.4	2.3	2.0	2.9	6.7	5.2	5.1	4.9	46.4
73/74	3.8	3.9	5.4	7.1	3.1	2.3	2.7	2.5	3.7	7.1	6.6	6.1	54.3
74/75	4.1	2.9	2.8	2.4	2.3	3.2	6.4	6.3	8.0	6.3	6.6	8.4	59.7
75/76	7.3	5.4	3.9	3.7	2.6	2.7	2.7	2.6	2.8	2.9	2.6	2.6	41.8
76/77	2.1	1.8	1.1	0.8	0.7	1.1	2.3	1.4	3.3	3.6	3.8	3.8	25.8
77/78	2.7	2.4	2.3	2.3	3.3	2.8	3.3	3.6	4.8	5.9	6.4	7.1	46.9
78/79	4.9	5.3	5.1	5.1	4.3	2.9	2.5	3.2	4.8	7.2	7.4	5.8	58.5
79/80	4.7	7.6	5.1	4.7	3.9	4.0	4.1	4.4	7.9	8.3	7.5	7.7	69.9
80/81	6.8	5.2	4.8	6.1	9.4	5.7	7.0	7.0	6.4	7.2	5.7	8.0	79.3
81/82	6.9	7.5	6.2	3.9	3.5	3.7	4.4	4.7	4.9	5.6	6.0	7.8	65.1
82/83	5.6	4.7	5.8	5.3	4.4	3.1	4.2	5.1	6.0	5.9	5.7	5.4	61.2
83/84	6.0	7.1	6.1	5.2	3.3	2.4	3.0	3.5	4.5	7.2	7.8	7.0	63.1
84/85	5.2	4.9	4.8	4.5	3.3	3.1	3.4	3.8	4.3	5.5	4.4	4.9	52.1
85/86	4.7	4.1	4.4	3.5	3.6	3.1	3.3	3.5	5.3	6.3	5.1	5.7	52.6
Mean	5.3	5.0	4.2	4.1	3.8	3.1	3.5	3.9	5.3	6.5	6.3	6.5	57.8

3.1.3 West Deeping Mill Stream

Year	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
68/69	5.1	2.8	1.5	2.9	3.3	3.2	2.6	4.7	4.9	5.6	5.6	8.0	50.2
69/70	5.4	4.7	1.6	3.4	3.2	2.0	1.1	2.3	5.5	7.5	4.4	5.9	47.0
70/71	5.2	2.3	2.7	2.4	0.6	1.1	0.8	2.6	4.2	4.5	4.5	4.4	35.3
71/72	3.4	3.1	3.9	1.9	2.3	1.1	1.1	1.7	3.0	5.2	5.5	5.7	37.9
72/73	4.0	2.2	2.0	1.4	1.0	0.8	0.5	1.1	3.7	2.8	2.7	2.8	25.0
73/74	1.9	2.1	2.7	3.7	1.5	1.1	1.1	0.8	1.7	4.2	4.9	5.1	30.8
74/75	2.6	1.6	1.0	1.3	1.4	1.7	4.8	3.7	3.9	2.0	4.9	6.3	35.2
75/76	5.0	3.3	3.1	3.9	1.3	0.9	0.6	0.6	0.7	1.0	0.6	0.5	21.5
76/77	0.3	0.5	0.7	0.5	0.4	0.5	1.5	0.6	2.3	2.6	2.0	3.0	14.9
77/78	2.1	2.1	1.7	2.0	1.5	0.9	1.0	1.3	1.9	2.7	2.6	3.5	23.3
78/79	2.0	2.7	3.0	3.4	2.5	1.7	1.6	1.1	1.5	3.5	4.5	5.0	32.5
79/80	4.5	3.4	2.9	2.9	1.8	1.7	2.1	1.9	5.2	4.5	4.0	4.1	39.0
80/81	3.1	2.5	1.9	1.3	1.6	1.3	2.2	3.5	3.7	4.1	2.7	4.4	32.3
81/82	3.8	5.0	3.6	2.5	2.0	1.5	1.4	1.2	1.6	2.0	1.5	2.3	28.4
82/83	1.4	1.2	1.4	1.4	1.4	1.4	1.8	1.8	3.5	3.1	2.7	2.6	23.7
83/84	2.1	2.0	2.2	2.2	1.6	1.3	1.5	1.1	1.4	1.7	1.6	1.7	20.4
84/85	1.4	1.3	1.5	0.9	1.1	0.9	0.8	0.5	0.7	1.0	0.5	0.5	11.1
85/86	0.6	1.5	1.8	1.4	1.6	1.6	1.3	1.2	0.9	1.9	1.6	1.5	16.9
Mean	3.0	2.5	2.2	2.2	1.7	1.4	1.5	1.8	2.8	3.3	3.2	3.7	29.2

3.2 Calculated discharge as millions of cubic metres

3.2.1 Tallington Main Weir (Maxey Cut)

Year	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
68/69	0.1	1.3	0.4	11.2	2.7	12.2	11.7	21.5	17.6	26.0	27.5	22.0	154.2
69/70	3.9	22.2	7.2	2.9	1.4	0.0	0.1	1.8	9.8	11.6	21.3	17.4	99.6
70/71	13.7	3.7	0.1	0.4	0.1	0.0	0.0	4.4	3.4	18.9	7.3	8.4	60.5
71/72	5.0	0.5	0.9	0.1	1.4	0.1	0.1	1.1	2.1	10.5	10.5	12.1	44.5
72/73	2.5	0.9	0.1	0.0	0.1	0.1	0.0	0.0	10.5	2.2	0.6	1.2	18.2
73/74	0.1	0.7	4.9	3.3	0.0	0.0	0.0	0.0	0.1	5.0	10.3	5.3	29.6
74/75	0.3	0.0	0.0	0.0	0.1	0.4	12.0	17.7	8.4	18.9	5.4	28.7	91.8
75/76	14.1	3.9	0.4	1.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.1
76/77	0.0	0.1	0.6	1.1	0.9	0.9	3.7	3.0	7.9	32.2	55.1	17.6	123.2
77/78	4.7	7.5	3.7	1.8	0.4	0.1	0.0	0.0	2.2	11.3	14.6	4.5	51.0
78/79	0.9	9.1	1.4	1.7	2.1	1.2	0.1	0.0	16.9	10.6	25.9	27.5	97.6
79/80	32.6	11.1	4.5	2.2	2.6	0.9	0.4	0.1	14.5	7.8	19.4	12.1	108.3
80/81	5.1	1.9	3.1	3.2	10.4	0.5	5.9	7.4	9.8	8.3	2.2	23.5	81.1
81/82	17.2	10.3	7.2	2.8	3.2	2.7	2.4	1.5	7.8	22.8	3.9	25.8	107.8
82/83	3.1	2.0	6.9	2.7	2.5	1.4	2.7	10.9	12.8	8.3	12.0	3.9	69.2
83/84	13.9	25.8	8.3	3.2	2.2	1.6	0.6	0.6	3.3	12.8	12.6	10.2	95.2
84/85	1.9	2.5	1.1	0.9	0.9	0.7	1.3	6.0	6.0	9.5	7.5	7.0	45.5
85/86	8.8	4.3	7.7	3.1	2.4	1.1	0.9	1.6	20.7	21.1	12.6	5.6	89.7
Mean	7.1	6.0	3.3	2.3	1.9	1.3	2.3	4.3	8.5	13.2	13.8	12.9	77.1

3.2.2 Lolham Mill Stream

Year	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
68/69	1.7	3.2	2.4	4.2	5.0	4.7	3.1	4.5	3.5	4.4	5.1	7.9	49.9
69/70	5.8	6.7	2.7	4.2	4.2	2.6	2.2	2.5	4.8	7.6	6.9	4.9	55.1
70/71	6.2	3.3	2.4	1.9	1.9	1.4	1.3	2.4	4.4	5.7	5.2	5.4	41.5
71/72	4.5	3.7	3.5	2.4	2.4	1.5	2.2	2.3	3.7	5.6	5.9	5.2	42.8
72/73	3.7	3.1	2.4	1.5	1.7	1.7	1.4	2.1	4.8	3.7	3.7	3.5	33.3
73/74	2.7	2.8	3.9	5.1	2.2	1.7	1.9	1.8	2.7	5.1	4.7	4.4	39.0
74/75	2.9	2.1	2.0	1.7	1.7	2.3	4.6	4.5	5.7	4.5	4.7	6.0	42.8
75/76	5.2	3.9	2.8	2.7	1.9	1.9	1.9	1.9	2.0	2.1	1.9	1.9	30.0
76/77	1.5	1.3	0.8	0.6	0.5	0.8	1.7	1.0	2.4	2.6	2.7	2.7	18.5
77/78	1.9	1.7	1.7	1.7	2.4	2.0	2.4	2.6	3.4	4.2	4.6	5.1	33.6
78/79	3.5	3.8	3.7	3.7	3.1	2.1	1.8	2.3	3.4	5.2	5.3	4.2	42.0
79/80	3.4	5.5	3.7	3.4	2.8	2.9	2.9	3.2	5.7	6.0	5.4	5.5	50.1
80/81	4.9	3.7	3.4	4.4	6.7	4.1	5.0	5.0	4.6	5.2	4.1	5.7	56.9
81/82	5.0	5.4	4.4	2.8	2.5	2.7	3.2	3.4	3.5	4.0	4.3	5.6	46.7
82/83	4.0	3.4	4.2	3.8	3.2	2.2	3.0	3.7	4.3	4.2	4.1	3.9	43.9
83/84	4.3	5.1	4.4	3.7	2.4	1.7	2.2	2.5	3.2	5.2	5.6	5.0	45.3
84/85	3.7	3.5	3.4	3.2	2.4	2.2	2.4	2.7	3.1	3.9	3.2	3.5	37.4
85/86	3.4	2.9	3.2	2.5	2.6	2.2	2.4	2.5	3.8	4.5	3.7	4.1	37.7
Mean	3.8	3.6	3.0	3.0	2.7	2.3	2.5	2.8	3.8	4.6	4.5	4.7	41.5

3.2.3 West Deeping Mill Stream

Year	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
68/69	3.7	2.0	1.1	2.1	2.4	2.3	1.9	3.4	3.5	4.0	4.0	5.7	36.0
69/70	3.9	3.4	1.1	2.4	2.3	1.4	0.8	1.7	3.9	5.4	3.2	4.2	33.7
70/71	3.7	1.7	1.9	1.7	0.4	0.8	0.6	1.9	3.0	3.2	3.2	3.2	25.3
71/72	2.4	2.2	2.8	1.4	1.7	0.8	0.8	1.2	2.2	3.7	3.9	4.1	27.2
72/73	2.9	1.6	1.4	1.0	0.7	0.6	0.4	0.8	2.7	2.0	1.9	2.0	17.9
73/74	1.4	1.5	1.9	2.7	1.1	0.8	0.8	0.6	1.2	3.0	3.5	3.7	22.1
74/75	1.9	1.1	0.7	0.9	1.0	1.2	3.4	2.7	2.8	1.4	3.5	4.5	25.3
75/76	3.6	2.4	2.2	2.8	0.9	0.6	0.4	0.4	0.5	0.7	0.4	0.4	15.4
76/77	0.2	0.4	0.5	0.4	0.3	0.4	1.1	0.4	1.7	1.9	1.4	2.2	10.7
77/78	1.5	1.5	1.2	1.4	1.1	0.6	0.7	0.9	1.4	1.9	1.9	2.5	16.7
78/79	1.4	1.9	2.2	2.4	1.8	1.2	1.1	0.8	1.1	2.5	3.2	3.6	23.3
79/80	3.2	2.4	2.1	2.1	1.3	1.2	1.5	1.4	3.7	3.2	2.9	2.9	28.0
80/81	2.2	1.8	1.4	0.9	1.1	0.9	1.6	2.5	2.7	2.9	1.9	3.2	23.2
81/82	2.7	3.6	2.6	1.8	1.4	1.1	1.0	0.9	1.1	1.4	1.1	1.7	20.4
82/83	1.0	0.9	1.0	1.0	1.0	1.0	1.3	1.3	2.5	2.2	1.9	1.9	17.0
83/84	1.5	1.4	1.6	1.6	1.1	0.9	1.1	0.8	1.0	1.2	1.1	1.2	14.6
84/85	1.0	0.9	1.1	0.6	0.8	0.6	0.6	0.4	0.5	0.7	0.4	0.4	8.0
85/86	0.4	1.1	1.3	1.0	1.1	1.1	0.9	0.9	0.6	1.4	1.1	1.1	12.1
Mean	2.1	1.8	1.6	1.6	1.2	1.0	1.1	1.3	2.0	2.4	2.3	2.7	20.9

4. GAUGED RUNOFF IN THE RIVER GWASH CATCHMENT 1969-1986

	North Brook		Gwash		Gwash – N Brook	
Year(Apr-Mar)	Runoff	Cumecs	Runoff	Cumecs	Runoff	Cumecs
1969-1970	286.0	(0.33)	279.5	(1.33)	277.4	(1.00)
1970-1971	181.0	(0.21)	203.7	(0.97)	211.0	(0.76)
1971-1972	166.2	(0.19)	194.0	(0.92)	202.9	(0.73)
1972-1973	120.4	(0.14)	136.5	(0.65)	141.7	(0.51)
1973-1974	106.9	(0.12)	154.2	(0.73)	169.4	(0.61)
1974-1975	183.9	(0.21)	198.8	(0.95)	203.6	(0.73)
1975-1976	143.0	(0.17)	113.2	(0.54)	103.6	(0.37)
1976-1977	225.9	(0.26)	157.4	(0.68)	135.4	(0.49)
1977-1978	175.9	(0.20)	124.3	(0.54)	107.7	(0.39)
1978-1979	256.9	(0.30)	189.3	(0.82)	167.6	(0.60)
1979-1980	314.2	(0.36)	243.1	(1.05)	220.2	(0.79)
1980-1981	222.7	(0.26)	166.0	(0.72)	147.8	(0.53)
1981-1982	246.0	(0.28)	173.3	(0.75)	149.9	(0.54)
1982-1983	199.1	(0.23)	140.1	(0.61)	121.1	(0.44)
1983-1984	217.0	(0.25)	154.3	(0.67)	134.1	(0.48)
1984-1985	160.7	(0.19)	129.0	(0.56)	118.8	(0.43)
1985-1986	206.7	(0.24)	145.4	(0.63)	125.7	(0.45)

Runoff values (mm) for 'Gwash' and 'North Brook' were obtained from the records of gauging stations at Empingham and Belmesthorpe respectively. Runoff values for 'Gwash – North Brook' were calculated by:

$$Runoff_{G-NB} = (Runoff_G.Area_G - Runoff_{NB}.Area_{NB})/(Area_G - Area_{NB})$$

Mean flow in cumecs was calculated from the respective runoff figures by:

$$Mean\ Flow = Runoff.Area.1000/(365.24.3600)$$

– where the coefficient of 1000 applies because area was measured in km^2 and runoff was measured in mm.

5. INVERTEBRATE BIOMASS FROM THREE SUBSTRATES, AUTUMN 1987

5.1 Summary by family

Site and substrate (Mean of 10 samples ... units are $mg.m^{-2}$) *

Taxon	TR	HR	CR	UR	GR	TM	HM	CM	UM	GM	TS	HS	CS	US	GS
Planaridae	0	1	15	13	35	0	0	133	7	0	0	0	0	0	0
Dendrocoelidae	0	6	0	0	62	0	19	0	0	0	0	0	0	0	0
Mermithidae	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0
Oligochaeta	978	112	232	107	552	59	93	767	934	376	192	49	608	35	439
Piscicolidae	0	0	0	3	4	0	0	32	0	0	0	0	0	0	18
Glossiphonidae	190	3	164	80	161	85	43	1794	141	146	28	2	15	0	16
Erpobdellidae	1449	773	499	555	3	961	149	3224	624	568	95	1	85	0	74
Asellidae	36	822	172	60	75	14	2663	2805	426	495	0	0	3	0	6
Gammaridae	623	14	49	1	4931	0	144	7	101	391	0	0	0	0	27
Baetidae	47	54	70	419	82	0	0	0	0	32	0	0	0	0	13
Ephemerellidae	1	338	155	141	144	0	0	0	0	0	0	1	0	0	0
Ephemeridae	0	0	0	0	15	0	0	0	0	0	0	0	0	0	65
Caenidae	0	0	0	0	0	0	0	125	0	3	0	0	0	8	0
Leuctridae	0	0	0	0	38	0	0	0	0	6	0	0	0	0	0
Coenagriidae	0	0	0	0	0	0	0	10	0	0	0	0	0	0	0
Sialidae	0	0	0	0	0	215	766	2358	253	1440	0	0	0	0	110
Rhyacophilidae	0	0	0	0	473	0	0	0	0	0	0	0	0	0	0
Polycentropodidae	0	0	0	0	2	0	0	0	1	6	0	0	0	0	0
Hydropsychidae	0	373	1728	498	55	0	28	3	0	0	0	1	0	0	10
Hydroptilidae	0	0	140	166	29	0	0	5176	0	0	0	0	5	0	0
Other Trichoptera	0	27	0	0	42	0	5	0	19	11	0	7	8	2	63
Elminthidae	9	110	930	5	596	2	3	0	0	0	0	6	0	0	29
Haliplidae	11	6	5	0	28	2	19	74	87	4	0	9	7	12	0
Dytiscidae	0	0	23	26	0	31	72	0	94	252	0	0	0	0	0
Gyrinidae	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0
Corixidae	0	0	0	0	0	0	0	17	4	0	0	0	0	0	0
Tipulidae	146	55	0	30	248	0	0	315	0	0	0	4	173	41	27
Ceratopogonidae	14	0	0	2	10	0	0	0	0	23	3	0	0	1	45
Simuliidae	22	0	117	0	2	0	0	26	0	0	0	0	0	0	1
Chironomidae	52	8	28	114	13	170	76	551	930	609	118	37	42	67	35
Unionidae	0	0	0	0	0	0	0	1335	0	0	0	0	0	0	0
Sphaeriidae	7	80	394	0	26	2	8	23	17	36	46	13	108	2	0
Neritidae	0	0	315	0	113	0	0	0	0	0	0	0	0	0	0
Valvatidae	0	0	1	1	2	0	0	66	31	0	0	0	6	4	0
Hydrobiidae	0	0	132	74	188	0	0	0	11	0	0	26	40	0	0
Lymnaeidae	0	0	32	13	32	0	0	0	0	0	0	0	0	0	0
Physidae	0	0	0	0	0	0	0	192	1	0	0	0	2	0	0
Planorbiidae	9	0	0	0	0	0	13	64	0	3	0	0	0	0	0
Ancylidae	114	105	359	0	0	0	0	0	0	0	0	0	0	0	0
Hydracarina	0	0	0	0	0	92	0	0	9	0	0	0	0	29	0

* T Theddingworth H Harringworth C Collyweston U Uffington R Ryhall
R Riffle S Run P Pool

5.2 Individual data

– All of the data by family are expressed as $mg.m^{-2}$
– The totals for each replicate are expressed as $g.m^{-2}$

5.2.1 Theddingworth, Run

	Replicates										Mean
Oligochaeta	187	107	129	53	116	253	516	80	222	258	192
Glossiphonidae	0	0	249	0	36	0	0	0	0	0	28
Erpobdellidae	422	0	524	0	0	0	0	0	0	0	95
Ceratopogonidae	0	0	4	4	4	4	0	0	4	4	3
Chironomidae	147	67	58	62	191	160	44	27	84	342	118
Sphaeriidae	458	0	0	0	0	0	0	0	0	0	46
Total	1.2	0.2	1.0	0.1	0.3	0.4	0.6	0.1	0.3	0.6	0.5

5.2.2 Harringworth, Run

	Replicates										Mean
Oligochaeta	41	75	31	24	47	67	26	10	16	36	37
Glossiphonidae	0	0	20	0	0	0	0	0	0	0	2
Erpobdellidae	5	0	3	0	0	0	0	0	0	0	1
Ephemerellidae	0	0	0	0	0	0	0	0	6	0	1
Hydropsychidae	0	0	0	0	0	0	0	6	0	0	1
Other Trichoptera	0	20	10	0	2	0	0	0	41	0	7
Elminthidae	0	0	0	0	0	60	0	0	0	3	6
Haliplidae	0	18	0	41	0	0	0	0	16	15	9
Tipulidae	0	0	0	0	46	0	0	0	0	0	4
Chironomidae	41	47	49	5	28	102	16	21	136	49	49
Sphaeriidae	0	0	21	21	0	0	21	21	0	42	13
Hydrobiidae	0	0	175	0	0	0	0	0	0	88	26
Total	0.1	0.2	0.3	0.1	0.1	0.2	0.1	0.1	0.2	0.2	0.2

5.2.3 Collyweston, Run

	Replicates										Mean
Oligochaeta	484	653	619	426	677	694	414	718	1017	375	608
Glossiphonidae	0	0	0	0	0	29	0	0	96	28	15
Erpobdellidae	0	0	0	286	260	304	0	0	0	0	85
Asellidae	0	0	0	0	0	10	0	0	16	0	3
Hydroptilidae	0	0	0	0	0	0	0	0	26	26	5
Other Trichoptera	0	0	0	42	32	0	0	0	0	0	8
Haliplidae	0	0	47	23	0	0	0	0	0	0	7
Tipulidae	0	0	0	0	854	63	481	0	0	336	173
Ceratopogonidae	0	0	2	0	0	0	0	0	0	0	0
Chironomidae	24	63	221	76	0	5	5	16	6	2	42
Sphaeriidae	96	72	167	312	24	24	0	167	216	0	108
Valvatidae	0	29	0	0	0	0	31	0	0	0	6
Hydrobiidae	0	0	16	0	0	0	0	32	211	140	40

Collyweston, Run (continued)

	Replicates										Mean
Physidae	0	0	0	0	0	0	0	0	23	0	2
Hydracarina	0	0	0	0	0	0	0	0	5	0	0
Total	0.6	0.8	1.1	1.2	1.8	1.1	0.9	0.9	1.6	0.9	1.1

5.2.4 Uffington, Run

	Replicates										Mean
Oligochaeta	23	26	88	47	18	32	3	20	83	10	35
Caenidae	3	0	0	2	6	13	8	23	3	20	8
Other Trichoptera	0	0	3	0	3	0	8	0	3	0	2
Haliplidae	0	0	0	24	0	26	49	0	26	0	12
Tipulidae	0	0	271	89	0	0	0	44	0	8	41
Ceratopogonidae	5	0	3	0	0	0	0	0	0	0	1
Chironomidae	136	29	50	16	146	76	47	73	54	41	67
Sphaeriidae	0	21	0	0	0	0	0	0	0	0	2
Valvatidae	0	0	0	20	21	0	0	0	0	0	4
Hydracarina	16	32	23	15	26	42	31	37	44	26	29
Total	0.2	0.1	0.4	0.2	0.2	0.2	0.1	0.2	0.2	0.1	0.2

5.2.5 Ryhall, Run

	Replicates										Mean
Oligochaeta	507	129	778	360	182	449	369	31	1187	396	439
Piscicolidae	0	0	0	9	0	0	0	89	0	80	18
Glossiphonidae	0	0	0	0	0	0	0	0	0	164	16
Erpobdellidae	0	0	0	0	738	0	0	0	0	0	74
Asellidae	0	0	0	0	0	0	58	0	0	0	6
Gammaridae	0	0	0	4	0	0	62	0	142	58	27
Baetidae	0	0	0	9	0	0	0	98	27	0	13
Ephemeridae	0	0	653	0	0	0	0	0	0	0	65
Sialidae	0	0	0	1102	0	0	0	0	0	0	110
Hydropsychidae	0	0	0	0	0	0	0	0	102	0	10
Other Trichoptera	324	0	0	0	89	0	0	0	218	0	63
Elminthidae	0	0	0	53	0	0	147	0	0	89	29
Tipulidae	0	0	18	40	58	58	58	18	18	0	27
Ceratopogonidae	18	182	27	18	13	4	80	22	0	84	45
Simuliidae	0	0	0	0	0	0	9	0	0	0	1
Chironomidae	0	200	36	31	18	27	0	0	0	40	35
Total	0.8	0.5	1.5	1.6	1.1	0.5	0.8	0.3	1.7	0.9	1.0

5.2.6 Theddingworth, Riffle

	Replicates										Mean
Oligochaeta	986	1627	889	1037	177	559	1127	1397	1421	557	978
Glossiphonidae	24	11	473	588	250	0	495	64	0	0	190
Erpobdellidae	1331	1930	842	2425	3711	1844	1397	550	0	464	1449

Theddingworth, Riffle (continued)

	Replicates										Mean
Asellidae	0	64	0	0	0	26	177	88	0	0	36
Gammaridae	774	323	208	11	701	219	749	829	1830	584	623
Baetidae	16	60	0	7	18	0	35	124	212	0	47
Ephemerellidae	0	7	0	0	0	0	0	0	0	0	1
Elminthidae	0	0	0	0	73	0	13	0	0	0	9
Haliplidae	0	0	0	38	38	0	38	0	0	0	11
Tipulidae	648	22	0	9	219	9	0	29	515	9	146
Ceratopogonidae	0	20	24	9	9	0	9	46	0	24	14
Simuliidae	40	38	42	13	0	0	13	31	49	0	22
Chironomidae	44	11	35	60	33	58	46	84	91	55	52
Sphaeriidae	0	0	0	73	0	0	0	0	0	0	7
Planorbiidae	0	0	0	0	0	0	0	0	86	0	9
Ancylidae	26	0	22	46	206	106	146	175	234	179	114
Total	3.9	4.1	2.5	4.3	5.4	2.8	4.2	3.4	4.4	1.9	3.7

5.2.7 Harringworth, Riffle

	Replicates										Mean
Planaridae	0	0	0	0	0	0	0	0	0	9	1
Dendrocoelidae	0	0	0	0	60	0	0	0	0	0	6
Oligochaeta	170	584	73	33	139	22	35	16	42	7	112
Glossiphonidae	0	31	0	0	0	0	0	0	0	0	3
Erpobdellidae	455	2334	177	782	566	1492	265	1152	340	166	773
Asellidae	718	601	1068	716	1859	1611	84	572	298	690	822
Gammaridae	0	0	16	0	80	26	0	0	22	0	14
Baetidae	18	71	349	58	40	0	0	0	0	0	54
Ephemerellidae	362	672	272	206	723	188	281	385	84	208	338
Hydropsychidae	785	557	106	307	597	124	533	391	226	102	373
Other Trichoptera	0	0	29	51	88	73	0	2	0	29	27
Elminthidae	100	102	126	33	130	97	64	208	137	102	110
Haliplidae	0	18	35	0	2	0	0	0	0	0	6
Tipulidae	0	33	0	0	0	24	0	446	42	0	55
Ceratopogonidae	0	0	0	0	0	0	0	0	2	0	0
Chironomidae	7	33	16	4	0	0	2	2	11	0	8
Sphaeriidae	0	29	58	0	29	0	0	172	287	230	80
Ancylidae	217	31	0	155	93	62	31	186	217	62	105
Total	2.8	5.1	2.3	2.3	4.4	3.7	1.3	3.5	1.7	1.6	2.9

5.2.8 Collyweston, Riffle

	Replicates										Mean
Planaridae	0	0	33	35	0	0	49	0	0	29	15
Oligochaeta	482	31	380	155	184	58	40	332	119	546	232
Glossiphonidae	338	104	701	22	0	68	106	0	261	35	164
Erpobdellidae	656	0	1441	263	192	9	1355	49	29	999	499
Asellidae	172	404	325	188	29	64	102	232	35	172	172
Gammaridae	49	0	387	0	0	31	9	0	4	7	49
Baetidae	95	102	38	71	33	53	31	44	219	18	70

Collyweston, Riffle (continued)

	Replicates										Mean
Ephemerellidae	221	391	75	22	181	86	203	110	181	80	155
Hydropsychidae	2958	1713	1879	572	336	1583	1218	2491	2845	1684	1728
Hydroptilidae	186	53	133	168	310	106	203	124	71	44	140
Elminthidae	1587	1061	1244	564	656	597	833	891	950	913	930
Haliplidae	0	0	0	0	0	0	0	0	51	0	5
Dytiscidae	0	0	77	0	0	0	157	0	0	0	23
Ceratopogonidae	4	0	0	0	0	0	0	0	0	0	0
Simuliidae	886	0	35	7	137	4	26	11	62	0	117
Chironomidae	22	40	9	22	38	33	26	35	38	22	28
Sphaeriidae	1295	296	352	296	53	135	53	513	836	108	394
Neritidae	40	656	493	0	387	210	316	524	526	0	315
Valvatidae	0	4	4	0	0	0	0	0	0	0	1
Hydrobiidae	248	164	29	194	110	84	0	110	301	82	132
Lymnaeidae	0	0	0	0	0	0	53	0	0	268	32
Ancylidae	192	256	0	128	1059	482	385	128	674	290	359
Total	9.4	5.3	7.6	2.7	3.7	3.6	5.2	5.6	7.2	5.3	5.6

5.2.9 Uffington, Riffle

	Replicates										Mean
Planaridae	0	0	88	0	0	0	13	0	16	16	13
Oligochaeta	137	11	44	84	155	60	2	29	389	159	107
Piscicolidae	0	16	0	0	0	0	0	9	2	4	3
Glossiphonidae	369	33	126	0	0	24	0	31	53	164	80
Erpobdellidae	3952	500	0	7	478	4	7	0	0	601	555
Asellidae	294	0	0	0	0	0	0	29	278	0	60
Gammaridae	13	0	0	0	0	0	0	0	0	0	1
Baetidae	106	736	539	893	349	303	115	26	402	718	419
Ephemerellidae	586	93	62	0	192	9	212	55	150	49	141
Hydropsychidae	88	889	62	168	453	1076	385	398	1138	320	498
Hydroptilidae	814	60	150	66	88	44	186	62	115	80	166
Elminthidae	9	11	0	9	0	0	18	0	4	0	5
Dytiscidae	164	0	0	0	40	0	0	0	0	62	26
Tipulidae	0	0	0	0	0	0	0	0	0	301	30
Ceratopogonidae	0	0	20	0	0	0	0	2	0	0	2
Chironomidae	137	177	119	115	155	38	108	64	88	137	114
Sphaeriidae	0	0	0	0	0	0	4	0	0	0	0
Valvatidae	0	11	0	0	0	0	0	0	0	0	1
Hydrobiidae	347	0	0	0	0	396	0	0	0	0	74
Lymnaeidae	117	0	0	0	0	0	0	7	2	2	13
Total	7.1	2.5	1.2	1.3	1.9	2.0	1.0	0.7	2.6	2.6	2.3

5.2.10 Ryhall, Riffle

	Replicates										Mean
Planaridae	0	91	0	93	13	31	26	31	42	22	35
Dendrocoelidae	0	181	0	75	0	332	0	0	0	31	62
Mermithidae	0	0	0	0	0	0	0	86	0	0	9

Ryhall, Riffle (continued)

	Replicates										Mean
Oligochaeta	148	1192	1132	201	595	137	568	265	334	946	552
Piscicolidae	0	0	0	0	0	4	40	0	0	0	4
Glossiphonidae	0	626	35	172	506	22	0	0	0	248	161
Erpobdellidae	0	0	0	0	0	0	0	31	0	0	3
Asellidae	16	0	46	106	128	20	49	113	31	241	75
Gammaridae	1777	4562	3592	3283	3680	6839	6548	2562	2838	13632	4931
Baetidae	49	186	164	44	148	42	33	73	46	31	82
Ephemerellidae	102	108	100	226	336	35	24	24	75	411	144
Ephemeridae	0	0	0	0	0	0	148	0	0	0	15
Leuctridae	0	38	18	203	18	60	0	0	0	44	38
Rhyacophilidae	135	433	144	396	608	356	590	232	550	1284	473
Polycentropodidae	7	0	0	0	0	0	0	0	0	9	2
Hydropsychidae	0	126	53	60	100	104	33	38	24	9	55
Hydroptilidae	9	9	35	88	18	53	26	9	26	18	29
Other Trichoptera	0	7	4	9	4	7	68	35	7	281	42
Elminthidae	464	418	1176	360	524	285	935	508	528	760	596
Haliplidae	82	31	31	62	0	60	0	13	0	0	28
Gyrinidae	0	0	0	0	0	0	22	0	0	0	2
Tipulidae	409	197	374	210	60	51	371	298	40	475	248
Ceratopogonidae	13	4	26	18	26	4	4	0	2	2	10
Simuliidae	0	0	4	0	0	0	0	18	0	0	2
Chironomidae	33	0	22	13	7	7	38	13	0	0	13
Sphaeriidae	0	58	0	144	29	29	0	0	0	0	26
Neritidae	35	0	142	248	35	71	71	283	106	142	113
Valvatidae	0	0	0	22	0	0	0	0	0	0	2
Hydrobiidae	53	398	159	212	265	159	159	159	292	26	188
Lymnaeidae	0	40	0	0	0	278	0	0	0	0	32
Physidae	0	4	0	0	0	0	0	0	0	0	0
Total	3.3	8.7	7.3	6.2	7.1	9.0	9.7	4.8	4.9	18.6	8.0

5.2.11 Theddingworth, Pool

	Replicates										Mean
Oligochaeta	123	101	132	15	29	5	127	5	31	23	59
Glossiphonidae	96	341	0	0	0	417	0	0	0	0	85
Erpobdellidae	0	1259	5	1174	1400	2395	175	81	1816	1301	961
Asellidae	0	0	0	0	101	0	0	42	0	0	14
Sialidae	72	127	0	177	335	656	102	185	271	227	215
Elminthidae	0	10	0	5	0	0	0	0	0	0	2
Haliplidae	0	0	6	0	0	0	0	0	15	0	2
Dytiscidae	0	104	0	0	200	0	0	0	0	5	31
Chironomidae	73	304	333	97	47	0	236	52	490	70	170
Sphaeriidae	0	0	0	0	0	0	0	0	21	0	2
Hydracarina	72	179	58	94	136	72	60	49	119	78	92
Total	0.4	2.4	0.5	1.6	2.2	3.5	0.7	0.4	2.8	1.7	1.6

5.2.12 Harringworth, Pool

	Replicates										Mean
Dendrocoelidae	0	0	0	0	190	0	0	0	0	0	19
Oligochaeta	89	70	62	146	115	76	78	97	83	112	93
Glossiphonidae	0	101	21	0	67	83	0	0	149	8	43
Erpobdellidae	0	0	15	486	268	250	58	0	362	49	149
Asellidae	713	1049	304	52	8599	7774	1981	200	3016	2938	2663
Gammaridae	46	26	10	0	76	0	1056	0	0	232	144
Sialidae	503	758	573	414	377	461	1056	1298	984	1241	766
Hydropsychidae	0	0	0	0	0	0	0	0	284	0	28
Other Trichoptera	0	0	0	0	36	11	0	0	0	0	5
Elminthidae	0	0	0	0	24	0	0	0	8	0	3
Haliplidae	20	21	41	0	0	18	18	37	37	0	19
Dytiscidae	101	0	18	41	62	128	58	6	138	166	72
Chironomidae	42	67	31	93	70	42	89	96	159	76	76
Sphaeriidae	0	0	0	0	0	0	20	20	39	0	8
Planorbiidae	0	32	0	0	65	32	0	0	0	0	13
Total	1.5	2.1	1.1	1.2	9.9	8.9	4.4	1.8	5.3	4.8	4.1

5.2.13 Collyweston, Pool

	Replicates										Mean
Planaridae	0	58	227	58	169	0	0	49	769	0	133
Oligochaeta	511	449	849	1347	471	1556	938	587	253	707	767
Piscicolidae	0	0	31	62	222	0	0	0	0	0	32
Glossiphonidae	1351	1022	2916	658	1249	2573	1591	1093	4782	702	1794
Erpobdellidae	4724	2467	6284	1049	3093	5213	2467	1951	3120	1876	3224
Asellidae	418	671	2240	1964	2947	2982	836	10378	4889	729	2805
Gammaridae	0	0	0	0	0	0	0	71	0	0	7
Caenidae	80	98	120	40	258	347	187	27	0	98	125
Coenagriidae	0	0	0	98	0	0	0	0	0	0	10
Sialidae	444	2196	3089	2467	3636	4009	1836	2080	3071	756	2358
Hydroptilidae	0	27	0	0	0	0	0	0	0	0	3
Other Trichoptera	4551	6436	6551	9431	1413	3489	2262	2827	14049	756	5176
Elminthidae	0	0	0	40	0	67	0	0	0	0	11
Dytiscidae	111	0	0	0	111	227	227	0	0	62	74
Corixidae	0	169	0	0	0	0	0	0	0	0	17
Tipulidae	0	0	693	929	0	0	293	578	653	0	315
Chironomidae	0	22	27	27	13	9	102	0	58	0	26
Unionidae	0	0	0	0	0	0	1284	0	4222	0	551
Sphaeriidae	1587	1493	2427	1027	747	1493	747	653	3080	93	1335
Neritidae	76	0	0	0	76	0	0	0	76	0	23
Hydrobiidae	0	0	658	0	0	0	0	0	0	0	66
Physidae	0	0	320	213	107	427	0	0	747	107	192
Planorbiidae	0	0	129	0	0	129	0	129	258	0	64
Total	13.9	15.1	26.6	19.4	14.5	22.5	12.8	20.4	40.0	5.9	19.1

5.2.14 Uffington, Pool

	Replicates										Mean
Planaridae	0	0	0	0	0	67	0	0	0	0	7
Oligochaeta	280	1187	1204	204	533	844	933	907	818	2431	934
Glossiphonidae	0	173	0	0	0	671	0	0	338	227	141
Erpobdellidae	0	351	0	0	0	3804	0	0	969	1120	624
Asellidae	676	0	653	547	0	573	738	204	84	787	426
Gammaridae	4	67	44	173	0	169	0	178	71	307	101
Sialidae	240	684	0	809	0	0	0	800	0	0	253
Polycentropodidae	13	0	0	0	0	0	0	0	0	0	1
Other Trichoptera	31	31	0	62	0	62	0	0	0	0	19
Haliplidae	0	0	0	258	0	0	0	116	276	222	87
Dytiscidae	0	0	0	711	0	0	0	0	227	0	94
Corixidae	0	0	0	0	0	0	44	0	0	0	4
Chironomidae	1004	600	324	1658	240	142	209	187	4676	262	930
Sphaeriidae	58	0	0	58	0	0	0	58	0	0	17
Valvatidae	0	0	0	133	0	0	0	0	178	0	31
Hydrobiidae	0	0	0	107	0	0	0	0	0	0	11
Physidae	0	0	0	0	0	0	0	13	0	0	1
Hydracarina	18	0	0	22	31	0	22	0	0	0	9
Total	2.3	3.1	2.2	4.7	0.8	6.3	1.9	2.5	7.6	5.4	3.7

5.2.15 Ryhall, Pool

	Replicates										Mean
Oligochaeta	969	258	147	191	231	373	320	880	147	240	376
Piscicolidae	0	0	0	0	0	0	4	0	0	0	0
Glossiphonidae	0	36	209	342	49	222	0	0	533	71	146
Erpobdellidae	547	0	0	1262	0	1373	0	1404	1093	0	568
Asellidae	53	982	347	160	529	613	964	196	204	902	495
Gammaridae	356	80	1947	711	0	0	191	0	276	347	391
Baetidae	0	53	213	0	58	0	0	0	0	0	32
Caenidae	0	27	0	0	0	4	0	0	0	0	3
Leuctridae	0	0	0	0	0	0	0	0	0	62	6
Sialidae	2480	551	520	1973	1556	2671	996	956	1556	1138	1440
Polycentropodidae	0	53	0	0	0	0	0	0	9	0	6
Other Trichoptera	0	13	22	0	44	22	0	4	0	0	11
Haliplidae	0	0	0	0	40	0	0	0	0	0	4
Dytiscidae	98	533	116	0	529	867	62	76	129	111	252
Ceratopogonidae	22	9	27	18	71	13	13	40	13	4	23
Chironomidae	1076	293	516	1378	236	396	502	440	502	751	609
Sphaeriidae	0	0	71	142	71	0	0	0	71	0	36
Planorbiidae	0	0	0	0	27	0	0	0	0	0	3
Total	5.6	2.9	4.1	6.2	3.4	6.6	3.1	4.0	4.5	3.6	4.4

5.3 Information relating to statistical tests of significance

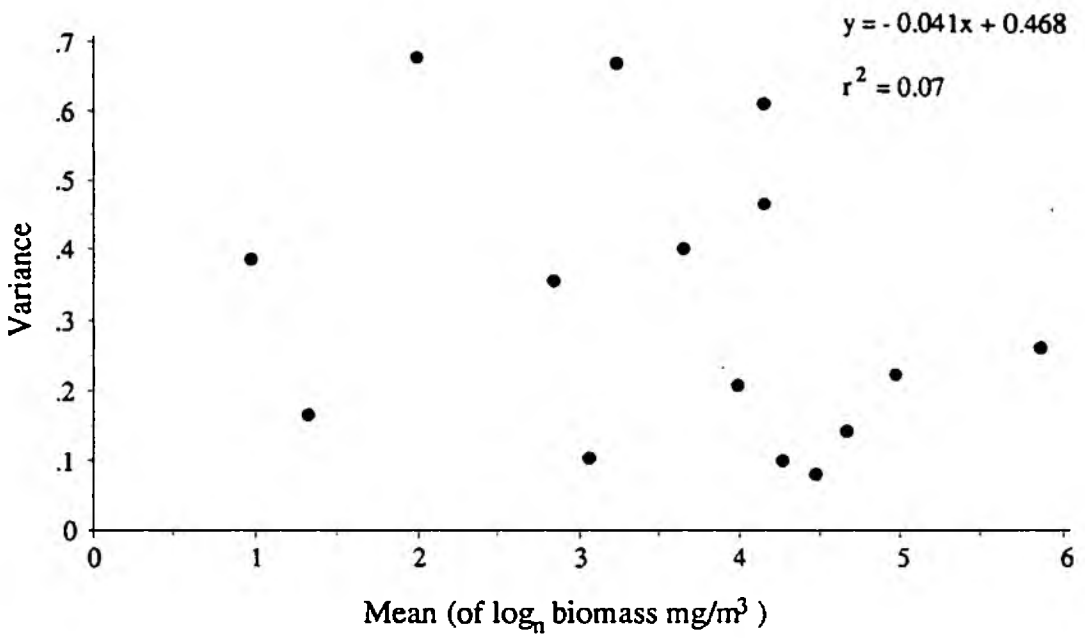

Figure 5.1 Variance of biomass data for 15 sites/substrates after log transformation

Table 5.1 Analysis of variance table for biomass by sites and substrates

Source of variation	Sum of squares	d.f.	Variance	F
Substrates	176.49	2	88.24	273.2 **
Sites	57.11	4	14.28	44.2 **
Subs x Site	23.05	8	2.88	8.9 **
Replicates	43.65	135	0.32	

** $p < 0.01$

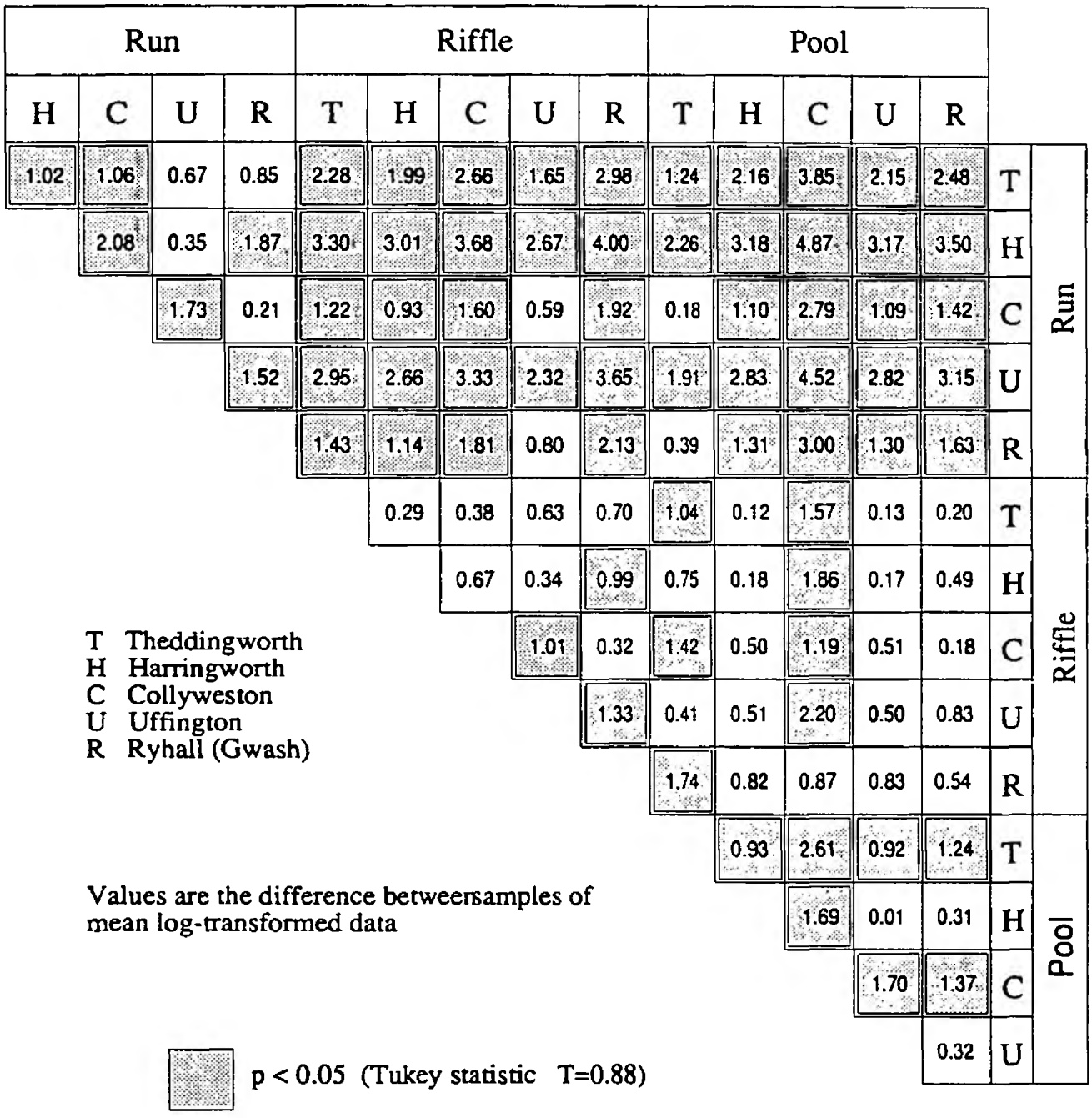

Figure 5.2 Tukey test of significance between mean biomass in substrate/site combinations

6. RIFFLE MEASUREMENTS AT 8 SITES IN THE WELLAND CATCHMENT

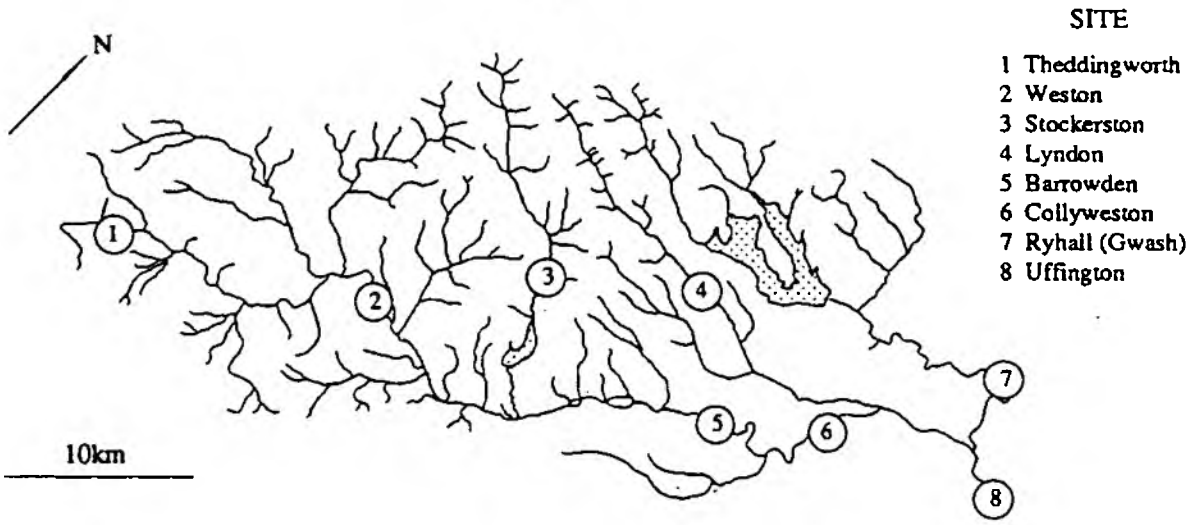

Figure 6.1 Riffle measurement sites in Welland catchment

6.1 Riffle spacing

The distance from the start of each riffle to the next, expressed in metres. The downstream sequence of measurements reads from left to right, top to bottom.

6.1.1 Theddingworth

26	19	29	42	20	49	17	32	28	33	18	59	26	14	45
30	12	45	20	16	50	12	74	43	26	17	18	7	8	18
33	14	19	36	13	16	30	11	18	15	14	19	19	17	11
40	51	49	66	25	10	18	15	11	19	19	17	24	13	27
24	18	13	38	18	20	16	35	25	21	29	17	15	22	47
30	24	22	19	32	15	23	21	25	24	21	13			

6.1.2 Lyndon (R. Chater)

33	109	60	31	29	9	29	36	67	42	34	28	18	17	15
14	58	54	22	10	27	12	56	30	25	37	29	13	20	11
15	43	53	14	32	29	38	56	23	14	32	14	19	33	34
20	24	16	27	24	19	39	37	50	19	27	12	8	16	36
34	93	44	27	33	55	28	30	27	29	30	25	57	80	24
24	75	73	30	35	78	24	12	61	15	34	22	54	41	23
24	34	48	23	37	62	24	31	31						

6.1.3 Stockerston (Eyebrook)

55	30	46	30	26	27	43	12	24	37	46	29	22	18	80
71	40	24	22	29	28	30	28	13	31	34	32	33	43	35
43	26	67	43	12	18	33	19	79	6	37	52	33	38	44
15	23	49	49	77	76	29	24	79	45	32	89	24	70	34
59	42	76	33	65	28	62	17	82	17	62	33	30	41	47
54	32	33	31	18	19	35	19	46	49	55	20	19	32	21
19	58	53	18	22	24	24	70	51	24	19	22	18	27	15
29	27	16	19	33	48	48	18	11	19	22	34	49	23	8
16	88	26	27	31	25	36								

6.1.4 Ryhall (R. Gwash)

202	92	101	57	37	56	107	109	66	36	76	90	111	97	170
106	105	50	84	127	180	76	62	119	95	42	24	26	102	49
21	50	122	64	74	65	126	84	42	91	55	60	101	54	44
37	96	45	32	62	26	62	47	50	57	34	52			

6.1.5 Weston

55	72	83	60	186	175	54	103	35	39	64	21	174	115	65
100	74	102	32	92	115	43								

6.1.6 Barrowden

160	169	120	265	116	168	84	47	73	151	32	24	144	48	94
305	196	86	50	73	87	48	149	63	69	82	70	71	83	122

6.1.7 Collyweston

189	232	367	89	299	122	193	46	388	94	153	171	335	108	315
108	93	57	106	177	116	95	123							

6.1.8 Uffington

198	523	353	130	142	157	84	82	117	124	225	115

6.2 Riffle length

The distance from the start of each riffle to its end, expressed in metres. The downstream sequence of measurements reads from left to right, top to bottom.

6.2.1 Theddingworth

16	6	6	12	3	3	2	4	8	5	7	4	7	8	8

Theddingworth (continued)

6	5	4	8	9	3	4	4	3	4	5	2	8	3	1
2	3	3	6	2	8	2	5	2	3	2	4	3	4	3
2	7	21	22	19	22	5	4	2	3	6	4	13	8	15
9	6	5	4	6	11	9	5	7	2	16	11	3	8	6
4	17	18	5	8	5	12	6	13	12	6	21	9	6	8
8														

6.2.2 Lyndon (R. Chater)

3	11	4	7	19	3	3	3	6	2	8	9	5	6	4
5	4	8	4	3	2	2	6	13	3	11	2	2	2	3
1	2	5	3	3	3	17	3	5	8	2	11	7	4	8
6	4	11	5	2	7	11	5	4	3	4	5	2	4	3
9	7	25	18	13	4	5	11	9	3	16	7	3	6	10
3	10	3	7	6	8	17	3	4	9	11	8	11	12	5
7	6	11	4	12	5	7	5	3	10					

6.2.3 Stockerston (Eyebrook)

11	8	16	20	6	19	2	2	3	20	12	4	16	5	2
77	33	21	20	17	33	11	32	11	5	11	18	4	25	6
8	2	5	4	2	3	5	5	4	5	11	6	4	4	3
4	10	3	8	5	10	28	14	7	5	17	4	12	9	8
18	13	13	54	3	37	22	9	6	7	3	2	4	5	6
20	5	6	4	13	18	3	3	4	16	9	4	7	6	4
16	6	5	6	4	6	11	8	9	5	4	10	7	3	4
2	16	2	16	11	6	4	5	7	15	11	6	4	9	7
10	32	5	3	2	5	3	20	6	7	6	10			

6.2.4 Ryhall (R. Gwash)

16	11	10	6	8	7	33	18	4	22	29	10	9	11	9
8	9	3	10	48	18	6	8	14	9	4	3	4	8	16
9	7	8	8	8	32	83	8	5	12	4	8	15	4	8
7	6	5	6	7	8	14	26	3	13	27	27	55		

6.2.5 Weston

55	15	5	20	15	10	25	7	8	3	40	12	10	53	18
52	22	57	12	10	85	5	12							

6.2.6 Barrowden

27	38	45	105	10	35	28	20	10	60	17	8	20	8	22
37	48	10	22	18	35	15	32	23	50	30	10	15	37	93
65														

6.2.7 Collyweston

52	38	20	30	12	26	10	16	8	12	8	8	11	11	21
7	16	3	8	5	3	11	8	14						

6.2.8 Uffington

28	55	52	70	35	15	22	25	35	30	20	55

7. MACROPHYTE SURVEY – BRIDGES IN THE WELLAND CATCHMENT

7.1 Location of bridges

7.1.1 River Welland mainstream

Code	Name	O.S. Ref	Map
WB1	Sibbertoft Wrongs	SP 663 833	141
WB2	Theddingworth	SP 670 854	141
WB3	Gumley Ford	SP 683 862	141
WB4	Marston-Trussell	SP 697 864	141
WB5	Lubenham	SP 705 870	141
WB6	Market Harborough (West)	SP 725 868	141
WB7	Market Harborough (East)	SP 743 873	141
WB8	Great Bowden	SP 750 883	141
WB9	Market Harborough STW	SP 759 888	141
WB10	Great Bowden Track	SP 760 901	141
WB11	Welham	SP 766 925	141
WB12	Weston	SP 778 923	141
WB13	Ashley	SP 791 918	141
WB14	Ashley gauging station	SP 819 915	141
WB15	Occupation Road	SP 837 910	141
WB16	Bringhurst/Cottingham	SP 845 911	141
WB17	Rockingham (West)	SP 861 920	141
WB18	Rockingham	SP 866 923	141
WB19	Rockingham (East)	SP 873 925	141
WB20	Gretton middle bridge	SP 888 947	141
WB21	Thorpe-by-Water	SP 895 963	141
WB22	Harringworth (West)	SP 911 971	141
WB23	Harringworth	SP 915 976	141
WB24	Harringworth (East)	SP 921 976	141
WB25	Turtle Bridge	SP 928 985	141
WB26	Barrowden railway bridge	SP 946 996	141
WB27	Wakerley	SP 995 998	141
WB28	Duddington old road	SK 985 009	141
WB29	Collyweston	SK 990 035	141
WB30	Tinwell	TF 008 062	141
WB31	Uffington	TF 066 069	142

7.1.2 The Deepings

Code	Name	O.S. Ref	Map
DB1	West Deeping Mill Stream (Tallington)	TF 095 078	142
DB2	Lolham Mill Stream (Tallington)	TF 096 078	142
DB3	West Deeping (North)	TF 110 086	142
DB4	West Deeping (South)	TF 110 082	142
DB5	Greatford Cut A16	TF 125 099	142
DB6	Market Deeping	TF 138 099	142
DB7	Deeping Gate (West)	TF 148 096	142
DB8	Deeping Gate	TF 151 095	142
DB9	Deeping Gate (East)	TF 153 094	142
DB10	Deeping St. James (North)	TF 164 091	142
DB11	Deeping St. James (South)	TF 164 090	142
DB12	Maxey Cut (Tallington)	TF 096 077	142

7.1.3 River Gwash mainstream

Code	Name	O.S. Ref	Map
GB1	Bunker's Hill	SK 951 082	141
GB2	Wild's Lodge	SK 976 082	141
GB3	Tickencote	SK 988 094	141
GB4	Great Casterton (North)	SK 999 091	141
GB5	Great Casterton (South)	TF 002 087	141
GB6	Tolethorpe Hall	TF 021 105	130
GB7	Ryhall (1)	TF 027 107	130
GB8	Ryhall (2)	TF 032 111	130
GB9	Ryhall (3)	TF 037 110	130
GB10	Belmesthorpe (North)	TF 042 104	130
GB11	Belmesthorpe (West)	TF 036 101	130
GB12	Newstead	TF 047 078	141

7.2 Survey results

- Substrates recognised were boulder, stone, gravel, sand, silt and solid clay
- Flow types were from negligible, slow, moderate, fast and rapid
- Water clarity was from very turbid, turbid, clear and shallow clear
- Bank slope was from gentle (less than 30°), moderate (30°-60°) and steep (60°-90°)
- Species abundance was recorded on a scale of 1-3 (scarce, frequent, abundant)
- "Blanket weed" refers to *Cladophora glomerata*, with varying amounts of *Enteromorpha* sp
- Channel cover is given including blanket weed and excluding blanket weed (in brackets)
- Where damage sources or extent of margin are unspecified, this indicates there were none

7.2.1 River Welland mainstream, July 1987

Date : 21-7-87 Code : WB1 Site Name : Sibbertoft Wrongs
Channel Width (m) : 1 Channel Depth : 0.05 (choked)
% Substrate : Stone 20, Sand 20, Silt 60
% Flow type : Moderate 100
Water Clarity : Clear
Bank slope : Gentle
Extent of available margin : Channel choked
Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 3 *Glyceria fluitans* 3 *Apium nodiflorum* 3 *Callitriche stagnalis* 1
% Channel cover : 95 (95)

Date : 21-7-87 Code : WB2 Site Name : Theddingworth
Channel Width (m) : 2.5 Channel Depth : 0.15
% Substrate : Stone 10, Gravel 40, Sand 30, Silt 20
% Flow type : Slow 30, Moderate 70
Water Clarity : Clear
Bank slope : Gentle
Possible sources of damage : Livestock trampling
Extent of available margin : 0-3 m wet
Plant species above normal water level : *Glyceria fluitans* 3 *Myosotis scorpioides* 3 *Veronica beccabunga* 1 *Apium nodiflorum* 3
Plant species in channel or emergent from below normal water level : *Glyceria fluitans* 1 *Potamogeton pectinatus* 2 *Myosotis scorpioides* 2 *Veronica beccabunga* 2 *Apium nodiflorum* 3 *Callitriche stagnalis* 1 blanket weed 2
% Channel cover : 45 (40)

Date : 21-7-87 Code : WB3 Site Name : Gumley Ford
Channel Width (m) : 2.5 Channel Depth : 0.3
% Substrate : Stone 10, Gravel 50, Sand 40
% Flow type : Slow 60, Moderate 40
Water Clarity : Clear
Bank slope : Steep
Possible sources of damage : Ford, shade 70%
Extent of available margin : 0-0.5 m (mainly 0 m)
Plant species above normal water level : *Phalaris arundinacea* 3
Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 1 blanket weed 1
% Channel cover : 20 (10)

Date : 21-7-87 Code : WB4 Site Name : Marston-Trussell
Channel Width (m) : 2.5 Channel Depth : 1
% Substrate : Gravel 70, Sand 20, Silt 10
% Flow type : Slow 90, Moderate 10
Water Clarity : Clear
Bank slope : Steep
Possible sources of damage : 25% Livestock trampling, pool 70%
Extent of available margin : 0-0.5 m
Plant species above normal water level : *Sparganium erectum* 2
Plant species in channel or emergent from below normal water level : *Potamogeton pectinatus* 1 blanket weed 2
% Channel cover : 30 (2)

Date : 21-7-87 Code : WB5 Site Name : Lubenham
Channel Width (m) : 3 Channel Depth : 0.4
% Substrate : Gravel 20, Sand 40, Silt 40
% Flow type : Moderate 100
Water Clarity : Clear
Bank slope : Moderate
Possible sources of damage : Some trampling
Extent of available margin : 0-1 m mud/clay
Plant species above normal water level : *Phalaris arundinacea* 1 *Myosotis scorpioides* 1 *Apium nodiflorum* 1
Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 3 *Potamogeton pectinatus* 1 *Myosotis scorpioides* 1 *Apium nodiflorum* 1 blanket weed 3
% Channel cover : 70 (10)

Date : 21-7-87 Code : WB6 Site Name : Market Harborough (west)
Channel Width (m) : 3.5 Channel Depth : 0.3
% Substrate : Stone 40, Gravel 40, Sand 10, Solid clay 10
% Flow type : Slow 60, Moderate 20, Fast 20
Water Clarity : Clear
Bank slope : Moderate
Possible sources of damage : Dredged, to clay in places
Extent of available margin : Small shoals mid-stream
Plant species above normal water level : *Phalaris arundinacea* 1 *Veronica beccabunga* 1 *Apium nodiflorum* 1
Plant species in channel or emergent from below normal water level : blanket weed 2
% Channel cover : 15 (0)

Date : 21-7-87 Code : WB7 Site Name : Market Hargorough (east)
Channel Width (m) : 6 Channel Depth : 0.3
% Substrate : Gravel 30, Sand 10, Solid clay 60
% Flow type : Slow 10, Moderate 60, Fast 30
Water Clarity : Clear
Bank slope : Steep
Possible sources of damage : Inner channel of two-stage channel 10X too wide

Extent of available margin : 0-0.5 m
Plant species above normal water level : *Phalaris arundinacea* 2 *Myosotis scorpioides* 1 *Apium nodiflorum* 1
Plant species in channel or emergent from below normal water level : blanket weed 2
% Channel cover : 30 (0)

Date : 21-7-87 Code : WB8 Site Name : Great Bowden
Channel Width (m) : 4 Channel Depth : 0.6
% Substrate : Stone 20, Gravel 30, Sand 40
% Flow type : Slow 20, Moderate 50, Fast 30
Water Clarity : Clear
Bank slope : Moderate
Possible sources of damage : Dredged, not as bad as above
Extent of available margin : 0-1 m
Plant species above normal water level : *Phalaris arundinacea* 3 *Glyceria maxima* 1 *Sparganium erectum* 1 *Apium nodiflorum* 1
Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 1 *Glyceria maxima* 2 *Sparganium erectum* 2 *Potamogeton pectinatus* 2 *Potamogeton crispus* 1 blanket weed 3
% Channel cover : 70 (15)

WB9 (Market Harborough STW) not visited in 1987

Data for WB10 (Great Bowden Track) not found during compilation of this appendix

Date : 11-7-87 Code : WB11 Site Name : Welham
Channel Width (m) : 9 Channel Depth : 0.5
% Substrate : Stone 5, Gravel 40, Sand 40, Silt 15
% Flow type : Slow 10, Moderate 90
Water Clarity : Clear
Bank slope : Moderate
Possible sources of damage : u/s shade but NW bank
d/s channel modified – no margins, laminar flow
Extent of available margin : 0-1 m clay/silt
Plant species above normal water level : *Phalaris arundinacea* 3 *Sparganium erectum* 1 *Myosotis scorpioides* 1 *Veronica beccabunga* 1 *Rorippa amphibia* 1
Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 1 *Sparganium erectum* 2 *Schoenoplectus lacustris* 1 *Potamogeton pectinatus* 2 *Sagittaria sagittifolia* 2 *Nuphar lutea* 2 blanket weed 3
% Channel cover : 80 (40)

Date : 11-7-87 Code : WB12 Site Name : Weston
Channel Width (m) : 8 Channel Depth : 0.5
% Substrate : Gravel 70, Sand 25, Silt 5
% Flow type : Slow 10, Moderate 80, Fast 10
Water Clarity : Clear
Bank slope : Moderate
Extent of available margin : 0-1 m clay/silt
Plant species above norm water level : *Phalaris arundinacea* 2 *Sparganium erectum* 1 *Myosotis scorpioides* 1
Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 2 *Sparganium erectum* 2 *Potamogeton pectinatus* 2 *Myosotis scorpioides* 1 *Sagittaria sagittifolia* 1 *Elodea canadensis* 1 blanket weed 3
% Channel cover : 70 (40)

Date : 11-7-87 Code : WB13 Site Name : Ashley
Channel Width (m) : 9 Channel Depth : 0.5
% Substrate : Gravel 60, Sand 35, Silt 5
% Flow type : Slow 10, Moderate 90

Water Clarity : Clear
Bank slope : Moderate
Extent of available margin : 0-1 m clay/silt
Plant species above normal water level : *Phalaris arundinacea* 3 *Myosotis scorpioides* 1 *Veronica beccabunga* 1
Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 1 *Potamogeton pectinatus* 1 *Potamogeton perfoliatus* 3 *Veronica beccabunga* 1 *Elodea canadensis* 1 blanket weed 3
% Channel cover : 80 (60)

Date : 13-7-87 Code : WB14 Site Name : Ashley Gauging Station
Channel Width (m) : 7 Channel Depth : 0.7
% Substrate : Gravel 80, Sand 20
% Flow type : Slow 50, Moderate 50
Water Clarity : Clear
Bank slope : Moderate
Extent of available margin : LHB mud/clay steep
RHB 2-stage (2 m berm at 0.3 m above NWL)
Plant species above normal water level : *Phalaris arundinacea* 3 *Sparganium erectum* 1 *Rorippa amphibia* 2
Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 2 *Sparganium erectum* 2 *Schoenoplectus lacustris* 1 *Sagittaria sagittifolia* 1 *Elodea canadensis* 2 blanket weed 3 *Rorippa amphibia* 1
% Channel cover : 90 (10)

Date : 13-7-87 Code : WB15 Site Name : Occupation Road
Channel Width (m) : 8 Channel Depth : 1
% Substrate : Stone 20, Gravel 70, Sand 10
% Flow type : Slow 70, Moderate 30
Water Clarity : Clear
Bank slope : Moderate
Extent of available margin : 0-2 m varied slope, some river cliffs
Plant species above normal water level : *Phalaris arundinacea* 2 *Rorippa amphibia* 1
Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 1 *Potamogeton pectinatus* 1 *Elodea canadensis* 1 blanket weed 3 *Rorippa amphibia* 1
% Channel cover : 70 (10)

Date : 13-7-87 Code : WB16 Site Name : Bringhurst-Cottingham Road
Channel Width (m) : 8 Channel Depth : 0.2
% Substrate : Stone 30, Gravel 70
% Flow type : Moderate 10, Fast 60, Rapid 30
Water Clarity : Clear
Bank slope : Moderate
Extent of available margin : 0-1 m clay/silt & 0-4 m gravel shoals (unstable)
Plant species above normal water level : *Myosotis scorpioides* 1 *Veronica beccabunga* 1 *Mentha aquatica* 2 *Rorippa amphibia* 1
Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 1 *Potamogeton pectinatus* 3 *Veronica beccabunga* 1 *Mentha aquatica* 1 blanket weed 2 *Rorippa amphibia* 1
% Channel cover : 65 (50)

Date : 13-7-87 Code : WB17 Site Name : Rockingham (West)
Channel Width (m) : 6 Channel Depth : 0.5
% Substrate : Stone 20, Gravel 60, Solid clay 20
% Flow type : Moderate 70, Fast 10, Rapid 20
Water Clarity : Clear
Bank slope : Steep
Extent of available margin : berms 0-3 m, below steep bank

Plant species above normal water level : *Phalaris arundinacea* 3 *Myosotis scorpioides* 1 *Rorippa amphibia* 1
Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 2 *Potamogeton pectinatus* 3 *Myosotis scorpioides* 1 *Elodea canadensis* 1 blanket weed 3
% Channel cover : 45 (40)

Date : 13-7-87 Code : WB18 Site Name : Rockingham
Channel Width (m) : 9 Channel Depth : 0.6
% Substrate : Stone 10, Gravel 80, Sand 10
% Flow type : Moderate 30, Fast 40, Rapid 30
Water Clarity : Clear
Bank slope : Moderate
Extent of available margin : extensive shallow berms (above NWL)
Plant species above normal water level : *Phalaris arundinacea* 2 *Myosotis scorpioides* 1 *Veronica beccabunga* 1 *Rorippa amphibia* 2
Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 1 *Potamogeton pectinatus* 2 *Elodea canadensis* 2 blanket weed 2 *Rorippa amphibia* 1
% Channel cover : 40 (25)

Date : 13-7-87 Code : WB19 Site Name : Rockingham (East)
Channel Width (m) : 5 Channel Depth : 0.5
% Substrate : Gravel 70, Silt 10, Solid clay 20
% Flow type : Slow 5, Moderate 45, Fast 50
Water Clarity : Clear
Bank slope : Steep
Extent of available margin : 1-2 m, 5°-45° berm
Plant species above normal water level : *Phalaris arundinacea* 3 *Juncus effusus* 1 *Rorippa amphibia* 1
Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 1 *Potamogeton pectinatus* 3 *Potamogeton perfoliatus* 2 blanket weed 3 *Rorippa amphibia* 1
% Channel cover : 85 (80)

Date : 13-7-87 Code : WB20 Site Name : Gretton
Channel Width (m) : 10 Channel Depth : 1
% Substrate : Stone 10, Gravel 20, Sand 50, Silt 20
% Flow type : Slow 50, Moderate 50
Water Clarity : Clear
Bank slope : Moderate
Extent of available margin : Gentle 1-2 m berm u/s
River cliffs and collapsed d/s
Plant species above normal water level : *Phalaris arundinacea* 3 *Glyceria maxima* 2 *Myosotis scorpioides* 1 *Veronica beccabunga* 2
Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 2 *Sparganium erectum* 2 *Schoenoplectus lacustris* 1 *Potamogeton pectinatus* 1 *Potamogeton perfoliatus* 3 *Potamogeton crispus* 1 *Myosotis scorpioides* 2 *Veronica beccabunga* 1 *Apium nodiflorum* 1 *Sagittaria sagittifolia* 1 *Elodea canadensis* 3 blanket weed 3
% Channel cover : 75 (70)

Date : 13-7-87 Code : WB21 Site Name : Thorpe-by-Water
Channel Width (m) : 8 Channel Depth : 0.8
% Substrate : Sand 30, Silt 10, Solid clay 60
% Flow type : Moderate 100
Water Clarity : Clear
Bank slope : Moderate
Extent of available margin : 20 % caged riprap, 30 % typical 45°, 50 % 2-3 m berm
Plant species above normal water level : *Phalaris arundinacea* 3 *Sparganium erectum* 1 *Schoenoplectus lacustris* 1 *Carex acutiformis* 2 *Myosotis scorpioides* 2 *Veronica beccabunga* 1
Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 2 *Sparganium*

erectum 3 *Schoenoplectus lacustris* 2 *Potamogeton pectinatus* 2 *Potamogeton perfoliatus* 3 *Myosotis scorpioides* 1 *Sagittaria sagittifolia* 2 blanket weed 3
% Channel cover : 85 (70)

Date : 16-7-87 Code : WB22 Site Name : Harringworth (West)
Channel Width (m) : 8 Channel Depth : 0.8
% Substrate : Stone 15, Gravel 80, Silt 5
% Flow type : Slow 30, Moderate 70
Water Clarity : Clear
Bank slope : Moderate
Possible sources of damage : 25 % livestock trampling, probably 50 % long-term
Extent of available margin : Rocky 30 %, 0-1 m wet berm 70 %
Plant species above normal water level : *Phalaris arundinacea* 3 *Myosotis scorpioides* 1
Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 1 *Sparganium erectum* 2 *Potamogeton pectinatus* 1 blanket weed 3
% Channel cover : 85 (5)

Date : 16-7-87 Code : WB23 Site Name : Harringworth
Channel Width (m) : 9 Channel Depth : 0.7
% Substrate : Gravel 80, Sand 18, Silt 2
% Flow type : Slow 5, Moderate 65, Fast 30
Water Clarity : Clear
Bank slope : Moderate
Extent of available margin : Usually 0-1 m except gravel shoal 20 m².
Plant species above normal water level : *Phalaris arundinacea* 3 *Glyceria maxima* 1 *Sparganium erectum* 1 *Myosotis scorpioides* 1 *Rorippa amphibia* 2
Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 1 *Glyceria maxima* 1 *Sparganium erectum* 2 *Potamogeton pectinatus* 2 *Potamogeton perfoliatus* 1 *Myosotis scorpioides* 1 blanket weed 3
% Channel cover : 75 (20)

WB24 (Harringworth East) not visited in 1987

Date : 16-7-87 Code : WB25 Site Name : Turtle Bridge
Channel Width (m) : 8 Channel Depth : 0.4
% Substrate : Stone 30, Gravel 20, Sand 50
% Flow type : Moderate 80, Fast 20
Water Clarity : Clear
Bank slope : Moderate
Extent of available margin : Standard 45° but with sandy berm 30 m².
Plant species above normal water level : *Phalaris arundinacea* 3 *Glyceria maxima* 1 *Myosotis scorpioides* 2 *Veronica beccabunga* 2
Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 1 *Glyceria maxima* 2 *Sparganium erectum* 1 *Schoenoplectus lacustris* 1 *Potamogeton pectinatus* 2 *Potamogeton perfoliatus* 3 *Veronica beccabunga* 1 *Elodea canadensis* 2 blanket weed 3
% Channel cover : 70 (30)

Date : 17-7-87 Code : WB26 Site Name : Barrowden Railway Bridge
Channel Width (m) : 12 Channel Depth : 2
% Substrate : Sand 80, Silt 20
% Flow type : Slow 70, Moderate 30
Water Clarity : Clear
Bank slope : Moderate
Extent of available margin : Normal 0-2 m clay/mud
Plant species above normal water level : *Phalaris arundinacea* 3 *Glyceria maxima* 2 *Sparganium erectum* 1 *Carex acutiformis* 3 *Myosotis scorpioides* 3 *Veronica beccabunga* 1 *Rorippa amphibia* 2

Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 1 *Sparganium erectum* 3 *Carex acutiformis* 1 *Potamogeton pectinatus* 3 *Potamogeton perfoliatus* 2 *Polygonum amphibium* 1 *Myosotis scorpioides* 2 *Sagittaria sagittifolia* 1 *Nuphar lutea* 3 blanket weed 3 *Rorippa amphibia* 2
% Channel cover : 70 (40)

Date : 17-7-87 Code : WB27 Site Name : Wakerley
Channel Width (m) : 11 Channel Depth : 0.4
% Substrate : Stone 5, Gravel 15, Sand 70, Silt 10
% Flow type : Slow 20, Moderate 60, Fast 20
Water Clarity : Clear
Bank slope : Moderate
Extent of available margin : More than usual, some shoals but only at bridge
Plant species above normal water level : *Phalaris arundinacea* 3 *Glyceria maxima* 2 *Sparganium erectum* 1 *Myosotis scorpioides* 2 *Veronica beccabunga* 2 *Veronica catenata* 1 *Rorippa amphibia* 2
Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 1 *Glyceria maxima* 2 *Sparganium erectum* 3 *Potamogeton pectinatus* 3 *Potamogeton perfoliatus* 3 *Ranunculus penicillatus* 3 *Myosotis scorpioides* 1 *Veronica beccabunga* 1 *Elodea canadensis* 1 blanket weed 3 *Rorippa amphibia* 1
% Channel cover : 85 (60)

Date : 15-7-87 Code : WB28 Site Name : Duddington Old Bridge
Channel Width (m) : 13 Channel Depth : 0.6
% Substrate : Stone 30, Gravel 60, Sand 10
% Flow type : Slow 10, Moderate 50, Fast 30, Rapid 10
Water Clarity : Clear
Bank slope : Moderate
Extent of available margin : 0-2 m wet berm
Plant species above normal water level : *Phalaris arundinacea* 3 *Glyceria maxima* 2 *Sparganium erectum* 1 *Carex acutiformis* 2 *Myosotis scorpioides* 2 *Juncus inflexus* 1 *Rorippa amphibia* 2
Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 2 *Sparganium erectum* 2 *Schoenoplectus lacustris* 1 *Potamogeton pectinatus* 1 *Potamogeton perfoliatus* 2 *Ranunculus penicillatus* 3 *Fontinalis antipyretica* 3 blanket weed 3
% Channel cover : 85 (65)

Date : 15-7-87 Code : WB29 Site Name : Collyweston
Channel Width (m) : 11 Channel Depth : 0.5
% Substrate : Stone 35, Gravel 55, Sand 10
% Flow type : Slow 5, Moderate 65, Fast 30
Water Clarity : Clear
Bank slope : Moderate
Possible sources of damage : Bridge fixed head, but flow u/s moderate, no severe dredging, d/s lovely riffle
Extent of available margin : 30 % zero, 70 % 0-3 m berm raised/submerged
Plant species above normal water level : *Phalaris arundinacea* 3 *Glyceria maxima* 2 *Sparganium erectum* 1 *Carex acutiformis* 1 *Myosotis scorpioides* 1 *Rorippa amphibia* 2
Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 1 *Glyceria maxima* 3 *Sparganium erectum* 3 *Schoenoplectus lacustris* 2 *Potamogeton pectinatus* 2 *Potamogeton perfoliatus* 2 *Potamogeton natans* 1 *Ranunculus penicillatus* 2 *Myosotis scorpioides* 1 *Sagittaria sagittifolia* 1 blanket weed 3 *Rorippa amphibia* 2
% Channel cover : 75 (70)

Date : 15-7-87 Code : WB30 Site Name : Tinwell
Channel Width (m) : 13 Channel Depth : 1
% Substrate : Stone 10, Gravel 10, Sand 50, Silt 30
% Flow type : Slow 30, Moderate 70
Water Clarity : Clear

Bank slope : Moderate
Extent of available margin : 50 % zero; 50 % 0-3 m flat, wet
Plant species above normal water level : *Phalaris arundinacea* 2 *Sparganium erectum* 1
Plant species in channel or emergent from below normal water level : *Sparganium erectum* 2 *Polygonum amphibium* 1 *Ranunculus penicillatus* 3 blanket weed 2
% Channel cover : 80 (20)

Date : 23-7-87 Code : WB31 Site Name : Uffington
Channel Width (m) : 16 Channel Depth : 0.6
% Substrate : Stone 35, Gravel 10, Sand 40, Solid clay 15
% Flow type : Slow 30, Moderate 70
Water Clarity : Clear
Bank slope : Moderate
Possible sources of damage : Widened & dredged to clay (u/s only)
Extent of available margin : 0-0.5 m steep u/s; D/s RHB 0-2 m, LHB 5 m marshy
Plant species above normal water level : *Phalaris arundinacea* 2 *Glyceria maxima* 3 *Myosotis scorpioides* 2 *Rorippa amphibia* 2
Plant species in channel or emergent from below normal water level : *Glyceria maxima* 3 *Sparganium erectum* 1 *Schoenoplectus lacustris* 2 *Potamogeton pectinatus* 3 *Potamogeton perfoliatus* 2 *Ranunculus penicillatus* 2 *Veronica beccabunga* 1 *Fontinalis antipyretica* 3 blanket weed 2 *Rorippa amphibia* 2
% Channel cover : 85 (35)

7.2.2 River Welland mainstream, August 1990

Date : 8-8-90 Code : WB1 Site Name : Sibbertoft Wrongs
Channel Width (m) : 1 Channel Depth : 0.05
% Substrate : Gravel 80, Sand 10, Silt 10
% Flow type : Moderate 100
Water Clarity : Shallow clear
Bank slope : Gentle
Extent of available margin : 1 m
Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 2 *Apium nodiflorum* 3
% Channel cover : 100 (100)

Date : 8-8-90 Code : WB2 Site Name : Theddingworth
Channel Width (m) : 2 Channel Depth : 0.25
% Substrate : Gravel 5, Sand 5, Silt 90
% Flow type : Negligible 90, Slow 10
Water Clarity : Shallow clear
Bank slope : Steep
Possible sources of damage : Shading, trampling
Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 3 *Sparganium erectum* 2 *Myosotis scorpioides* 2 *Veronica beccabunga* 1 *Lemna minor* 2
% Channel cover : 25 (25)

Date : 8-8-90 Code : WB3 Site Name : Gumley Ford
Channel Width (m) : 2 Channel Depth : 0.25
% Substrate : Silt 100
% Flow type : Negligible 100
Water Clarity : Shallow clear
Bank slope : Steep
Possible sources of damage : Ford
Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 2 *Myosotis scorpioides* 2 *Veronica beccabunga* 1
% Channel cover : 5 (5)

Date : 8-8-90 Code : WB4 Site Name : Marston Trussell
Channel Width (m) : 2 Channel Depth : 0.5
% Substrate : Silt 100
% Flow type : Negligible 100
Water Clarity : Clear
Bank slope : Steep
Extent of available margin : 0.5 m
Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 3 *Sparganium erectum* 2 *Myosotis scorpioides* 2 *Veronica beccabunga* 1 *Lemna minor* 2
% Channel cover : 25 (25)

Date : 8-8-90 Code : WB5 Site Name : Lubenham
Channel Width (m) : 2 Channel Depth : 0.25
% Substrate : Gravel 5, Sand 5, Silt 90
% Flow type : Negligible 100
Water Clarity : Shallow clear
Bank slope : Steep
Possible sources of damage : Trampling
Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 2 *Glyceria maxima* 1 *Sparganium erectum* 1 *Myosotis scorpioides* 2 *Apium nodiflorum* 2 blanket weed 3
% Channel cover : 75 (5)

Date : 8-8-90 Code : WB6 Site Name : Market Harborough (West)
Channel Width (m) : 2 Channel Depth : 0.25
% Substrate : Gravel 5, Silt 95
% Flow type : Negligible 100
Water Clarity : Shallow clear
Bank slope : Moderate
Extent of available margin : 1 m
Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 3 *Myosotis scorpioides* 1 *Veronica beccabunga* 1 *Nasturtium officinale* 1 *Apium nodiflorum* 1 *Juncus effusus* 2
% Channel cover : 60 (60)

Date : 8-8-90 Code : WB7 Site Name : Market Harborough (East)
Channel Width (m) : 3 Channel Depth : 0.25
% Substrate : Stone 5, Gravel 5, Silt 90
% Flow type : Negligible 60, Slow 40
Water Clarity : Shallow clear
Bank slope : Moderate
Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 3 *Sparganium erectum* 1 *Myosotis scorpioides* 1 *Apium nodiflorum* 2 *Fontinalis antipyretica* 2
% Channel cover : 65 (65)

Date : 8-8-90 Code : WB8 Site Name : Great Bowden
Channel Width (m) : 2 Channel Depth : 0.5
% Substrate : Boulder 5, Stone 20, Gravel 30, Silt 45
% Flow type : Negligible 90, Slow 10
Water Clarity : Shallow clear
Bank slope : Gentle
Possible sources of damage : Trampling
Extent of available margin : 0.5 m
Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 3 *Sparganium erectum* 2 *Apium nodiflorum* 3 *Fontinalis antipyretica* 1
% Channel cover : 60 (60)

Date : 8-8-90 Code : WB9 Site Name : Market Harborough STW
Channel Width (m) : 3 Channel Depth : 0.5
% Substrate : Silt 100
% Flow type : Slow 100
Water Clarity : Shallow clear
Bank slope : Gentle
Possible sources of damage : Sewage treatment works
Extent of available margin : 0.5-1 m
Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 3 *Sparganium erectum* 3 *Sparganium emersum* 2 *Potamogeton pectinatus* 2 *Callitriche stagnalis* 1 *Myriophyllum spicatum* 3 *Lemna minor* 1 *Nuphar lutea* 1 *Juncus effusus* 1
% Channel cover : 95 (95)

Date : 8-8-90 Code : WB10 Site Name : Great Bowden Track
Channel Width (m) : 2 Channel Depth : 0.25
% Substrate : Silt 100
% Flow type : Slow 100
Water Clarity : Shallow clear
Bank slope : Steep
Extent of available margin : 1 m
Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 2 *Sparganium erectum* 3 *Sparganium emersum* 2 *Schoenoplectus lacustris* 1 *Potamogeton pectinatus* 1 *Myosotis scorpioides* 1 *Veronica beccabunga* 1 *Apium nodiflorum* 1 *Callitriche stagnalis* 3 *Lemna minor* 1 *Nuphar lutea* 1
% Channel cover : 80 (80)

Date : 8-8-90 Code : WB11 Site Name : Welham
Channel Width (m) : 4 Channel Depth : 0.5
% Substrate : Silt 100
% Flow type : Slow 100
Water Clarity : Turbid
Bank slope : Gentle
Extent of available margin : 1 m
Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 3 *Sparganium erectum* 1 *Sparganium emersum* 2 *Schoenoplectus lacustris* 1 *Sagittaria sagittifolia* 1 *Callitriche stagnalis* 3 *Lemna minor* 1 *Nuphar lutea* 2
% Channel cover : 70 (70)

Date : 8-8-90 Code : WB12 Site Name : Weston
Channel Width (m) : 4 Channel Depth : 0.5
% Substrate : Stone 50, Gravel 30, Sand 10, Silt 10
% Flow type : Negligible 10, Slow 90
Water Clarity : Shallow clear
Bank slope : Gentle
Possible sources of damage : Trampling
Extent of available margin : 2 m
Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 3 *Sparganium erectum* 3 *Schoenoplectus lacustris* 1 *Myosotis scorpioides* 1 *Veronica beccabunga* 1 *Apium nodiflorum* 2 *Lemna minor* 1 *Nuphar lutea* 1
% Channel cover : 85 (85)

Date : 8-8-90 Code : WB13 Site Name : Ashley
Channel Width (m) : 4 Channel Depth : 1
% Substrate : Gravel 30, Sand 40, Silt 30
% Flow type : Slow 100
Water Clarity : Clear

Bank slope : Gentle
Extent of available margin : 1 m
Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 2 *Sparganium emersum* 1 *Schoenoplectus lacustris* 1 *Nasturtium officinale* 2 *Apium nodiflorum* 2 *Sagittaria sagittifolia* 1 *Lemna minor* 1
% Channel cover : 60 (60)

Date : 8-8-90 Code : WB14 Site Name : Ashley Gauging Station
Channel Width (m) : 5 Channel Depth : 1
% Substrate : Gravel 60, Sand 30, Silt 10
% Flow type : Slow 100
Water Clarity : Clear
Bank slope : Gentle
Possible sources of damage : Grazing, trampling
Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 2 *Sparganium erectum* 2 *Schoenoplectus lacustris* 1 *Potamogeton perfoliatus* 1 *Apium nodiflorum* 1 *Sagittaria sagittifolia* 1 *Lemna minor* 2
% Channel cover : 30 (30)

Date : 8-8-90 Code : WB15 Site Name : Occupation Road
Channel Width (m) : 5 Channel Depth : 1.5
% Substrate : Gravel 60, Sand 30, Silt 10
% Flow type : Slow 100
Water Clarity : Turbid
Bank slope : Vertical or undercut
Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 2 *Sparganium erectum* 1 *Sagittaria sagittifolia* 1 *Lemna minor* 2 *Juncus effusus* 1
% Channel cover : 20 (20)

Date : 8-8-90 Code : WB16 Site Name : Cottingham/Bringhurst
Channel Width (m) : 6 Channel Depth : 1
% Substrate : Stone 65, Gravel 20, Sand 10, Silt 5
% Flow type : Slow 100
Water Clarity : Clear
Bank slope : Moderate
Possible sources of damage : Grazing, trampling
Extent of available margin : 0-1 m silty
Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 2 *Apium nodiflorum* 1 *Lemna minor* 2 *Rorippa amphibia* 1
% Channel cover : 15 (15)

Date : 9-8-90 Code : WB17 Site Name : Rockingham (West)
Channel Width (m) : 3 Channel Depth : 0.5
% Substrate : Boulder 30, Stone 40, Gravel 10, Sand 10, Silt 10
% Flow type : Slow 20, Moderate 20, Rapid 60
Water Clarity : Shallow clear
Bank slope : Gentle
Extent of available margin : 0.5 m
Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 3 *Sparganium erectum* 1 *Potamogeton pectinatus* 2 *Myosotis scorpioides* 1 *Veronica beccabunga* 1 *Apium nodiflorum* 1 *Lemna minor* 1 blanket weed 3 *Rorippa amphibia* 1
% Channel cover : 40 (10)

Date : 9-8-90 Code : WB18 Site Name : Rockingham
Channel Width (m) : 2 Channel Depth : 0.25
% Substrate : Boulder 5, Stone 85, Gravel 10

% Flow type : Moderate 10, Fast 30, Rapid 60
Water Clarity : Shallow clear
Bank slope : Gentle
Possible sources of damage : Grazing, trampling
Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 3 *Apium nodiflorum* 1 *Lemna minor* 1 blanket weed 2
% Channel cover : 30 (10)

Date : 9-8-90 Code : WB19 Site Name : Rockingham (East)
Channel Width (m) : 2 Channel Depth : 0.25
% Substrate : Gravel 60, Silt 20, Solid clay 20
% Flow type : Moderate 50, Fast 50
Water Clarity : Clear
Bank slope : Steep
Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 3 *Potamogeton pectinatus* 3 *Myosotis scorpioides* 1 *Lemna minor* 1 blanket weed 2 *Rorippa amphibia* 1
% Channel cover : 70 (50)

Date : 9-8-90 Code : WB20 Site Name : Gretton Middle Bridge
Channel Width (m) : 3 Channel Depth : 0.25
% Substrate : Boulder 5, Stone 80, Gravel 15
% Flow type : Moderate 40, Fast 60
Water Clarity : Shallow clear
Bank slope : Gentle
Possible sources of damage : Construction of overflow around weir u/s
Extent of available margin : 1 m
Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 3 *Glyceria maxima* 2 *Sparganium erectum* 1 *Veronica beccabunga* 1 *Apium nodiflorum* 1 *Lemna minor* 1 blanket weed 3
% Channel cover : 70 (10)

Date : 9-8-90 Code : WB21 Site Name : Thorpe-by-Water
Channel Width (m) : Channel Depth :
% Substrate : Silt 100
% Flow type : Slow 100
Water Clarity : Clear
Bank slope : Gentle
Possible sources of damage : Trampling, grazing
Extent of available margin : 0.5 m
Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 2 *Glyceria maxima* 1 *Sparganium erectum* 2 *Sparganium emersum* 1 *Schoenoplectus lacustris* 2 *Lemna minor* 2 blanket weed 3 *Rorippa amphibia* 2
% Channel cover : 80 (20)

Date : 9-8-90 Code : WB22 Site Name : Harringworth (West)
Channel Width (m) : 3 Channel Depth : 1
% Substrate : Stone 30, Gravel 60, Sand 10
% Flow type : Slow 100
Water Clarity : Clear
Bank slope : Steep
Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 2 *Sparganium erectum* 1 *Veronica beccabunga* 1 *Elodea canadensis* 1 *Lemna minor* 2
% Channel cover : 40 (40)

Date : 9-8-90 Code : WB23 Site Name : Harringworth
Channel Width (m) : 5 Channel Depth : 0.75

% Substrate : Stone 50, Gravel 5, Sand 30, Silt 15
% Flow type : Negligible 20, Slow 80
Water Clarity : Clear
Bank slope : Moderate
Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 3 *Glyceria maxima* 1 *Sparganium erectum* 1 *Myosotis scorpioides* 1 *Apium nodiflorum* 1 *Lemna minor* 2 blanket weed 3 *Rorippa amphibia* 1
% Channel cover : 75 (5)

Date : 9-8-90 Code : WB24 Site Name : Harringworth (East)
Channel Width (m) : 6 Channel Depth : 1
% Substrate : Gravel 80, Silt 20
% Flow type : Slow 100
Water Clarity : Clear
Bank slope : Steep
Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 2 *Glyceria maxima* 1 *Sparganium erectum* 1 *Myosotis scorpioides* 1 *Lemna minor* 2 *Nuphar lutea* 1 blanket weed 3
% Channel cover : 80 (10)

Date : 9-8-90 Code : WB25 Site Name : Turtle Bridge
Channel Width (m) : 6 Channel Depth : 0.5
% Substrate : Stone 10, Gravel 80, Sand 10
% Flow type : Slow 20, Moderate 80
Water Clarity : Shallow clear
Bank slope : Moderate
Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 3 *Glyceria maxima* 1 *Polygonum amphibium* 1 *Myosotis scorpioides* 1 *Lemna minor* 2 blanket weed 3
% Channel cover : 70 (10)

Date : 9-8-90 Code : WB26 Site Name : Barrowden Railway Bridge
Channel Width (m) : 5 Channel Depth : 2
% Substrate : Silt 100
% Flow type : Slow 100
Water Clarity : Clear
Bank slope : Moderate
Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 1 *Glyceria maxima* 1 *Phragmites australis* 3 *Sparganium erectum* 3 *Schoenoplectus lacustris* 1 *Myosotis scorpioides* 1 *Lemna minor* 2 *Nuphar lutea* 1
% Channel cover : 25 (25)

Date : 7-8-90 Code : WB27 Site Name : Wakerley
Channel Width (m) : 3 Channel Depth : 0.5
% Substrate : Stone 5, Gravel 80, Sand 15
% Flow type : Negligible 10, Slow 90
Water Clarity : Shallow clear
Bank slope : Gentle
Extent of available margin : 2-3 m
Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 3 *Glyceria maxima* 2 *Sparganium erectum* 3 *Ranunculus penicillatus* 1 *Veronica catenata* 1 *Lemna minor* 1 blanket weed 3
% Channel cover : 100 (20)

Date : 7-8-90 Code : WB28 Site Name : Duddington Old Road
Channel Width (m) : 4 Channel Depth : 0.5
% Substrate : Stone 20, Gravel 50, Sand 80
% Flow type : Negligible 20, Slow 80

Water Clarity : Shallow clear
Bank slope : Gentle
Possible sources of damage : Grazing, trampling
Extent of available margin : 2 m
Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 3 *Glyceria maxima* 2 *Sparganium erectum* 3 *Sparganium emersum* 1 *Potamogeton pectinatus* 1 *Ranunculus penicillatus* 1 *Myosotis scorpioides* 2 *Apium nodiflorum* 3 *Fontinalis antipyretica* 2 *Lemna minor* 1 blanket weed 3
% Channel cover : 85 (40)

Date : 7-8-90 Code : WB29 Site Name : Collyweston
Channel Width (m) : 6 Channel Depth : 1
% Substrate : Stone 50, Gravel 30, Sand 20
% Flow type : Negligible 20, Slow 80
Water Clarity : Clear
Bank slope : Moderate
Possible sources of damage : Trampling
Extent of available margin : 1-2 m
Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 3 *Glyceria maxima* 1 *Sparganium erectum* 3 *Schoenoplectus lacustris* 1 *Potamogeton pectinatus* 1 *Potamogeton perfoliatus* 1 *Lemna minor* 2 blanket weed 3
% Channel cover : 85 (15)

Date : 7-8-90 Code : WB30 Site Name : Tinwell
Channel Width (m) : 6 Channel Depth : 1
% Substrate : Stone 10, Gravel 10, Sand 30, Silt 50
% Flow type : Negligible 10, Slow 90
Water Clarity : Shallow clear
Bank slope : Moderate
Extent of available margin : 1 m
Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 2 *Sparganium erectum* 3 *Lemna minor* 2 blanket weed 3 *Rorippa amphibia* 1
% Channel cover : 100 (20)

Date : 7-8-90 Code : WB31 Site Name : Uffington
Channel Width (m) : 6 Channel Depth : 0.75
% Substrate : Stone 20, Gravel 60, Sand 15, Silt 5
% Flow type : Slow 80, Moderate 20
Water Clarity : Clear
Bank slope : Steep
Possible sources of damage : Floodbank grass-cutting
Extent of available margin : 2 m
Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 3 *Glyceria maxima* 3 *Sparganium erectum* 3 *Schoenoplectus lacustris* 2 *Potamogeton perfoliatus* 1 *Myosotis scorpioides* 1 *Veronica beccabunga* 1 *Nasturtium officinale* 3 *Apium nodiflorum* 3 *Lemna minor* 2 blanket weed 3 *Rorippa amphibia* 3
% Channel cover : 90 (80)

7.2.3 The Deepings, July 1987

Date : 23-7-87 Code : DB1 Site Name : West Deeping Mill Stream (Tallington)
Channel Width (m) : 5 Channel Depth : 0.7
% Substrate : Stone 20, Gravel 20, Sand 10, Silt 40, Solid clay 10
% Flow type : Slow 80, Moderate 20
Water Clarity : Clear

Bank slope : Moderate
Extent of available margin : 0-0.5 m clay/mud
Plant species above normal water level : *Phalaris arundinacea* 2 *Myosotis scorpioides* 3 *Veronica beccabunga* 1 *Veronica catenata* 1 *Juncus inflexus* 2
Plant species in channel or emergent from below normal water level : *Glyceria maxima* 2 *Potamogeton pectinatus* 3 *Myosotis scorpioides* 2 *Veronica beccabunga* 1 *Veronica catenata* 1 *Myriophyllum spicatum* 2 *Fontinalis antipyretica* 2 blanket weed 3
% Channel cover : 90 (70)

Date : 23-7-87 Code : DB2 Site Name : Lolham Mill Stream (Tallington)
Channel Width (m) : 4 Channel Depth : 0.6
% Substrate : Stone 70, Gravel 30
% Flow type : Moderate 10, Fast 90
Water Clarity : Clear
Bank slope : Steep
Extent of available margin : 0-0.5 m clay
Plant species above normal water level : *Myosotis scorpioides* 1
Plant species in channel or emergent from below normal water level : *Potamogeton pectinatus* 3 *Myosotis scorpioides* 3 *Fontinalis antipyretica* 2 blanket weed 1 *Rorippa amphibia* 1
% Channel cover : 50 (50)

Date : 19-7-87 Code : DB3 Site Name : West Deeping (North)
Channel Width (m) : 5 Channel Depth : 0.5
% Substrate : Stone 20, Gravel 20, Sand 20, Solid clay 40
% Flow type : Slow 20, Moderate 80
Water Clarity : Clear
Bank slope : Moderate
Possible sources of damage : Shaded d/s
Extent of available margin : 0-1 m clay/sand
Plant species above normal water level : *Phalaris arundinacea* 2 *Glyceria maxima* 3 *Sparganium erectum* 1
Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 1 *Glyceria maxima* 3 *Sparganium erectum* 2 *Potamogeton pectinatus* 3 blanket weed 3
% Channel cover : 65 (60)

Date : 19-7-87 Code : DB4 Site Name : West Deeping (South)
Channel Width (m) : 5 Channel Depth : 0.3
% Substrate : Stone 40, Gravel 30, Sand 30, Silt 10
% Flow type : Slow 30, Moderate 70
Water Clarity : Clear
Bank slope : Gentle
Extent of available margin : Extensive shallow wet (0-3 m)
Plant species above normal water level : *Phalaris arundinacea* 2 *Glyceria maxima* 3 *Apium nodiflorum* 1
Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 3 *Glyceria maxima* 3 *Nasturtium officinale* 2 *Apium nodiflorum* 3 blanket weed 2 *Rorippa amphibia* 2
% Channel cover : 55 (50)

Date : 23-7-87 Code : DB5 Site Name : Greatford Cut
Channel Width (m) : 9 Channel Depth : 1.5
% Substrate : Silt 100
% Flow type : Negligible 100
Water Clarity : Clear
Bank slope : Moderate
Extent of available margin : 0-2 m wet
Plant species above normal water level : *Glyceria fluitans* 2 *Glyceria maxima* 3 *Myosotis scorpioides* 1 *Apium nodiflorum* 2
Plant species in channel or emergent from below normal water level : Glyceria fluitans 3 Glyceria maxima 3

Sparganium erectum 1 *Potamogeton natans* 1 *Potamogeton berchtoldii* 2 *Apium nodiflorum* 1 *Elodea canadensis* 3 *Lemna minor* 3 blanket weed 2 *Ceratophyllum demersum* 3
% Channel cover : 98 (98)

Date : 23-7-87 Code : DB6 Site Name : Market Deeping
Channel Width (m) : 16 Channel Depth : 0.8
% Substrate : Stone 5, Gravel 45, Sand 50
% Flow type : Moderate 100
Water Clarity : Clear
Bank slope : Gentle
Extent of available margin : 0-3 m wet
Plant species above normal water level : *Phalaris arundinacea* 1 *Glyceria maxima* 2 *Apium nodiflorum* 1
Plant species in channel or emergent from below normal water level : *Glyceria maxima* 3 *Sparganium erectum* 1 *Schoenoplectus lacustris* 2 *Potamogeton pectinatus* 3 *Ranunculus penicillatus* 1 *Myosotis scorpioides* 1 *Apium nodiflorum* 2 *Fontinalis antipyretica* 2 blanket weed 3
% Channel cover : 45 (25)

Date : 23-7-87 Code : DB7 Site Name : Deeping Gate (West)
Channel Width (m) : 14 Channel Depth : 0.8
% Substrate : Stone 10, Gravel 30, Sand 40, Silt 20
% Flow type : Negligible 10, Slow 50, Moderate 40
Water Clarity : Clear
Bank slope : Gentle
Extent of available margin : 1-3 m wet
Plant species above normal water level : *Phalaris arundinacea* 1 *Glyceria fluitans* 2 *Glyceria maxima* 2 *Carex otrubae* 1 *Juncus inflexus* 1
Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 2 *Glyceria fluitans* 1 *Glyceria maxima* 3 *Schoenoplectus lacustris* 2 *Potamogeton pectinatus* 3 *Ranunculus penicillatus* 1 blanket weed 3 *Ceratophyllum demersum* 1
% Channel cover : 60 (40)

Date : 23-7-87 Code : DB8 Site Name : Deeping Gate
Channel Width (m) : 14 Channel Depth : 0.7
% Substrate : Stone 10, Gravel 50, Sand 25, Silt 15
% Flow type : Moderate 100
Water Clarity : Clear
Bank slope : Gentle
Extent of available margin : 0-0.5 m wet
Plant species above normal water level : *Phalaris arundinacea* 3 *Glyceria maxima* 1 *Myosotis scorpioides* 1
Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 1 *Glyceria maxima* 3 *Schoenoplectus lacustris* 3 *Potamogeton pectinatus* 3 *Myosotis scorpioides* 1 blanket weed 3
% Channel cover : 95 (50)

Date : 23-7-87 Code : DB9 Site Name : Deeping Gate (East)
Channel Width (m) : 13 Channel Depth : 0.8
% Substrate : Gravel 80, Sand 20
% Flow type : Moderate 100
Water Clarity : Clear
Bank slope : Gentle
Extent of available margin : 0-0.5 m clay/sand
Plant species above normal water level : *Phalaris arundinacea* 3 *Myosotis scorpioides* 1
Plant species in channel or emergent from below normal water level : *Glyceria maxima* 2 *Schoenoplectus lacustris* 2 *Potamogeton pectinatus* 3 blanket weed 3
% Channel cover : 95 (35)

Date : 23-7-87 Code : DB10 Site Name : Deeping St James (North)
Channel Width (m) : 12 Channel Depth : 1.5
% Substrate : Gravel 40, Sand 30, Silt 30
% Flow type : Slow 30, Moderate 60, Fast 10
Water Clarity : Clear
Bank slope : Steep
Extent of available margin : Mainly zero, some 2 m
Plant species above normal water level : *Phalaris arundinacea* 2 *Glyceria maxima* 1 *Veronica beccabunga* 1
Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 1 *Glyceria maxima* 3 *Sparganium erectum* 1 *Schoenoplectus lacustris* 1 *Potamogeton pectinatus* 3 *Potamogeton perfoliatus* 3 *Ranunculus penicillatus* 2 *Myosotis scorpioides* 1 *Veronica beccabunga* 2 *Sagittaria sagittifolia* 1 *Myriophyllum spicatum* 2 *Fontinalis antipyretica* 2 *Lemna minor* 2 blanket weed 3
% Channel cover : 70 (50)

Date : 23-7-87 Code : DB11 Site Name : Deeping St James (South)
Channel Width (m) : 8 Channel Depth : 1
% Substrate : Silt 100
% Flow type : Negligible 100
Water Clarity : Clear
Bank slope : Steep
Extent of available margin : 0-2 m wet
Plant species above normal water level : *Glyceria maxima* 2 *Mentha aquatica* 2
Plant species in channel or emergent from below normal water level : *Glyceria maxima* 3 *Mentha aquatica* 2 *Apium nodiflorum* 1 *Lemna minor* 3 blanket weed 1 *Ceratophyllum demersum* 3 *Rumex hydrolapathum* 1
% Channel cover : 90 (90)

Date : 23-7-87 Code : DB12 Site Name : Maxey Cut (Tallington)
Channel Width (m) : 15 Channel Depth : 0.8
% Substrate : Stone 10, Sand 70, Silt 20
% Flow type : Moderate100
Water Clarity : Shallow clear
Bank slope : Moderate
Possible sources of damage : Artificial, tarmac? banks ...
Plant species above normal water level : *Phalaris arundinacea* 1
Plant species in channel or emergent from below normal water level : blanket weed 3
% Channel cover : 50 (0)

7.2.4 River Gwash mainstream, August 1990

Date : 6-8-90 Code : GB1 Site Name : Bunker's Hill
Channel Width (m) : 3 Channel Depth : 0.5
% Substrate : Silt 100
% Flow type : Slow 100
Water Clarity : Shallow clear
Bank slope : Moderate
Possible sources of damage : Revetted banks maintained as lawn
Plant species above normal water level : *Myosotis scorpioides* 2 *Juncus inflexus* 1
Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 3 *Veronica beccabunga* 2 *Nasturtium officinale* 1 *Apium nodiflorum* 1 blanket weed 3
% Channel cover : 80 (25)

Date : 6-8-90 Code : GB2 Site Name : Wild's Lodge
Channel Width (m) : 3 Channel Depth : 0.75
% Substrate : Stone 30, Silt 70
% Flow type : Slow 100

Water Clarity : Clear
Bank slope : Steep
Possible sources of damage : Some shading
Extent of available margin : 0.5-1 m
Plant species above normal water level : *Myosotis scorpioides* 2
Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 2 *Sparganium erectum* 3 *Sparganium emersum* 3 *Veronica beccabunga* 3 *Oenanthe fluviatilis* 1 *Sagittaria sagittifolia* 1
% Channel cover : 65 (65)

Date : 6-8-90 Code : GB3 Site Name : Tickencote
Channel Width (m) : 3 Channel Depth : 0.75
% Substrate : Stone 30, Gravel 30, Sand 40
% Flow type : Negligible 10, Slow 90
Water Clarity : Clear
Bank slope : Gentle
Possible sources of damage : Shading, trampling
Extent of available margin : 0.5-1 m
Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 3 *Glyceria maxima* 1 *Sparganium erectum* 1 *Sparganium emersum* 1 *Nasturtium officinale* 1 *Lemna minor* 2 *Juncus inflexus* 1 blanket weed 3 *Mimulus guttatus* 2 *Hippurus vulgaris* 1 *Rorippa amphibia* 1 *Berula erecta* 2
% Channel cover : 60 (20)

Date : 6-8-90 Code : GB4 Site Name : Great Casterton (North)
Channel Width (m) : 3 Channel Depth : 1
% Substrate : Boulder 40, Stone 20, Gravel 20, Sand 20
% Flow type : Negligible 80, Slow 20
Water Clarity : Clear
Bank slope : Gentle
Extent of available margin : 1-2 m
Plant species above normal water level : *Myosotis scorpioides* 2
Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 1 *Glyceria maxima* 3 *Sparganium erectum* 2 *Sparganium emersum* 3 *Nasturtium officinale* 1 *Lemna minor* 1 blanket weed 3 *Berula erecta* 2 *Zannichellia palustris* 1
% Channel cover : 45 (25)

Date : 6-8-90 Code : GB5 Site Name : Great Casterton (South)
Channel Width (m) : 3 Channel Depth : 0.5
% Substrate : Stone 50, Gravel 30, Sand 10, Silt 10
% Flow type : Negligible 30, Slow 40, Moderate 30
Water Clarity : Shallow clear
Bank slope : Moderate
Possible sources of damage : Shading, blockage & ponding
Extent of available margin : 0.5-1 m
Plant species above normal water level : *Myosotis scorpioides* 2
Plant species in channel or emergent from below normal water level : *Glyceria maxima* 3 *Veronica beccabunga* 3 *Nasturtium officinale* 2 *Callitriche stagnalis* 2 *Lemna minor* 1 blanket weed 3 *Berula erecta* 1
% Channel cover : 40 (30)

Date : 6-8-90 Code : GB6 Site Name : Tolethorpe Hall
Channel Width (m) : 3 Channel Depth : 0.5
% Substrate : Gravel 10, Sand 70, Silt 20
% Flow type : Negligible 5, Slow 5, Moderate 10, Fast 80
Water Clarity : Shallow clear
Bank slope : Moderate
Possible sources of damage : Shading, trampling

Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 1 *Sparganium erectum* 1 *Sparganium emersum* 2 *Potamogeton perfoliatus* 2 *Potamogeton crispus* 1 *Ranunculus penicillatus* 3 *Myosotis scorpioides* 2 *Veronica beccabunga* 2 *Nasturtium officinale* 3 *Apium nodiflorum* 1 *Sagittaria sagittifolia* 1 *Callitriche stagnalis* 1 *Fontinalis antipyretica* 1 *Lemna minor* 2 *Juncus inflexus* 2 blanket weed 1 *Berula erecta* 3 *Iris pseudacorus* 1 *Oenanthe fluviatilis* 3 *Zannichellia palustris* 2
% Channel cover : 50 (50)

Date : 6-8-90 Code : GB7 Site Name : Ryhall (1)
Channel Width (m) : 4 Channel Depth : 0.75
% Substrate : Stone 30, Gravel 40, Sand 20, Silt 10
% Flow type : Negligible 30, Slow 70
Water Clarity : Clear
Bank slope : Steep
Possible sources of damage : Shading
Extent of available margin : 0.5 m
Plant species in channel or emergent from below normal water level : *Sparganium emersum* 3 *Schoenoplectus lacustris* 1 *Potamogeton perfoliatus* 3 *Myosotis scorpioides* 1 *Veronica beccabunga* 2 *Nasturtium officinale* 1 *Apium nodiflorum* 1 *Callitriche stagnalis* 2 *Lemna minor* 1 blanket weed 1 *Berula erecta* 2 *Nymphoides peltata* 1 *Oenanthe fluviatilis* 3 *Zannichellia palustris* 1
% Channel cover : 60 (60)

Date : 6-8-90 Code : GB 8 Site Name : Ryhall (2)
Channel Width (m) : 4 Channel Depth : 1
% Substrate : Sand 70, Silt 30
% Flow type : Negligible 100
Water Clarity : Clear
Bank slope : Moderate
Extent of available margin : 1 m
Plant species in channel or emergent from below normal water level : *Sparganium emersum* 1 *Potamogeton perfoliatus* 2 *Myosotis scorpioides* 2 *Veronica beccabunga* 2 *Nasturtium officinale* 2 *Apium nodiflorum* 2 *Fontinalis antipyretica* 1 blanket weed 2 *Berula erecta* 2 *Oenanthe fluviatilis* 3 *Zannichellia palustris* 1
% Channel cover : 65 (55)

Date : 6-8-90 Code : GB9 Site Name : Ryhall (3)
Channel Width (m) : Channel Depth :
% Substrate : Boulder 5, Stone 40, Gravel 40, Sand 15
% Flow type : Fast 100
Water Clarity : Shallow clear
Bank slope : Steep
Extent of available margin : 0-0.5 m
Plant species in channel or emergent from below normal water level : *Lemna minor* 1 blanket weed 1 *Berula erecta* 1 *Oenanthe fluviatilis* 1
% Channel cover : 10 (5)

Date : 6-8-90 Code : GB10 Site Name : Belmesthorpe (North)
Channel Width (m) : 3 Channel Depth : 1
% Substrate : Stone 30, Gravel 30, Sand 25, Silt 15
% Flow type : Negligible 10, Slow 90
Water Clarity : Clear
Bank slope : Gentle
Possible sources of damage : Shading, trampling, bank domestic
Extent of available margin : 1 m
Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 2 *Glyceria maxima* 1 *Sparganium erectum* 1 *Potamogeton pectinatus* 1 *Potamogeton perfoliatus* 2 *Veronica beccabunga* 3 *Nasturtium officinale* 3 *Apium nodiflorum* 2 *Fontinalis antipyretica* 1 *Lemna minor* 1 blanket weed 3 *Oenanthe fluviatilis* 1
% Channel cover : 55 (15)

Date : 6-8-90 Code : GB11 Site Name : Belmesthorpe (West)
Channel Width (m) : 3 Channel Depth : 0.5
% Substrate : Stone 30, Gravel 60, Sand 10
% Flow type : Slow 10, Moderate 10, Fast 80
Water Clarity : Shallow clear
Bank slope : Moderate
Extent of available margin : 0.5 m
Plant species in channel or emergent from below normal water level : *Phalaris arundinacea* 2 *Sparganium emersum* 1 *Veronica beccabunga* 1 *Nasturtium officinale* 2 *Apium nodiflorum* 2 *Lemna minor* 2 blanket weed 3 *Berula erecta* 1
% Channel cover : 50 (10)

Date : 6-8-90 Code : GB12 Site Name : Newstead
Channel Width (m) : 5 Channel Depth : 1.5
% Substrate : Sand 10, Silt 90
% Flow type : Negligible 100
Water Clarity : Turbid
Bank slope : Steep
Possible sources of damage : Construction work causing ponding
Plant species in channel or emergent from below normal water level : *Glyceria maxima* 3 *Sparganium erectum* 2 *Veronica beccabunga* 1 *Veronica catenata* 1 *Nasturtium officinale* 2 *Apium nodiflorum* 1 *Lemna minor* 3 *Nuphar lutea* 2 blanket weed 3
% Channel cover : 90 (10)

8. MACROINVERTEBRATES FROM THE RIVER WELLAND, AUTUMN 1988

Samples were taken from 42 'potential habitats' on the River Welland between Collyweston and the confluence of the River Chater between late July and early September.

8.1 List of samples by potential habitat, with codes and short names

1	CLADPOL1	4	CLADPOL4	*Cladophora* sp. in pool
5	CLADRUN1	9	CLADRUN5	*Cladophora* sp. in run
10	ELODPOL1	14	ELODPOL5	*Elodea canadensis* in pool
15	ELODRUN1	18	ELODRUN4	*Elodea canadensis* in run
19	ENTORUN1	21	ENTORUN3	*Enteromorpha* sp. in run
22	ENTOPOL1	24	ENTOPOL3	*Enteromorpha* sp. in pool
25	FONTRUN1	29	FONTRUN5	*Fontinalis antipyretica* in run
30	FONTRIF1	34	FONTRIF5	*Fontinalis antipyretica* in riffle
35	LUCERUN1	39	LUCERUN5	*Potamogeton lucens* in run
40	MYRIRUN1	43	MYRIRUN4	*Myriophyllum spicatum* in run
44	NATAPOL1	48	NATAPOL5	*Potamogeton natans* in pool
49	PECTRUN1	52	PECTRUN4	*Potamogeton pectinatus* in run
53	PECTRIF1	55	PECTRIF3	*Potamogeton pectinatus* in riffle
56	PERFRUN1	60	PERFRUN5	*Potamogeton perfoliatus* in run
61	RANURIF1	65	RANURIF5	*Ranunculus penicillatus* in riffle
66	RANURUN1	70	RANURUN5	*Ranunculus penicillatus* in run
71	SCHORUN1	73	SCHORUN3	*Schoenoplectus lacustris* in run
74	AGROMAR1	78	AGROMAR5	*Agrostis* sp. in margin
79	GLYCMAR1	83	GLYCMAR5	*Glyceria maxima* in margin
84	ALBAPOL1	88	ALBAPOL5	*Nymphaea alba* in pool
89	NUPHRUN1	92	NUPHRUN4	*Nuphar lutea* in run
93	NUPHPOL1	97	NUPHPOL5	*Nuphar lutea* in pool
98	PHALMAR1	102	PHALMAR5	*Phalaris arundinacea* in margin
103	RORIMAR1	107	RORIMAR5	*Rorippa amphibia* in margin
108	SPARMAR1	112	SPARMAR5	*Sparganium erectum* in margin
113	ACUTMAR1	115	ACUTMAR3	*Carex acutiformis* in margin
116	SCHOMAR1	118	SCHOMAR3	*Schoenoplectus lacustris* in margin
119	GLYCROT1	123	GLYCROT5	Roots of *Glyceria maxima* in margin
124	SPARROT1	128	SPARROT5	Roots of *Sparganium erectum* in margin
129	ACUTROT1	131	ACUTROT3	Roots of *Carex acutiformis* in margin
132	SCHOROT1	135	SCHOROT4	Roots of *Schoenoplectus lacustris* in margin
136	COLLMUD1	140	COLLMUD5	Mud (silt) with leaf litter
141	DUDDMUD1	145	DUDDMUD5	Mud (silt) without leaf litter
146	SANDAAA1	154	SANDCCC3	Sand from A) u/s riffles B) d/s riffles C) point bar
155	DUDDGRV1	158	DUDDGRV4	Gravel from d/s of riffles
159	COLLGRV1	163	COLLGRV5	Gravel from u/s of riffles
164	RIFFAAA1	178	RIFFCCC5	Riffle substrate without much vegetation
179	ROCKPOL1	181	ROCKPOL3	Rocks (ex-hardcore) in pool

NB Unless explicitly stated, macrophyte samples did not include rootstock

8.2 List of recorded taxa, with codes and short names

1	SIMUANGL	*Simulium angustipes* larva	2	SIMUANGP	*S. angustipes* pupa
3	SIMUEQUL	*S. equinum* larva	4	SIMUEQUP	*S. equinum* pupa
5	SIMUSALL	*S. salopiense* larva	6	SIMUSALP	*S. salopiense* pupa

7	SIMUERYL	*S. erythrocephalum* larva	8	SIMUERYP	*S. erythrocephalum* pupa
9	SIMUORNL	*S. ornatum* larva	10	SIMUORNP	*S. ornatum* pupa
11	ELMIAENL	*Elmis aenea* larva	12	ELMIAENA	*E. aenea* adult
13	ESOLPARA	*Esolus parallelipipedus* adult	14	LIMNVOLL	*Limnius volckmari* larva
15	LIMNVOLA	*L. volckmari* adult	16	OULITUBL	*Oulimnius tuberculatus* larva
17	OULITUBA	*O. tuberculatus* adult	18	THEOFLUV	*Theodoxus fluviatilis*
19	VALVPISC	*Valvata piscinalis*	20	POTAJENK	*Potamopyrgus jenkinsi*
21	BYTHTENT	*Bythinia tentaculata*	22	LYMNSTAG	*Lymnaea stagnalis*
23	LYMNPERE	*L. pereger*	24	PHYSFONT	*Physa fontinalis*
25	PLANCARI	*Planorbis carinatus*	26	PLANPLAN	*P. planorbis*
27	PLANVORT	*P. vortex*	28	PLANALBU	*P. albus*
29	PLANCONT	*P. contortus*	30	ANCYFLUV	*Ancylus fluviatilis*
31	SPHACORN	*Sphaerium corneum*	32	PISISPEC	*Pisidium* sp.
33	ANODCYGN	*Anodonta cygnaea*	34	EPHEDANI	*Ephemera danica*
35	EPHEVULG	*E. vulgata*	36	EPHEIGNI	*Ephemerella ignita*
37	HABRFUSC	*Habrophlebia fusca*	38	CAENMACR	*Caenis macrura*
39	CAENLUCT	*C. luctuosa*	40	BAETRHOD	*Baetis rhodani*
41	BAETSCAM	*B. scambus*	42	BAETVERN	*B. vernus*
43	CENTLUTE	*Centroptilum luteolum*	44	CLOEDIPT	*Cloeon dipterum*
45	CLOESIMI	*C. simile*	46	PROCBIFI	*Procloeon bifidum*
47	LEUCGENI	*Leuctra geniculata*	48	ISCHELEG	*Ischnura elegans*
49	ENALCYAT	*Enallagma cyathigerum*	50	AGRISPLE	*Agrion splendens*
51	AESHCYAN	*Aeshna cyanea*	52	HYDRSTAG	*Hydrometra stagnorum*
53	VELINMPH	*Velia nymph*	54	VELICAPR	*V. caprai*
55	VELISAUL	*V. sauli*	56	GERRNMPH	*Gerris nymph*
57	GERRLACU	*G. lacustris*	58	GERRNAJA	*G. najas*
59	NEPACINE	*Nepa cinerea*	60	NOTONMPH	*Notonecta* nymph
61	NOTOGLAU	*N. glauca*	62	NOTOMACU	*N. maculata*
63	CORINMPH	Corixidae nymph	64	HESPSAHL	*Hesperocorixa sahlbergi*
65	SIGADORS	*Sigara dorsalis*	66	SIGAFALL	*S. falleni*
67	HALILARV	*Haliplus* larva	68	HALICONF	*H. confinis*
69	HALIFLUV	*H. fluviatilis*	70	HALIIMMA	*H. immaculatus*
71	LACCHYAL	*Laccophilus hyalinus*	72	PLATMACU	*Platambus maculatus*
73	HYDRPALU	*Hydroporus palustris*	74	POTAELEG	*Potamonectes elegans*
75	HELOLARV	Helophorinae larva	76	DYTILARV	Dytiscinae larva
77	HELOBREV	*Helophorus brevipalpis*	78	HYDRGRAC	*Hydraena gracilis*
79	CHAESEMI	*Chaetarthria seminulum*	80	POLYTNIG	*Polycelis tenuis/nigra*
81	DUGELUGU	*Dugesia lugubris*	82	DENDLACT	*Dendrocoelum lacteum*
83	PISCGEOM	*Piscicola geometra*	84	THERTESS	*Theromyzon tessulatum*
85	HEMIMARG	*Hemiclepsis marginata*	86	GLOSHETE	*Glossiphonia heteroclita*
87	GLOSCOMP	*G. complanata*	88	HELOSTAG	*Helobdella stagnalis*
89	ERPOTEST	*Erpobdella testacea*	90	ERPOOCTO	*E. octoculata*
91	ASELAQUA	*Asellus aquaticus*	92	CRANPSEU	*Crangonyx pseudogracilis*
93	GAMMPULE	*Gammarus pulex*	94	AUSTPALL	*Austropotamobius pallipes*
95	SIALLUTA	*Sialis lutaria*	96	RHYADORS	*Rhyacophila dorsalis*
97	HPSYPELL	*Hydropsyche pellucidula*	98	HPSYANGU	*H. angustipennis*
99	HPSYCONT	*H. contubernalis*	100	HPSYSILT	*H. siltalai*
101	HPTLSPEC	*Hydroptila* sp.	102	SERIPERS	*Sericostoma personatum*
103	ATHRATER	*Athripsodes aterrimus*	104	CERADISS	*Ceraclea dissimilis*
105	LIMNLUNA	*Limnephilus lunatus*	106	EPHYIDAE	Ephydridae
107	TIPUIDAE	Tipulidae (not *Dicranota* sp.)	108	DICRSPEC	*Dicranota* sp.
109	HACARINA	Hydracarina	110	CERAIDAE	Ceratopogonidae
111	ANOPSPEC	*Anopheles* sp.	112	TABAIDAE	Tabanidae
113	DOLIIDAE	Dolichopodidae	114	PSYCIDAE	Psychodidae
115	TANYPROC	*Procladius* sp.	116	TANYMACR	*Macropelopia* sp.
117	TANYABLA	*Ablabesmyia* sp.	118	TANYINAE	Tanypodinae indet.

119	ORTHCORY	*Corynoneura* sp.	120	ORTHTHIE	*Thienemanniella* sp.
121	ORTHSYNO	*Synorthocladius semivirens*	122	ORTHINAE	Orthocladiinae indet.
123	CHIRCLAD	*Cladotanytarsus* sp.	124	CHIRCRYP	*Cryptochironomus* sp.
125	CHIRDEMI	*Demicryptochironomus* sp.	126	CHIRENDO	*Endochironomus* sp.
127	CHIRPMUS	*Parachironomus* sp.	128	CHIRPSUS	*Paratanytarsus* sp.
129	CHIRPPES	*Paratendipes* sp.	130	CHIRPLUM	*Polypedilum* sp.
131	CHIRRSUS	*Rheotanytarsus* sp.	132	CHIRSAET	'*Saetheria*-like sp'
133	CHIRTSUS	*Tanytarsus* sp.	134	CHIRCHIR	*Chironomus* sp.
135	CHIRINAE	Chironominae indet.	136	POTTLONG	*Potthastia longimana* gp.
137	PRODOLIV	*Prodiamesa olivacea*	138	TUBIHAIR	Tubificidae (hair chaetae)
139	TUBINOHR	Tubificidae (no hair chaetae)	140	NAIDIDAE	Naididae
141	LCULIDAE	Lumbriculidae	142	HTAXIDAE	Haplotaxidae

8.3 Data listed by sample

1 CLADPOL1

16	OULITUBL	2	17	OULITUBA	3	19	VALVPISC	13
23	LYMNPERE	46	24	PHYSFONT	7	36	EPHEIGNI	7
43	CENTLUTE	2	44	CLOEDIPT	1	49	ENALCYAT	2
63	CORINMPH	7	68	HALICONF	2	75	HELOLARV	22
76	DYTILARV	1	101	HPTLSPEC	2	106	EPHYIDAE	1
110	CERAIDAE	2	118	TANYINAE	1	122	ORTHINAE	6
131	CHIRRSUS	1						

2 CLADPOL2

11	ELMIAENL	1	12	ELMIAENA	1	16	OULITUBL	2
19	VALVPISC	5	21	BITHTENT	1	23	LYMNPERE	55
24	PHYSFONT	4	36	EPHEIGNI	13	43	CENTLUTE	11
44	CLOEDIPT	2	63	CORINMPH	10	75	HELOLARV	13
109	HACARINA	4	128	CHIRPSUS	1	131	CHIRRSUS	2

3 CLADPOL3

19	VALVPISC	8	20	POTAJENK	8	23	LYMNPERE	54
24	PHYSFONT	22	27	PLANVORT	2	45	CLOESIMI	1
63	CORINMPH	8	68	HALICONF	1	69	HALIFLUV	1
70	HALIIMMA	1	72	PLATMACU	1	74	POTAELEG	1
75	HELOLARV	14	84	THERTESS	1	91	ASELAQUA	1
107	TIPUIDAE	3	118	TANYINAE	2	122	ORTHINAE	3

4 CLADPOL4

18	THEOFLUV	1	19	VALVPISC	3	23	LYMNPERE	24
24	PHYSFONT	6	36	EPHEIGNI	8	63	CORINMPH	20
75	HELOLARV	4	109	HACARINA	1	118	TANYINAE	1
122	ORTHINAE	2	128	CHIRPSUS	1	131	CHIRRSUS	1

5 CLADRUN1

1	SIMUANGL	1	11	ELMIAENL	5	12	ELMIAENA	2
17	OULITUBA	2	19	VALVPISC	2	20	POTAJENK	12
23	LYMNPERE	5	31	SPHACORN	2	36	EPHEIGNI	1500
39	CAENLUCT	6	40	BAETRHOD	8	41	BAETSCAM	13

74	POTAELEG	2	75	HELOLARV	1	91	ASELAQUA	4
98	HPSYANGU	3	109	HACARINA	7			

6 CLADRUN2

11	ELMIAENL	7	12	ELMIAENA	2	17	OULITUBA	4
18	THEOFLUV	2	19	VALVPISC	4	20	POTAJENK	2
23	LYMNPERE	7	31	SPHACORN	3	36	EPHEIGNI	2500
38	CAENMACR	4	39	CAENLUCT	40	40	BAETRHOD	4
41	BAETSCAM	9	74	POTAELEG	7	75	HELOLARV	8
83	PISCGEOM	1	91	ASELAQUA	3	103	ATHRATER	3
109	HACARINA	4						

7 CLADRUN3

11	ELMIAENL	25	12	ELMIAENA	3	17	OULITUBA	2
19	VALVPISC	4	20	POTAJENK	20	21	BITHTENT	9
24	PHYSFONT	2	36	EPHEIGNI	2000	38	CAENMACR	2
39	CAENLUCT	32	40	BAETRHOD	6	41	BAETSCAM	6
63	CORINMPH	1	75	HELOLARV	25	84	THERTESS	2
90	ERPOOCTO	1	91	ASELAQUA	2	103	ATHRATER	14
109	HACARINA	3	122	ORTHINAE	450	130	CHIRPLUM	50

8 CLADRUN4

11	ELMIAENL	35	12	ELMIAENA	5	16	OULITUBL	1
17	OULITUBA	3	19	VALVPISC	6	20	POTAJENK	24
21	BITHTENT	9	23	LYMNPERE	1	36	EPHEIGNI	2000
38	CAENMACR	4	39	CAENLUCT	19	40	BAETRHOD	5
41	BAETSCAM	2	75	HELOLARV	5	84	THERTESS	1
91	ASELAQUA	19	100	HPSYSILT	1	101	HPTLSPEC	5
103	ATHRATER	5	109	HACARINA	1	122	ORTHINAE	850
128	CHIRPSUS	50	130	CHIRPLUM	50	131	CHIRRSUS	50

9 CLADRUN5

1	SIMUANGL	1	11	ELMIAENL	3	12	ELMIAENA	1
16	OULITUBL	1	18	THEOFLUV	1	19	VALVPISC	1
20	POTAJENK	3	23	LYMNPERE	2	31	SPHACORN	1
36	EPHEIGNI	800	39	CAENLUCT	5	40	BAETRHOD	2
41	BAETSCAM	16	63	CORINMPH	1	69	HALIFLUV	1
75	HELOLARV	5	93	GAMMPULE	2	101	HPTLSPEC	2
103	ATHRATER	4	109	HACARINA	2	119	ORTHCORY	50
122	ORTHINAE	2000	128	CHIRPSUS	50	130	CHIRPLUM	100

10 ELODPOL1

11	ELMIAENL	1	17	OULITUBA	1	19	VALVPISC	4
20	POTAJENK	1	21	BITHTENT	9	24	PHYSFONT	7
27	PLANVORT	4	28	PLANALBU	1	30	ANCYFLUV	1
44	CLOEDIPT	26	46	PROCBIFI	1	56	GERRNMPH	1
59	NEPACINE	1	60	NOTONMPH	1	63	CORINMPH	3
65	SIGADORS	2	69	HALIFLUV	4	75	HELOLARV	1
76	DYTILARV	11	80	POLYTNIG	8	82	DENDLACT	2
87	GLOSCOMP	1	88	HELOSTAG	1	90	ERPOOCTO	5
91	ASELAQUA	315	103	ATHRATER	12	109	HACARINA	3

118	TANYINAE	1	122	ORTHINAE	9	128	CHIRPSUS	3
130	CHIRPLUM	2						

11 ELODPOL2

16	OULITUBL	1	17	OULITUBA	1	21	BITHTENT	4
24	PHYSFONT	11	27	PLANVORT	5	44	CLOEDIPT	15
49	ENALCYAT	5	56	GERRNMPH	1	59	NEPACINE	1
61	NOTOGLAU	1	63	CORINMPH	5	65	SIGADORS	1
75	HELOLARV	3	76	DYTILARV	12	80	POLYTNIG	4
82	DENDLACT	1	84	THERTESS	1	87	GLOSCOMP	1
88	HELOSTAG	2	90	ERPOOCTO	7	91	ASELAQUA	220
103	ATHRATER	14	109	HACARINA	2	111	ANOPSPEC	2
122	ORTHINAE	100	128	CHIRPSUS	5	130	CHIRPLUM	25
140	NAIDIDAE	31	141	LCULIDAE	7			

12 ELODPOL3

17	OULITUBA	2	21	BITHTENT	4	24	PHYSFONT	5
27	PLANVORT	4	44	CLOEDIPT	19	49	ENALCYAT	2
56	GERRNMPH	3	59	NEPACINE	1	63	CORINMPH	4
69	HALIFLUV	3	75	HELOLARV	3	76	DYTILARV	6
77	HELOBREV	2	80	POLYTNIG	7	81	DUGELUGU	2
87	GLOSCOMP	1	88	HELOSTAG	2	90	ERPOOCTO	5
91	ASELAQUA	204	103	ATHRATER	8	106	EPHYIDAE	1
109	HACARINA	1	118	TANYINAE	2	120	ORTHTHIE	1
122	ORTHINAE	2	128	CHIRPSUS	1			

13 ELODPOL4

17	OULITUBA	1	21	BITHTENT	10	24	PHYSFONT	4
27	PLANVORT	7	28	PLANALBU	1	31	SPHACORN	1
44	CLOEDIPT	13	49	ENALCYAT	1	63	CORINMPH	3
65	SIGADORS	2	69	HALIFLUV	1	75	HELOLARV	2
76	DYTILARV	5	77	HELOBREV	5	80	POLYTNIG	3
81	DUGELUGU	2	88	HELOSTAG	2	90	ERPOOCTO	5
91	ASELAQUA	250	103	ATHRATER	6	106	EPHYIDAE	1
109	HACARINA	3	122	ORTHINAE	7	130	CHIRPLUM	2

14 ELODPOL5

19	VALVPISC	4	20	POTAJENK	1	21	BITHTENT	8
24	PHYSFONT	11	27	PLANVORT	6	44	CLOEDIPT	31
49	ENALCYAT	2	50	AGRISPLE	1	51	AESHCYAN	1
56	GERRNMPH	1	63	CORINMPH	2	65	SIGADORS	1
73	HYDRPALU	1	75	HELOLARV	7	76	DYTILARV	14
77	HELOBREV	3	80	POLYTNIG	8	81	DUGELUGU	3
82	DENDLACT	2	88	HELOSTAG	3	90	ERPOOCTO	9
91	ASELAQUA	296	103	ATHRATER	27	109	HACARINA	1
122	ORTHINAE	48	128	CHIRPSUS	8	130	CHIRPLUM	16
140	NAIDIDAE	7						

15 ELODRUN1

11	ELMIAENL	1	17	OULITUBA	1	20	POTAJENK	1
24	PHYSFONT	1	31	SPHACORN	1	36	EPHEIGNI	1500

39	CAENLUCT	2	40	BAETRHOD	1	41	BAETSCAM	7
65	SIGADORS	1	75	HELOLARV	1	91	ASELAQUA	1
102	SERIPERS	1	103	ATHRATER	1	109	HACARINA	1
119	ORTHCORY	1	121	ORTHSYNO	4	122	ORTHINAE	56
128	CHIRPSUS	2	129	CHIRPPES	1	130	CHIRPLUM	5

16 ELODRUN2

20	POTAJENK	3	21	BITHTENT	1	24	PHYSFONT	3
36	EPHEIGNI	500	39	CAENLUCT	1	40	BAETRHOD	4
41	BAETSCAM	30	43	CENTLUTE	1	48	ISCHELEG	1
63	CORINMPH	1	75	HELOLARV	2	80	POLYTNIG	2
81	DUGELUGU	2	88	HELOSTAG	1	101	HPTLSPEC	2
103	ATHRATER	3	109	HACARINA	2	120	ORTHTHIE	1
122	ORTHINAE	17	128	CHIRPSUS	1	130	CHIRPLUM	6
131	CHIRRSUS	3	140	NAIDIDAE	4			

17 ELODRUN3

1	SIMUANGL	1	11	ELMIAENL	1	18	THEOFLUV	1
20	POTAJENK	11	21	BITHTENT	4	23	LYMNPERE	1
24	PHYSFONT	3	36	EPHEIGNI	1000	38	CAENMACR	1
39	CAENLUCT	1	40	BAETRHOD	8	41	BAETSCAM	96
44	CLOEDIPT	1	65	SIGADORS	2	69	HALIFLUV	2
75	HELOLARV	2	80	POLYTNIG	4	81	DUGELUGU	1
87	GLOSCOMP	1	88	HELOSTAG	1	99	HPSYCONT	1
102	SERIPERS	3	103	ATHRATER	1	109	HACARINA	3
119	ORTHCORY	2	121	ORTHSYNO	1	122	ORTHINAE	29
128	CHIRPSUS	5	130	CHIRPLUM	8	131	CHIRRSUS	1
133	CHIRTSUS	2	140	NAIDIDAE	2			

18 ELODRUN4

1	SIMUANGL	1	7	SIMUERYL	1	17	OULITUBA	1
20	POTAJENK	2	24	PHYSFONT	1	27	PLANVORT	1
36	EPHEIGNI	1500	39	CAENLUCT	4	40	BAETRHOD	13
41	BAETSCAM	210	48	ISCHELEG	1	63	CORINMPH	2
75	HELOLARV	3	80	POLYTNIG	1	84	THERTESS	2
90	ERPOOCTO	1	102	SERIPERS	2	103	ATHRATER	4
119	ORTHCORY	5	122	ORTHINAE	125	128	CHIRPSUS	5
130	CHIRPLUM	10						

19 ENTORUN1

11	ELMIAENL	1	17	OULITUBA	1	36	EPHEIGNI	14
39	CAENLUCT	1	53	VELINMPH	2	75	HELOLARV	3
77	HELOBREV	18	80	POLYTNIG	2	84	THERTESS	1
91	ASELAQUA	2	120	ORTHTHIE	15	122	ORTHINAE	315
128	CHIRPSUS	60	130	CHIRPLUM	60			

20 ENTORUN2

36	EPHEIGNI	100	39	CAENLUCT	150	41	BAETSCAM	3
63	CORINMPH	1	77	HELOBREV	1	80	POLYTNIG	2
91	ASELAQUA	9	103	ATHRATER	2	109	HACARINA	1
122	ORTHINAE	2000	128	CHIRPSUS	100	130	CHIRPLUM	50

21 ENTORUN3

20	POTAJENK	4	36	EPHEIGNI	50	39	CAENLUCT	30
40	BAETRHOD	1	41	BAETSCAM	2	63	CORINMPH	1
75	HELOLARV	2	77	HELOBREV	3	81	DUGELUGU	1
88	HELOSTAG	1	91	ASELAQUA	5	103	ATHRATER	1
109	HACARINA	3	122	ORTHINAE	800	128	CHIRPSUS	16
130	CHIRPLUM	32	131	CHIRRSUS	16			

22 ENTOPOL1

11	ELMIAENL	1	19	VALVPISC	3	23	LYMNPERE	6
24	PHYSFONT	3	43	CENTLUTE	3	44	CLOEDIPT	12
63	CORINMPH	5	75	HELOLARV	2	81	DUGELUGU	1
91	ASELAQUA	4	103	ATHRATER	6	109	HACARINA	1
122	ORTHINAE	5	131	CHIRRSUS	1	140	NAIDIDAE	1

23 ENTOPOL2

19	VALVPISC	3	20	POTAJENK	1	23	LYMNPERE	13
27	PLANVORT	1	43	CENTLUTE	1	44	CLOEDIPT	4
46	PROCBIFI	1	53	VELINMPH	1	60	NOTONMPH	1
63	CORINMPH	4	64	HESPSAHL	1	69	HALIFLUV	1
74	POTAELEG	1	75	HELOLARV	4	77	HELOBREV	1
80	POLYTNIG	2	88	HELOSTAG	2	91	ASELAQUA	4
103	ATHRATER	4	109	HACARINA	2	118	TANYINAE	1
122	ORTHINAE	11						

24 ENTOPOL3

19	VALVPISC	1	23	LYMNPERE	1	24	PHYSFONT	3
43	CENTLUTE	4	44	CLOEDIPT	9	53	VELINMPH	1
63	CORINMPH	2	65	SIGADORS	1	68	HALICONF	1
75	HELOLARV	4	80	POLYTNIG	2	91	ASELAQUA	1
103	ATHRATER	3	109	HACARINA	2	118	TANYINAE	1
122	ORTHINAE	6	131	CHIRRSUS	1	141	LCULIDAE	1

25 FONTRUN1

11	ELMIAENL	12	12	ELMIAENA	1154	16	OULITUBL	1
17	OULITUBA	386	23	LYMNPERE	1	36	EPHEIGNI	1050
39	CAENLUCT	3	40	BAETRHOD	1	41	BAETSCAM	17
75	HELOLARV	2	91	ASELAQUA	5	92	CRANPSEU	1
93	GAMMPULE	4	98	HPSYANGU	1	101	HPTLSPEC	1
102	SERIPERS	1	103	ATHRATER	4	109	HACARINA	30
122	ORTHINAE	6000	128	CHIRPSUS	100	131	CHIRRSUS	50

26 FONTRUN2

11	ELMIAENL	12	12	ELMIAENA	760	17	OULITUBA	245
20	POTAJENK	3	23	LYMNPERE	1	31	SPHACORN	5
36	EPHEIGNI	250	39	CAENLUCT	3	41	BAETSCAM	6
48	ISCHELEG	1	50	AGRISPLE	1	74	POTAELEG	1
91	ASELAQUA	10	101	HPTLSPEC	3	103	ATHRATER	7
109	HACARINA	10	119	ORTHCORY	5	120	ORTHTHIE	5
122	ORTHINAE	225	128	CHIRPSUS	10	131	CHIRRSUS	15

27 FONTRUN3

11	ELMIAENL	11	12	ELMIAENA	241	16	OULITUBL	1
17	OULITUBA	121	20	POTAJENK	6	21	BITHTENT	2
31	SPHACORN	3	36	EPHEIGNI	170	39	CAENLUCT	2
41	BAETSCAM	4	42	BAETVERN	1	75	HELOLARV	2
91	ASELAQUA	14	102	SERIPERS	1	103	ATHRATER	15
104	CERADISS	1	109	HACARINA	19	118	TANYINAE	5
119	ORTHCORY	5	122	ORTHINAE	65	128	CHIRPSUS	5
130	CHIRPLUM	5						

28 FONTRUN4

1	SIMUANGL	14	3	SIMUEQUL	16	11	ELMIAENL	5
12	ELMIAENA	50	17	OULITUBA	36	19	VALVPISC	5
21	BITHTENT	3	23	LYMNPERE	5	24	PHYSFONT	1
27	PLANVORT	1	28	PLANALBU	2	30	ANCYFLUV	1
31	SPHACORN	4	36	EPHEIGNI	1500	39	CAENLUCT	11
40	BAETRHOD	2	41	BAETSCAM	11	48	ISCHELEG	1
69	HALIFLUV	1	75	HELOLARV	1	83	PISCGEOM	2
88	HELOSTAG	1	90	ERPOOCTO	1	91	ASELAQUA	12
103	ATHRATER	7	105	LIMNLUNA	1	109	HACARINA	6
122	ORTHINAE	17	127	CHIRPMUS	1			

29 FONTRUN5

1	SIMUANGL	5	9	SIMUORNL	3	11	ELMIAENL	7
12	ELMIAENA	76	17	OULITUBA	18	19	VALVPISC	5
21	BITHTENT	4	23	LYMNPERE	3	24	PHYSFONT	1
31	SPHACORN	2	36	EPHEIGNI	1000	37	HABRFUSC	1
39	CAENLUCT	2	40	BAETRHOD	2	41	BAETSCAM	16
74	POTAELEG	1	75	HELOLARV	5	77	HELOBREV	11
91	ASELAQUA	14	103	ATHRATER	2	109	HACARINA	4
119	ORTHCORY	50	122	ORTHINAE	2200	128	CHIRPSUS	50
131	CHIRRSUS	200						

30 FONTRIF1

1	SIMUANGL	24	2	SIMUANGP	5	3	SIMUEQUL	52
4	SIMUEQUP	12	7	SIMUERYL	44	8	SIMUERYP	10
9	SIMUORNL	4	10	SIMUORNP	1	11	ELMIAENL	120
12	ELMIAENA	30	14	LIMNVOLL	55	15	LIMNVOLA	18
16	OULITUBL	3	17	OULITUBA	8	18	THEOFLUV	1
19	VALVPISC	1	20	POTAJENK	64	24	PHYSFONT	1
36	EPHEIGNI	32	39	CAENLUCT	1	40	BAETRHOD	1
41	BAETSCAM	8	69	HALIFLUV	1	75	HELOLARV	2
76	DYTILARV	1	87	GLOSCOMP	1	91	ASELAQUA	7
98	HPSYANGU	4	100	HPSYSILT	2	101	HPTLSPEC	2
103	ATHRATER	18	109	HACARINA	11	119	ORTHCORY	3
122	ORTHINAE	13	128	CHIRPSUS	1			

31 FONTRIF2

1	SIMUANGL	20	2	SIMUANGP	7	3	SIMUEQUL	100
4	SIMUEQUP	35	7	SIMUERYL	80	8	SIMUERYP	28
9	SIMUORNL	10	10	SIMUORNP	3	11	ELMIAENL	71

12	ELMIAENA	21	14	LIMNVOLL	29	15	LIMNVOLA	6
16	OULITUBL	1	17	OULITUBA	5	18	THEOFLUV	12
20	POTAJENK	35	30	ANCYFLUV	1	31	SPHACORN	1
36	EPHEIGNI	17	40	BAETRHOD	4	41	BAETSCAM	18
47	LEUCGENI	1	63	CORINMPH	2	69	HALIFLUV	2
74	POTAELEG	2	80	POLYTNIG	2	87	GLOSCOMP	8
91	ASELAQUA	12	97	HPSYPELL	6	98	HPSYANGU	10
99	HPSYCONT	1	100	HPSYSILT	1	101	HPTLSPEC	2
102	SERIPERS	1	103	ATHRATER	2	109	HACARINA	3
110	CERAIDAE	1	117	TANYABLA	1	119	ORTHCORY	2
122	ORTHINAE	2	140	NAIDIDAE	1			

32 FONTRIF3

1	SIMUANGL	1	2	SIMUANGP	1	3	SIMUEQUL	2
4	SIMUEQUP	2	7	SIMUERYL	6	8	SIMUERYP	6
9	SIMUORNL	3	10	SIMUORNP	3	11	ELMIAENL	35
12	ELMIAENA	15	14	LIMNVOLL	32	15	LIMNVOLA	3
16	OULITUBL	1	17	OULITUBA	3	18	THEOFLUV	1
19	VALVPISC	2	20	POTAJENK	20	23	LYMNPERE	1
36	EPHEIGNI	50	39	CAENLUCT	2	41	BAETSCAM	10
69	HALIFLUV	3	74	POTAELEG	2	75	HELOLARV	1
87	GLOSCOMP	4	91	ASELAQUA	32	96	RHYADORS	1
97	HPSYPELL	3	98	HPSYANGU	5	99	HPSYCONT	2
101	HPTLSPEC	4	102	SERIPERS	4	103	ATHRATER	6
109	HACARINA	5	116	TANYMACR	1	120	ORTHTHIE	1
122	ORTHINAE	27	128	CHIRPSUS	2	133	CHIRTSUS	3
140	NAIDIDAE	2						

33 FONTRIF4

1	SIMUANGL	5	2	SIMUANGP	2	3	SIMUEQUL	30
4	SIMUEQUP	12	7	SIMUERYL	40	8	SIMUERYP	16
9	SIMUORNL	5	10	SIMUORNP	2	11	ELMIAENL	90
12	ELMIAENA	20	14	LIMNVOLL	48	15	LIMNVOLA	21
16	OULITUBL	2	17	OULITUBA	6	18	THEOFLUV	4
19	VALVPISC	1	20	POTAJENK	40	23	LYMNPERE	2
31	SPHACORN	1	36	EPHEIGNI	80	40	BAETRHOD	2
41	BAETSCAM	12	63	CORINMPH	1	74	POTAELEG	2
75	HELOLARV	1	80	POLYTNIG	2	83	PISCGEOM	1
87	GLOSCOMP	3	91	ASELAQUA	14	98	HPSYANGU	2
99	HPSYCONT	1	101	HPTLSPEC	1	102	SERIPERS	2
103	ATHRATER	1	109	HACARINA	10	110	CERAIDAE	1
119	ORTHCORY	2	122	ORTHINAE	7	124	CHIRCRYP	2

34 FONTRIF5

1	SIMUANGL	15	2	SIMUANGP	5	3	SIMUEQUL	80
4	SIMUEQUP	28	7	SIMUERYL	100	8	SIMUERYP	34
9	SIMUORNL	20	10	SIMUORNP	7	11	ELMIAENL	66
12	ELMIAENA	22	14	LIMNVOLL	18	15	LIMNVOLA	4
16	OULITUBL	1	17	OULITUBA	6	19	VALVPISC	3
20	POTAJENK	35	36	EPHEIGNI	50	39	CAENLUCT	2
40	BAETRHOD	3	41	BAETSCAM	12	69	HALIFLUV	1
75	HELOLARV	1	91	ASELAQUA	15	97	HPSYPELL	2
98	HPSYANGU	1	101	HPTLSPEC	7	102	SERIPERS	3

103	ATHRATER	1	109	HACARINA	7	122	ORTHINAE	10
128	CHIRPSUS	6	140	NAIDIDAE	1			

35 LUCERUN1

1	SIMUANGL	30	2	SIMUANGP	2	7	SIMUERYL	5
8	SIMUERYP	2	9	SIMUORNL	5	10	SIMUORNP	1
18	THEOFLUV	5	20	POTAJENK	5	21	BITHTENT	2
24	PHYSFONT	7	36	EPHEIGNI	114	39	CAENLUCT	1
40	BAETRHOD	13	41	BAETSCAM	41	84	THERTESS	1
91	ASELAQUA	2	93	GAMMPULE	2	98	HPSYANGU	1
101	HPTLSPEC	1	103	ATHRATER	4	109	HACARINA	1
119	ORTHCORY	10	120	ORTHTHIE	10	121	ORTHSYNO	30
122	ORTHINAE	350	128	CHIRPSUS	10	130	CHIRPLUM	20
131	CHIRRSUS	10						

36 LUCERUN2

1	SIMUANGL	2	7	SIMUERYL	1	8	SIMUERYP	1
18	THEOFLUV	10	20	POTAJENK	2	23	LYMNPERE	1
36	EPHEIGNI	270	39	CAENLUCT	1	40	BAETRHOD	10
41	BAETSCAM	170	75	HELOLARV	1	109	HACARINA	1
118	TANYINAE	20	119	ORTHCORY	20	121	ORTHSYNO	80
122	ORTHINAE	520	131	CHIRRSUS	40			

37 LUCERUN3

1	SIMUANGL	3	8	SIMUERYP	1	18	THEOFLUV	2
30	ANCYFLUV	1	36	EPHEIGNI	150	40	BAETRHOD	5
41	BAETSCAM	140	103	ATHRATER	1	116	TANYMACR	10
119	ORTHCORY	20	121	ORTHSYNO	10	122	ORTHINAE	500
128	CHIRPSUS	20	131	CHIRRSUS	40			

38 LUCERUN4

1	SIMUANGL	5	18	THEOFLUV	3	23	LYMNPERE	1
30	ANCYFLUV	1	36	EPHEIGNI	390	37	HABRFUSC	1
40	BAETRHOD	10	41	BAETSCAM	200	69	HALIFLUV	1
77	HELOBREV	1	103	ATHRATER	2	109	HACARINA	2
119	ORTHCORY	50	122	ORTHINAE	1000	128	CHIRPSUS	50
131	CHIRRSUS	100						

39 LUCERUN5

1	SIMUANGL	15	7	SIMUERYL	5	18	THEOFLUV	4
36	EPHEIGNI	228	40	BAETRHOD	24	41	BAETSCAM	252
75	HELOLARV	1	84	THERTESS	1	93	GAMMPULE	1
109	HACARINA	3	120	ORTHTHIE	10	121	ORTHSYNO	20
122	ORTHINAE	650	128	CHIRPSUS	30	131	CHIRRSUS	30
133	CHIRTSUS	10						

40 MYRIRUN1

4	SIMUEQUP	1	11	ELMIAENL	14	12	ELMIAENA	30
17	OULITUBA	6	20	POTAJENK	5	36	EPHEIGNI	390
40	BAETRHOD	15	41	BAETSCAM	60	83	PISCGEOM	1

101	HPTLSPEC	2	103	ATHRATER	2	109	HACARINA	6
119	ORTHCORY	1	122	ORTHINAE	31	128	CHIRPSUS	4
131	CHIRRSUS	2	140	NAIDIDAE	2			

41 MYRIRUN2

11	ELMIAENL	9	12	ELMIAENA	10	16	OULITUBL	1
17	OULITUBA	2	18	THEOFLUV	2	20	POTAJENK	13
31	SPHACORN	9	36	EPHEIGNI	180	39	CAENLUCT	4
40	BAETRHOD	1	41	BAETSCAM	11	75	HELOLARV	7
87	GLOSCOMP	12	91	ASELAQUA	7	109	HACARINA	3
121	ORTHSYNO	1	122	ORTHINAE	50	128	CHIRPSUS	1

42 MYRIRUN3

1	SIMUANGL	7	3	SIMUEQUL	20	7	SIMUERYL	6
9	SIMUORNL	3	11	ELMIAENL	1	17	OULITUBA	1
19	VALVPISC	2	20	POTAJENK	1	21	BITHTENT	2
23	LYMNPERE	5	24	PHYSFONT	1	36	EPHEIGNI	147
39	CAENLUCT	1	40	BAETRHOD	6	41	BAETSCAM	120
75	HELOLARV	4	84	THERTESS	1	93	GAMMPULE	1
101	HPTLSPEC	3	109	HACARINA	15	122	ORTHINAE	370
128	CHIRPSUS	10						

43 MYRIRUN4

3	SIMUEQUL	3	17	OULITUBA	4	18	THEOFLUV	1
19	VALVPISC	2	21	BITHTENT	1	23	LYMNPERE	5
24	PHYSFONT	1	30	ANCYFLUV	1	36	EPHEIGNI	120
39	CAENLUCT	1	40	BAETRHOD	9	41	BAETSCAM	90
53	VELINMPH	1	69	HALIFLUV	1	75	HELOLARV	1
101	HPTLSPEC	3	109	HACARINA	9	118	TANYINAE	10
122	ORTHINAE	550	131	CHIRRSUS	50			

44 NATAPOL1

11	ELMIAENL	29	12	ELMIAENA	1	20	POTAJENK	9
21	BITHTENT	1	22	LYMNSTAG	2	23	LYMNPERE	2
24	PHYSFONT	20	25	PLANCARI	1	27	PLANVORT	10
36	EPHEIGNI	2	44	CLOEDIPT	2	60	NOTONMPH	1
62	NOTOMACU	1	63	CORINMPH	3	67	HALILARV	2
69	HALIFLUV	2	76	DYTILARV	8	77	HELOBREV	1
80	POLYTNIG	15	81	DUGELUGU	3	87	GLOSCOMP	2
88	HELOSTAG	1	90	ERPOOCTO	7	91	ASELAQUA	63
93	GAMMPULE	1	103	ATHRATER	7	109	HACARINA	1

45 NATAPOL2

11	ELMIAENL	2	12	ELMIAENA	1	16	OULITUBL	6
22	LYMNSTAG	1	23	LYMNPERE	1	24	PHYSFONT	8
25	PLANCARI	2	27	PLANVORT	11	28	PLANALBU	4
36	EPHEIGNI	1	43	CENTLUTE	1	44	CLOEDIPT	5
53	VELINMPH	1	56	GERRNMPH	5	63	CORINMPH	5
65	SIGADORS	2	67	HALILARV	1	69	HALIFLUV	8
75	HELOLARV	4	76	DYTILARV	8	77	HELOBREV	2
80	POLYTNIG	6	87	GLOSCOMP	3	88	HELOSTAG	1

90	ERPOOCTO	21	91	ASELAQUA	69	92	CRANPSEU	3
93	GAMMPULE	1	103	ATHRATER	6	122	ORTHINAE	12
140	NAIDIDAE	6						

46 NATAPOL3

11	ELMIAENL	1	12	ELMIAENA	1	16	OULITUBL	2
17	OULITUBA	1	18	THEOFLUV	2	20	POTAJENK	2
21	BITHTENT	1	22	LYMNSTAG	1	24	PHYSFONT	13
27	PLANVORT	8	28	PLANALBU	3	36	EPHEIGNI	2
44	CLOEDIPT	3	56	GERRNMPH	1	63	CORINMPH	1
69	HALIFLUV	7	75	HELOLARV	3	76	DYTILARV	6
77	HELOBREV	1	80	POLYTNIG	13	84	THERTESS	2
87	GLOSCOMP	2	88	HELOSTAG	6	90	ERPOOCTO	11
91	ASELAQUA	156	92	CRANPSEU	3	103	ATHRATER	1
109	HACARINA	1	122	ORTHINAE	24	128	CHIRPSUS	1
131	CHIRRSUS	1	140	NAIDIDAE	6			

47 NATAPOL4

11	ELMIAENL	1	18	THEOFLUV	1	20	POTAJENK	1
23	LYMNPERE	4	24	PHYSFONT	10	27	PLANVORT	5
44	CLOEDIPT	1	63	CORINMPH	2	67	HALILARV	1
75	HELOLARV	1	76	DYTILARV	1	77	HELOBREV	6
80	POLYTNIG	24	81	DUGELUGU	5	82	DENDLACT	2
87	GLOSCOMP	3	88	HELOSTAG	3	90	ERPOOCTO	13
91	ASELAQUA	94	122	ORTHINAE	11	128	CHIRPSUS	2
130	CHIRPLUM	2						

48 NATAPOL5

11	ELMIAENL	3	17	OULITUBA	1	20	POTAJENK	3
21	BITHTENT	1	22	LYMNSTAG	1	24	PHYSFONT	24
25	PLANCARI	2	27	PLANVORT	22	28	PLANALBU	5
36	EPHEIGNI	1	44	CLOEDIPT	2	53	VELINMPH	1
56	GERRNMPH	1	63	CORINMPH	1	67	HALILARV	1
69	HALIFLUV	16	70	HALIIMMA	3	75	HELOLARV	2
76	DYTILARV	6	77	HELOBREV	2	80	POLYTNIG	12
81	DUGELUGU	4	84	THERTESS	1	87	GLOSCOMP	1
88	HELOSTAG	7	89	ERPOTEST	1	90	ERPOOCTO	19
91	ASELAQUA	124	92	CRANPSEU	5	93	GAMMPULE	1
103	ATHRATER	7	109	HACARINA	1	110	CERAIDAE	1
111	ANOPSPEC	1	122	ORTHINAE	8	130	CHIRPLUM	2
140	NAIDIDAE	1						

49 PECTRUN1

1	SIMUANGL	6	2	SIMUANGP	18	3	SIMUEQUL	12
4	SIMUEQUP	56	7	SIMUERYL	72	8	SIMUERYP	160
9	SIMUORNL	18	10	SIMUORNP	48	18	THEOFLUV	2
36	EPHEIGNI	286	40	BAETRHOD	10	41	BAETSCAM	20
42	BAETVERN	1	84	THERTESS	2	109	HACARINA	1
122	ORTHINAE	3	131	CHIRRSUS	1			

50 PECTRUN2

1	SIMUANGL	5	2	SIMUANGP	30	3	SIMUEQUL	10
4	SIMUEQUP	15	7	SIMUERYL	20	8	SIMUERYP	155
9	SIMUORNL	35	10	SIMUORNP	50	20	POTAJENK	1
36	EPHEIGNI	206	40	BAETRHOD	6	41	BAETSCAM	6
87	GLOSCOMP	1	103	ATHRATER	2	119	ORTHCORY	1
122	ORTHINAE	12	128	CHIRPSUS	1	131	CHIRRSUS	1

51 PECTRUN3

1	SIMUANGL	1	3	SIMUEQUL	6	4	SIMUEQUP	4
7	SIMUERYL	2	8	SIMUERYP	60	9	SIMUORNL	7
10	SIMUORNP	8	11	ELMIAENL	1	12	ELMIAENA	2
18	THEOFLUV	1	19	VALVPISC	2	20	POTAJENK	2
36	EPHEIGNI	566	40	BAETRHOD	30	41	BAETSCAM	105
69	HALIFLUV	2	84	THERTESS	1	93	GAMMPULE	2
101	HPTLSPEC	1	109	HACARINA	3	128	CHIRPSUS	2

52 PECTRUN4

1	SIMUANGL	5	2	SIMUANGP	15	3	SIMUEQUL	10
4	SIMUEQUP	25	7	SIMUERYL	10	8	SIMUERYP	120
9	SIMUORNL	15	10	SIMUORNP	15	12	ELMIAENA	1
18	THEOFLUV	3	20	POTAJENK	1	36	EPHEIGNI	256
40	BAETRHOD	6	41	BAETSCAM	84	74	POTAELEG	1
84	THERTESS	1	87	GLOSCOMP	1	93	GAMMPULE	1
103	ATHRATER	1	122	ORTHINAE	2	131	CHIRRSUS	2
140	NAIDIDAE	1						

53 PECTRIF1

1	SIMUANGL	5	3	SIMUEQUL	15	4	SIMUEQUP	15
7	SIMUERYL	35	8	SIMUERYP	10	9	SIMUORNL	25
10	SIMUORNP	5	11	ELMIAENL	13	12	ELMIAENA	2
16	OULITUBL	1	20	POTAJENK	2	23	LYMNPERE	1
36	EPHEIGNI	80	39	CAENLUCT	1	40	BAETRHOD	8
41	BAETSCAM	58	67	HALILARV	1	103	ATHRATER	2
122	ORTHINAE	6	128	CHIRPSUS	2	141	LCULIDAE	2

54 PECTRIF2

1	SIMUANGL	20	2	SIMUANGP	20	3	SIMUEQUL	90
4	SIMUEQUP	20	7	SIMUERYL	50	8	SIMUERYP	20
9	SIMUORNL	80	10	SIMUORNP	20	11	ELMIAENL	6
16	OULITUBL	1	17	OULITUBA	1	18	THEOFLUV	1
20	POTAJENK	10	36	EPHEIGNI	60	40	BAETRHOD	1
41	BAETSCAM	24	63	CORINMPH	1	84	THERTESS	1
87	GLOSCOMP	1	101	HPTLSPEC	1	103	ATHRATER	3
109	HACARINA	1	120	ORTHTHIE	1	122	ORTHINAE	4
131	CHIRRSUS	1	140	NAIDIDAE	4	141	LCULIDAE	2

55 PECTRIF3

1	SIMUANGL	8	2	SIMUANGP	12	3	SIMUEQUL	32
4	SIMUEQUP	8	7	SIMUERYL	40	8	SIMUERYP	12

9	SIMUORNL	32	10	SIMUORNP	20	11	ELMIAENL	17
12	ELMIAENA	1	20	POTAJENK	12	36	EPHEIGNI	110
40	BAETRHOD	4	41	BAETSCAM	40	74	POTAELEG	1
87	GLOSCOMP	2	97	HPSYPELL	1	119	ORTHCORY	1
122	ORTHINAE	14	131	CHIRRSUS	2	140	NAIDIDAE	2

56 PERFRUN1

1	SIMUANGL	4	4	SIMUEQUP	1	11	ELMIAENL	1
20	POTAJENK	9	36	EPHEIGNI	190	40	BAETRHOD	33
41	BAETSCAM	87	74	POTAELEG	3	84	THERTESS	4
103	ATHRATER	21	119	ORTHCORY	1	121	ORTHSYNO	3
122	ORTHINAE	30	131	CHIRRSUS	3	133	CHIRTSUS	1

57 PERFRUN2

1	SIMUANGL	5	3	SIMUEQUL	2	5	SIMUSALL	2
7	SIMUERYL	3	11	ELMIAENL	1	19	VALVPISC	1
20	POTAJENK	1	24	PHYSFONT	1	25	PLANCARI	1
31	SPHACORN	1	36	EPHEIGNI	500	40	BAETRHOD	60
41	BAETSCAM	150	83	PISCGEOM	1	84	THERTESS	5
103	ATHRATER	3	109	HACARINA	3	119	ORTHCORY	1
120	ORTHTHIE	1	121	ORTHSYNO	2	122	ORTHINAE	25
128	CHIRPSUS	2	131	CHIRRSUS	2			

58 PERFRUN3

1	SIMUANGL	30	2	SIMUANGP	6	3	SIMUEQUL	8
4	SIMUEQUP	6	7	SIMUERYL	20	8	SIMUERYP	18
9	SIMUORNL	3	10	SIMUORNP	42	11	ELMIAENL	1
17	OULITUBA	6	18	THEOFLUV	2	20	POTAJENK	22
23	LYMNPERE	2	30	ANCYFLUV	5	36	EPHEIGNI	570
39	CAENLUCT	1	40	BAETRHOD	34	41	BAETSCAM	136
42	BAETVERN	4	83	PISCGEOM	2	84	THERTESS	2
103	ATHRATER	7	104	CERADISS	1	109	HACARINA	4
119	ORTHCORY	2	122	ORTHINAE	18	130	CHIRPLUM	1

59 PERFRUN4

1	SIMUANGL	60	3	SIMUEQUL	20	7	SIMUERYL	50
9	SIMUORNL	20	10	SIMUORNP	1	24	PHYSFONT	3
36	EPHEIGNI	34	103	ATHRATER	4	122	ORTHINAE	2500
131	CHIRRSUS	25						

60 PERFRUN5

1	SIMUANGL	100	3	SIMUEQUL	10	4	SIMUEQUP	1
7	SIMUERYL	100	8	SIMUERYP	1	9	SIMUORNL	10
10	SIMUORNP	2	12	ELMIAENA	1	21	BITHTENT	4
23	LYMNPERE	1	24	PHYSFONT	13	28	PLANALBU	1
36	EPHEIGNI	142	40	BAETRHOD	6	41	BAETSCAM	30
74	POTAELEG	1	103	ATHRATER	7	109	HACARINA	3
118	TANYINAE	1	120	ORTHTHIE	1	121	ORTHSYNO	2
122	ORTHINAE	10	131	CHIRRSUS	31			

61 RANURIF1

1	SIMUANGL	10	2	SIMUANGP	30	3	SIMUEQUL	50
4	SIMUEQUP	30	5	SIMUSALL	5	7	SIMUERYL	40
8	SIMUERYP	120	9	SIMUORNL	100	10	SIMUORNP	60
12	ELMIAENA	9	17	OULITUBA	1	20	POTAJENK	820
36	EPHEIGNI	550	40	BAETRHOD	5	41	BAETSCAM	38
69	HALIFLUV	1	84	THERTESS	1	91	ASELAQUA	1
93	GAMMPULE	1	98	HPSYANGU	2	100	HPSYSILT	4
103	ATHRATER	2	109	HACARINA	2	122	ORTHINAE	24
128	CHIRPSUS	2	131	CHIRRSUS	8			

62 RANURIF2

1	SIMUANGL	10	2	SIMUANGP	60	3	SIMUEQUL	100
4	SIMUEQUP	30	7	SIMUERYL	10	8	SIMUERYP	30
9	SIMUORNL	120	10	SIMUORNP	180	11	ELMIAENL	1
12	ELMIAENA	8	20	POTAJENK	24	24	PHYSFONT	1
36	EPHEIGNI	240	40	BAETRHOD	2	41	BAETSCAM	20
69	HALIFLUV	1	83	PISCGEOM	1	84	THERTESS	1
103	ATHRATER	1	109	HACARINA	1	118	TANYINAE	1
122	ORTHINAE	36	128	CHIRPSUS	3	131	CHIRRSUS	13
132	CHIRSAET	1						

63 RANURIF3

1	SIMUANGL	10	2	SIMUANGP	15	3	SIMUEQUL	50
7	SIMUERYL	50	9	SIMUORNL	30	10	SIMUORNP	3
11	ELMIAENL	2	12	ELMIAENA	6	17	OULITUBA	1
18	THEOFLUV	1	20	POTAJENK	61	21	BITHTENT	1
36	EPHEIGNI	640	40	BAETRHOD	4	41	BAETSCAM	55
101	HPTLSPEC	1	103	ATHRATER	3	109	HACARINA	1
122	ORTHINAE	2	124	CHIRCRYP	1	131	CHIRRSUS	1

64 RANURIF4

1	SIMUANGL	200	2	SIMUANGP	12	3	SIMUEQUL	1800
4	SIMUEQUP	18	7	SIMUERYL	1300	8	SIMUERYP	24
9	SIMUORNL	900	10	SIMUORNP	12	11	ELMIAENL	2
17	OULITUBA	1	20	POTAJENK	1	36	EPHEIGNI	200
40	BAETRHOD	5	41	BAETSCAM	40	53	VELINMPH	1
84	THERTESS	1	122	ORTHINAE	25	128	CHIRPSUS	1
131	CHIRRSUS	14						

65 RANURIF5

1	SIMUANGL	400	3	SIMUEQUL	900	4	SIMUEQUP	6
7	SIMUERYL	100	9	SIMUORNL	1500	10	SIMUORNP	54
11	ELMIAENL	3	23	LYMNPERE	1	36	EPHEIGNI	53
39	CAENLUCT	1	40	BAETRHOD	12	41	BAETSCAM	38
122	ORTHINAE	13	131	CHIRRSUS	3			

66 RANURUN1

1	SIMUANGL	1	2	SIMUANGP	8	7	SIMUERYL	4
8	SIMUERYP	10	10	SIMUORNP	4	11	ELMIAENL	3

18	THEOFLUV	2	20	POTAJENK	12	23	LYMNPERE	1
36	EPHEIGNI	600	40	BAETRHOD	32	41	BAETSCAM	65
63	CORINMPH	1	65	SIGADORS	3	83	PISCGEOM	1
84	THERTESS	1	91	ASELAQUA	1	101	HPTLSPEC	1
103	ATHRATER	3	104	CERADISS	1	109	HACARINA	2
122	ORTHINAE	12	128	CHIRPSUS	3	133	CHIRTSUS	1

67 RANURUN2

1	SIMUANGL	2	3	SIMUEQUL	10	7	SIMUERYL	2
9	SIMUORNL	2	20	POTAJENK	13	23	LYMNPERE	2
36	EPHEIGNI	250	40	BAETRHOD	5	41	BAETSCAM	5
65	SIGADORS	3	83	PISCGEOM	1	84	THERTESS	1
103	ATHRATER	5	107	TIPUIDAE	1	119	ORTHCORY	2
122	ORTHINAE	30	128	CHIRPSUS	2			

68 RANURUN3

1	SIMUANGL	1	2	SIMUANGP	1	7	SIMUERYL	23
8	SIMUERYP	4	9	SIMUORNL	3	10	SIMUORNP	1
20	POTAJENK	30	23	LYMNPERE	1	36	EPHEIGNI	690
40	BAETRHOD	42	41	BAETSCAM	63	65	SIGADORS	1
103	ATHRATER	11	120	ORTHTHIE	1	122	ORTHINAE	21
128	CHIRPSUS	3	130	CHIRPLUM	3	131	CHIRRSUS	6
133	CHIRTSUS	2						

69 RANURUN4

1	SIMUANGL	40	3	SIMUEQUL	5	7	SIMUERYL	240
9	SIMUORNL	15	11	ELMIAENL	5	21	BITHTENT	1
36	EPHEIGNI	450	40	BAETRHOD	20	41	BAETSCAM	30
84	THERTESS	3	103	ATHRATER	13	109	HACARINA	1
122	ORTHINAE	350	128	CHIRPSUS	25	131	CHIRRSUS	25

70 RANURUN5

1	SIMUANGL	5	7	SIMUERYL	15	8	SIMUERYP	1
9	SIMUORNL	5	10	SIMUORNP	3	11	ELMIAENL	13
23	LYMNPERE	4	24	PHYSFONT	11	36	EPHEIGNI	1250
39	CAENLUCT	1	40	BAETRHOD	20	41	BAETSCAM	120
91	ASELAQUA	1	101	HPTLSPEC	1	103	ATHRATER	31
122	ORTHINAE	42	131	CHIRRSUS	16	133	CHIRTSUS	2

71 SCHORUN1

1	SIMUANGL	1	7	SIMUERYL	2	8	SIMUERYP	2
10	SIMUORNP	6	11	ELMIAENL	2	12	ELMIAENA	2
17	OULITUBA	1	31	SPHACORN	2	36	EPHEIGNI	18
41	BAETSCAM	11	119	ORTHCORY	1	122	ORTHINAE	3
128	CHIRPSUS	1						

72 SCHORUN2

7	SIMUERYL	1	10	SIMUORNP	2	12	ELMIAENA	1
23	LYMNPERE	1	36	EPHEIGNI	55	40	BAETRHOD	5
41	BAETSCAM	15	75	HELOLARV	1	80	POLYTNIG	1

88	HELOSTAG	1	109	HACARINA	1	122	ORTHINAE	3
131	CHIRRSUS	2	140	NAIDIDAE	1			

73 SCHORUN3

7	SIMUERYL	2	8	SIMUERYP	1	10	SIMUORNP	2
12	ELMIAENA	1	17	OULITUBA	1	20	POTAJENK	1
36	EPHEIGNI	38	40	BAETRHOD	2	41	BAETSCAM	13
67	HALILARV	1	87	GLOSCOMP	2	122	ORTHINAE	1

74 AGROMAR1

4	SIMUEQUP	2	12	ELMIAENA	1	18	THEOFLUV	1
19	VALVPISC	3	20	POTAJENK	31	21	BITHTENT	1
23	LYMNPERE	2	24	PHYSFONT	8	30	ANCYFLUV	1
36	EPHEIGNI	5	41	BAETSCAM	4	43	CENTLUTE	14
44	CLOEDIPT	1	53	VELINMPH	1	63	CORINMPH	8
67	HALILARV	4	69	HALIFLUV	6	75	HELOLARV	2
77	HELOBREV	1	80	POLYTNIG	1	87	GLOSCOMP	1
90	ERPOOCTO	4	91	ASELAQUA	3	119	ORTHCORY	4
122	ORTHINAE	10	130	CHIRPLUM	6	133	CHIRTSUS	1

75 AGROMAR2

11	ELMIAENL	1	12	ELMIAENA	1	16	OULITUBL	1
17	OULITUBA	6	18	THEOFLUV	1	19	VALVPISC	1
20	POTAJENK	43	21	BITHTENT	3	23	LYMNPERE	8
24	PHYSFONT	6	25	PLANCARI	2	28	PLANALBU	1
36	EPHEIGNI	2	41	BAETSCAM	4	43	CENTLUTE	5
67	HALILARV	38	75	HELOLARV	1	76	DYTILARV	1
77	HELOBREV	2	80	POLYTNIG	2	84	THERTESS	1
87	GLOSCOMP	1	90	ERPOOCTO	6	91	ASELAQUA	1
93	GAMMPULE	2	101	HPTLSPEC	1	103	ATHRATER	2
107	TIPUIDAE	1	113	DOLIIDAE	1	116	TANYMACR	2
119	ORTHCORY	2	122	ORTHINAE	6	128	CHIRPSUS	1
130	CHIRPLUM	3	131	CHIRRSUS	1	140	NAIDIDAE	1

76 AGROMAR3

12	ELMIAENA	1	18	THEOFLUV	1	20	POTAJENK	75
21	BITHTENT	1	23	LYMNPERE	4	24	PHYSFONT	13
25	PLANCARI	4	30	ANCYFLUV	1	36	EPHEIGNI	3
41	BAETSCAM	5	43	CENTLUTE	46	44	CLOEDIPT	12
63	CORINMPH	5	67	HALILARV	2	70	HALIIMMA	3
75	HELOLARV	2	76	DYTILARV	1	77	HELOBREV	1
80	POLYTNIG	1	90	ERPOOCTO	2	91	ASELAQUA	7
106	EPHYIDAE	3	109	HACARINA	1	111	ANOPSPEC	2
122	ORTHINAE	4	130	CHIRPLUM	3			

77 AGROMAR4

17	OULITUBA	5	18	THEOFLUV	1	20	POTAJENK	120
21	BITHTENT	1	23	LYMNPERE	7	24	PHYSFONT	11
25	PLANCARI	3	27	PLANVORT	6	36	EPHEIGNI	9
43	CENTLUTE	9	53	VELINMPH	7	67	HALILARV	47
69	HALIFLUV	12	76	DYTILARV	2	77	HELOBREV	2

80	POLYTNIG	1	83	PISCGEOM	3	90	ERPOOCTO	6
91	ASELAQUA	1	106	EPHYIDAE	1	109	HACARINA	1
116	TANYMACR	1	119	ORTHCORY	2	122	ORTHINAE	7
128	CHIRPSUS	1	130	CHIRPLUM	2	136	POTTLONG	1

78 AGROMAR5

12	ELMIAENA	10	17	OULITUBA	2	18	THEOFLUV	2
20	POTAJENK	230	23	LYMNPERE	6	24	PHYSFONT	10
25	PLANCARI	1	27	PLANVORT	1	36	EPHEIGNI	1
40	BAETRHOD	1	43	CENTLUTE	1	44	CLOEDIPT	1
53	VELINMPH	7	54	VELICAPR	2	63	CORINMPH	2
65	SIGADORS	1	67	HALILARV	4	69	HALIFLUV	9
76	DYTILARV	3	77	HELOBREV	3	78	HYDRGRAC	1
87	GLOSCOMP	1	117	TANYABLA	1	119	ORTHCORY	1
122	ORTHINAE	1	130	CHIRPLUM	9	131	CHIRRSUS	1
133	CHIRTSUS	1						

79 GLYCMAR1

1	SIMUANGL	24	2	SIMUANGP	3	8	SIMUERYP	4
11	ELMIAENL	3	12	ELMIAENA	2	16	OULITUBL	1
18	THEOFLUV	3	24	PHYSFONT	4	27	PLANVORT	1
30	ANCYFLUV	1	36	EPHEIGNI	2	41	BAETSCAM	7
80	POLYTNIG	1	87	GLOSCOMP	12	90	ERPOOCTO	7
91	ASELAQUA	3	93	GAMMPULE	1	103	ATHRATER	3
112	TABAIDAE	4	118	TANYINAE	2	119	ORTHCORY	2
122	ORTHINAE	2	126	CHIRENDO	2	131	CHIRRSUS	1
133	CHIRTSUS	1						

80 GLYCMAR2

1	SIMUANGL	10	2	SIMUANGP	10	3	SIMUEQUL	7
7	SIMUERYL	26	8	SIMUERYP	5	11	ELMIAENL	1
16	OULITUBL	1	17	OULITUBA	5	24	PHYSFONT	1
30	ANCYFLUV	2	36	EPHEIGNI	4	40	BAETRHOD	2
41	BAETSCAM	4	42	BAETVERN	1	75	HELOLARV	1
76	DYTILARV	1	80	POLYTNIG	3	81	DUGELUGU	2
83	PISCGEOM	2	87	GLOSCOMP	3	88	HELOSTAG	1
90	ERPOOCTO	17	91	ASELAQUA	7	92	CRANPSEU	1
101	HPTLSPEC	1	107	TIPUIDAE	1	113	DOLIIDAE	1
114	PSYCIDAE	1	118	TANYINAE	2	120	ORTHTHIE	4
122	ORTHINAE	11	128	CHIRPSUS	1	130	CHIRPLUM	1
135	CHIRINAE	1	140	NAIDIDAE	5			

81 GLYCMAR3

1	SIMUANGL	4	2	SIMUANGP	3	16	OULITUBL	4
24	PHYSFONT	3	36	EPHEIGNI	3	41	BAETSCAM	1
83	PISCGEOM	2	87	GLOSCOMP	2	90	ERPOOCTO	8
91	ASELAQUA	5	92	CRANPSEU	3	107	TIPUIDAE	1
122	ORTHINAE	2	130	CHIRPLUM	1	138	TUBIHAIR	1
141	LCULIDAE	18						

82 GLYCMAR4

1	SIMUANGL	6	2	SIMUANGP	2	3	SIMUEQUL	1
16	OULITUBL	1	17	OULITUBA	5	19	VALVPISC	1
20	POTAJENK	4	21	BITHTENT	1	24	PHYSFONT	8
27	PLANVORT	4	28	PLANALBU	1	36	EPHEIGNI	2
41	BAETSCAM	1	87	GLOSCOMP	1	88	HELOSTAG	2
90	ERPOOCTO	13	91	ASELAQUA	47	92	CRANPSEU	1
93	GAMMPULE	1	103	ATHRATER	13	118	TANYINAE	1
122	ORTHINAE	2	126	CHIRENDO	3	130	CHIRPLUM	1
131	CHIRRSUS	1	140	NAIDIDAE	3			

83 GLYCMAR5

1	SIMUANGL	3	2	SIMUANGP	16	4	SIMUEQUP	1
8	SIMUERYP	4	11	ELMIAENL	3	20	POTAJENK	3
23	LYMNPERE	2	24	PHYSFONT	1	27	PLANVORT	1
28	PLANALBU	1	36	EPHEIGNI	9	40	BAETRHOD	1
41	BAETSCAM	9	80	POLYTNIG	3	82	DENDLACT	1
87	GLOSCOMP	1	88	HELOSTAG	1	90	ERPOOCTO	14
91	ASELAQUA	13	101	HPTLSPEC	1	122	ORTHINAE	1
126	CHIRENDO	2						

84 ALBAPOL1

20	POTAJENK	1	24	PHYSFONT	7	25	PLANCARI	1
27	PLANVORT	1	77	HELOBREV	2	80	POLYTNIG	7
81	DUGELUGU	7	84	THERTESS	1	88	HELOSTAG	1
90	ERPOOCTO	6	109	HACARINA	2	122	ORTHINAE	2
126	CHIRENDO	1						

85 ALBAPOL2

20	POTAJENK	1	21	BITHTENT	1	24	PHYSFONT	6
25	PLANCARI	1	27	PLANVORT	12	79	CHAESEMI	1
80	POLYTNIG	3	81	DUGELUGU	6	87	GLOSCOMP	2
90	ERPOOCTO	10	91	ASELAQUA	2	122	ORTHINAE	10

86 ALBAPOL3

24	PHYSFONT	8	27	PLANVORT	3	77	HELOBREV	5
80	POLYTNIG	13	81	DUGELUGU	4	84	THERTESS	1
90	ERPOOCTO	17	91	ASELAQUA	6	122	ORTHINAE	42
131	CHIRRSUS	2	140	NAIDIDAE	2			

87 ALBAPOL4

24	PHYSFONT	1	26	PLANPLAN	1	27	PLANVORT	7
77	HELOBREV	1	80	POLYTNIG	8	81	DUGELUGU	7
84	THERTESS	3	90	ERPOOCTO	7	91	ASELAQUA	3
122	ORTHINAE	28	128	CHIRPSUS	1			

88 ALBAPOL5

21	BITHTENT	7	24	PHYSFONT	37	25	PLANCARI	1
27	PLANVORT	71	59	NEPACINE	1	77	HELOBREV	16

80	POLYTNIG	24	81	DUGELUGU	9	88	HELOSTAG	2
90	ERPOOCTO	25	91	ASELAQUA	26	92	CRANPSEU	2
122	ORTHINAE	5	131	CHIRRSUS	3	133	CHIRTSUS	1

89 NUPHRUN1

20	POTAJENK	1	24	PHYSFONT	9	26	PLANPLAN	1
27	PLANVORT	7	30	ANCYFLUV	1	36	EPHEIGNI	30
40	BAETRHOD	1	41	BAETSCAM	30	63	CORINMPH	1
69	HALIFLUV	1	74	POTAELEG	2	77	HELOBREV	3
80	POLYTNIG	1	87	GLOSCOMP	1	90	ERPOOCTO	4
109	HACARINA	1	119	ORTHCORY	6	122	ORTHINAE	30
140	NAIDIDAE	1						

90 NUPHRUN2

1	SIMUANGL	1	7	SIMUERYL	2	11	ELMIAENL	1
20	POTAJENK	6	24	PHYSFONT	4	25	PLANCARI	1
27	PLANVORT	7	28	PLANALBU	1	30	ANCYFLUV	2
36	EPHEIGNI	40	40	BAETRHOD	13	41	BAETSCAM	48
43	CENTLUTE	1	69	HALIFLUV	3	77	HELOBREV	1
80	POLYTNIG	3	81	DUGELUGU	2	87	GLOSCOMP	2
88	HELOSTAG	1	90	ERPOOCTO	6	103	ATHRATER	1
109	HACARINA	2	120	ORTHTHIE	1	122	ORTHINAE	12
133	CHIRTSUS	1	140	NAIDIDAE	2			

91 NUPHRUN3

1	SIMUANGL	1	11	ELMIAENL	1	18	THEOFLUV	1
20	POTAJENK	1	24	PHYSFONT	12	27	PLANVORT	2
30	ANCYFLUV	1	36	EPHEIGNI	40	39	CAENLUCT	1
40	BAETRHOD	3	41	BAETSCAM	36	63	CORINMPH	1
67	HALILARV	1	75	HELOLARV	1	80	POLYTNIG	6
81	DUGELUGU	1	82	DENDLACT	1	87	GLOSCOMP	2
90	ERPOOCTO	6	91	ASELAQUA	1	109	HACARINA	4
119	ORTHCORY	2	122	ORTHINAE	13			

92 NUPHRUN4

20	POTAJENK	3	24	PHYSFONT	4	26	PLANPLAN	1
27	PLANVORT	11	36	EPHEIGNI	15	40	BAETRHOD	5
41	BAETSCAM	50	69	HALIFLUV	6	77	HELOBREV	3
80	POLYTNIG	4	81	DUGELUGU	1	90	ERPOOCTO	2
120	ORTHTHIE	2	122	ORTHINAE	4	140	NAIDIDAE	4

93 NUPHPOL1

23	LYMNPERE	1	24	PHYSFONT	2	27	PLANVORT	3
28	PLANALBU	1	44	CLOEDIPT	2	75	HELOLARV	2
77	HELOBREV	9	80	POLYTNIG	4	81	DUGELUGU	6
82	DENDLACT	1	84	THERTESS	4	88	HELOSTAG	3
90	ERPOOCTO	9	91	ASELAQUA	6	122	ORTHINAE	6
128	CHIRPSUS	2	140	NAIDIDAE	5			

94 NUPHPOL2

17	OULITUBA	1	20	POTAJENK	1	24	PHYSFONT	3
27	PLANVORT	3	77	HELOBREV	10	80	POLYTNIG	2
81	DUGELUGU	1	84	THERTESS	1	88	HELOSTAG	1
90	ERPOOCTO	4	91	ASELAQUA	2	109	HACARINA	1
122	ORTHINAE	6	131	CHIRRSUS	1			

95 NUPHPOL3

21	BITHTENT	1	22	LYMNSTAG	1	24	PHYSFONT	2
27	PLANVORT	3	75	HELOLARV	1	77	HELOBREV	1
80	POLYTNIG	4	81	DUGELUGU	5	84	THERTESS	3
88	HELOSTAG	1	90	ERPOOCTO	2	91	ASELAQUA	15
109	HACARINA	1	122	ORTHINAE	11	140	NAIDIDAE	42

96 NUPHPOL4

17	OULITUBA	1	24	PHYSFONT	1	43	CENTLUTE	3
44	CLOEDIPT	2	75	HELOLARV	1	77	HELOBREV	6
81	DUGELUGU	2	84	THERTESS	2	88	HELOSTAG	2
90	ERPOOCTO	5	91	ASELAQUA	2	110	CERAIDAE	1
111	ANOPSPEC	1	122	ORTHINAE	20	128	CHIRPSUS	1
131	CHIRRSUS	2	140	NAIDIDAE	8			

97 NUPHPOL5

20	POTAJENK	1	21	BITHTENT	1	22	LYMNSTAG	1
23	LYMNPERE	1	24	PHYSFONT	11	27	PLANVORT	2
28	PLANALBU	1	77	HELOBREV	8	80	POLYTNIG	2
84	THERTESS	1	90	ERPOOCTO	6	91	ASELAQUA	4
122	ORTHINAE	2						

98 PHALMAR1

1	SIMUANGL	64	3	SIMUEQUL	48	5	SIMUSALL	8
7	SIMUERYL	114	9	SIMUORNL	4	12	ELMIAENA	8
17	OULITUBA	10	19	VALVPISC	2	20	POTAJENK	256
21	BITHTENT	1	23	LYMNPERE	7	24	PHYSFONT	8
25	PLANCARI	3	27	PLANVORT	1	31	SPHACORN	1
36	EPHEIGNI	9	40	BAETRHOD	4	41	BAETSCAM	2
42	BAETVERN	1	53	VELINMPH	63	54	VELICAPR	89
55	VELISAUL	7	56	GERRNMPH	1	57	GERRLACU	1
63	CORINMPH	2	67	HALILARV	2	69	HALIFLUV	3
80	POLYTNIG	1	88	HELOSTAG	1	91	ASELAQUA	29
93	GAMMPULE	2	98	HPSYANGU	1	103	ATHRATER	2
107	TIPUIDAE	1	109	HACARINA	17	122	ORTHINAE	4
130	CHIRPLUM	1	140	NAIDIDAE	4			

99 PHALMAR2

6	SIMUSALP	1	7	SIMUERYL	2	8	SIMUERYP	2
11	ELMIAENL	5	12	ELMIAENA	11	15	LIMNVOLA	1
17	OULITUBA	7	19	VALVPISC	5	20	POTAJENK	512
23	LYMNPERE	1	24	PHYSFONT	3	27	PLANVORT	1
31	SPHACORN	2	36	EPHEIGNI	9	40	BAETRHOD	1

43	CENTLUTE	4	53	VELINMPH	27	54	VELICAPR	10
56	GERRNMPH	1	57	GERRLACU	2	58	GERRNAJA	1
63	CORINMPH	2	67	HALILARV	10	69	HALIFLUV	9
74	POTAELEG	9	75	HELOLARV	1	76	DYTILARV	2
80	POLYTNIG	8	84	THERTESS	1	90	ERPOOCTO	1
91	ASELAQUA	3	93	GAMMPULE	2	98	HPSYANGU	2
101	HPTLSPEC	2	102	SERIPERS	5	103	ATHRATER	6
109	HACARINA	2	119	ORTHCORY	2	130	CHIRPLUM	10
140	NAIDIDAE	3						

100 PHALMAR3

1	SIMUANGL	32	3	SIMUEQUL	8	7	SIMUERYL	36
11	ELMIAENL	28	12	ELMIAENA	6	15	LIMNVOLA	1
16	OULITUBL	3	17	OULITUBA	1	18	THEOFLUV	3
19	VALVPISC	1	20	POTAJENK	2800	21	BITHTENT	2
23	LYMNPERE	3	24	PHYSFONT	4	27	PLANVORT	1
30	ANCYFLUV	7	31	SPHACORN	4	36	EPHEIGNI	1
40	BAETRHOD	39	41	BAETSCAM	18	43	CENTLUTE	1
52	HYDRSTAG	1	53	VELINMPH	15	54	VELICAPR	2
55	VELISAUL	1	56	GERRNMPH	2	62	NOTOMACU	1
63	CORINMPH	38	65	SIGADORS	3	67	HALILARV	1
75	HELOLARV	3	84	THERTESS	1	88	HELOSTAG	1
90	ERPOOCTO	5	91	ASELAQUA	22	92	CRANPSEU	2
93	GAMMPULE	3	101	HPTLSPEC	11	102	SERIPERS	20
103	ATHRATER	7	109	HACARINA	1	122	ORTHINAE	1
130	CHIRPLUM	4	140	NAIDIDAE	4			

101 PHALMAR4

5	SIMUSALL	1	7	SIMUERYL	1	11	ELMIAENL	8
12	ELMIAENA	5	20	POTAJENK	352	23	LYMNPERE	2
24	PHYSFONT	12	30	ANCYFLUV	1	31	SPHACORN	1
40	BAETRHOD	1	52	HYDRSTAG	2	53	VELINMPH	25
54	VELICAPR	5	55	VELISAUL	4	57	GERRLACU	1
63	CORINMPH	1	67	HALILARV	6	69	HALIFLUV	7
74	POTAELEG	3	77	HELOBREV	7	81	DUGELUGU	1
84	THERTESS	1	91	ASELAQUA	23	93	GAMMPULE	1
98	HPSYANGU	1	107	TIPUIDAE	2	109	HACARINA	4
115	TANYPROC	1	130	CHIRPLUM	12			

102 PHALMAR5

1	SIMUANGL	9	3	SIMUEQUL	1	11	ELMIAENL	2
12	ELMIAENA	11	15	LIMNVOLA	1	16	OULITUBL	4
17	OULITUBA	6	18	THEOFLUV	1	20	POTAJENK	160
23	LYMNPERE	3	24	PHYSFONT	9	25	PLANCARI	2
27	PLANVORT	1	36	EPHEIGNI	12	40	BAETRHOD	1
53	VELINMPH	13	54	VELICAPR	8	55	VELISAUL	1
56	GERRNMPH	1	57	GERRLACU	2	67	HALILARV	2
75	HELOLARV	9	91	ASELAQUA	25	93	GAMMPULE	4
98	HPSYANGU	1	101	HPTLSPEC	2	109	HACARINA	1
122	ORTHINAE	2	130	CHIRPLUM	6	139	TUBINOHR	1

103 RORIMAR1

2	SIMUANGP	2	4	SIMUEQUP	1	7	SIMUERYL	1
11	ELMIAENL	1	17	OULITUBA	4	18	THEOFLUV	1
19	VALVPISC	8	20	POTAJENK	24	21	BITHTENT	1
23	LYMNPERE	5	24	PHYSFONT	7	25	PLANCARI	1
27	PLANVORT	2	30	ANCYFLUV	1	31	SPHACORN	1
36	EPHEIGNI	1	63	CORINMPH	1	67	HALILARV	1
76	DYTILARV	1	80	POLYTNIG	4	81	DUGELUGU	1
87	GLOSCOMP	2	88	HELOSTAG	1	90	ERPOOCTO	5
91	ASELAQUA	3	103	ATHRATER	2	109	HACARINA	1
119	ORTHCORY	1	122	ORTHINAE	4	128	CHIRPSUS	1
130	CHIRPLUM	2	131	CHIRRSUS	1	133	CHIRTSUS	2
138	TUBIHAIR	1	139	TUBINOHR	1	140	NAIDIDAE	1
141	LCULIDAE	1						

104 RORIMAR2

17	OULITUBA	2	19	VALVPISC	1	20	POTAJENK	18
21	BITHTENT	1	23	LYMNPERE	4	24	PHYSFONT	2
36	EPHEIGNI	2	63	CORINMPH	1	67	HALILARV	3
80	POLYTNIG	4	84	THERTESS	1	88	HELOSTAG	1
90	ERPOOCTO	5	91	ASELAQUA	1	109	HACARINA	1
122	ORTHINAE	7	133	CHIRTSUS	6	138	TUBIHAIR	1
139	TUBINOHR	3	140	NAIDIDAE	5	141	LCULIDAE	1

105 RORIMAR3

11	ELMIAENL	2	12	ELMIAENA	1	17	OULITUBA	4
19	VALVPISC	1	20	POTAJENK	55	23	LYMNPERE	9
24	PHYSFONT	4	25	PLANCARI	2	27	PLANVORT	1
31	SPHACORN	3	41	BAETSCAM	1	60	NOTONMPH	1
63	CORINMPH	1	67	HALILARV	6	69	HALIFLUV	5
76	DYTILARV	3	77	HELOBREV	1	80	POLYTNIG	5
82	DENDLACT	1	84	THERTESS	1	87	GLOSCOMP	5
91	ASELAQUA	4	109	HACARINA	3	119	ORTHCORY	1
122	ORTHINAE	1	130	CHIRPLUM	2	131	CHIRRSUS	1
140	NAIDIDAE	1	141	LCULIDAE	5			

106 RORIMAR4

11	ELMIAENL	2	17	OULITUBA	8	20	POTAJENK	45
23	LYMNPERE	10	24	PHYSFONT	3	25	PLANCARI	2
40	BAETRHOD	1	41	BAETSCAM	1	63	CORINMPH	3
67	HALILARV	2	69	HALIFLUV	2	77	HELOBREV	1
80	POLYTNIG	14	81	DUGELUGU	1	82	DENDLACT	1
84	THERTESS	1	87	GLOSCOMP	6	88	HELOSTAG	2
91	ASELAQUA	7	103	ATHRATER	1	122	ORTHINAE	1
130	CHIRPLUM	1	133	CHIRTSUS	3	138	TUBIHAIR	8
139	TUBINOHR	2	141	LCULIDAE	15			

107 RORIMAR5

19	VALVPISC	3	20	POTAJENK	35	21	BITHTENT	1
23	LYMNPERE	7	25	PLANCARI	1	41	BAETSCAM	2
62	NOTOMACU	1	63	CORINMPH	2	67	HALILARV	1

69	HALIFLUV	2	80	POLYTNIG	1	83	PISCGEOM	1
87	GLOSCOMP	1	88	HELOSTAG	2	90	ERPOOCTO	4
98	HPSYANGU	1	103	ATHRATER	1	109	HACARINA	13
110	CERAIDAE	1	119	ORTHCORY	1	120	ORTHTHIE	1
122	ORTHINAE	7	131	CHIRRSUS	1	133	CHIRTSUS	3
141	LCULIDAE	2						

108 SPARMAR1

1	SIMUANGL	28	2	SIMUANGP	19	7	SIMUERYL	7
8	SIMUERYP	2	24	PHYSFONT	4	27	PLANVORT	1
41	BAETSCAM	1	43	CENTLUTE	1	80	POLYTNIG	3
87	GLOSCOMP	1	88	HELOSTAG	3	90	ERPOOCTO	6
91	ASELAQUA	5	92	CRANPSEU	1	98	HPSYANGU	1
103	ATHRATER	2	119	ORTHCORY	1	122	ORTHINAE	4
131	CHIRRSUS	3	140	NAIDIDAE	5			

109 SPARMAR2

1	SIMUANGL	15	2	SIMUANGP	9	7	SIMUERYL	3
8	SIMUERYP	5	24	PHYSFONT	4	81	DUGELUGU	1
87	GLOSCOMP	5	88	HELOSTAG	8	90	ERPOOCTO	7
91	ASELAQUA	12	92	CRANPSEU	2	93	GAMMPULE	1
98	HPSYANGU	1	120	ORTHTHIE	2	122	ORTHINAE	1
126	CHIRENDO	1	130	CHIRPLUM	1	140	NAIDIDAE	5

110 SPARMAR3

1	SIMUANGL	20	2	SIMUANGP	6	8	SIMUERYP	1
18	THEOFLUV	1	24	PHYSFONT	1	84	THERTESS	1
87	GLOSCOMP	2	88	HELOSTAG	2	90	ERPOOCTO	2
91	ASELAQUA	8	98	HPSYANGU	2	118	TANYINAE	1
119	ORTHCORY	1	122	ORTHINAE	2	131	CHIRRSUS	2
135	CHIRINAE	1	140	NAIDIDAE	15			

111 SPARMAR4

1	SIMUANGL	12	2	SIMUANGP	2	24	PHYSFONT	2
80	POLYTNIG	2	81	DUGELUGU	1	87	GLOSCOMP	3
88	HELOSTAG	2	90	ERPOOCTO	4	91	ASELAQUA	8
92	CRANPSEU	4	93	GAMMPULE	1	98	HPSYANGU	2
103	ATHRATER	1	119	ORTHCORY	2	125	CHIRDEMI	2
130	CHIRPLUM	1	140	NAIDIDAE	1			

112 SPARMAR5

1	SIMUANGL	3	24	PHYSFONT	1	54	VELICAPR	1
80	POLYTNIG	3	87	GLOSCOMP	3	88	HELOSTAG	6
90	ERPOOCTO	9	91	ASELAQUA	2	118	TANYINAE	1
122	ORTHINAE	2	131	CHIRRSUS	1			

113 ACUTMAR1

1	SIMUANGL	4	2	SIMUANGP	1	3	SIMUEQUL	1
7	SIMUERYL	1	18	THEOFLUV	2	24	PHYSFONT	3
27	PLANVORT	1	36	EPHEIGNI	3	41	BAETSCAM	2

53	VELINMPH	2	63	CORINMPH	2	81	DUGELUGU	1
87	GLOSCOMP	2	88	HELOSTAG	3	90	ERPOOCTO	2
91	ASELAQUA	4	120	ORTHTHIE	2	122	ORTHINAE	4
126	CHIRENDO	1	130	CHIRPLUM	1	139	TUBINOHR	1
141	LCULIDAE	1						

114 ACUTMAR2

1	SIMUANGL	2	2	SIMUANGP	2	7	SIMUERYL	2
8	SIMUERYP	1	12	ELMIAENA	1	20	POTAJENK	2
24	PHYSFONT	4	28	PLANALBU	1	30	ANCYFLUV	1
36	EPHEIGNI	2	41	BAETSCAM	2	54	VELICAPR	1
60	NOTONMPH	1	75	HELOLARV	1	80	POLYTNIG	3
87	GLOSCOMP	2	88	HELOSTAG	1	90	ERPOOCTO	2
91	ASELAQUA	4	92	CRANPSEU	1	98	HPSYANGU	1
103	ATHRATER	1	118	TANYINAE	1	119	ORTHCORY	2
122	ORTHINAE	4	126	CHIRENDO	2	128	CHIRPSUS	1
131	CHIRRSUS	3	140	NAIDIDAE	2	141	LCULIDAE	1

115 ACUTMAR3

1	SIMUANGL	5	2	SIMUANGP	1	3	SIMUEQUL	1
8	SIMUERYP	1	19	VALVPISC	1	27	PLANVORT	1
28	PLANALBU	1	41	BAETSCAM	1	53	VELINMPH	1
54	VELICAPR	2	67	HALILARV	1	80	POLYTNIG	2
81	DUGELUGU	1	82	DENDLACT	1	88	HELOSTAG	3
91	ASELAQUA	1	92	CRANPSEU	2	103	ATHRATER	2
118	TANYINAE	1	121	ORTHSYNO	1	122	ORTHINAE	3
131	CHIRRSUS	2	140	NAIDIDAE	1			

116 SCHOMAR1

1	SIMUANGL	2	7	SIMUERYL	1	20	POTAJENK	1
24	PHYSFONT	1	27	PLANVORT	2	30	ANCYFLUV	2
36	EPHEIGNI	2	53	VELINMPH	2	63	CORINMPH	1
80	POLYTNIG	1	87	GLOSCOMP	1	90	ERPOOCTO	6
91	ASELAQUA	1	118	TANYINAE	1	119	ORTHCORY	2
122	ORTHINAE	1	130	CHIRPLUM	2	138	TUBIHAIR	4
140	NAIDIDAE	6						

117 SCHOMAR2

2	SIMUANGP	1	18	THEOFLUV	1	20	POTAJENK	1
24	PHYSFONT	2	27	PLANVORT	2	28	PLANALBU	1
36	EPHEIGNI	1	41	BAETSCAM	1	54	VELICAPR	1
76	DYTILARV	1	81	DUGELUGU	1	87	GLOSCOMP	2
88	HELOSTAG	1	90	ERPOOCTO	1	91	ASELAQUA	2
119	ORTHCORY	1	126	CHIRENDO	1	140	NAIDIDAE	2

118 SCHOMAR3

1	SIMUANGL	1	3	SIMUEQUL	1	24	PHYSFONT	7
27	PLANVORT	2	43	CENTLUTE	1	60	NOTONMPH	1
80	POLYTNIG	2	88	HELOSTAG	1	90	ERPOOCTO	2
92	CRANPSEU	4	122	ORTHINAE	2	131	CHIRRSUS	1
138	TUBIHAIR	1	140	NAIDIDAE	3			

119 GLYCROT1

12	ELMIAENA	4	17	OULITUBA	8	19	VALVPISC	1
21	BITHTENT	1	23	LYMNPERE	1	24	PHYSFONT	2
25	PLANCARI	1	31	SPHACORN	8	36	EPHEIGNI	5
63	CORINMPH	3	67	HALILARV	1	69	HALIFLUV	1
74	POTAELEG	1	75	HELOLARV	15	80	POLYTNIG	3
81	DUGELUGU	2	86	GLOSHETE	1	87	GLOSCOMP	7
88	HELOSTAG	5	90	ERPOOCTO	6	91	ASELAQUA	26
95	SIALLUTA	2	102	SERIPERS	2	103	ATHRATER	13
107	TIPUIDAE	3	109	HACARINA	2	114	PSYCIDAE	1
116	TANYMACR	2	118	TANYINAE	1	124	CHIRCRYP	6
129	CHIRPPES	1	137	PRODOLIV	2	138	TUBIHAIR	20
139	TUBINOHR	8	141	LCULIDAE	16			

120 GLYCROT2

36	EPHEIGNI	1	43	CENTLUTE	1	67	HALILARV	2
80	POLYTNIG	1	87	GLOSCOMP	3	90	ERPOOCTO	1
91	ASELAQUA	2	107	TIPUIDAE	3	108	DICRSPEC	1
113	DOLIIDAE	4	115	TANYPROC	3	124	CHIRCRYP	7
125	CHIRDEMI	1	133	CHIRTSUS	5	137	PRODOLIV	2
138	TUBIHAIR	540	139	TUBINOHR	380	141	LCULIDAE	60

121 GLYCROT3

16	OULITUBL	3	17	OULITUBA	1	24	PHYSFONT	2
30	ANCYFLUV	1	36	EPHEIGNI	5	67	HALILARV	1
75	HELOLARV	5	80	POLYTNIG	4	87	GLOSCOMP	4
90	ERPOOCTO	6	91	ASELAQUA	11	113	DOLIIDAE	4
115	TANYPROC	1	116	TANYMACR	2	122	ORTHINAE	1
133	CHIRTSUS	6	137	PRODOLIV	7	138	TUBIHAIR	275
139	TUBINOHR	225						

122 GLYCROT4

24	PHYSFONT	3	31	SPHACORN	5	87	GLOSCOMP	2
90	ERPOOCTO	8	91	ASELAQUA	4	95	SIALLUTA	1
103	ATHRATER	1	107	TIPUIDAE	2	115	TANYPROC	4
124	CHIRCRYP	12	125	CHIRDEMI	1	133	CHIRTSUS	5
138	TUBIHAIR	26	139	TUBINOHR	18	141	LCULIDAE	10

123 GLYCROT5

17	OULITUBA	1	24	PHYSFONT	2	30	ANCYFLUV	1
31	SPHACORN	3	36	EPHEIGNI	2	43	CENTLUTE	3
67	HALILARV	5	75	HELOLARV	8	80	POLYTNIG	1
87	GLOSCOMP	7	88	HELOSTAG	3	90	ERPOOCTO	11
91	ASELAQUA	16	95	SIALLUTA	4	102	SERIPERS	2
103	ATHRATER	5	110	CERAIDAE	1	113	DOLIIDAE	2
116	TANYMACR	6	118	TANYINAE	3	122	ORTHINAE	3
124	CHIRCRYP	27	125	CHIRDEMI	6	129	CHIRPPES	3
133	CHIRTSUS	9	137	PRODOLIV	6	138	TUBIHAIR	215
139	TUBINOHR	35	141	LCULIDAE	20			

124 SPARROT1

67	HALILARV	1	87	GLOSCOMP	1	90	ERPOOCTO	1
91	ASELAQUA	7	92	CRANPSEU	3	109	HACARINA	1
113	DOLIIDAE	2	116	TANYMACR	2	122	ORTHINAE	1
124	CHIRCRYP	5	125	CHIRDEMI	1	133	CHIRTSUS	2
137	PRODOLIV	4	138	TUBIHAIR	52	139	TUBINOHR	120
141	LCULIDAE	12						

125 SPARROT2

74	POTAELEG	1	88	HELOSTAG	1	90	ERPOOCTO	2
91	ASELAQUA	3	113	DOLIIDAE	2	115	TANYPROC	1
116	TANYMACR	2	124	CHIRCRYP	3	133	CHIRTSUS	2
137	PRODOLIV	2	138	TUBIHAIR	55	139	TUBINOHR	75
141	LCULIDAE	15						

126 SPARROT3

67	HALILARV	1	69	HALIFLUV	1	88	HELOSTAG	1
90	ERPOOCTO	2	91	ASELAQUA	2	92	CRANPSEU	2
107	TIPUIDAE	4	113	DOLIIDAE	2	138	TUBIHAIR	36
139	TUBINOHR	92	141	LCULIDAE	24			

127 SPARROT4

31	SPHACORN	1	90	ERPOOCTO	2	91	ASELAQUA	2
113	DOLIIDAE	3	138	TUBIHAIR	40	139	TUBINOHR	20
141	LCULIDAE	4						

128 SPARROT5

24	PHYSFONT	1	30	ANCYFLUV	1	36	EPHEIGNI	1
67	HALILARV	2	80	POLYTNIG	4	87	GLOSCOMP	6
88	HELOSTAG	1	90	ERPOOCTO	9	91	ASELAQUA	7
95	SIALLUTA	1	113	DOLIIDAE	2	138	TUBIHAIR	27
139	TUBINOHR	7	141	LCULIDAE	6			

129 ACUTROT1

24	PHYSFONT	1	31	SPHACORN	4	67	HALILARV	1
75	HELOLARV	2	80	POLYTNIG	3	87	GLOSCOMP	3
90	ERPOOCTO	4	102	SERIPERS	1	109	HACARINA	4
113	DOLIIDAE	3	115	TANYPROC	2	116	TANYMACR	4
118	TANYINAE	1	124	CHIRCRYP	3	133	CHIRTSUS	2
137	PRODOLIV	4	138	TUBIHAIR	36	139	TUBINOHR	24
141	LCULIDAE	8						

130 ACUTROT2

17	OULITUBA	1	19	VALVPISC	1	23	LYMNPERE	1
24	PHYSFONT	2	31	SPHACORN	32	43	CENTLUTE	1
67	HALILARV	2	75	HELOLARV	3	80	POLYTNIG	2
81	DUGELUGU	1	87	GLOSCOMP	6	88	HELOSTAG	1
90	ERPOOCTO	4	91	ASELAQUA	7	92	CRANPSEU	1
95	SIALLUTA	2	102	SERIPERS	2	103	ATHRATER	8

107	TIPUIDAE	3	109	HACARINA	2	113	DOLIIDAE	1
115	TANYPROC	4	116	TANYMACR	1	124	CHIRCRYP	6
125	CHIRDEMI	1	133	CHIRTSUS	10	137	PRODOLIV	7
138	TUBIHAIR	33	139	TUBINOHR	27	141	LCULIDAE	6

131 ACUTROT3

21	BITHTENT	2	23	LYMNPERE	1	24	PHYSFONT	1
30	ANCYFLUV	1	39	CAENLUCT	1	63	CORINMPH	2
69	HALIFLUV	1	74	POTAELEG	2	87	GLOSCOMP	1
91	ASELAQUA	3	92	CRANPSEU	1	95	SIALLUTA	1
103	ATHRATER	4	107	TIPUIDAE	2	113	DOLIIDAE	2
115	TANYPROC	1	124	CHIRCRYP	10	125	CHIRDEMI	2
133	CHIRTSUS	3	137	PRODOLIV	1	138	TUBIHAIR	21
139	TUBINOHR	49	141	LCULIDAE	7			

132 SCHOROT1

11	ELMIAENL	2	21	BITHTENT	2	30	ANCYFLUV	1
31	SPHACORN	1	67	HALILARV	1	75	HELOLARV	3
87	GLOSCOMP	2	90	ERPOOCTO	6	91	ASELAQUA	1
109	HACARINA	1	113	DOLIIDAE	1	116	TANYMACR	1
118	TANYINAE	1	129	CHIRPPES	1	137	PRODOLIV	1
138	TUBIHAIR	13	139	TUBINOHR	23	141	LCULIDAE	11

133 SCHOROT2

24	PHYSFONT	2	31	SPHACORN	4	67	HALILARV	2
75	HELOLARV	2	80	POLYTNIG	1	91	ASELAQUA	2
103	ATHRATER	1	115	TANYPROC	3	116	TANYMACR	1
122	ORTHINAE	1	124	CHIRCRYP	2	133	CHIRTSUS	4
137	PRODOLIV	3	138	TUBIHAIR	5	139	TUBINOHR	28
141	LCULIDAE	15						

134 SCHOROT3

17	OULITUBA	1	20	POTAJENK	1	23	LYMNPERE	3
24	PHYSFONT	4	31	SPHACORN	3	43	CENTLUTE	2
63	CORINMPH	1	67	HALILARV	3	74	POTAELEG	1
75	HELOLARV	1	80	POLYTNIG	1	87	GLOSCOMP	2
91	ASELAQUA	2	95	SIALLUTA	1	103	ATHRATER	2
107	TIPUIDAE	1	109	HACARINA	3	113	DOLIIDAE	1
116	TANYMACR	2	124	CHIRCRYP	5	133	CHIRTSUS	1
138	TUBIHAIR	15	139	TUBINOHR	12	141	LCULIDAE	3

135 SCHOROT4

30	ANCYFLUV	1	31	SPHACORN	8	75	HELOLARV	1
81	DUGELUGU	3	90	ERPOOCTO	2	91	ASELAQUA	4
102	SERIPERS	1	109	HACARINA	4	113	DOLIIDAE	1
116	TANYMACR	2	122	ORTHINAE	1	125	CHIRDEMI	1
133	CHIRTSUS	1	137	PRODOLIV	3	138	TUBIHAIR	42
139	TUBINOHR	36	141	LCULIDAE	9			

136 COLLMUD1

17	OULITUBA	2	19	VALVPISC	3	23	LYMNPERE	1
24	PHYSFONT	5	25	PLANCARI	1	27	PLANVORT	1
31	SPHACORN	33	39	CAENLUCT	1	65	SIGADORS	1
67	HALILARV	2	70	HALIIMMA	1	74	POTAELEG	2
76	DYTILARV	6	83	PISCGEOM	5	87	GLOSCOMP	5
90	ERPOOCTO	2	91	ASELAQUA	83	92	CRANPSEU	2
93	GAMMPULE	1	95	SIALLUTA	35	102	SERIPERS	1
103	ATHRATER	27	109	HACARINA	2	115	TANYPROC	10
116	TANYMACR	5	124	CHIRCRYP	21	125	CHIRDEMI	1
129	CHIRPPES	4	133	CHIRTSUS	4	137	PRODOLIV	8
138	TUBIHAIR	23	139	TUBINOHR	27	141	LCULIDAE	11

137 COLLMUD2

23	LYMNPERE	1	24	PHYSFONT	8	25	PLANCARI	2
27	PLANVORT	1	31	SPHACORN	35	39	CAENLUCT	1
62	NOTOMACU	1	63	CORINMPH	1	67	HALILARV	4
71	LACCHYAL	1	74	POTAELEG	1	80	POLYTNIG	1
87	GLOSCOMP	4	88	HELOSTAG	1	90	ERPOOCTO	1
91	ASELAQUA	268	92	CRANPSEU	4	93	GAMMPULE	1
95	SIALLUTA	40	103	ATHRATER	1	115	TANYPROC	2
116	TANYMACR	10	124	CHIRCRYP	18	125	CHIRDEMI	2
129	CHIRPPES	6	133	CHIRTSUS	2	137	PRODOLIV	11
138	TUBIHAIR	12	139	TUBINOHR	13	141	LCULIDAE	5

138 COLLMUD3

21	BITHTENT	2	24	PHYSFONT	12	27	PLANVORT	1
31	SPHACORN	27	39	CAENLUCT	1	65	SIGADORS	1
67	HALILARV	6	69	HALIFLUV	2	70	HALIIMMA	1
75	HELOLARV	4	76	DYTILARV	1	80	POLYTNIG	1
83	PISCGEOM	1	87	GLOSCOMP	2	88	HELOSTAG	5
90	ERPOOCTO	1	91	ASELAQUA	114	92	CRANPSEU	3
93	GAMMPULE	1	95	SIALLUTA	25	102	SERIPERS	1
103	ATHRATER	6	116	TANYMACR	4	122	ORTHINAE	1
124	CHIRCRYP	2	130	CHIRPLUM	2	131	CHIRRSUS	1
133	CHIRTSUS	3	137	PRODOLIV	6	138	TUBIHAIR	25
139	TUBINOHR	30	141	LCULIDAE	5			

139 COLLMUD4

19	VALVPISC	2	24	PHYSFONT	9	31	SPHACORN	48
39	CAENLUCT	2	44	CLOEDIPT	2	63	CORINMPH	1
67	HALILARV	4	83	PISCGEOM	1	87	GLOSCOMP	1
88	HELOSTAG	1	90	ERPOOCTO	2	91	ASELAQUA	65
92	CRANPSEU	7	93	GAMMPULE	2	95	SIALLUTA	39
102	SERIPERS	1	103	ATHRATER	16	115	TANYPROC	5
116	TANYMACR	6	124	CHIRCRYP	13	125	CHIRDEMI	5
129	CHIRPPES	2	133	CHIRTSUS	7	137	PRODOLIV	7
138	TUBIHAIR	33	139	TUBINOHR	50	141	LCULIDAE	11

140 COLLMUD5

18	THEOFLUV	1	19	VALVPISC	3	23	LYMNPERE	1

24	PHYSFONT	3	27	PLANVORT	1	31	SPHACORN	42
33	ANODCYGN	1	63	CORINMPH	1	65	SIGADORS	1
67	HALILARV	2	69	HALIFLUV	1	74	POTAELEG	1
75	HELOLARV	2	81	DUGELUGU	1	83	PISCGEOM	1
87	GLOSCOMP	5	88	HELOSTAG	5	90	ERPOOCTO	3
91	ASELAQUA	63	93	GAMMPULE	1	95	SIALLUTA	41
101	HPTLSPEC	1	115	TANYPROC	16	116	TANYMACR	6
124	CHIRCRYP	38	125	CHIRDEMI	6	129	CHIRPPES	14
137	PRODOLIV	14	138	TUBIHAIR	24	139	TUBINOHR	40
141	LCULIDAE	16						

141 DUDDMUD1

11	ELMIAENL	3	12	ELMIAENA	2	14	LIMNVOLL	4
16	OULITUBL	8	17	OULITUBA	16	18	THEOFLUV	1
19	VALVPISC	4	20	POTAJENK	28	23	LYMNPERE	9
24	PHYSFONT	2	30	ANCYFLUV	1	31	SPHACORN	84
34	EPHEDANI	6	41	BAETSCAM	1	63	CORINMPH	5
65	SIGADORS	1	67	HALILARV	18	83	PISCGEOM	1
87	GLOSCOMP	6	88	HELOSTAG	10	90	ERPOOCTO	3
95	SIALLUTA	27	101	HPTLSPEC	1	102	SERIPERS	7
109	HACARINA	3	110	CERAIDAE	2	115	TANYPROC	120
116	TANYMACR	75	124	CHIRCRYP	15	125	CHIRDEMI	15
129	CHIRPPES	150	133	CHIRTSUS	255	137	PRODOLIV	90
138	TUBIHAIR	90	139	TUBINOHR	420	141	LCULIDAE	135

142 DUDDMUD2

16	OULITUBL	1	17	OULITUBA	4	18	THEOFLUV	3
19	VALVPISC	3	20	POTAJENK	450	22	LYMNSTAG	1
30	ANCYFLUV	2	31	SPHACORN	85	32	PISISPEC	2
34	EPHEDANI	7	35	EPHEVULG	1	66	SIGAFALL	1
67	HALILARV	16	87	GLOSCOMP	1	88	HELOSTAG	5
90	ERPOOCTO	1	95	SIALLUTA	3	102	SERIPERS	1
109	HACARINA	1	115	TANYPROC	1	116	TANYMACR	10
122	ORTHINAE	1	124	CHIRCRYP	22	129	CHIRPPES	1
130	CHIRPLUM	10	133	CHIRTSUS	4	137	PRODOLIV	17
138	TUBIHAIR	24	139	TUBINOHR	44	140	NAIDIDAE	2
141	LCULIDAE	26						

143 DUDDMUD3

17	OULITUBA	1	20	POTAJENK	40	21	BITHTENT	1
31	SPHACORN	16	34	EPHEDANI	1	63	CORINMPH	2
65	SIGADORS	1	67	HALILARV	4	102	SERIPERS	1
115	TANYPROC	16	116	TANYMACR	8	124	CHIRCRYP	32
125	CHIRDEMI	4	129	CHIRPPES	8	133	CHIRTSUS	40
137	PRODOLIV	16	138	TUBIHAIR	40	139	TUBINOHR	128
141	LCULIDAE	24						

144 DUDDMUD4

11	ELMIAENL	1	16	OULITUBL	1	17	OULITUBA	5
19	VALVPISC	1	20	POTAJENK	192	21	BITHTENT	1
23	LYMNPERE	1	31	SPHACORN	128	33	ANODCYGN	2
34	EPHEDANI	4	67	HALILARV	16	75	HELOLARV	1

83	PISCGEOM	1	88	HELOSTAG	3	95	SIALLUTA	4
102	SERIPERS	2	110	CERAIDAE	1	115	TANYPROC	15
116	TANYMACR	15	124	CHIRCRYP	225	129	CHIRPPES	15
137	PRODOLIV	150	138	TUBIHAIR	75	139	TUBINOHR	150
141	LCULIDAE	15						

145 DUDDMUD5

11	ELMIAENL	1	17	OULITUBA	1	19	VALVPISC	4
20	POTAJENK	216	23	LYMNPERE	1	31	SPHACORN	147
33	ANODCYGN	1	34	EPHEDANI	2	35	EPHEVULG	1
67	HALILARV	3	75	HELOLARV	1	83	PISCGEOM	1
87	GLOSCOMP	1	88	HELOSTAG	4	90	ERPOOCTO	1
95	SIALLUTA	1	116	TANYMACR	28	124	CHIRCRYP	49
125	CHIRDEMI	14	129	CHIRPPES	7	130	CHIRPLUM	7
133	CHIRTSUS	21	137	PRODOLIV	70	138	TUBIHAIR	119
139	TUBINOHR	315	141	LCULIDAE	35			

146 SANDAAA1

16	OULITUBL	2	19	VALVPISC	3	20	POTAJENK	17
21	BITHTENT	1	31	SPHACORN	1	36	EPHEIGNI	1
91	ASELAQUA	1	122	ORTHINAE	1	123	CHIRCLAD	2
124	CHIRCRYP	4	125	CHIRDEMI	9	132	CHIRSAET	5
136	POTTLONG	1	137	PRODOLIV	6	138	TUBIHAIR	12
139	TUBINOHR	1	141	LCULIDAE	8			

147 SANDAAA2

20	POTAJENK	7	31	SPHACORN	1	110	CERAIDAE	2
124	CHIRCRYP	3	125	CHIRDEMI	4	132	CHIRSAET	3
137	PRODOLIV	9	138	TUBIHAIR	6	139	TUBINOHR	2
141	LCULIDAE	6						

148 SANDAAA3

20	POTAJENK	1	124	CHIRCRYP	2	125	CHIRDEMI	1
132	CHIRSAET	3	137	PRODOLIV	10	138	TUBIHAIR	2
139	TUBINOHR	1	141	LCULIDAE	6			

149 SANDBBB1

11	ELMIAENL	1	16	OULITUBL	4	20	POTAJENK	29
31	SPHACORN	2	91	ASELAQUA	6	110	CERAIDAE	1
116	TANYMACR	1	123	CHIRCLAD	1	124	CHIRCRYP	3
125	CHIRDEMI	15	132	CHIRSAET	3	137	PRODOLIV	9
138	TUBIHAIR	5	141	LCULIDAE	9			

150 SANDBBB2

15	LIMNVOLA	1	19	VALVPISC	18	20	POTAJENK	15
21	BITHTENT	1	31	SPHACORN	5	91	ASELAQUA	7
92	CRANPSEU	1	107	TIPUIDAE	1	123	CHIRCLAD	1
124	CHIRCRYP	4	125	CHIRDEMI	5	132	CHIRSAET	11
133	CHIRTSUS	1	136	POTTLONG	2	137	PRODOLIV	5
138	TUBIHAIR	1	141	LCULIDAE	18			

151 SANDBBB3

16	OULITUBL	1	18	THEOFLUV	2	19	VALVPISC	6
20	POTAJENK	6	21	BITHTENT	2	23	LYMNPERE	1
31	SPHACORN	14	91	ASELAQUA	9	110	CERAIDAE	3
122	ORTHINAE	1	123	CHIRCLAD	5	124	CHIRCRYP	2
125	CHIRDEMI	7	132	CHIRSAET	2	136	POTTLONG	3
137	PRODOLIV	3	141	LCULIDAE	10			

152 SANDCCC1

16	OULITUBL	1	20	POTAJENK	1	31	SPHACORN	1
108	DICRSPEC	2	123	CHIRCLAD	2	124	CHIRCRYP	2
128	CHIRPSUS	1	132	CHIRSAET	1	137	PRODOLIV	8
138	TUBIHAIR	20	139	TUBINOHR	10	141	LCULIDAE	5

153 SANDCCC2

19	VALVPISC	1	130	CHIRPLUM	1	134	CHIRCHIR	1
137	PRODOLIV	3	138	TUBIHAIR	20	139	TUBINOHR	7
141	LCULIDAE	3						

154 SANDCCC3

31	SPHACORN	2	122	ORTHINAE	1	123	CHIRCLAD	1
124	CHIRCRYP	3	125	CHIRDEMI	1	130	CHIRPLUM	1
132	CHIRSAET	2	137	PRODOLIV	2	138	TUBIHAIR	18
139	TUBINOHR	10	140	NAIDIDAE	1	141	LCULIDAE	26

155 DUDDGRV1

3	SIMUEQUL	2	7	SIMUERYL	1	11	ELMIAENL	7
12	ELMIAENA	4	14	LIMNVOLL	5	16	OULITUBL	1
17	OULITUBA	1	19	VALVPISC	11	20	POTAJENK	2
21	BITHTENT	1	23	LYMNPERE	2	24	PHYSFONT	13
31	SPHACORN	11	36	EPHEIGNI	6	40	BAETRHOD	2
41	BAETSCAM	3	69	HALIFLUV	1	74	POTAELEG	3
75	HELOLARV	6	87	GLOSCOMP	1	91	ASELAQUA	7
109	HACARINA	6	122	ORTHINAE	1	127	CHIRPMUS	1
137	PRODOLIV	3	138	TUBIHAIR	12	141	LCULIDAE	2
142	HTAXIDAE	7						

156 DUDDGRV2

3	SIMUEQUL	1	11	ELMIAENL	3	12	ELMIAENA	2
16	OULITUBL	3	17	OULITUBA	1	18	THEOFLUV	2
19	VALVPISC	7	20	POTAJENK	2	21	BITHTENT	2
24	PHYSFONT	8	29	PLANCONT	1	31	SPHACORN	12
36	EPHEIGNI	6	40	BAETRHOD	3	41	BAETSCAM	10
74	POTAELEG	1	75	HELOLARV	1	87	GLOSCOMP	1
90	ERPOOCTO	1	91	ASELAQUA	8	101	HPTLSPEC	2
103	ATHRATER	2	109	HACARINA	3	110	CERAIDAE	1
122	ORTHINAE	1	133	CHIRTSUS	1	137	PRODOLIV	1
138	TUBIHAIR	8	141	LCULIDAE	2	142	HTAXIDAE	1

157 DUDDGRV3

7	SIMUERYL	3	11	ELMIAENL	4	14	LIMNVOLL	6
16	OULITUBL	2	18	THEOFLUV	1	19	VALVPISC	1
20	POTAJENK	9	21	BITHTENT	1	23	LYMNPERE	1
24	PHYSFONT	1	31	SPHACORN	19	36	EPHEIGNI	3
40	BAETRHOD	1	41	BAETSCAM	4	42	BAETVERN	1
43	CENTLUTE	1	65	SIGADORS	3	75	HELOLARV	3
83	PISCGEOM	1	91	ASELAQUA	7	107	TIPUIDAE	1
108	DICRSPEC	1	109	HACARINA	6	131	CHIRRSUS	2
138	TUBIHAIR	22	140	NAIDIDAE	1	141	LCULIDAE	15
142	HTAXIDAE	1						

158 DUDDGRV4

3	SIMUEQUL	1	7	SIMUERYL	4	11	ELMIAENL	1
14	LIMNVOLL	5	16	OULITUBL	11	17	OULITUBA	1
19	VALVPISC	6	20	POTAJENK	11	24	PHYSFONT	10
31	SPHACORN	10	36	EPHEIGNI	10	40	BAETRHOD	4
41	BAETSCAM	22	63	CORINMPH	1	74	POTAELEG	1
75	HELOLARV	1	76	DYTILARV	1	87	GLOSCOMP	3
91	ASELAQUA	5	101	HPTLSPEC	2	103	ATHRATER	1
109	HACARINA	6	136	POTTLONG	1	137	PRODOLIV	1
138	TUBIHAIR	13	141	LCULIDAE	6	142	HTAXIDAE	2

159 COLLGRV1

3	SIMUEQUL	1	11	ELMIAENL	4	12	ELMIAENA	3
16	OULITUBL	2	17	OULITUBA	1	20	POTAJENK	1
21	BITHTENT	1	31	SPHACORN	6	36	EPHEIGNI	3
39	CAENLUCT	3	41	BAETSCAM	2	75	HELOLARV	2
87	GLOSCOMP	1	90	ERPOOCTO	3	91	ASELAQUA	19
92	CRANPSEU	1	93	GAMMPULE	1	95	SIALLUTA	2
102	SERIPERS	2	103	ATHRATER	1	108	DICRSPEC	2
109	HACARINA	5	110	CERAIDAE	2	123	CHIRCLAD	1
133	CHIRTSUS	1	136	POTTLONG	1	138	TUBIHAIR	30
139	TUBINOHR	32	141	LCULIDAE	48			

160 COLLGRV2

7	SIMUERYL	1	11	ELMIAENL	6	12	ELMIAENA	5
15	LIMNVOLA	1	16	OULITUBL	6	17	OULITUBA	2
20	POTAJENK	1	21	BITHTENT	1	31	SPHACORN	3
36	EPHEIGNI	3	39	CAENLUCT	2	40	BAETRHOD	1
41	BAETSCAM	6	67	HALILARV	1	75	HELOLARV	1
87	GLOSCOMP	1	90	ERPOOCTO	1	91	ASELAQUA	9
102	SERIPERS	4	103	ATHRATER	1	122	ORTHINAE	3
108	DICRSPEC	1	137	PRODOLIV	2	138	TUBIHAIR	24
139	TUBINOHR	52	141	LCULIDAE	34			

161 COLLGRV3

3	SIMUEQUL	1	7	SIMUERYL	1	11	ELMIAENL	9
12	ELMIAENA	47	14	LIMNVOLL	2	15	LIMNVOLA	5
16	OULITUBL	7	17	OULITUBA	80	19	VALVPISC	7
20	POTAJENK	2	30	ANCYFLUV	6	31	SPHACORN	7

36	EPHEIGNI	5	39	CAENLUCT	1	40	BAETRHOD	1
41	BAETSCAM	9	63	CORINMPH	1	69	HALIFLUV	1
75	HELOLARV	2	87	GLOSCOMP	2	88	HELOSTAG	2
90	ERPOOCTO	4	91	ASELAQUA	14	92	CRANPSEU	1
93	GAMMPULE	1	99	HPSYCONT	1	101	HPTLSPEC	3
108	DICRSPEC	2	109	HACARINA	26	122	ORTHINAE	2
138	TUBIHAIR	18	139	TUBINOHR	21	141	LCULIDAE	13

162 COLLGRV4

11	ELMIAENL	5	12	ELMIAENA	19	14	LIMNVOLL	1
15	LIMNVOLA	7	16	OULITUBL	49	17	OULITUBA	21
18	THEOFLUV	1	19	VALVPISC	4	30	ANCYFLUV	3
31	SPHACORN	1	36	EPHEIGNI	1	84	THERTESS	1
87	GLOSCOMP	3	88	HELOSTAG	2	90	ERPOOCTO	1
91	ASELAQUA	6	98	HPSYANGU	6	99	HPSYCONT	3
101	HPTLSPEC	2	108	DICRSPEC	6	109	HACARINA	46
137	PRODOLIV	1	138	TUBIHAIR	11	139	TUBINOHR	3
140	NAIDIDAE	2	141	LCULIDAE	7			

163 COLLGRV5

7	SIMUERYL	1	8	SIMUERYP	1	11	ELMIAENL	6
12	ELMIAENA	34	14	LIMNVOLL	1	15	LIMNVOLA	5
16	OULITUBL	12	17	OULITUBA	17	18	THEOFLUV	4
19	VALVPISC	1	20	POTAJENK	4	30	ANCYFLUV	7
31	SPHACORN	6	34	EPHEDANI	1	36	EPHEIGNI	3
39	CAENLUCT	2	41	BAETSCAM	15	42	BAETVERN	2
63	CORINMPH	2	67	HALILARV	3	87	GLOSCOMP	2
91	ASELAQUA	2	102	SERIPERS	1	103	ATHRATER	3
107	TIPUIDAE	1	108	DICRSPEC	2	109	HACARINA	15
122	ORTHINAE	8	127	CHIRPMUS	2	138	TUBIHAIR	46
139	TUBINOHR	6	141	LCULIDAE	14			

164 RIFFAAA1

1	SIMUANGL	10	3	SIMUEQUL	155	7	SIMUERYL	50
9	SIMUORNL	5	11	ELMIAENL	85	12	ELMIAENA	3
14	LIMNVOLL	55	15	LIMNVOLA	5	16	OULITUBL	5
17	OULITUBA	3	20	POTAJENK	180	30	ANCYFLUV	2
31	SPHACORN	1	36	EPHEIGNI	4	41	BAETSCAM	9
87	GLOSCOMP	2	90	ERPOOCTO	2	91	ASELAQUA	3
93	GAMMPULE	1	94	AUSTPALL	1	98	HPSYANGU	5
102	SERIPERS	2	107	TIPUIDAE	4	108	DICRSPEC	1
109	HACARINA	8	110	CERAIDAE	2	118	TANYINAE	14
122	ORTHINAE	154	125	CHIRDEMI	7	131	CHIRRSUS	7
138	TUBIHAIR	1	139	TUBINOHR	2	140	NAIDIDAE	1
141	LCULIDAE	10						

165 RIFFAAA2

1	SIMUANGL	10	3	SIMUEQUL	350	7	SIMUERYL	60
11	ELMIAENL	128	12	ELMIAENA	11	14	LIMNVOLL	96
15	LIMNVOLA	7	16	OULITUBL	8	17	OULITUBA	3
18	THEOFLUV	11	20	POTAJENK	12	30	ANCYFLUV	10
36	EPHEIGNI	8	39	CAENLUCT	1	41	BAETSCAM	2

47	LEUCGENI	2	74	POTAELEG	2	87	GLOSCOMP	5
90	ERPOOCTO	13	91	ASELAQUA	2	93	GAMMPULE	1
97	HPSYPELL	1	98	HPSYANGU	9	99	HPSYCONT	3
101	HPTLSPEC	7	102	SERIPERS	3	109	HACARINA	11
110	CERAIDAE	3	118	TANYINAE	10	122	ORTHINAE	170
124	CHIRCRYP	10	138	TUBIHAIR	2	139	TUBINOHR	7
141	LCULIDAE	3						

166 RIFFAAA3

1	SIMUANGL	6	3	SIMUEQUL	36	7	SIMUERYL	24
9	SIMUORNL	6	11	ELMIAENL	101	12	ELMIAENA	21
14	LIMNVOLL	56	15	LIMNVOLA	10	16	OULITUBL	4
17	OULITUBA	2	18	THEOFLUV	24	20	POTAJENK	98
30	ANCYFLUV	18	33	ANODCYGN	1	36	EPHEIGNI	15
40	BAETRHOD	1	42	BAETVERN	1	74	POTAELEG	3
84	THERTESS	1	87	GLOSCOMP	7	90	ERPOOCTO	14
91	ASELAQUA	8	93	GAMMPULE	1	98	HPSYANGU	19
99	HPSYCONT	1	101	HPTLSPEC	8	102	SERIPERS	2
109	HACARINA	14	122	ORTHINAE	144	138	TUBIHAIR	1
139	TUBINOHR	2	141	LCULIDAE	10			

167 RIFFAAA4

3	SIMUEQUL	3	11	ELMIAENL	65	12	ELMIAENA	27
14	LIMNVOLL	45	15	LIMNVOLA	5	17	OULITUBA	2
18	THEOFLUV	8	20	POTAJENK	400	30	ANCYFLUV	3
31	SPHACORN	2	34	EPHEDANI	1	36	EPHEIGNI	6
41	BAETSCAM	1	69	HALIFLUV	1	74	POTAELEG	2
87	GLOSCOMP	2	90	ERPOOCTO	4	91	ASELAQUA	2
97	HPSYPELL	2	98	HPSYANGU	5	100	HPSYSILT	1
101	HPTLSPEC	2	102	SERIPERS	1	108	DICRSPEC	2
109	HACARINA	13	118	TANYINAE	5	122	ORTHINAE	70
128	CHIRPSUS	5	138	TUBIHAIR	1	139	TUBINOHR	3
141	LCULIDAE	3						

168 RIFFAAA5

3	SIMUEQUL	9	7	SIMUERYL	2	11	ELMIAENL	20
12	ELMIAENA	6	14	LIMNVOLL	16	15	LIMNVOLA	3
16	OULITUBL	1	17	OULITUBA	5	18	THEOFLUV	4
19	VALVPISC	1	20	POTAJENK	350	21	BITHTENT	1
30	ANCYFLUV	9	31	SPHACORN	3	34	EPHEDANI	1
36	EPHEIGNI	10	39	CAENLUCT	4	41	BAETSCAM	1
47	LEUCGENI	1	75	HELOLARV	1	90	ERPOOCTO	5
91	ASELAQUA	4	92	CRANPSEU	1	97	HPSYPELL	1
98	HPSYANGU	3	99	HPSYCONT	1	100	HPSYSILT	1
101	HPTLSPEC	5	102	SERIPERS	1	108	DICRSPEC	2
109	HACARINA	28	122	ORTHINAE	23	123	CHIRCLAD	1
125	CHIRDEMI	2	131	CHIRRSUS	1	138	TUBIHAIR	1
139	TUBINOHR	4	141	LCULIDAE	5			

169 RIFFBBB1

1	SIMUANGL	2	3	SIMUEQUL	80	7	SIMUERYL	4
11	ELMIAENL	31	12	ELMIAENA	18	14	LIMNVOLL	19

15	LIMNVOLA	6	17	OULITUBA	16	18	THEOFLUV	11
20	POTAJENK	21	21	BITHTENT	1	30	ANCYFLUV	9
31	SPHACORN	13	36	EPHEIGNI	10	41	BAETSCAM	2
47	LEUCGENI	1	63	CORINMPH	1	74	POTAELEG	8
85	HEMIMARG	1	87	GLOSCOMP	16	88	HELOSTAG	1
90	ERPOOCTO	6	91	ASELAQUA	18	97	HPSYPELL	1
98	HPSYANGU	2	101	HPTLSPEC	3	108	DICRSPEC	1
109	HACARINA	12	118	TANYINAE	6	122	ORTHINAE	14
125	CHIRDEMI	6	141	LCULIDAE	32			

170 RIFFBBB2

3	SIMUEQUL	80	7	SIMUERYL	10	9	SIMUORNL	5
11	ELMIAENL	122	12	ELMIAENA	42	14	LIMNVOLL	40
15	LIMNVOLA	12	18	THEOFLUV	5	20	POTAJENK	148
23	LYMNPERE	1	30	ANCYFLUV	4	31	SPHACORN	1
36	EPHEIGNI	18	41	BAETSCAM	5	63	CORINMPH	1
87	GLOSCOMP	4	90	ERPOOCTO	1	91	ASELAQUA	3
93	GAMMPULE	2	97	HPSYPELL	3	98	HPSYANGU	39
99	HPSYCONT	6	101	HPTLSPEC	7	105	LIMNLUNA	1
108	DICRSPEC	1	109	HACARINA	12	122	ORTHINAE	75
138	TUBIHAIR	1	139	TUBINOHR	1	141	LCULIDAE	24

171 RIFFBBB3

11	ELMIAENL	75	12	ELMIAENA	30	14	LIMNVOLL	27
15	LIMNVOLA	24	17	OULITUBA	18	18	THEOFLUV	6
23	LYMNPERE	1	24	PHYSFONT	1	30	ANCYFLUV	7
31	SPHACORN	5	36	EPHEIGNI	22	39	CAENLUCT	3
41	BAETSCAM	18	69	HALIFLUV	1	75	HELOLARV	1
76	DYTILARV	2	87	GLOSCOMP	5	90	ERPOOCTO	7
91	ASELAQUA	4	92	CRANPSEU	1	93	GAMMPULE	2
97	HPSYPELL	1	98	HPSYANGU	5	99	HPSYCONT	2
100	HPSYSILT	1	101	HPTLSPEC	12	108	DICRSPEC	3
109	HACARINA	7	118	TANYINAE	30	122	ORTHINAE	330
139	TUBINOHR	3	141	LCULIDAE	4			

172 RIFFBBB4

3	SIMUEQUL	48	7	SIMUERYL	6	11	ELMIAENL	100
12	ELMIAENA	45	13	ESOLPARA	1	14	LIMNVOLL	20
15	LIMNVOLA	35	16	OULITUBL	10	17	OULITUBA	40
18	THEOFLUV	8	20	POTAJENK	12	23	LYMNPERE	1
30	ANCYFLUV	11	31	SPHACORN	8	36	EPHEIGNI	10
39	CAENLUCT	3	40	BAETRHOD	1	41	BAETSCAM	12
63	CORINMPH	1	74	POTAELEG	3	85	HEMIMARG	1
87	GLOSCOMP	6	90	ERPOOCTO	3	91	ASELAQUA	2
93	GAMMPULE	4	98	HPSYANGU	6	99	HPSYCONT	1
100	HPSYSILT	1	101	HPTLSPEC	16	108	DICRSPEC	3
109	HACARINA	18	110	CERAIDAE	4	122	ORTHINAE	42
128	CHIRPSUS	3	139	TUBINOHR	8	141	LCULIDAE	17

173 RIFFBBB5

1	SIMUANGL	16	3	SIMUEQUL	204	5	SIMUSALL	8
7	SIMUERYL	24	11	ELMIAENL	192	12	ELMIAENA	90

14	LIMNVOLL	104	15	LIMNVOLA	20	16	OULITUBL	64
17	OULITUBA	10	18	THEOFLUV	5	20	POTAJENK	17
30	ANCYFLUV	4	31	SPHACORN	1	36	EPHEIGNI	12
40	BAETRHOD	5	41	BAETSCAM	4	63	CORINMPH	1
87	GLOSCOMP	1	90	ERPOOCTO	13	91	ASELAQUA	3
92	CRANPSEU	1	93	GAMMPULE	2	96	RHYADORS	1
97	HPSYPELL	3	98	HPSYANGU	5	99	HPSYCONT	1
100	HPSYSILT	1	101	HPTLSPEC	24	102	SERIPERS	1
103	ATHRATER	2	108	DICRSPEC	1	109	HACARINA	5
110	CERAIDAE	3	118	TANYINAE	8	122	ORTHINAE	128
139	TUBINOHR	6	141	LCULIDAE	22			

174 RIFFCCC1

3	SIMUEQUL	5	7	SIMUERYL	6	9	SIMUORNL	1
11	ELMIAENL	90	12	ELMIAENA	22	14	LIMNVOLL	75
15	LIMNVOLA	1	16	OULITUBL	20	17	OULITUBA	6
19	VALVPISC	1	20	POTAJENK	12	21	BITHTENT	1
23	LYMNPERE	1	24	PHYSFONT	2	30	ANCYFLUV	5
31	SPHACORN	19	36	EPHEIGNI	10	41	BAETSCAM	2
47	LEUCGENI	2	74	POTAELEG	1	87	GLOSCOMP	1
90	ERPOOCTO	2	91	ASELAQUA	18	93	GAMMPULE	1
99	HPSYCONT	1	100	HPSYSILT	2	101	HPTLSPEC	8
109	HACARINA	10	110	CERAIDAE	1	122	ORTHINAE	100
138	TUBIHAIR	2	141	LCULIDAE	11			

175 RIFFCCC2

1	SIMUANGL	2	3	SIMUEQUL	6	11	ELMIAENL	8
12	ELMIAENA	3	14	LIMNVOLL	16	15	LIMNVOLA	1
16	OULITUBL	1	17	OULITUBA	2	18	THEOFLUV	5
19	VALVPISC	4	20	POTAJENK	54	21	BITHTENT	2
23	LYMNPERE	2	24	PHYSFONT	2	30	ANCYFLUV	19
31	SPHACORN	4	36	EPHEIGNI	5	41	BAETSCAM	2
47	LEUCGENI	1	87	GLOSCOMP	1	91	ASELAQUA	4
97	HPSYPELL	1	108	DICRSPEC	1	109	HACARINA	9
122	ORTHINAE	21	141	LCULIDAE	2			

176 RIFFCCC3

1	SIMUANGL	50	3	SIMUEQUL	20	7	SIMUERYL	70
9	SIMUORNL	20	11	ELMIAENL	28	12	ELMIAENA	7
14	LIMNVOLL	20	16	OULITUBL	18	17	OULITUBA	15
18	THEOFLUV	2	20	POTAJENK	17	21	BITHTENT	2
23	LYMNPERE	4	24	PHYSFONT	7	25	PLANCARI	2
30	ANCYFLUV	9	31	SPHACORN	5	36	EPHEIGNI	10
41	BAETSCAM	5	87	GLOSCOMP	4	91	ASELAQUA	17
92	CRANPSEU	1	97	HPSYPELL	1	98	HPSYANGU	2
99	HPSYCONT	1	101	HPTLSPEC	2	107	TIPUIDAE	1
108	DICRSPEC	1	109	HACARINA	10	110	CERAIDAE	1
118	TANYINAE	10	122	ORTHINAE	175	128	CHIRPSUS	5
131	CHIRRSUS	5	132	CHIRSAET	5	138	TUBIHAIR	3
141	LCULIDAE	8						

177 RIFFCCC4

1	SIMUANGL	15	3	SIMUEQUL	40	7	SIMUERYL	35
9	SIMUORNL	15	11	ELMIAENL	40	12	ELMIAENA	14
14	LIMNVOLL	18	15	LIMNVOLA	4	16	OULITUBL	14
17	OULITUBA	4	18	THEOFLUV	4	19	VALVPISC	1
20	POTAJENK	3	21	BITHTENT	2	24	PHYSFONT	3
30	ANCYFLUV	4	31	SPHACORN	2	36	EPHEIGNI	14
40	BAETRHOD	1	41	BAETSCAM	7	75	HELOLARV	1
84	THERTESS	1	87	GLOSCOMP	1	91	ASELAQUA	11
98	HPSYANGU	2	101	HPTLSPEC	4	108	DICRSPEC	1
109	HACARINA	9	118	TANYINAE	5	122	ORTHINAE	105
138	TUBIHAIR	1	141	LCULIDAE	5			

178 RIFFCCC5

1	SIMUANGL	4	3	SIMUEQUL	6	7	SIMUERYL	2
11	ELMIAENL	9	14	LIMNVOLL	8	17	OULITUBA	2
18	THEOFLUV	4	19	VALVPISC	1	20	POTAJENK	5
23	LYMNPERE	2	24	PHYSFONT	2	30	ANCYFLUV	4
31	SPHACORN	1	36	EPHEIGNI	10	40	BAETRHOD	2
41	BAETSCAM	7	74	POTAELEG	1	84	THERTESS	1
87	GLOSCOMP	2	88	HELOSTAG	3	90	ERPOOCTO	2
91	ASELAQUA	20	97	HPSYPELL	3	99	HPSYCONT	2
107	TIPUIDAE	5	109	HACARINA	5	118	TANYINAE	20
122	ORTHINAE	160	123	CHIRCLAD	5	124	CHIRCRYP	5
141	LCULIDAE	1						

179 ROCKPOL1

12	ELMIAENA	3	17	OULITUBA	4	20	POTAJENK	30
23	LYMNPERE	1	36	EPHEIGNI	4	38	CAENMACR	1
39	CAENLUCT	2	43	CENTLUTE	2	44	CLOEDIPT	18
63	CORINMPH	4	65	SIGADORS	1	74	POTAELEG	2
75	HELOLARV	3	77	HELOBREV	2	80	POLYTNIG	13
81	DUGELUGU	3	87	GLOSCOMP	1	90	ERPOOCTO	1
91	ASELAQUA	3	95	SIALLUTA	1	101	HPTLSPEC	3
102	SERIPERS	1	109	HACARINA	6	111	ANOPSPEC	1
119	ORTHCORY	6	120	ORTHTHIE	1	122	ORTHINAE	10
128	CHIRPSUS	4	130	CHIRPLUM	1	138	TUBIHAIR	15
139	TUBINOHR	5	141	LCULIDAE	3			

180 ROCKPOL2

11	ELMIAENL	2	12	ELMIAENA	4	17	OULITUBA	1
18	THEOFLUV	1	20	POTAJENK	25	21	BITHTENT	1
43	CENTLUTE	2	44	CLOEDIPT	6	60	NOTONMPH	1
63	CORINMPH	2	66	SIGAFALL	1	75	HELOLARV	3
77	HELOBREV	2	80	POLYTNIG	8	87	GLOSCOMP	2
90	ERPOOCTO	2	91	ASELAQUA	2	92	CRANPSEU	1
93	GAMMPULE	1	94	AUSTPALL	2	101	HPTLSPEC	6
103	ATHRATER	2	109	HACARINA	4	119	ORTHCORY	2
120	ORTHTHIE	2	122	ORTHINAE	10	128	CHIRPSUS	4
130	CHIRPLUM	3	137	PRODOLIV	1	138	TUBIHAIR	2
139	TUBINOHR	2	141	LCULIDAE	1			

181 ROCKPOL3

7	SIMUERYL	2	12	ELMIAENA	1	18	THEOFLUV	2
20	POTAJENK	50	36	EPHEIGNI	1	39	CAENLUCT	2
43	CENTLUTE	1	44	CLOEDIPT	3	63	CORINMPH	4
65	SIGADORS	2	74	POTAELEG	1	75	HELOLARV	6
80	POLYTNIG	12	81	DUGELUGU	1	91	ASELAQUA	4
92	CRANPSEU	1	101	HPTLSPEC	2	103	ATHRATER	1
109	HACARINA	1	119	ORTHCORY	1	122	ORTHINAE	3
130	CHIRPLUM	13	138	TUBIHAIR	8	139	TUBINOHR	4
141	LCULIDAE	1						

9. APPLICATION OF TWINSPAN TO RIVER WELLAND HABITATS, 1988

9.1 Parameters

Cut levels 0, 10, 100, 1000
Maximum of 7 indicator species to be used at each division
Maximum level of divisions = 9
Equal weights for pseudospecies levels
Pseudospecies at all levels are available as indicators
Number of samples = 181 Number of species = 142
Length of data array after defining pseudospecies is 5551
Total number of species and pseudospecies is 245

9.2 Sample classification

1. Division of the 181 items in group *

Indicator species (with pseudospecies level in brackets)

```
TUBI HAIR (1) +   PROD OLIV (1) +   TUBI NOHR (1) +   LCUL IDAE (1) +
CHIR CRYP (1) +   BAET SCAM (1) -   ORTH INAE (1) -
```

There are 144 items in the negative group 2 (*0)

```
CLADPOL1   CLADPOL2   CLADPOL3   CLADPOL4   CLADRUN1   CLADRUN2   CLADRUN3
CLADRUN4   CLADRUN5   ELODPOL1   ELODPOL2   ELODPOL3   ELODPOL4   ELODPOL5
ELODRUN1   ELODRUN2   ELODRUN3   ELODRUN4   ENTORUN1   ENTORUN2   ENTORUN3
ENTOPOL1   ENTOPOL2   ENTOPOL3   FONTRUN1   FONTRUN2   FONTRUN3   FONTRUN4
FONTRUN5   FONTRIF1   FONTRIF2   FONTRIF3   FONTRIF4   FONTRIF5   LUCERUN1
LUCERUN2   LUCERUN3   LUCERUN4   LUCERUN5   MYRIRUN1   MYRIRUN2   MYRIRUN3
MYRIRUN4   NATAPOL1   NATAPOL2   NATAPOL3   NATAPOL4   NATAPOL5   PECTRUN1
PECTRUN2   PECTRUN3   PECTRUN4   PECTRIF1   PECTRIF2   PECTRIF3   PERFRUN1
PERFRUN2   PERFRUN3   PERFRUN4   PERFRUN5   RANURIF1   RANURIF2   RANURIF3
RANURIF4   RANURIF5   RANURUN1   RANURUN2   RANURUN3   RANURUN4   RANURUN5
SCHORUN1   SCHORUN2   SCHORUN3   AGROMAR1   AGROMAR2   AGROMAR3   AGROMAR4
AGROMAR5   GLYCMAR1   GLYCMAR2   GLYCMAR3   GLYCMAR4   GLYCMAR5   ALBAPOL1
ALBAPOL2   ALBAPOL3   ALBAPOL4   ALBAPOL5   NUPHRUN1   NUPHRUN2   NUPHRUN3
NUPHRUN4   NUPHPOL1   NUPHPOL2   NUPHPOL3   NUPHPOL4   NUPHPOL5   PHALMAR1
PHALMAR2   PHALMAR3   PHALMAR4   PHALMAR5   RORIMAR1   RORIMAR2   RORIMAR3
RORIMAR4   RORIMAR5   SPARMAR1   SPARMAR2   SPARMAR3   SPARMAR4   SPARMAR5
ACUTMAR1   ACUTMAR2   ACUTMAR3   SCHOMAR1   SCHOMAR2   SCHOMAR3   DUDDGRV1
DUDDGRV2   DUDDGRV3   DUDDGRV4   COLLGRV2   COLLGRV3   COLLGRV4   COLLGRV5
RIFFAAA1   RIFFAAA2   RIFFAAA3   RIFFAAA4   RIFFAAA5   RIFFBBB1   RIFFBBB2
RIFFBBB3   RIFFBBB4   RIFFBBB5   RIFFCCC1   RIFFCCC2   RIFFCCC3   RIFFCCC4
RIFFCCC5   ROCKPOL1   ROCKPOL2   ROCKPOL3
```

There are 37 items in the positive group 3 (*1)

```
GLYCROT1   GLYCROT2   GLYCROT3   GLYCROT4   GLYCROT5   SPARROT1   SPARROT2
SPARROT3   SPARROT4   SPARROT5   ACUTROT1   ACUTROT2   ACUTROT3   SCHOROT1
SCHOROT2   SCHOROT3   SCHOROT4   COLLMUD1   COLLMUD2   COLLMUD3   COLLMUD4
COLLMUD5   DUDDMUD1   DUDDMUD2   DUDDMUD3   DUDDMUD4   DUDDMUD5   SANDAAA1
SANDAAA2   SANDAAA3   SANDBBB1   SANDBBB2   SANDBBB3   SANDCCC1   SANDCCC2
SANDCCC3   COLLGRV1
```

2. Division of the 144 items in group *0

Indicator species (with pseudospecies level in brackets)

```
EPHE IGNI (2) -   POLY TNIG (1) +   BAET SCAM (1) -   BAET RHOD (1) -
PLAN VORT (1) +   PHYS FONT (1) +
```

There are 78 items in the negative group 4 (*00)

```
CLADRUN1   CLADRUN2   CLADRUN3   CLADRUN4   CLADRUN5   ELODRUN1   ELODRUN2
ELODRUN3   ELODRUN4   ENTORUN2   ENTORUN3   FONTRUN1   FONTRUN2   FONTRUN3
FONTRUN4   FONTRUN5   FONTRIF1   FONTRIF2   FONTRIF3   FONTRIF4   FONTRIF5
LUCERUN1   LUCERUN2   LUCERUN3   LUCERUN4   LUCERUN5   MYRIRUN1   MYRIRUN2
MYRIRUN3   MYRIRUN4   PECTRUN1   PECTRUN2   PECTRUN3   PECTRUN4   PECTRIF1
PECTRIF2   PECTRIF3   PERFRUN1   PERFRUN2   PERFRUN3   PERFRUN4   PERFRUN5
RANURIF1   RANURIF2   RANURIF3   RANURIF4   RANURIF5   RANURUN1   RANURUN2
RANURUN3   RANURUN4   RANURUN5   SCHORUN1   SCHORUN2   SCHORUN3   DUDDGRV1
DUDDGRV2   DUDDGRV3   DUDDGRV4   COLLGRV2   COLLGRV3   COLLGRV4   COLLGRV5
RIFFAAA1   RIFFAAA2   RIFFAAA3   RIFFAAA4   RIFFAAA5   RIFFBBB1   RIFFBBB2
RIFFBBB3   RIFFBBB4   RIFFBBB5   RIFFCCC1   RIFFCCC2   RIFFCCC3   RIFFCCC4
RIFFCCC5
```

There are 66 items in the positive group 5 (*01)

```
CLADPOL1   CLADPOL2   CLADPOL3   CLADPOL4   ELODPOL1   ELODPOL2   ELODPOL3
ELODPOL4   ELODPOL5   ENTORUN1   ENTOPOL1   ENTOPOL2   ENTOPOL3   NATAPOL1
NATAPOL2   NATAPOL3   NATAPOL4   NATAPOL5   AGROMAR1   AGROMAR2   AGROMAR3
AGROMAR4   AGROMAR5   GLYCMAR1   GLYCMAR2   GLYCMAR3   GLYCMAR4   GLYCMAR5
ALBAPOL1   ALBAPOL2   ALBAPOL3   ALBAPOL4   ALBAPOL5   NUPHRUN1   NUPHRUN2
NUPHRUN3   NUPHRUN4   NUPHPOL1   NUPHPOL2   NUPHPOL3   NUPHPOL4   NUPHPOL5
PHALMAR1   PHALMAR2   PHALMAR3   PHALMAR4   PHALMAR5   RORIMAR1   RORIMAR2
RORIMAR3   RORIMAR4   RORIMAR5   SPARMAR1   SPARMAR2   SPARMAR3   SPARMAR4
SPARMAR5   ACUTMAR1   ACUTMAR2   ACUTMAR3   SCHOMAR1   SCHOMAR2   SCHOMAR3
ROCKPOL1   ROCKPOL2   ROCKPOL3
```

3. Division of the 37 items in group *1

Indicator species (with pseudospecies level in brackets)

```
CHIR SAET (1) +   HALI LARV (1) -   GLOS COMP (1) -   ERPO OCTO (1) -
```

There are 28 items in the negative group 6 (*10)

```
GLYCROT1   GLYCROT2   GLYCROT3   GLYCROT4   GLYCROT5   SPARROT1   SPARROT2
SPARROT3   SPARROT4   SPARROT5   ACUTROT1   ACUTROT2   ACUTROT3   SCHOROT1
SCHOROT2   SCHOROT3   SCHOROT4   COLLMUD1   COLLMUD2   COLLMUD3   COLLMUD4
COLLMUD5   DUDDMUD1   DUDDMUD2   DUDDMUD3   DUDDMUD4   DUDDMUD5   COLLGRV1
```

There are 9 items in the positive group 7 (*11)

```
SANDAAA1   SANDAAA2   SANDAAA3   SANDBBB1   SANDBBB2   SANDBBB3   SANDCCC1
SANDCCC2   SANDCCC3
```

4. Division of the 78 items in group *00

Indicator species (with pseudospecies level in brackets)

```
LIMN VOLL (1) -   LCUL IDAE (1) -   EPHE IGNI (3) +   GLOS COMP (1) -
LIMN VOLA (1) -   OULI TUBL (1) -   SPHA CORN (1) -
```

There are 27 items in the negative group 8 (*000)

```
FONTRIF1   FONTRIF2   FONTRIF3   FONTRIF4   DUDDGRV1   DUDDGRV2   DUDDGRV3
DUDDGRV4   COLLGRV2   COLLGRV3   COLLGRV4   COLLGRV5   RIFFAAA1   RIFFAAA2
RIFFAAA3   RIFFAAA4   RIFFAAA5   RIFFBBB1   RIFFBBB2   RIFFBBB3   RIFFBBB4
RIFFBBB5   RIFFCCC1   RIFFCCC2   RIFFCCC3   RIFFCCC4   RIFFCCC5
```

There are 51 items in the positive group 9 (*001)

```
CLADRUN1   CLADRUN2   CLADRUN3   CLADRUN4   CLADRUN5   ELODRUN1   ELODRUN2
ELODRUN3   ELODRUN4   ENTORUN2   ENTORUN3   FONTRUN1   FONTRUN2   FONTRUN3
FONTRUN4   FONTRUN5   FONTRIF5   LUCERUN1   LUCERUN2   LUCERUN3   LUCERUN4
LUCERUN5   MYRIRUN1   MYRIRUN2   MYRIRUN3   MYRIRUN4   PECTRUN1   PECTRUN2
PECTRUN3   PECTRUN4   PECTRIF1   PECTRIF2   PECTRIF3   PERFRUN1   PERFRUN2
PERFRUN3   PERFRUN4   PERFRUN5   RANURIF1   RANURIF2   RANURIF3   RANURIF4
RANURIF5   RANURUN1   RANURUN2   RANURUN3   RANURUN4   RANURUN5   SCHORUN1
SCHORUN2   SCHORUN3
```

5. Division of the 66 items in group *01

Indicator species (with pseudospecies level in brackets)

```
SIMU ANGL (1) +   SIMU ANGP (1) +   HACA RINA (1) -
```

There are 50 items in the negative group 10 (*010)

```
CLADPOL1   CLADPOL2   CLADPOL3   CLADPOL4   ELODPOL1   ELODPOL2   ELODPOL3
ELODPOL4   ELODPOL5   ENTORUN1   ENTOPOL1   ENTOPOL2   ENTOPOL3   NATAPOL1
NATAPOL2   NATAPOL3   NATAPOL4   NATAPOL5   AGROMAR1   AGROMAR2   AGROMAR3
AGROMAR4   AGROMAR5   ALBAPOL1   ALBAPOL2   ALBAPOL3   ALBAPOL4   ALBAPOL5
NUPHRUN1   NUPHRUN2   NUPHRUN3   NUPHRUN4   NUPHPOL1   NUPHPOL2   NUPHPOL3
NUPHPOL4   NUPHPOL5   PHALMAR1   PHALMAR2   PHALMAR3   PHALMAR4   PHALMAR5
RORIMAR1   RORIMAR2   RORIMAR3   RORIMAR4   RORIMAR5   ROCKPOL1   ROCKPOL2
ROCKPOL3
```

There are 16 items in the positive group 11 (*011)

```
GLYCMAR1   GLYCMAR2   GLYCMAR3   GLYCMAR4   GLYCMAR5   SPARMAR1   SPARMAR2
SPARMAR3   SPARMAR4   SPARMAR5   ACUTMAR1   ACUTMAR2   ACUTMAR3   SCHOMAR1
SCHOMAR2   SCHOMAR3
```

6. Division of the 28 items in group *10

Indicator species (with pseudospecies level in brackets)

```
EPHE DANI (1) +
```

There are 23 items in the negative group 12 (*100)

```
GLYCROT1   GLYCROT2   GLYCROT3   GLYCROT4   GLYCROT5   SPARROT1   SPARROT2
SPARROT3   SPARROT4   SPARROT5   ACUTROT1   ACUTROT2   ACUTROT3   SCHOROT1
SCHOROT2   SCHOROT3   SCHOROT4   COLLMUD1   COLLMUD2   COLLMUD3   COLLMUD4
COLLMUD5   COLLGRV1
```

There are 5 items in the positive group 13 (*101)

```
DUDDMUD1   DUDDMUD2   DUDDMUD3   DUDDMUD4   DUDDMUD5
```

7. Division of the 9 items in group *11

Indicator species (with pseudospecies level in brackets)

```
ASEL AQUA (1) -
```

There are 4 items in the negative group 14 (*110)

```
SANDAAA1   SANDBBB1   SANDBBB2   SANDBBB3
```

There are 5 items in the positive group 15 (*111)

```
SANDAAA2   SANDAAA3   SANDCCC1   SANDCCC2   SANDCCC3
```

8. Division of the 27 items in group *000

Indicator species (with pseudospecies level in brackets)

```
LIMN VOLL (2) +   ELMI AENL (2) +   ORTH INAE (2) +
```

There are 8 items in the negative group 16 (*0000)

```
DUDDGRV1   DUDDGRV2   DUDDGRV3   DUDDGRV4   COLLGRV2   COLLGRV3   COLLGRV4
COLLGRV5
```

There are 19 items in the positive group 17 (*0001)

```
FONTRIF1   FONTRIF2   FONTRIF3   FONTRIF4   RIFFAAA1   RIFFAAA2   RIFFAAA3
RIFFAAA4   RIFFAAA5   RIFFBBB1   RIFFBBB2   RIFFBBB3   RIFFBBB4   RIFFBBB5
RIFFCCC1   RIFFCCC2   RIFFCCC3   RIFFCCC4   RIFFCCC5
```

9. Division of the 51 items in group *001

Indicator species (with pseudospecies level in brackets)

```
SIMU ORNP (1) -   SIMU ERYL (2) -   SIMU ORNL (1) -   SIMU EQUL (1) -
HELO LARV (1) +   SIMU ERYP (1) -
```

There are 23 items in the negative group 18 (*0010)

```
FONTRIF5   PECTRUN1   PECTRUN2   PECTRUN3   PECTRUN4   PECTRIF1   PECTRIF2
PECTRIF3   PERFRUN3   PERFRUN4   PERFRUN5   RANURIF1   RANURIF2   RANURIF3
RANURIF4   RANURIF5   RANURUN1   RANURUN2   RANURUN3   RANURUN4   RANURUN5
SCHORUN1   SCHORUN3
```

There are 28 items in the positive group 19 (*0011)

```
CLADRUN1   CLADRUN2   CLADRUN3   CLADRUN4   CLADRUN5   ELODRUN1   ELODRUN2
ELODRUN3   ELODRUN4   ENTORUN2   ENTORUN3   FONTRUN1   FONTRUN2   FONTRUN3
FONTRUN4   FONTRUN5   LUCERUN1   LUCERUN2   LUCERUN3   LUCERUN4   LUCERUN5
MYRIRUN1   MYRIRUN2   MYRIRUN3   MYRIRUN4   PERFRUN1   PERFRUN2   SCHORUN2
```

10. Division of the 50 items in group *010

Indicator species (with pseudospecies level in brackets)

```
POTA JENK (2) -
```

There are 17 items in the negative group 20 (*0100)

```
AGROMAR1   AGROMAR2   AGROMAR3   AGROMAR4   AGROMAR5   PHALMAR1   PHALMAR2
PHALMAR3   PHALMAR4   PHALMAR5   RORIMAR1   RORIMAR2   RORIMAR3   RORIMAR4
RORIMAR5   ROCKPOL2   ROCKPOL3
```

There are 33 items in the positive group 21 (*0101)

```
CLADPOL1   CLADPOL2   CLADPOL3   CLADPOL4   ELODPOL1   ELODPOL2   ELODPOL3
ELODPOL4   ELODPOL5   ENTORUN1   ENTOPOL1   ENTOPOL2   ENTOPOL3   NATAPOL1
NATAPOL2   NATAPOL3   NATAPOL4   NATAPOL5   ALBAPOL1   ALBAPOL2   ALBAPOL3
ALBAPOL4   ALBAPOL5   NUPHRUN1   NUPHRUN2   NUPHRUN3   NUPHRUN4   NUPHPOL1
NUPHPOL2   NUPHPOL3   NUPHPOL4   NUPHPOL5   ROCKPOL1
```

11. Division of the 16 items in group *011

Indicator species (with pseudospecies level in brackets)

```
BAET RHOD (1) +
```

There are 13 items in the negative group 22 (*0110)

```
GLYCMAR1   GLYCMAR4   SPARMAR1   SPARMAR2   SPARMAR3   SPARMAR4   SPARMAR5
ACUTMAR1   ACUTMAR2   ACUTMAR3   SCHOMAR1   SCHOMAR2   SCHOMAR3
```

There are 3 items in the positive group 23 (*0111)
GLYCMAR2 GLYCMAR3 GLYCMAR5

12. Division of the 23 items in group *100

Indicator species (with pseudospecies level in brackets)
SIAL LUTA (2) -
There are 6 items in the negative group 24 (*1000)
GLYCROT1 COLLMUD1 COLLMUD2 COLLMUD3 COLLMUD4 COLLMUD5
There are 17 items in the positive group 25 (*1001)
GLYCROT2 GLYCROT3 GLYCROT4 GLYCROT5 SPARROT1 SPARROT2 SPARROT3
SPARROT4 SPARROT5 ACUTROT1 ACUTROT2 ACUTROT3 SCHOROT1 SCHOROT2
SCHOROT3 SCHOROT4 COLLGRV1

13. Division of the 5 items in group *101

Indicator species (with pseudospecies level in brackets)
ELMI AENA (1) +
There are 4 items in the negative group 26 (*1010)
DUDDMUD2 DUDDMUD3 DUDDMUD4 DUDDMUD5
There is 1 item in the positive group 27 (*1011)
DUDDMUD1

15. Division of the 5 items in group *111

Indicator species (with pseudospecies level in brackets)
VALV PISC (1) +
There are 4 items in the negative group 30 (*1110)
SANDAAA2 SANDAAA3 SANDCCC1 SANDCCC3
There is 1 item in the positive group 31 (*1111)
SANDCCC2

16. Division of the 8 items in group *0000

Indicator species (with pseudospecies level in brackets)
LIMN VOLA (1) +
There are 4 items in the negative group 32 (*00000)
DUDDGRV1 DUDDGRV2 DUDDGRV3 DUDDGRV4
There are 4 items in the positive group 33 (*00001)
COLLGRV2 COLLGRV3 COLLGRV4 COLLGRV5

17. Division of the 19 items in group *0001

Indicator species (with pseudospecies level in brackets)
SIMU ANGP (1) +
There are 15 items in the negative group 34 (*00010)
RIFFAAA1 RIFFAAA2 RIFFAAA3 RIFFAAA4 RIFFAAA5 RIFFBBB1 RIFFBBB2
RIFFBBB3 RIFFBBB4 RIFFBBB5 RIFFCCC1 RIFFCCC2 RIFFCCC3 RIFFCCC4
RIFFCCC5

There are 4 items in the positive group 35 (*00011)

```
FONTRIF1    FONTRIF2    FONTRIF3    FONTRIF4
```

18. Division of the 23 items in group *0010

Indicator species (with pseudospecies level in brackets)

```
SIMU ERYP (2) -    LYMN PERE (1) +    SIMU ANGP (2) -    SIMU EQUP (2) -
ELMI AENA (1) -
```

There are 14 items in the negative group 36 (*00100)

```
FONTRIF5    PECTRUN1    PECTRUN2    PECTRUN3    PECTRUN4    PECTRIF1    PECTRIF2
PECTRIF3    RANURIF1    RANURIF2    RANURIF3    RANURIF4    SCHORUN1    SCHORUN3
```

There are 9 items in the positive group 37 (*00101)

```
PERFRUN3    PERFRUN4    PERFRUN5    RANURIF5    RANURUN1    RANURUN2    RANURUN3
RANURUN4    RANURUN5
```

19. Division of the 28 items in group *0011

Indicator species (with pseudospecies level in brackets)

```
ELMI AENA (1) +    BAET SCAM (3) -    SIMU ANGL (1) -    ASEL AQUA (1) +
BAET RHOD (2) -    EPHE IGNI (4) +
```

There are 9 items in the negative group 38 (*00110)

```
LUCERUN1    LUCERUN2    LUCERUN3    LUCERUN4    LUCERUN5    MYRIRUN3    MYRIRUN4
PERFRUN1    PERFRUN2
```

There are 19 items in the positive group 39 (*00111)

```
CLADRUN1    CLADRUN2    CLADRUN3    CLADRUN4    CLADRUN5    ELODRUN1    ELODRUN2
ELODRUN3    ELODRUN4    ENTORUN2    ENTORUN3    FONTRUN1    FONTRUN2    FONTRUN3
FONTRUN4    FONTRUN5    MYRIRUN1    MYRIRUN2    SCHORUN2
```

20. Division of the 17 items in group *0100

Indicator species (with pseudospecies level in brackets)

```
VELI NMPH (2) -
```

There are 5 items in the negative group 40 (*01000)

```
PHALMAR1    PHALMAR2    PHALMAR3    PHALMAR4    PHALMAR5
```

There are 12 items in the positive group 41 (*01001)

```
AGROMAR1    AGROMAR2    AGROMAR3    AGROMAR4    AGROMAR5    RORIMAR1    RORIMAR2
RORIMAR3    RORIMAR4    RORIMAR5    ROCKPOL2    ROCKPOL3
```

21. Division of the 33 items in group *0101

Indicator species (with pseudospecies level in brackets)

```
ERPO OCTO (1) -    VALV PISC (1) +
```

There are 26 items in the negative group 42 (*01010)

```
ELODPOL1    ELODPOL2    ELODPOL3    ELODPOL4    ELODPOL5    ENTORUN1    NATAPOL1
NATAPOL2    NATAPOL3    NATAPOL4    NATAPOL5    ALBAPOL1    ALBAPOL2    ALBAPOL3
ALBAPOL4    ALBAPOL5    NUPHRUN1    NUPHRUN2    NUPHRUN3    NUPHRUN4    NUPHPOL1
NUPHPOL2    NUPHPOL3    NUPHPOL4    NUPHPOL5    ROCKPOL1
```

There are 7 items in the positive group 43 (*01011)

```
CLADPOL1    CLADPOL2    CLADPOL3    CLADPOL4    ENTOPOL1    ENTOPOL2    ENTOPOL3
```

22. Division of the 13 items in group *0110

Indicator species (with pseudospecies level in brackets)
SIMU ANGL (2) +
There are 8 items in the negative group 44 (*01100)
GLYCMAR4 SPARMAR5 ACUTMAR1 ACUTMAR2 ACUTMAR3 SCHOMAR1 SCHOMAR2
SCHOMAR3
There are 5 items in the positive group 45 (*01101)
GLYCMAR1 SPARMAR1 SPARMAR2 SPARMAR3 SPARMAR4

24. Division of the 6 items in group *1000

Indicator species (with pseudospecies level in brackets)
ELMI AENA (1) -
There is 1 item in the negative group 48 (*10000)
GLYCROT1
There are 5 items in the positive group 49 (*10001)
COLLMUD1 COLLMUD2 COLLMUD3 COLLMUD4 COLLMUD5

25. Division of the 17 items in group *1001

Indicator species (with pseudospecies level in brackets)
SIMU EQUL (1) +
There are 16 items in the negative group 50 (*10010)
GLYCROT2 GLYCROT3 GLYCROT4 GLYCROT5 SPARROT1 SPARROT2 SPARROT3
SPARROT4 SPARROT5 ACUTROT1 ACUTROT2 ACUTROT3 SCHOROT1 SCHOROT2
SCHOROT3 SCHOROT4
There is 1 item in the positive group 51 (*10011)
COLLGRV1

34. Division of the 15 items in group *00010

Indicator species (with pseudospecies level in brackets)
BYTH TENT (1) - TUBI NOHR (1) +
There are 7 items in the negative group 68 (*000100)
RIFFAAA5 RIFFBBB1 RIFFCCC1 RIFFCCC2 RIFFCCC3 RIFFCCC4 RIFFCCC5
There are 8 items in the positive group 69 (*000101)
RIFFAAA1 RIFFAAA2 RIFFAAA3 RIFFAAA4 RIFFBBB2 RIFFBBB3 RIFFBBB4
RIFFBBB5

36. Division of the 14 items in group *00100

Indicator species (with pseudospecies level in brackets)
CHIR RSUS (1) - SIMU ANGP (2) - EPHE IGNI (3) -
There are 10 items in the negative group 72 (*001000)
PECTRUN1 PECTRUN2 PECTRUN3 PECTRUN4 PECTRIF2 PECTRIF3 RANURIF1
RANURIF2 RANURIF3 RANURIF4
There are 4 items in the positive group 73 (*001001)
FONTRIF5 PECTRIF1 SCHORUN1 SCHORUN3

37. Division of the 9 items in group *00101

Indicator species (with pseudospecies level in brackets)
POTA JENK (1) +
There are 5 items in the negative group 74 (*001010)
PERFRUN4 PERFRUN5 RANURIF5 RANURUN4 RANURUN5
There are 4 items in the positive group 75 (*001011)
PERFRUN3 RANURUN1 RANURUN2 RANURUN3

38. Division of the 9 items in group *00110

Indicator species (with pseudospecies level in brackets)
OULI TUBA (1) +
There are 7 items in the negative group 76 (*001100)
LUCERUN1 LUCERUN2 LUCERUN3 LUCERUN4 LUCERUN5 PERFRUN1 PERFRUN2
There are 2 items in the positive group 77 (*001101)
MYRIRUN3 MYRIRUN4

39. Division of the 19 items in group *00111

Indicator species (with pseudospecies level in brackets)
ELMI AENA (1) - ELMI AENL (1) -
There are 11 items in the negative group 78 (*001110)
CLADRUN1 CLADRUN2 CLADRUN4 CLADRUN5 FONTRUN1 FONTRUN2 FONTRUN3
FONTRUN4 FONTRUN5 MYRIRUN1 MYRIRUN2
There are 8 items in the positive group 79 (*001111)
CLADRUN3 ELODRUN1 ELODRUN2 ELODRUN3 ELODRUN4 ENTORUN2 ENTORUN3
SCHORUN2

40. Division of the 5 items in group *01000

Indicator species (with pseudospecies level in brackets)
SIMU ANGL (1) +
There are 2 items in the negative group 80 (*010000)
PHALMAR2 PHALMAR4
There are 3 items in the positive group 81 (*010001)
PHALMAR1 PHALMAR3 PHALMAR5

41. Division of the 12 items in group *01001

Indicator species (with pseudospecies level in brackets)
LCUL IDAE (1) +
There are 5 items in the negative group 82 (*010010)
AGROMAR1 AGROMAR2 AGROMAR3 AGROMAR4 AGROMAR5
There are 7 items in the positive group 83 (*010011)
RORIMAR1 RORIMAR2 RORIMAR3 RORIMAR4 RORIMAR5 ROCKPOL2 ROCKPOL3

42. Division of the 26 items in group *01010

Indicator species (with pseudospecies level in brackets)
CLOE DIPT (1) + ASEL AQUA (2) +
There are 11 items in the negative group 84 (*010100)
ENTORUN1 ALBAPOL1 ALBAPOL2 ALBAPOL3 ALBAPOL4 NUPHRUN1 NUPHRUN2
NUPHRUN3 NUPHRUN4 NUPHPOL2 NUPHPOL5
There are 15 items in the positive group 85 (*010101)
ELODPOL1 ELODPOL2 ELODPOL3 ELODPOL4 ELODPOL5 NATAPOL1 NATAPOL2
NATAPOL3 NATAPOL4 NATAPOL5 ALBAPOL5 NUPHPOL1 NUPHPOL3 NUPHPOL4
ROCKPOL1

43. Division of the 7 items in group *01011

Indicator species (with pseudospecies level in brackets)
EPHE IGNI (1) + ASEL AQUA (1) - POTA JENK (1) - PLAN VORT (1) -
VELI NMPH (1) -
There are 3 items in the negative group 86 (*010110)
CLADPOL3 ENTOPOL2 ENTOPOL3
There are 4 items in the positive group 87 (*010111)
CLADPOL1 CLADPOL2 CLADPOL4 ENTOPOL1

44. Division of the 8 items in group *01100

Indicator species (with pseudospecies level in brackets)
CHIR RSUS (1) +
There are 3 items in the negative group 88 (*011000)
ACUTMAR1 SCHOMAR1 SCHOMAR2
There are 5 items in the positive group 89 (*011001)
GLYCMAR4 SPARMAR5 ACUTMAR2 ACUTMAR3 SCHOMAR3

45. Division of the 5 items in group *01101

Indicator species (with pseudospecies level in brackets)
ELMI AENL (1) +
There are 4 items in the negative group 90 (*011010)
SPARMAR1 SPARMAR2 SPARMAR3 SPARMAR4
There is 1 item in the positive group 91 (*011011)
GLYCMAR1

49. Division of the 5 items in group *10001

Indicator species (with pseudospecies level in brackets)
BYTH TENT (1) -
There is 1 item in the negative group 98 (*100010)
COLLMUD3
There are 4 items in the positive group 99 (*100011)
COLLMUD1 COLLMUD2 COLLMUD4 COLLMUD5

50. Division of the 16 items in group *10010

Indicator species (with pseudospecies level in brackets)
TIPU IDAE (1) - SIAL LUTA (1) - ATHR ATER (1) - LYMN PERE (1) -
CRAN PSEU (1) - ORTH INAE (1) +
There are 5 items in the negative group 100 (*100100)
GLYCROT4 SPARROT3 ACUTROT2 ACUTROT3 SCHOROT3
There are 11 items in the positive group 101 (*100101)
GLYCROT2 GLYCROT3 GLYCROT5 SPARROT1 SPARROT2 SPARROT4 SPARROT5
ACUTROT1 SCHOROT1 SCHOROT2 SCHOROT4

68. Division of the 7 items in group *000100

Indicator species (with pseudospecies level in brackets)
LEUC GENI (1) +
There are 3 items in the negative group 136 (*0001000)
RIFFCCC3 RIFFCCC4 RIFFCCC5
There are 4 items in the positive group 137 (*0001001)
RIFFAAA5 RIFFBBB1 RIFFCCC1 RIFFCCC2

69. Division of the 8 items in group *000101

Indicator species (with pseudospecies level in brackets)
SIMU ERYL (2) -
There are 5 items in the negative group 138 (*0001010)
RIFFAAA1 RIFFAAA2 RIFFAAA3 RIFFBBB2 RIFFBBB5
There are 3 items in the positive group 139 (*0001011)
RIFFAAA4 RIFFBBB3 RIFFBBB4

72. Division of the 10 items in group *001000

Indicator species (with pseudospecies level in brackets)
CHIR RSUS (2) -
There are 2 items in the negative group 144 (*0010000)
RANURIF2 RANURIF4
There are 8 items in the positive group 145 (*0010001)
PECTRUN1 PECTRUN2 PECTRUN3 PECTRUN4 PECTRIF2 PECTRIF3 RANURIF1
RANURIF3

74. Division of the 5 items in group *001010

Indicator species (with pseudospecies level in brackets)
SIMU EQUL (1) -
There are 4 items in the negative group 148 (*0010100)
PERFRUN4 PERFRUN5 RANURIF5 RANURUN4
Thre is 1 item in the positive group 149 (*0010101)
RANURUN5

76. Division of the 7 items in group *001100

Indicator species (with pseudospecies level in brackets)
ELMI AENL (1) -
There are 2 items in the negative group 152 (*0011000)
PERFRUN1 PERFRUN2
There are 5 items in the positive group 153 (*0011001)
LUCERUN1 LUCERUN2 LUCERUN3 LUCERUN4 LUCERUN5

78. Division of the 11 items in group *001110)

Indicator species (with pseudospecies level in brackets)
CHIR PSUS (1) +
There are 3 items in the negative group 156 (*0011100)
CLADRUN1 CLADRUN2 FONTRUN4
There are 8 items in the positive group 157 (*0011101)
CLADRUN4 CLADRUN5 FONTRUN1 FONTRUN2 FONTRUN3 FONTRUN5 MYRIRUN1
MYRIRUN2

79. Division of the 8 items in group *001111

Indicator species (with pseudospecies level in brackets)
CAEN LUCT (2) +
There are 5 items in the negative group 158 (*0011110)
ELODRUN1 ELODRUN2 ELODRUN3 ELODRUN4 SCHORUN2
There are 3 items in the positive group 159 (*0011111)
CLADRUN3 ENTORUN2 ENTORUN3

82. Division of the 5 items in group *010010

Indicator species (with pseudospecies level in brackets)
ELMI AENL (1) -
There is 1 item in the negative group 164 (*0100100)
AGROMAR2
There are 4 items in the positive group 165 (*0100101)
AGROMAR1 AGROMAR3 AGROMAR4 AGROMAR5

83. Division of the 7 items in group *010011

Indicator species (with pseudospecies level in brackets)
LYMN PERE (1) -
There are 5 items in the negative group 166 (*0100110)
RORIMAR1 RORIMAR2 RORIMAR3 RORIMAR4 RORIMAR5
There are 2 items in the positive group 167 (*0100111)
ROCKPOL2 ROCKPOL3

84. Division of the 11 items in group *010100

Indicator species (with pseudospecies level in brackets)
PHYS FONT (1) +
There is 1 item in the negative group 168 (*0101000)
ENTORUN1
There are 10 items in the positive group 169 (*0101001)
ALBAPOL1 ALBAPOL2 ALBAPOL3 ALBAPOL4 NUPHRUN1 NUPHRUN2 NUPHRUN3
NUPHRUN4 NUPHPOL2 NUPHPOL5

85. Division of the 15 items in group *010101

Indicator species (with pseudospecies level in brackets)
ERPO OCTO (2) - ELMI AENL (1) - POLY TNIG (2) -
There are 6 items in the negative group 170 (*0101010)
NATAPOL1 NATAPOL2 NATAPOL3 NATAPOL4 NATAPOL5 ALBAPOL5
There are 9 items in the positive group 171 (*0101011)
ELODPOL1 ELODPOL2 ELODPOL3 ELODPOL4 ELODPOL5 NUPHPOL1 NUPHPOL3
NUPHPOL4 ROCKPOL1

89. Division of the 5 items in group *011001

Indicator species (with pseudospecies level in brackets)
OULI TUBL (1) -
There is 1 item in the negative group 178 (*0110010)
GLYCMAR4
There are 4 items in the positive group 179 (*0110011)
SPARMAR5 ACUTMAR2 ACUTMAR3 SCHOMAR3

100. Division of the 5 items in group *100100

Indicator species (with pseudospecies level in brackets)
OULI TUBA (1) -
There are 2 items in the negative group 200 (*1001000)
ACUTROT2 SCHOROT3
There are 3 items in the positive group 201 (*1001001)
GLYCROT4 SPARROT3 ACUTROT3

101. Division of the 11 items in group *100101

Indicator species (with pseudospecies level in brackets)
EPHE IGNI (1) -
There are 4 items in the negative group 202 (*1001010)
GLYCROT2 GLYCROT3 GLYCROT5 SPARROT5
There are 7 items in the positive group 203 (*1001011)
SPARROT1 SPARROT2 SPARROT4 ACUTROT1 SCHOROT1 SCHOROT2 SCHOROT4

138. Division of the 5 items in group *0001010

Indicator species (with pseudospecies level in brackets)
SIMU SALL (1) +
There are 4 items in the negative group 276 (*00010100)
RIFFAAA1 RIFFAAA2 RIFFAAA3 RIFFBBB2
There is 1 item in the positive group 277 (*00010101)
RIFFBBB5

145. Division of the 8 items in group *0010001

Indicator species (with pseudospecies level in brackets)
SIMU ANGP (1) -
There are 7 items in the negative group 290 (*00100010)
PECTRUN1 PECTRUN2 PECTRUN4 PECTRIF2 PECTRIF3 RANURIF1 RANURIF3
There is 1 item in the positive group 291 (*00100011)
PECTRUN3

153. Division of the 5 items in group *0011001

Indicator species (with pseudospecies level in brackets)
THER TESS (1) -
There are 2 items in the negative group 306 (*00110010)
LUCERUN1 LUCERUN5
There are 3 items in the positive group 307 (*00110011)
LUCERUN2 LUCERUN3 LUCERUN4

157. Division of the 8 items in group *0011101

Indicator species (with pseudospecies level in brackets)
VALV PISC (1) + ELMI AENL (2) -
There are 4 items in the negative group 314 (*00111010)
FONTRUN1 FONTRUN2 FONTRUN3 MYRIRUN1
There are 4 items in the positive group 315 (*00111011)
CLADRUN4 CLADRUN5 FONTRUN5 MYRIRUN2

158. Division of the 5 items in group *0011110

Indicator species (with pseudospecies level in brackets)
OULI TUBA (1) +
There are 3 items in the negative group 316 (*00111100)
ELODRUN2 ELODRUN3 SCHORUN2
There are 2 items in the positive group 317 (*00111101)
ELODRUN1 ELODRUN4

166. Division of the 5 items in group *0100110

Indicator species (with pseudospecies level in brackets)
OULI TUBA (1) -

There are 4 items in the negative group 332 (*01001100)
RORIMAR1 RORIMAR2 RORIMAR3 RORIMAR4
There is 1 item in the positive group 333 (*01001101)
RORIMAR5

169. Division of the 10 items in group *0101001

Indicator species (with pseudospecies level in brackets)
EPHE IGNI (1) -
There are 4 items in the negative group 338 (*01010010)
NUPHRUN1 NUPHRUN2 NUPHRUN3 NUPHRUN4
There are 6 items in the positive group 339 (*01010011)
ALBAPOL1 ALBAPOL2 ALBAPOL3 ALBAPOL4 NUPHPOL2 NUPHPOL5

170. Division of the 6 items in group *0101010

Indicator species (with pseudospecies level in brackets)
ELMI AENL (1) +
There is 1 item in the negative group 340 (*01010100)
ALBAPOL5
There are 5 items in the positive group 341 (*01010101)
NATAPOL1 NATAPOL2 NATAPOL3 NATAPOL4 NATAPOL5

171. Division of the 9 items in group *0101011

Indicator species (with pseudospecies level in brackets)
ELMI AENA (1) +
There are 8 items in the negative group 342 (*01010110)
ELODPOL1 ELODPOL2 ELODPOL3 ELODPOL4 ELODPOL5 NUPHPOL1 NUPHPOL3
NUPHPOL4
There is 1 item in the positive group 343 (*01010111)
ROCKPOL1

203. Division of the 7 items in group *1001011

Indicator species (with pseudospecies level in brackets)
TANY PROC (1) -
There are 3 items in the negative group 406 (*10010110)
SPARROT2 ACUTROT1 SCHOROT2
There are 4 items in the positive group 407 (*10010111)
SPARROT1 SPARROT4 SCHOROT1 SCHOROT4

290. Division of the 7 items in group *00100010

Indicator species (with pseudospecies level in brackets)
CHIR PSUS (1) -
There are 2 items in the negative group 580 (*001000100)
PECTRUN2 RANURIF1
There are 5 items in the positive group 581 (*001000101)
PECTRUN1 PECTRUN4 PECTRIF2 PECTRIF3 RANURIF3

339. Division of the 6 items in group *01010011

Indicator species (with pseudospecies level in brackets)
BYTH TENT (1) +
There are 4 items in the negative group 678 (*010100110)
ALBAPOL1 ALBAPOL3 ALBAPOL4 NUPHPOL2
There are 2 items in the positive group 679 (*010100111)
ALBAPOL2 NUPHPOL5

341. Division of the 5 items in group *01010101

Indicator species (with pseudospecies level in brackets)
PLAN ALBU (1) +
There are 2 items in the negative group 682 (*010101010)
NATAPOL1 NATAPOL4
There are 3 items in the positive group 683 (*010101011)
NATAPOL2 NATAPOL3 NATAPOL5

342. Division of the 8 items in group *01010110

Indicator species (with pseudospecies level in brackets)
CORI NMPH (1) +
There are 3 items in the negative group 684 (*010101100)
NUPHPOL1 NUPHPOL3 NUPHPOL4
There are 5 items in the positive group 685 (*010101101)
ELODPOL1 ELODPOL2 ELODPOL3 ELODPOL4 ELODPOL5

9.3 Species classification

1. Division of the 142 items in group *

There are 109 items in the negative group 2 (*0)

SIMU ANGL	SIMU ANGP	SIMU EQUL	SIMU EQUP	SIMU SALL	SIMU SALP
SIMU ERYL	SIMU ERYP	SIMU ORNL	SIMU ORNP	ELMI AENL	ELMI AENA
ESOL PARA	LIMN VOLL	LIMN VOLA	OULI TUBL	OULI TUBA	THEO FLUV
VALV PISC	POTA JENK	BYTH TENT	LYMN STAG	LYMN PERE	PHYS FONT
PLAN CARI	PLAN PLAN	PLAN VORT	PLAN ALBU	PLAN CONT	ANCY FLUV
EPHE IGNI	HABR FUSC	CAEN MACR	CAEN LUCT	BAET RHOD	BAET SCAM
BAET VERN	CENT LUTE	CLOE DIPT	CLOE SIMI	PROC BIFI	LEUC GENI
ISCH ELEG	ENAL CYAT	AGRI SPLE	AESH CYAN	HYDR STAG	VELI NMPH
VELI CAPR	VELI SAUL	GERR NMPH	GERR LACU	GERR NAJA	NEPA CINE
NOTO NMPH	NOTO GLAU	NOTO MACU	CORI NMPH	HESP SAHL	SIGA DORS
HALI CONF	HALI FLUV	PLAT MACU	HYDR PALU	POTA ELEG	HELO LARV
DYTI LARV	HELO BREV	HYDR GRAC	CHAE SEMI	POLY TNIG	DUGE LUGU
DEND LACT	THER TESS	HEMI MARG	HELO STAG	ERPO TEST	ERPO OCTO
ASEL AQUA	GAMM PULE	AUST PALL	RHYA DORS	HPSY PELL	HPSY ANGU
HPSY CONT	HPSY SILT	HPTL SPEC	ATHR ATER	CERA DISS	LIMN LUNA
EPHY IDAE	DICR SPEC	HACA RINA	ANOP SPEC	TABA IDAE	TANY ABLA
TANY INAE	ORTH CORY	ORTH THIE	ORTH SYNO	ORTH INAE	CHIR ENDO
CHIR PMUS	CHIR PSUS	CHIR PLUM	CHIR RSUS	CHIR INAE	NAID IDAE

HTAX IDAE

There are 33 items in the positive group 3 (*1)

SPHA CORN PISI AMNI ANOD CYGN EPHE DANI EPHE VULG SIGA FALL
HALI LARV HALI IMMA LACC HYAL PISC GEOM GLOS HETE GLOS COMP
CRAN PSEU SIAL LUTA SERI PERS TIPU IDAE CERA IDAE DOLI IDAE
PSYC IDAE TANY PROC TANY MACR CHIR CLAD CHIR CRYP CHIR DEMI
CHIR PPES CHIR SAET CHIR TSUS CHIR CHIR POTT LONG PROD OLIV
TUBI HAIR TUBI NOHR LCUL IDAE

2. Division of the 109 items in group *0

There are 83 items in the negative group4 (*00)

SIMU ANGL SIMU ANGP SIMU EQUL SIMU EQUP SIMU SALL SIMU SALP
SIMU ERYL SIMU ERYP SIMU ORNL SIMU ORNP ELMI AENL ELMI AENA
ESOL PARA LIMN VOLL LIMN VOLA OULI TUBL OULI TUBA THEO FLUV
PLAN PLAN PLAN ALBU PLAN CONT ANCY FLUV EPHE IGNI HABR FUSC
CAEN MACR CAEN LUCT BAET RHOD BAET SCAM BAET VERN CLOE DIPT
CLOE SIMI PROC BIFI LEUC GENI ISCH ELEG ENAL CYAT AGRI SPLE
AESH CYAN HYDR STAG VELI NMPH VELI CAPR VELI SAUL GERR NMPH
GERR LACU GERR NAJA NEPA CINE NOTO NMPH NOTO GLAU HESP SAHL
HALI CONF PLAT MACU HYDR PALU HELO BREV HYDR GRAC CHAE SEMI
DEND LACT THER TESS HEMI MARG ERPO TEST AUST PALL RHYA DORS
HPSY PELL HPSY ANGU HPSY CONT HPSY SILT HPTL SPEC CERA DISS
LIMN LUNA EPHY IDAE DICR SPEC HACA RINA ANOP SPEC TABA IDAE
TANY ABLA ORTH CORY ORTH THIE ORTH SYNO ORTH INAE CHIR ENDO
CHIR PMUS CHIR PSUS CHIR RSUS CHIR INAE HTAX IDAE

There are 26 items in the positive group 5 (GROUP *01)

VALV PISC POTA JENK BYTH TENT LYMN STAG LYMN PERE PHYS FONT
PLAN CARI PLAN VORT CENT LUTE NOTO MACU CORI NMPH SIGA DORS
HALI FLUV POTA ELEG HELO LARV DYTI LARV POLY TNIG DUGE LUGU
HELO STAG ERPO OCTO ASEL AQUA GAMM PULE ATHR ATER TANY INAE
CHIR PLUM NAID IDAE

3. Division of the 33 items in group *1

There are 7 items in the negative group 6 (*10)

SIGA FALL HALI LARV HALI IMMA GLOS COMP CRAN PSEU TIPU IDAE
PSYC IDAE

There are 26 items in the positive group 7 (*11)

SPHA CORN PISI AMNI ANOD CYGN EPHE DANI EPHE VULG LACC HYAL
PISC GEOM GLOS HETE SIAL LUTA SERI PERS CERA IDAE DOLI IDAE
TANY PROC TANY MACR CHIR CLAD CHIR CRYP CHIR DEMI CHIR PPES
CHIR SAET CHIR TSUS CHIR CHIR POTT LONG PROD OLIV TUBI HAIR
TUBI NOHR LCUL IDAE

4. Division of the 83 items in group *00

There are 24 items in the negative group 8 (*000)

SIMU EQUL ELMI AENL ELMI AENA ESOL PARA LIMN VOLL LIMN VOLA
OULI TUBL OULI TUBA THEO FLUV PLAN CONT ANCY FLUV CAEN LUCT
LEUC GENI HEMI MARG RHYA DORS HPSY PELL HPSY CONT HPSY SILT
HPTL SPEC LIMN LUNA DICR SPEC HACA RINA CHIR PMUS HTAX IDAE

There are 59 items in the positive group 9 (*001)

```
SIMU ANGL   SIMU ANGP   SIMU EQUP   SIMU SALL   SIMU SALP   SIMU ERYL
SIMU ERYP   SIMU ORNL   SIMU ORNP   PLAN PLAN   PLAN ALBU   EPHE IGNI
HABR FUSC   CAEN MACR   BAET RHOD   BAET SCAM   BAET VERN   CLOE DIPT
CLOE SIMI   PROC BIFI   ISCH ELEG   ENAL CYAT   AGRI SPLE   AESH CYAN
HYDR STAG   VELI NMPH   VELI CAPR   VELI SAUL   GERR NMPH   GERR LACU
GERR NAJA   NEPA CINE   NOTO NMPH   NOTO GLAU   HESP SAHL   HALI CONF
PLAT MACU   HYDR PALU   HELO BREV   HYDR GRAC   CHAE SEMI   DEND LACT
THER TESS   ERPO TEST   AUST PALL   HPSY ANGU   CERA DISS   EPHY IDAE
ANOP SPEC   TABA IDAE   TANY ABLA   ORTH CORY   ORTH THIE   ORTH SYNO
ORTH INAE   CHIR ENDO   CHIR PSUS   CHIR RSUS   CHIR INAE
```

5. Division of the 26 items in group *01

There are 15 items in the negative group 10 (*010)

```
LYMN STAG   PHYS FONT   PLAN CARI   PLAN VORT   CENT LUTE   NOTO MACU
CORI NMPH   HALI FLUV   DYTI LARV   POLY TNIG   DUGE LUGU   HELO STAG
ERPO OCTO   CHIR PLUM   NAID IDAE
```

There are 11 items in the positive group 11 (*011)

```
VALV PISC   POTA JENK   BYTH TENT   LYMN PERE   SIGA DORS   POTA ELEG
HELO LARV   ASEL AQUA   GAMM PULE   ATHR ATER   TANY INAE
```

6. Division of the 7 items in group *10

There is 1 item in the negative group 12 (*100)

```
GLOS COMP
```

There are 6 items in the positive group 13 (*101)

```
SIGA FALL   HALI LARV   HALI IMMA   CRAN PSEU   TIPU IDAE   PSYC IDAE
```

7. Division of the 26 items in group *11

There are 5 items in the negative group 14 (*110)

```
SPHA CORN   PISC GEOM   SERI PERS   CERA IDAE   LCUL IDAE
```

There are 21 items in the positive group 15 (*111)

```
PISI AMNI   ANOD CYGN   EPHE DANI   EPHE VULG   LACC HYAL   GLOS HETE
SIAL LUTA   DOLI IDAE   TANY PROC   TANY MACR   CHIR CLAD   CHIR CRYP
CHIR DEMI   CHIR PPES   CHIR SAET   CHIR TSUS   CHIR CHIR   POTT LONG
PROD OLIV   TUBI HAIR   TUBI NOHR
```

8. Division of the 24 items in group *000

There are 7 items in the negative group 16 (*0000)

```
OULI TUBL   OULI TUBA   THEO FLUV   ANCY FLUV   CAEN LUCT   DICR SPEC
HACA RINA
```

There are 17 items in the positive group 17 (*0001)

```
SIMU EQUL   ELMI AENL   ELMI AENA   ESOL PARA   LIMN VOLL   LIMN VOLA
PLAN CONT   LEUC GENI   HEMI MARG   RHYA DORS   HPSY PELL   HPSY CONT
HPSY SILT   HPTL SPEC   LIMN LUNA   CHIR PMUS   HTAX IDAE
```

9. Division of the 59 items in group *001

There are 22 items in the negative group 18 (*0010)

```
SIMU ANGL   SIMU ANGP   SIMU EQUP   SIMU SALL   SIMU ERYL   SIMU ERYP
SIMU ORNL   SIMU ORNP   EPHE IGNI   HABR FUSC   CAEN MACR   BAET RHOD
BAET SCAM   BAET VERN   ISCH ELEG   HPSY ANGU   CERA DISS   ORTH CORY
ORTH SYNO   ORTH INAE   CHIR PSUS   CHIR RSUS
```

There are 37 items in the positive group 19 (*0011)

```
SIMU SALP   PLAN PLAN   PLAN ALBU   CLOE DIPT   CLOE SIMI   PROC BIFI
ENAL CYAT   AGRI SPLE   AESH CYAN   HYDR STAG   VELI NMPH   VELI CAPR
VELI SAUL   GERR NMPH   GERR LACU   GERR NAJA   NEPA CINE   NOTO NMPH
NOTO GLAU   HESP SAHL   HALI CONF   PLAT MACU   HYDR PALU   HELO BREV
HYDR GRAC   CHAE SEMI   DEND LACT   THER TESS   ERPO TEST   AUST PALL
EPHY IDAE   ANOP SPEC   TABA IDAE   TANY ABLA   ORTH THIE   CHIR ENDO
CHIR INAE
```

10. Division of the 15 items in group *010

There are 5 items in the negative group 20 (*0100)

```
LYMN STAG   PLAN VORT   DYTI LARV   CHIR PLUM   NAID IDAE
```

There are 10 items in the positive group 21 (*0101)

```
PHYS FONT   PLAN CARI   CENT LUTE   NOTO MACU   CORI NMPH   HALI FLUV
POLY TNIG   DUGE LUGU   HELO STAG   ERPO OCTO
```

11. Division of the 11 items in group *011

There are 6 items in the negative group 22 (*0110)

```
VALV PISC   POTA JENK   POTA ELEG   GAMM PULE   ATHR ATER   TANY INAE
```

There are 5 items in the positive group 23 (*0111)

```
BYTH TENT   LYMN PERE   SIGA DORS   HELO LARV   ASEL AQUA
```

13. Division of the 6 items in group *101

There are 3 items in the negative group 26 (*1010)

```
HALI IMMA   CRAN PSEU   PSYC IDAE
```

There are 3 items in the positive group 27 (*1011)

```
SIGA FALL   HALI LARV   TIPU IDAE
```

14. Division of the 5 items in group *110

There are 2 items in the negative group 28 (*1100)

```
PISC GEOM   CERA IDAE
```

There are 3 items in the positive group 29 (*1101)

```
SPHA CORN   SERI PERS   LCUL IDAE
```

15. Division of the 21 items in group *111

There are 16 items in the negative group 30 (*1110)

```
PISI AMNI   ANOD CYGN   EPHE VULG   LACC HYAL   GLOS HETE   SIAL LUTA
DOLI IDAE   TANY PROC   TANY MACR   CHIR CRYP   CHIR DEMI   CHIR PPES
CHIR TSUS   PROD OLIV   TUBI HAIR   TUBI NOHR
```

There are 5 items in the positive group 31 (*1111)

```
EPHE DANI   CHIR CLAD   CHIR SAET   CHIR CHIR   POTT LONG
```

16. Division of the 7 items in group *0000

There are 4 items in the negative group 32 (*00000)
```
OULI TUBL   ANCY FLUV   CAEN LUCT   DICR SPEC
```
There are 3 items in the positive group 33 (*00001)
```
OULI TUBA   THEO FLUV   HACA RINA
```

17. Division of the 17 items in group *0001

There are 2 items in the negative group 34 (*00010)
```
ELMI AENL   HPTL SPEC
```
There are 15 items in the positive group 35 (*00011)
```
SIMU EQUL   ELMI AENA   ESOL PARA   LIMN VOLL   LIMN VOLA   PLAN CONT
LEUC GENI   HEMI MARG   RHYA DORS   HPSY PELL   HPSY CONT   HPSY SILT
LIMN LUNA   CHIR PMUS   HTAX IDAE
```

18. Division of the 22 items in group *0010

There are 20 items in the negative group 36 (*00100)
```
SIMU ANGL   SIMU ANGP   SIMU EQUP   SIMU ERYL   SIMU ERYP   SIMU ORNL
SIMU ORNP   EPHE IGNI   HABR FUSC   CAEN MACR   BAET RHOD   BAET SCAM
BAET VERN   ISCH ELEG   HPSY ANGU   CERA DISS   ORTH CORY   ORTH SYNO
CHIR PSUS   CHIR RSUS
```
There are 2 items in the positive group 37 (*00101)
```
SIMU SALL   ORTH INAE
```

19. Division of the 37 items in group *0011

There are 3 items in the negative group 38 (*00110)
```
AGRI SPLE   THER TESS   ORTH THIE
```
There are 34 items in the positive group 39 (*00111)
```
SIMU SALP   PLAN PLAN   PLAN ALBU   CLOE DIPT   CLOE SIMI   PROC BIFI
ENAL CYAT   AESH CYAN   HYDR STAG   VELI NMPH   VELI CAPR   VELI SAUL
GERR NMPH   GERR LACU   GERR NAJA   NEPA CINE   NOTO NMPH   NOTO GLAU
HESP SAHL   HALI CONF   PLAT MACU   HYDR PALU   HELO BREV   HYDR GRAC
CHAE SEMI   DEND LACT   ERPO TEST   AUST PALL   EPHY IDAE   ANOP SPEC
TABA IDAE   TANY ABLA   CHIR ENDO   CHIR INAE
```

20. Division of the 5 items in group *0100

There are 2 items in the negative group 40 (*01000)
```
CHIR PLUM   NAID IDAE
```
There are 3 items in the positive group 41 (*01001)
```
LYMN STAG   PLAN VORT   DYTI LARV
```

21. Division of the 10 items in group *0101

There are 8 items in the negative group 42 (*01010)
```
PHYS FONT   PLAN CARI   CENT LUTE   NOTO MACU   CORI NMPH   HALI FLUV
```

POLY TNIG DUGE LUGU
There are 2 items in the positive group 43 (*01011)
HELO STAG ERPO OCTO

22. Division of the 6 items in group *0110

There are 4 items in the negative group 44 (*01100)
POTA ELEG GAMM PULE ATHR ATER TANY INAE

There are 2 items in the positive group 45 (*01101)
VALV PISC POTA JENK

23. Division of the 5 items in group *0111

There are 4 items in the negative group 46 (*01110)
BYTH TENT LYMN PERE SIGA DORS HELO LARV
There is 1 item in the positive group 47 *01111
ASEL AQUA

30. Division of the 16 items in group *1110

There are 14 items in the negative group 60 (*11100)
PISI AMNI ANOD CYGN EPHE VULG LACC HYAL GLOS HETE SIAL LUTA
DOLI IDAE TANY PROC TANY MACR CHIR CRYP CHIR DEMI CHIR PPES
CHIR TSUS PROD OLIV
There are 2 items in the positive group 61 (*11101)
TUBI HAIR TUBI NOHR

31. Division of the 5 items in group *1111

There are 4 items in the negative group 62, (*11110)
CHIR CLAD CHIR SAET CHIR CHIR POTT LONG
There is 1 item in the positive group 63 (*11111)
EPHE DANI

35. Division of the 15 items in group *00011

There are 3 items in the negative group 70 (*000110)
SIMU EQUL ELMI AENA LIMN LUNA
There are 12 items in the positive group 71 (*000111)
ESOL PARA LIMN VOLL LIMN VOLA PLAN CONT LEUC GENI HEMI MARG
RHYA DORS HPSY PELL HPSY CONT HPSY SILT CHIR PMUS HTAX IDAE

36. Division of the 20 items in group *00100

There are 7 items in the negative group 72 (*001000)
SIMU EQUP SIMU ORNL SIMU ORNP HABR FUSC ISCH ELEG CERA DISS
ORTH SYNO
There are 13 items in the positive group 73 (*001001)
SIMU ANGL SIMU ANGP SIMU ERYL SIMU ERYP EPHE IGNI CAEN MACR

```
BAET RHOD   BAET SCAM   BAET VERN   HPSY ANGU   ORTH CORY   CHIR PSUS
CHIR RSUS
```

39. Division of the 34 items in group *00111

There are 13 items in the negative group 78 (*001110)

```
SIMU SALP   PLAN ALBU   HYDR STAG   VELI NMPH   VELI CAPR   VELI SAUL
GERR LACU   GERR NAJA   AUST PALL   TABA IDAE   TANY ABLA   CHIR ENDO
CHIR INAE
```

There are 21 items in the positive group 79 (*001111)

```
PLAN PLAN   CLOE DIPT   CLOE SIMI   PROC BIFI   ENAL CYAT   AESH CYAN
GERR NMPH   NEPA CINE   NOTO NMPH   NOTO GLAU   HESP SAHL   HALI CONF
PLAT MACU   HYDR PALU   HELO BREV   HYDR GRAC   CHAE SEMI   DEND LACT
ERPO TEST   EPHY IDAE   ANOP SPEC
```

42. Division of the 8 items in group *01010

There are 3 items in the negative group 84 (*010100)

```
PLAN CARI   CENT LUTE   NOTO MACU
```

There are 5 items in the positive group 85 (*010101)

```
PHYS FONT   CORI NMPH   HALI FLUV   POLY TNIG   DUGE LUGU
```

60. Division of the 14 items in group *11100

There are 6 items in the negative group 120 (*111000)

```
PISI AMNI   EPHE VULG   CHIR CRYP   CHIR DEMI   CHIR TSUS   PROD OLIV
```

There are 8 items in the positive group 121 (*111001)

```
ANOD CYGN   LACC HYAL   GLOS HETE   SIAL LUTA   DOLI IDAE   TANY PROC
TANY MACR   CHIR PPES
```

71. Division of the 12 items in group *000111

There are 7 items in the negative group 142 (*0001110)

```
ESOL PARA   LEUC GENI   HEMI MARG   RHYA DORS   HPSY PELL   HPSY SILT
CHIR PMUS
```

There are 5 items in the positive group 143 (*0001111)

```
LIMN VOLL   LIMN VOLA   PLAN CONT   HPSY CONT   HTAX IDAE
```

72. Division of the 7 items in group *001000

There are 3 items in the negative group 144 (*0010000)

```
SIMU EQUP   SIMU ORNL   SIMU ORNP
```

There are 4 items in the positive group 145 (*0010001)

```
HABR FUSC   ISCH ELEG   CERA DISS   ORTH SYNO
```

73. Division of the13 items in group *001001

There are 10 items in the negative group 146 (*0010010)

```
SIMU ANGL   SIMU ERYL   SIMU ERYP   EPHE IGNI   CAEN MACR   BAET RHOD
BAET SCAM   BAET VERN   CHIR PSUS   CHIR RSUS
```

There are 3 items in the positive group 147 (*0010011)
SIMU ANGP HPSY ANGU ORTH CORY

78. Division of the 13 items in group *001110

There are 8 items in the negative group 156 (*0011100)
SIMU SALP HYDR STAG VELI NMPH VELI SAUL GERR LACU GERR NAJA
AUST PALL TANY ABLA
There are 5 items in the positive group 157 (*0011101)
PLAN ALBU VELI CAPR TABA IDAE CHIR ENDO CHIR INAE

79. Division of the 21 items in group *001111

There are 19 items in the negative group 158 (*0011110)
PLAN PLAN CLOE DIPT CLOE SIMI PROC BIFI ENAL CYAT AESH CYAN
GERR NMPH NEPA CINE NOTO GLAU HESP SAHL HALI CONF PLAT MACU
HYDR PALU HELO BREV HYDR GRAC CHAE SEMI ERPO TEST EPHY IDAE
ANOP SPEC
There are 2 items in the positive group 159 (*0011111)
NOTO NMPH DEND LACT

85. Division of the 5 items in group *010101

There are 2 items in the negative group 170 (*0101010)
POLY TNIG DUGE LUGU
There are 3 items in the positive group 171 (*0101011)
PHYS FONT CORI NMPH HALI FLUV

120. Division of the 6 items in group *111000

There is 1 item in the negative group 240 (*1110000)
CHIR TSUS
There are 5 items in the positive group 241 (*1110001)
PISI AMNI EPHE VULG CHIR CRYP CHIR DEMI PROD OLIV

121. Division of the 8 items in group *111001

There are 6 items in the negative group 242 (*1110010)
LACC HYAL GLOS HETE SIAL LUTA DOLI IDAE TANY PROC TANY MACR
There are 2 items in the positive group 243 (*1110011)
ANOD CYGN CHIR PPES

142. Division of the 7 items in group *0001110

There is 1 item in the negative group 284 (*00011100)
CHIR PMUS
There are 6 items in the positive group 285 (*00011101)
ESOL PARA LEUC GENI HEMI MARG RHYA DORS HPSY PELL HPSY SILT

143. Division of the 5 items in group *0001111

There are 2 items in the negative group 286 (*00011110)
LIMN VOLL LIMN VOLA
There are 3 items in the positive group 287 (*00011111)
PLAN CONT HPSY CONT HTAX IDAE

146. Division of the 10 items in group *0010010

There are 5 items in the negative group 292 (*00100100)
EPHE IGNI CAEN MACR BAET RHOD CHIR PSUS CHIR RSUS
There are 5 items in the positive group 293 (*00100101)
SIMU ANGL SIMU ERYL SIMU ERYP BAET SCAM BAET VERN

156. Division of the 8 items in group *0011100

There are 2 items in the negative group 312 (*00111000)
AUST PALL TANY ABLA
There are 6 items in the positive group 313 (*00111001)
SIMU SALP HYDR STAG VELI NMPH VELI SAUL GERR LACU GERR NAJA

157. Division of the 5 items in group *0011101

There are 4 items in the negative group 314 (*00111010)
VELI CAPR TABA IDAE CHIR ENDO CHIR INAE
There is 1 item in the positive group 315 (*00111011)
PLAN ALBU

158. Division of the 19 items in group *0011110

There are 18 items in the negative group 316 (*00111100)
PLAN PLAN CLOE DIPT CLOE SIMI PROC BIFI ENAL CYAT AESH CYAN
GERR NMPH NEPA CINE NOTO GLAU HESP SAHL HALI CONF PLAT MACU
HYDR PALU HYDR GRAC CHAE SEMI ERPO TEST EPHY IDAE ANOP SPEC
There is 1 item in the positive group 317 (*00111101)
HELO BREV

241. Division of the 5 items in group *1110001

There are 4 items in the negative group 482 (*11100010)
PISI AMNI EPHE VULG CHIR DEMI PROD OLIV
There is 1 item in the positive group 483 (*11100011)
CHIR CRYP

242. Division of the 6 items in group *1110010

There are 3 items in the negative group 484 (*11100100)
SIAL LUTA TANY PROC TANY MACR
There are 3 items in the positive group 485 (*11100101)

```
LACC HYAL    GLOS HETE    DOLI IDAE
```

285. Division of the 6 items in group *00011101

There are 2 items in the negative group 570 (*000111010)
```
RHYA DORS    HPSY SILT
```
There are 4 items in the positive group 571 (*000111011)
```
ESOL PARA    LEUC GENI    HEMI MARG    HPSY PELL
```

292. Division of the 5 items in group *00100100

There is 1 item in the negative group 584 (*001001000)
```
CHIR RSUS
```
There are 4 items in the positive group 585 (*001001001)
```
EPHE IGNI    CAEN MACR    BAET RHOD    CHIR PSUS
```

293. Division of the 5 items in group *00100101

There is 1 item in the negative group 586 (*001001010)
```
BAET SCAM
```
There are 4 items in the positive group 587 (*001001011)
```
SIMU ANGL    SIMU ERYL    SIMU ERYP    BAET VERN
```

313. Division of the 6 items in group *00111001

There are 5 items in the negative group 626 (*001110010)
```
SIMU SALP    HYDR STAG    VELI SAUL    GERR LACU    GERR NAJA
```
There is 1 item in the positive group 627 (*001110011)
```
VELI NMPH
```

316. Division of the 18 items in group *00111100

There is 1 item in the negative group 632 (*001111000)
```
GERR NMPH
```
There are 17 items in the positive group 633 (*001111001)
```
PLAN PLAN    CLOE DIPT    CLOE SIMI    PROC BIFI    ENAL CYAT    AESH CYAN
NEPA CINE    NOTO GLAU    HESP SAHL    HALI CONF    PLAT MACU    HYDR PALU
HYDR GRAC    CHAE SEMI    ERPO TEST    EPHY IDAE    ANOP SPEC
```

9.4 Order of species and samples when tabulated (read left-right, top-bottom)

9.4.1 Species

```
 16  OULI TUBL     30  ANCY FLUV     39  CAEN LUCT    108  DICR SPEC
 17  OULI TUBA     18  THEO FLUV    109  HACA RINA     11  ELMI AENL
101  HPTL SPEC      3  SIMU EQUL     12  ELMI AENA    105  LIMN LUNA
127  CHIR PMUS     96  RHYA DORS    100  HPSY SILT     13  ESOL PARA
 47  LEUC GENI     85  HEMI MARG     97  HPSY PELL     14  LIMN VOLL
```

15	LIMN VOLA	29	PLAN CONT	99	HPSY CONT	142	HTAX IDAE
4	SIMU EQUP	9	SIMU ORNL	10	SIMU ORNP	37	HABR FUSC
48	ISCH ELEG	104	CERA DISS	121	ORTH SYNO	131	CHIR RSUS
36	EPHE IGNI	38	CAEN MACR	40	BAET RHOD	128	CHIR PSUS
41	BAET SCAM	1	SIMU ANGL	7	SIMU ERYL	8	SIMU ERYP
42	BAET VERN	2	SIMU ANGP	98	HPSY ANGU	119	ORTH CORY
5	SIMU SALL	122	ORTH INAE	50	AGRI SPLE	84	THER TESS
120	ORTH THIE	94	AUST PALL	117	TANY ABLA	6	SIMU SALP
52	HYDR STAG	55	VELI SAUL	57	GERR LACU	58	GERR NAJA
53	VELI NMPH	54	VELI CAPR	112	TABA IDAE	126	CHIR ENDO
135	CHIR INAE	28	PLAN ALBU	56	GERR NMPH	26	PLAN PLAN
44	CLOE DIPT	45	CLOE SIMI	46	PROC BIFI	49	ENAL CYAT
51	AESH CYAN	59	NEPA CINE	61	NOTO GLAU	64	HESP SAHL
68	HALI CONF	72	PLAT MACU	73	HYDR PALU	78	HYDR GRAC
79	CHAE SEMI	89	ERPO TEST	106	EPHY IDAE	111	ANOP SPEC
77	HELO BREV	60	NOTO NMPH	82	DEND LACT	130	CHIR PLUM
140	NAID IDAE	22	LYMN STAG	27	PLAN VORT	76	DYTI LARV
25	PLAN CARI	43	CENT LUTE	62	NOTO MACU	80	POLY TNIG
81	DUGE LUGU	24	PHYS FONT	63	CORI NMPH	69	HALI FLUV
88	HELO STAG	90	ERPO OCTO	74	POTA ELEG	93	GAMM PULE
103	ATHR ATER	118	TANY INAE	19	VALV PISC	20	POTA JENK
21	BYTH TENT	23	LYMN PERE	65	SIGA DORS	75	HELO LARV
91	ASEL AQUA	87	GLOS COMP	70	HALI IMMA	92	CRAN PSEU
114	PSYC IDAE	66	SIGA FALL	67	HALI LARV	107	TIPU IDAE
83	PISC GEOM	110	CERA IDAE	31	SPHA CORN	102	SERI PERS
141	LCUL IDAE	133	CHIR TSUS	32	PISI AMNI	35	EPHE VULG
125	CHIR DEMI	137	PROD OLIV	124	CHIR CRYP	95	SIAL LUTA
115	TANY PROC	116	TANY MACR	71	LACC HYAL	86	GLOS HETE
113	DOLI IDAE	33	ANOD CYGN	129	CHIR PPES	138	TUBI HAIR
139	TUBI NOHR	123	CHIR CLAD	132	CHIR SAET	134	CHIR CHIR
136	POTT LONG	34	EPHE DANI				

9.4.2 Samples

155	DUDDGRV1	156	DUDDGRV2	157	DUDDGRV3	158	DUDDGRV4
160	COLLGRV2	161	COLLGRV3	162	COLLGRV4	163	COLLGRV5
176	RIFFCCC3	177	RIFFCCC4	178	RIFFCCC5	168	RIFFAAA5
169	RIFFBBB1	174	RIFFCCC1	175	RIFFCCC2	164	RIFFAAA1
165	RIFFAAA2	166	RIFFAAA3	170	RIFFBBB2	173	RIFFBBB5
167	RIFFAAA4	171	RIFFBBB3	172	RIFFBBB4	30	FONTRIF1
31	FONTRIF2	32	FONTRIF3	33	FONTRIF4	62	RANURIF2
64	RANURIF4	49	PECTRUN1	50	PECTRUN2	52	PECTRUN4
54	PECTRIF2	55	PECTRIF3	61	RANURIF1	63	RANURIF3
51	PECTRUN3	34	FONTRIF5	53	PECTRIF1	71	SCHORUN1
73	SCHORUN3	59	PERFRUN4	60	PERFRUN5	65	RANURIF5
69	RANURUN4	70	RANURUN5	58	PERFRUN3	66	RANURUN1
67	RANURUN2	68	RANURUN3	56	PERFRUN1	57	PERFRUN2
35	LUCERUN1	39	LUCERUN5	36	LUCERUN2	37	LUCERUN3
38	LUCERUN4	42	MYRIRUN3	43	MYRIRUN4	5	CLADRUN1
6	CLADRUN2	28	FONTRUN4	25	FONTRUN1	26	FONTRUN2
27	FONTRUN3	40	MYRIRUN1	8	CLADRUN4	9	CLADRUN5
29	FONTRUN5	41	MYRIRUN2	16	ELODRUN2	17	ELODRUN3
72	SCHORUN2	15	ELODRUN1	18	ELODRUN4	7	CLADRUN3
20	ENTORUN2	21	ENTORUN3	99	PHALMAR2	101	PHALMAR4

98	PHALMAR1	100	PHALMAR3	102	PHALMAR5	75	AGROMAR2
74	AGROMAR1	76	AGROMAR3	77	AGROMAR4	78	AGROMAR5
103	RORIMAR1	104	RORIMAR2	105	RORIMAR3	106	RORIMAR4
107	RORIMAR5	180	ROCKPOL2	181	ROCKPOL3	19	ENTORUN1
84	ALBAPOL1	85	ALBAPOL2	86	ALBAPOL3	87	ALBAPOL4
89	NUPHRUN1	90	NUPHRUN2	91	NUPHRUN3	92	NUPHRUN4
94	NUPHPOL2	97	NUPHPOL5	44	NATAPOL1	45	NATAPOL2
46	NATAPOL3	47	NATAPOL4	48	NATAPOL5	88	ALBAPOL5
10	ELODPOL1	11	ELODPOL2	12	ELODPOL3	13	ELODPOL4
14	ELODPOL5	93	NUPHPOL1	95	NUPHPOL3	96	NUPHPOL4
179	ROCKPOL1	3	CLADPOL3	23	ENTOPOL2	24	ENTOPOL3
1	CLADPOL1	2	CLADPOL2	4	CLADPOL4	22	ENTOPOL1
113	ACUTMAR1	116	SCHOMAR1	117	SCHOMAR2	82	GLYCMAR4
112	SPARMAR5	114	ACUTMAR2	115	ACUTMAR3	118	SCHOMAR3
108	SPARMAR1	109	SPARMAR2	110	SPARMAR3	111	SPARMAR4
79	GLYCMAR1	80	GLYCMAR2	81	GLYCMAR3	83	GLYCMAR5
119	GLYCROT1	138	COLLMUD3	136	COLLMUD1	137	COLLMUD2
139	COLLMUD4	140	COLLMUD5	130	ACUTROT2	134	SCHOROT3
122	GLYCROT4	126	SPARROT3	131	ACUTROT3	120	GLYCROT2
121	GLYCROT3	123	GLYCROT5	128	SPARROT5	124	SPARROT1
125	SPARROT2	127	SPARROT4	129	ACUTROT1	132	SCHOROT1
133	SCHOROT2	135	SCHOROT4	159	COLLGRV1	142	DUDDMUD2
143	DUDDMUD3	144	DUDDMUD4	145	DUDDMUD5	141	DUDDMUD1
146	SANDAAA1	149	SANDBBB1	150	SANDBBB2	151	SANDBBB3
147	SANDAAA2	148	SANDAAA3	152	SANDCCC1	154	SANDCCC3
153	SANDCCC2						

10. MACROINVERTEBRATES FROM THE RIVER WISSEY, AUTUMN 1989

Samples were taken from 19 'potential habitats' on the River Wissey upstream of Mundford/Ickburgh during August.

10.1 List of samples by potential habitat, with codes and short names

1	GRAVEL01	- 5	GRAVEL05	Gravel substrate
6	SAND0001	- 10	SAND0005	Sand substrate
11	PECTRUN1	- 15	PECTRUN5	*Potamogeton pectinatus* in run
16	RANURUN1	- 20	RANURUN5	*Ranunculus penicillatus* in run
21	LUCERUN1	- 25	LUCERUN5	*Potamogeton lucens* in run
26	BERURUN1	- 30	BERURUN5	*Berula erecta* in run
31	CLADRUN1	- 35	CLADRUN5	*Cladophora* sp. in run
36	FONTRIF1	- 40	FONTRIF5	*Fontinalis antipyretica* in riffle
41	SPARMAR1	- 45	SPARMAR5	*Sparganium erectum* in margin
46	SPARROT1	- 50	SPARROT5	Roots of *Sparganium erectum* in margin
51	SCHORUN1	- 55	SCHORUN5	*Schoenoplectus lacustris* in run
56	SCHOMAR1	- 60	SCHOMAR5	*Schoenoplectus lacustris* in margin
61	SCHOROT1	- 65	SCHOROT5	Roots of *Schoenoplectus lacustris* in margin
66	SILT0001	- 70	SILT0005	Silt/mud (with no leaves)
71	RIFFLE01	- 75	RIFFLE05	Riffle substrate
76	BECCMAR1	- 80	BECCMAR5	*Veronica beccabunga* in margin
81	SAGIRUN1	- 85	SAGIRUN5	*Sagittaria sagittifolia* in run
86	GLYCMAR1	- 90	GLYCMAR5	*Glyceria maxima* in margin
91	GLYCROT1	- 95	GLYCROT5	Roots of *Glyceria maxima* in margin

10.2 List of recorded taxa, with codes and short names

1	SIMUANGL	*Simulium angustipes* larva	
2	SIMUANGP	*S. angustipes* pupa	
3	SIMUEQUL	*S. equinum* larva	
4	SIMUEQUP	*S. equinum* pupa	
5	SIMUERYL	*S. erythrocephalum* larva	
6	SIMUERYP	*S. erythrocephalum* pupa	
7	SIMUORNL	*S. ornatum* larva	
8	SIMUORNP	*S. ornatum* pupa	
9	ELMIAENL	*Elmis aenea* larva	
10	ELMIAENA	*E. aenea* adult	
11	LIMNVOLL	*Limnius volckmari* larva	
12	LIMNVOLA	*L. volckmari* adult	
13	OULITUBL	*Oulimnius tuberculatus* larva	
14	OULITUBA	*O. tuberculatus* adult	
15	VALVPISC	*Valvata piscinalis*	
16	POTAJENK	*Potamopyrgus jenkinsi*	
17	BYTHTENT	*Bythinia tentaculata*	
18	LYMNPALU	*Lymnaea palustris*	
19	PHYSFONT	*Physa fontinalis*	
20	PLANCARI	*Planorbis carinatus*	
21	PLANVORT	*P. vortex*	
22	PLANALBU	*P. albus*	
23	PLANCONT	*P. contortus*	
24	ANCYFLUV	*Ancylus fluviatilis*	
25	ACROLACU	*Acroloxus lacustris*	
26	SPHACORN	*Sphaerium corneum*	
27	PISISPEC	*Pisidium* sp.	
28	EPHEDANI	*Ephemera danica*	
29	EPHEIGNI	*Ephemerella ignita*	
30	ECDYINSI	*Ecdyonurus insignis*	
31	CAENLUCT	*C. luctuosa*	
32	CAENRIVU	*Caenis rivulorum*	
33	BAETRHOD	*Baetis rhodani*	
34	BAETSCAM	*B. scambus*	
35	BAETVERN	*B. vernus*	
36	CENTLUTE	*Centroptilum luteolum*	
37	CENTPENN	*Centroptilum pennulatum*	
38	CLOEDIPT	*Cloeon dipterum*	
39	LEUCNIGR	*Leuctra nigra*	
40	LEUCGENI	*Leuctra geniculata*	
41	NEMOSPEC	*Nemoura* sp.	
42	CORINYMP	Corixidae nymph	
43	SIGAFALL	*S. falleni*	
44	SIGADORS	*Sigara dorsalis*	
45	SIGAVENU	*S. venusta*	
46	CALLPRAE	*Callicorixa praeusta*	
47	HALILARV	*Haliplus* larva	
48	HALIFLUV	*H. fluviatilis*	
49	BRYCELEV	*Brychius elevatus*	
50	POTAELEG	*Potamonectes elegans*	

51	OECHMINI	*Oechthebius minimus*	52	HELOLIVI	*Helochares lividus*
53	HYDRGRAC	*Hydraena gracilis*	54	ANACLIMB	*Anacaena limbata*
55	DYTILARV	Dytiscinae larva	56	HELOLARV	Helophorinae larva
57	GYRILARV	Gyrinidae larva	58	DUGELUGU	*Dugesia lugubris*
59	POLYTNIG	*Polycelis tenuis/nigra*	60	DENDLACT	*Dendrocoelum lacteum*
61	GLOSCOMP	*G. complanata*	62	ERPOOCTO	*E. octoculata*
63	THERTESS	*Theromyzon tessulatum*	64	HELOSTAG	*Helobdella stagnalis*
65	PISCGEOM	*Piscicola geometra*	66	HEMIMARG	*Hemiclepsis marginata*
67	GAMMPULE	*Gammarus pulex*	68	CRANPSEU	*Crangonyx pseudogracilis*
69	ASELAQUA	*Asellus aquaticus*	70	SIALLUTA	*Sialis lutaria*
71	HPSYCONT	*H. contubernalis*	72	HPSYSILT	*H. siltalai*
73	HPSYPELL	*Hydropsyche pellucidula*	74	HPSYANGU	*H. angustipennis*
75	POLYFLAV	*Polycentropus flavomaculatus*	76	RHYADORS	*Rhyacophila dorsalis*
77	AGAPFUSC	*Agapetus fuscipes*	78	HPTLSPEC	*Hydroptila* sp.
79	LEPIHIRT	*Lepidostoma hirtum*	80	HALERADI	*Halesus radiatus*
81	POTAROTU	*Potamophylax rotundipennis*	82	CHAEVILL	*Chaetopteryx villosa*
83	ANABNERV	*Anabolia nervosa*	84	LIMNLUNA	*Limnephilus lunatus*
85	LIMNRHOM	*Limnephilus rhombicus* gp	86	SILONIGR	*Silo nigricornis*
87	SERIPERS	*Sericostoma personatum*	88	ATHRCINE	*Athripsodes cinereus*
89	ATHRATER	*Athripsodes aterrimus*	90	MYSTAZUR	*Mystacides azurea*
91	EPHYIDAE	Ephydridae	92	TIPUIDAE	Tipulidae (not *Dicranota*)
93	DICRSPEC	*Dicranota* sp.	94	PSYCIDAE	Psychodidae
95	MUSCIDAE	Muscidae	96	RHAGIDAE	Rhagionidae
97	TABAIDAE	Tabanidae	98	CERAIDAE	Ceratopogonidae
99	ANOPSPEC	*Anopheles* sp.	100	DIXXIDAE	Dixidae
101	HACARINA	Hydracarina	102	CHIRRSUS	*Rheotanytarsus* sp.
103	CHIRCLAD	*Cladotanytarsus* sp.	104	CHIRTSUS	*Tanytarsus* sp.
105	CHIRPDMA	*Polypedilum* sp. A	106	CHIRPDMB	*Polypedilum* sp. B
107	CHIRPTEN	*Paratendipes* sp.	108	CHIRMTNA	*Microtendipes* sp. A
109	CHIRMTNB	*Microtendipes* sp. B	110	CHIRENDO	*Endochironomus/Phaenopsectra* sp.
111	CHIRCRYP	*Cryptochironomus* sp.	112	CHIRDEMI	*Demicryptochironomus* sp.
113	CHIRCHIR	*Chironomus* sp.	114	TANYMACR	*Macropelopia* sp.
115	TANYABLA	*Ablabesmyia* sp.	116	TANYPROC	*Procladius* sp.
117	TANYTHIE	*Thienemannimyia* sp.	118	TANYPSEC	*Psectrocladius* sp.
119	ORTHEPOI	*Epoicocladius flavens*	120	ORTHCORY	*Corynoneura* sp.
121	ORTHSYNO	*Synorthocladius semivirens*	122	ORTHRHEO	*Rheocricotopus fuscipes*
123	ORTHSYLV	*Cricotopus sylvestris*	124	ORTHBICI	*Cricotopus bicinctus*
125	ORTHNANO	*Nanocladius rectinervis*	126	ORTHECLA	*Eukiefferiella claripennis*
127	ORTHESPB	*Eukiefferiella* sp. B	128	ORTHTVET	*Corynoneura* sp.
129	ORTHTHIE	*Thienemanniella* sp.	130	POTTLONG	*Potthastia longimana* gp.
131	PRODOLIV	*Prodiamesa olivacea*	132	TUBIHAIR	Tubificidae (hair chaetae)
133	TUBINOHR	Tubificidae (no hair chaetae)	134	NAIDIDAE	Naididae
135	LCULIDAE	Lumbriculidae	136	HTAXIDAE	Haplotaxidae
137	LUMBIDAE	Lumbricidae			

10.3 Data listed by sample

1 GRAVEL01

3	SIMUEQUL	3	5	SIMUERYL	1	9	ELMIAENL	2
11	LIMNVOLL	19	12	LIMNVOLA	1	14	OULITUBA	2
26	SPHACORN	18	28	EPHEDANI	111	29	EPHEIGNI	13
30	ECDYINSI	1	39	LEUCNIGR	15	40	LEUCGENI	14
50	POTAELEG	1	56	HELOLARV	5	59	POLYTNIG	1
61	GLOSCOMP	15	63	THERTESS	3	67	GAMMPULE	142

73	HPSYPELL	1	87	SERIPERS	4	88	ATHRCINE	10
92	TIPUIDAE	1	93	DICRSPEC	22	98	CERAIDAE	8
101	HACARINA	25	103	CHIRCLAD	140	114	TANYMACR	4
115	TANYABLA	8	117	TANYTHIE	20	129	ORTHTHIE	4
132	TUBIHAIR	21	133	TUBINOHR	1	135	LCULIDAE	21
136	HTAXIDAE	3						

2 GRAVEL02

10	ELMIAENA	4	11	LIMNVOLL	6	12	LIMNVOLA	3
14	OULITUBA	1	26	SPHACORN	7	28	EPHEDANI	500
29	EPHEIGNI	42	34	BAETSCAM	2	35	BAETVERN	1
39	LEUCNIGR	37	40	LEUCGENI	2	49	BRYCELEV	1
60	DENDLACT	1	61	GLOSCOMP	13	63	THERTESS	3
64	HELOSTAG	1	67	GAMMPULE	1500	69	ASELAQUA	1
73	HPSYPELL	1	87	SERIPERS	40	88	ATHRCINE	10
93	DICRSPEC	11	96	RHAGIDAE	2	97	TABAIDAE	1
101	HACARINA	15	103	CHIRCLAD	180	111	CHIRCRYP	24
112	CHIRDEMI	36	115	TANYABLA	12	117	TANYTHIE	24
119	ORTHEPOI	12	121	ORTHSYNO	24	132	TUBIHAIR	110
133	TUBINOHR	20	135	LCULIDAE	70			

3 GRAVEL03

9	ELMIAENL	4	11	LIMNVOLL	6	16	POTAJENK	2
26	SPHACORN	1	28	EPHEDANI	71	29	EPHEIGNI	11
39	LEUCNIGR	9	40	LEUCGENI	5	50	POTAELEG	2
56	HELOLARV	3	61	GLOSCOMP	1	62	ERPOOCTO	2
67	GAMMPULE	138	87	SERIPERS	12	88	ATHRCINE	10
93	DICRSPEC	2	101	HACARINA	2	103	CHIRCLAD	17
111	CHIRCRYP	1	112	CHIRDEMI	4	115	TANYABLA	1
119	ORTHEPOI	1	121	ORTHSYNO	7	129	ORTHTHIE	2
132	TUBIHAIR	60	133	TUBINOHR	5	135	LCULIDAE	35

4 GRAVEL04

9	ELMIAENL	2	11	LIMNVOLL	18	12	LIMNVOLA	1
13	OULITUBL	1	28	EPHEDANI	49	29	EPHEIGNI	6
34	BAETSCAM	2	39	LEUCNIGR	22	40	LEUCGENI	2
53	HYDRGRAC	1	61	GLOSCOMP	3	62	ERPOOCTO	1
67	GAMMPULE	108	80	HALERADI	1	83	ANABNERV	1
87	SERIPERS	20	88	ATHRCINE	13	90	MYSTAZUR	1
92	TIPUIDAE	1	93	DICRSPEC	12	98	CERAIDAE	3
101	HACARINA	1	103	CHIRCLAD	3	111	CHIRCRYP	3
112	CHIRDEMI	3	117	TANYTHIE	3	121	ORTHSYNO	3
132	TUBIHAIR	4	135	LCULIDAE	4	136	HTAXIDAE	1

5 GRAVEL05

3	SIMUEQUL	3	5	SIMUERYL	2	9	ELMIAENL	6
10	ELMIAENA	2	11	LIMNVOLL	18	12	LIMNVOLA	3
13	OULITUBL	1	26	SPHACORN	5	27	PISISPEC	2
28	EPHEDANI	202	29	EPHEIGNI	18	34	BAETSCAM	3
39	LEUCNIGR	39	40	LEUCGENI	2	56	HELOLARV	3
61	GLOSCOMP	6	62	ERPOOCTO	3	63	THERTESS	1
67	GAMMPULE	304	73	HPSYPELL	1	77	AGAPFUSC	3

81	POTAROTU	1	82	CHAEVILL	1	87	SERIPERS	23
88	ATHRCINE	7	93	DICRSPEC	23	98	CERAIDAE	1
101	HACARINA	4	103	CHIRCLAD	45	105	CHIRPDMA	3
106	CHIRPDMB	12	109	CHIRMTNB	3	112	CHIRDEMI	3
115	TANYABLA	3	117	TANYTHIE	9	121	ORTHSYNO	6
122	ORTHRHEO	3	132	TUBIHAIR	120	133	TUBINOHR	50
135	LCULIDAE	70	136	HTAXIDAE	10	137	LUMBIDAE	1

6 SAND0001

16	POTAJENK	1	26	SPHACORN	1	28	EPHEDANI	2
93	DICRSPEC	6	98	CERAIDAE	4	101	HACARINA	1
103	CHIRCLAD	200	132	TUBIHAIR	15	133	TUBINOHR	11
134	NAIDIDAE	1	135	LCULIDAE	6			

7 SAND0002

1	SIMUANGL	1	11	LIMNVOLL	2	16	POTAJENK	1
26	SPHACORN	2	28	EPHEDANI	3	87	SERIPERS	1
88	ATHRCINE	1	93	DICRSPEC	24	98	CERAIDAE	3
103	CHIRCLAD	400	131	PRODOLIV	2	132	TUBIHAIR	4
133	TUBINOHR	2	135	LCULIDAE	6			

8 SAND0003

11	LIMNVOLL	1	26	SPHACORN	9	27	PISISPEC	4
28	EPHEDANI	11	93	DICRSPEC	17	98	CERAIDAE	6
103	CHIRCLAD	15000	131	PRODOLIV	1	133	TUBINOHR	3
135	LCULIDAE	16						

9 SAND0004

28	EPHEDANI	3	88	ATHRCINE	2	93	DICRSPEC	22
98	CERAIDAE	1	103	CHIRCLAD	5000	131	PRODOLIV	2
132	TUBIHAIR	7	133	TUBINOHR	4	135	LCULIDAE	5

10 SAND0005

1	SIMUANGL	1	11	LIMNVOLL	1	27	PISISPEC	1
28	EPHEDANI	7	67	GAMMPULE	1	93	DICRSPEC	32
98	CERAIDAE	2	103	CHIRCLAD	10000	132	TUBIHAIR	7
133	TUBINOHR	9	135	LCULIDAE	1			

11 PECTRUN1

1	SIMUANGL	100	3	SIMUEQUL	900	4	SIMUEQUP	4
5	SIMUERYL	700	6	SIMUERYP	1	7	SIMUORNL	3300
8	SIMUORNP	12	34	BAETSCAM	2	101	HACARINA	1
123	ORTHSYLV	1	126	ORTHECLA	6			

12 PECTRUN2

3	SIMUEQUL	400	4	SIMUEQUP	8	5	SIMUERYL	400
6	SIMUERYP	2	7	SIMUORNL	3200	8	SIMUORNP	4
63	THERTESS	2	67	GAMMPULE	1	103	CHIRCLAD	1

123	ORTHSYLV	3	126	ORTHECLA	9	128	ORTHTVET	1
129	ORTHTHIE	5						

13 PECTRUN3

1	SIMUANGL	300	3	SIMUEQUL	100	4	SIMUEQUP	12
5	SIMUERYL	600	6	SIMUERYP	3	7	SIMUORNL	1200
8	SIMUORNP	12	29	EPHEIGNI	1	33	BAETRHOD	1
34	BAETSCAM	3	121	ORTHSYNO	20	123	ORTHSYLV	5
126	ORTHECLA	40	129	ORTHTHIE	5			

14 PECTRUN4

3	SIMUEQUL	700	4	SIMUEQUP	10	5	SIMUERYL	100
6	SIMUERYP	2	7	SIMUORNL	2600	8	SIMUORNP	32
29	EPHEIGNI	2	34	BAETSCAM	2	63	THERTESS	1
106	CHIRPDMB	5	121	ORTHSYNO	40	123	ORTHSYLV	15
129	ORTHTHIE	20						

15 PECTRUN5

1	SIMUANGL	500	2	SIMUANGP	5	3	SIMUEQUL	1500
4	SIMUEQUP	120	5	SIMUERYL	500	7	SIMUORNL	7800
8	SIMUORNP	130	29	EPHEIGNI	1	33	BAETRHOD	2
34	BAETSCAM	3	63	THERTESS	3	67	GAMMPULE	2
121	ORTHSYNO	15	123	ORTHSYLV	65	126	ORTHECLA	70
129	ORTHTHIE	30						

16 RANURUN1

1	SIMUANGL	1000	2	SIMUANGP	20	3	SIMUEQUL	3000
5	SIMUERYL	2000	6	SIMUERYP	50	7	SIMUORNL	10000
8	SIMUORNP	50	29	EPHEIGNI	15	33	BAETRHOD	4
34	BAETSCAM	34	72	HPSYSILT	1	73	HPSYPELL	4
74	HPSYANGU	2	78	HPTLSPEC	1	96	RHAGIDAE	1
101	HACARINA	2	102	CHIRRSUS	10	106	CHIRPDMB	5
121	ORTHSYNO	30	123	ORTHSYLV	135	124	ORTHBICI	5
134	NAIDIDAE	1						

17 RANURUN2

3	SIMUEQUL	100	4	SIMUEQUP	2	5	SIMUERYL	350
7	SIMUORNL	550	8	SIMUORNP	30	29	EPHEIGNI	23
33	BAETRHOD	3	34	BAETSCAM	29	62	ERPOOCTO	1
63	THERTESS	3	101	HACARINA	16	102	CHIRRSUS	10
106	CHIRPDMB	10	121	ORTHSYNO	60	123	ORTHSYLV	230
126	ORTHECLA	40	128	ORTHTVET	10	129	ORTHTHIE	80
134	NAIDIDAE	2						

18 RANURUN3

1	SIMUANGL	300	3	SIMUEQUL	1400	4	SIMUEQUP	24
5	SIMUERYL	100	6	SIMUERYP	8	7	SIMUORNL	3200
8	SIMUORNP	184	29	EPHEIGNI	21	33	BAETRHOD	6
34	BAETSCAM	15	63	THERTESS	4	74	HPSYANGU	1
101	HACARINA	9	102	CHIRRSUS	8	121	ORTHSYNO	24

123	ORTHSYLV	46	129	ORTHTHIE	16	134	NAIDIDAE	1

19 RANURUN4

1	SIMUANGL	200	2	SIMUANGP	3	3	SIMUEQUL	350
4	SIMUEQUP	12	5	SIMUERYL	150	6	SIMUERYP	9
7	SIMUORNL	800	8	SIMUORNP	27	10	ELMIAENA	1
29	EPHEIGNI	8	33	BAETRHOD	1	34	BAETSCAM	12
88	ATHRCINE	1	101	HACARINA	2	102	CHIRRSUS	2
106	CHIRPDMB	1	121	ORTHSYNO	3	123	ORTHSYLV	16
126	ORTHECLA	2	129	ORTHTHIE	2			

20 RANURUN5

3	SIMUEQUL	500	4	SIMUEQUP	24	5	SIMUERYL	2000
6	SIMUERYP	9	7	SIMUORNL	7500	8	SIMUORNP	66
29	EPHEIGNI	16	34	BAETSCAM	10	63	THERTESS	1
101	HACARINA	2	103	CHIRCLAD	10	121	ORTHSYNO	70
123	ORTHSYLV	150	128	ORTHTVET	10	129	ORTHTHIE	220

21 LUCERUN1

2	SIMUANGP	2	10	ELMIAENA	1	14	OULITUBA	1
16	POTAJENK	8	19	PHYSFONT	1	29	EPHEIGNI	7
34	BAETSCAM	12	56	HELOLARV	3	59	POLYTNIG	1
63	THERTESS	1	67	GAMMPULE	8	75	POLYFLAV	1
90	MYSTAZUR	2	104	CHIRTSUS	6	106	CHIRPDMB	9
117	TANYTHIE	3	121	ORTHSYNO	51	122	ORTHRHEO	6
123	ORTHSYLV	6	124	ORTHBICI	3	126	ORTHECLA	3
127	ORTHESPB	3	129	ORTHTHIE	3	130	POTTLONG	6
134	NAIDIDAE	95	135	LCULIDAE	5			

22 LUCERUN2

19	PHYSFONT	2	33	BAETRHOD	1	34	BAETSCAM	12
42	CORINYMP	4	67	GAMMPULE	1	102	CHIRRSUS	10
104	CHIRTSUS	10	106	CHIRPDMB	60	108	CHIRMTNA	10
121	ORTHSYNO	300	122	ORTHRHEO	30	123	ORTHSYLV	20
126	ORTHECLA	10	130	POTTLONG	20	134	NAIDIDAE	200

23 LUCERUN3

9	ELMIAENL	1	19	PHYSFONT	1	22	PLANALBU	1
29	EPHEIGNI	2	34	BAETSCAM	3	56	HELOLARV	3
59	POLYTNIG	2	62	ERPOOCTO	3	63	THERTESS	1
67	GAMMPULE	1	99	ANOPSPEC	1	101	HACARINA	1
104	CHIRTSUS	60	106	CHIRPDMB	30	115	TANYABLA	120
117	TANYTHIE	60	121	ORTHSYNO	1200	122	ORTHRHEO	240
123	ORTHSYLV	300	129	ORTHTHIE	120	130	POTTLONG	60
134	NAIDIDAE	60	135	LCULIDAE	5			

24 LUCERUN4

1	SIMUANGL	1	19	PHYSFONT	2	22	PLANALBU	1
34	BAETSCAM	2	42	CORINYMP	1	59	POLYTNIG	4

62	ERPOOCTO	3	63	THERTESS	1	67	GAMMPULE	1
75	POLYFLAV	1	96	RHAGIDAE	1	101	HACARINA	2
102	CHIRRSUS	1	105	CHIRPDMA	1	106	CHIRPDMB	5
115	TANYABLA	1	117	TANYTHIE	2	121	ORTHSYNO	12
123	ORTHSYLV	7	134	NAIDIDAE	37			

25 LUCERUN5

1	SIMUANGL	120	5	SIMUERYL	70	7	SIMUORNL	20
29	EPHEIGNI	2	31	CAENLUCT	1	33	BAETRHOD	2
34	BAETSCAM	11	35	BAETVERN	1	47	HALILARV	1
56	HELOLARV	1	61	GLOSCOMP	1	63	THERTESS	2
67	GAMMPULE	2	75	POLYFLAV	1	88	ATHRCINE	1
101	HACARINA	1	102	CHIRRSUS	4	106	CHIRPDMB	64
108	CHIRMTNA	4	117	TANYTHIE	8	121	ORTHSYNO	104
122	ORTHRHEO	4	123	ORTHSYLV	16	130	POTTLONG	4
134	NAIDIDAE	100						

26 BERURUN1

1	SIMUANGL	350	2	SIMUANGP	4	3	SIMUEQUL	100
4	SIMUEQUP	9	5	SIMUERYL	1100	6	SIMUERYP	32
7	SIMUORNL	50	8	SIMUORNP	6	9	ELMIAENL	3
10	ELMIAENA	1	11	LIMNVOLL	1	19	PHYSFONT	2
24	ANCYFLUV	3	26	SPHACORN	2	28	EPHEDANI	1
29	EPHEIGNI	10	33	BAETRHOD	1	34	BAETSCAM	6
39	LEUCNIGR	2	40	LEUCGENI	1	59	POLYTNIG	2
62	ERPOOCTO	2	67	GAMMPULE	18	73	HPSYPELL	3
74	HPSYANGU	9	75	POLYFLAV	1	79	LEPIHIRT	2
101	HACARINA	7	102	CHIRRSUS	40	106	CHIRPDMB	40
117	TANYTHIE	120	121	ORTHSYNO	1000	122	ORTHRHEO	440
123	ORTHSYLV	80	126	ORTHECLA	40	129	ORTHTHIE	40
134	NAIDIDAE	100						

27 BERURUN2

1	SIMUANGL	7	3	SIMUEQUL	3	4	SIMUEQUP	2
5	SIMUERYL	27	6	SIMUERYP	12	7	SIMUORNL	4
8	SIMUORNP	1	10	ELMIAENA	1	17	BYTHTENT	1
19	PHYSFONT	1	26	SPHACORN	2	29	EPHEIGNI	4
34	BAETSCAM	4	39	LEUCNIGR	1	62	ERPOOCTO	2
67	GAMMPULE	10	73	HPSYPELL	2	74	HPSYANGU	7
76	RHYADORS	1	78	HPTLSPEC	2	101	HACARINA	6
106	CHIRPDMB	15	108	CHIRMTNA	60	121	ORTHSYNO	600
122	ORTHRHEO	90	126	ORTHECLA	15	134	NAIDIDAE	100

28 BERURUN3

1	SIMUANGL	80	2	SIMUANGP	6	3	SIMUEQUL	80
4	SIMUEQUP	9	5	SIMUERYL	220	6	SIMUERYP	43
8	SIMUORNP	12	9	ELMIAENL	1	10	ELMIAENA	1
17	BYTHTENT	2	19	PHYSFONT	3	26	SPHACORN	2
29	EPHEIGNI	15	34	BAETSCAM	9	39	LEUCNIGR	3
40	LEUCGENI	1	58	DUGELUGU	1	59	POLYTNIG	1
62	ERPOOCTO	1	67	GAMMPULE	17	73	HPSYPELL	12
74	HPSYANGU	19	78	HPTLSPEC	4	88	ATHRCINE	1

101	HACARINA	10	102	CHIRRSUS	12	106	CHIRPDMB	36
121	ORTHSYNO	360	122	ORTHRHEO	120	123	ORTHSYLV	24
126	ORTHECLA	12	134	NAIDIDAE	195	135	LCULIDAE	5

29 BERURUN4

1	SIMUANGL	7	2	SIMUANGP	4	3	SIMUEQUL	1
5	SIMUERYL	18	6	SIMUERYP	2	7	SIMUORNL	1
9	ELMIAENL	6	11	LIMNVOLL	1	19	PHYSFONT	4
24	ANCYFLUV	1	29	EPHEIGNI	29	33	BAETRHOD	3
34	BAETSCAM	14	39	LEUCNIGR	4	59	POLYTNIG	1
63	THERTESS	2	67	GAMMPULE	13	73	HPSYPELL	7
74	HPSYANGU	12	101	HACARINA	12	121	ORTHSYNO	2808
122	ORTHRHEO	128	123	ORTHSYLV	64	134	NAIDIDAE	200

30 BERURUN5

1	SIMUANGL	800	2	SIMUANGP	10	3	SIMUEQUL	200
4	SIMUEQUP	24	5	SIMUERYL	1600	6	SIMUERYP	76
7	SIMUORNL	200	8	SIMUORNP	16	9	ELMIAENL	1
11	LIMNVOLL	1	19	PHYSFONT	2	24	ANCYFLUV	2
26	SPHACORN	1	29	EPHEIGNI	3	33	BAETRHOD	2
34	BAETSCAM	12	59	POLYTNIG	1	63	THERTESS	1
67	GAMMPULE	8	73	HPSYPELL	7	74	HPSYANGU	17
75	POLYFLAV	1	78	HPTLSPEC	2	90	MYSTAZUR	1
101	HACARINA	5	102	CHIRRSUS	30	117	TANYTHIE	30
120	ORTHCORY	30	121	ORTHSYNO	900	122	ORTHRHEO	150
123	ORTHSYLV	30	129	ORTHTHIE	30	134	NAIDIDAE	90
135	LCULIDAE	10						

31 CLADRUN1

1	SIMUANGL	5	9	ELMIAENL	1	26	SPHACORN	1
29	EPHEIGNI	18	31	CAENLUCT	1	33	BAETRHOD	4
34	BAETSCAM	14	36	CENTLUTE	1	38	CLOEDIPT	1
42	CORINYMP	3	56	HELOLARV	12	67	GAMMPULE	1
74	HPSYANGU	1	91	EPHYIDAE	1	92	TIPUIDAE	2
101	HACARINA	3	106	CHIRPDMB	8	109	CHIRMTNB	16
117	TANYTHIE	16	121	ORTHSYNO	160	123	ORTHSYLV	32
124	ORTHBICI	16	129	ORTHTHIE	8	134	NAIDIDAE	500

32 CLADRUN2

1	SIMUANGL	2	5	SIMUERYL	1	7	SIMUORNL	1
29	EPHEIGNI	17	33	BAETRHOD	12	34	BAETSCAM	29
35	BAETVERN	1	63	THERTESS	2	73	HPSYPELL	1
92	TIPUIDAE	1	106	CHIRPDMB	4	121	ORTHSYNO	152
122	ORTHRHEO	4	123	ORTHSYLV	64	124	ORTHBICI	20
129	ORTHTHIE	8	133	TUBINOHR	100	134	NAIDIDAE	2900

33 CLADRUN3

2	SIMUANGP	1	8	SIMUORNP	2	29	EPHEIGNI	16
33	BAETRHOD	2	34	BAETSCAM	7	56	HELOLARV	4
95	MUSCIDAE	1	101	HACARINA	10	106	CHIRPDMB	30

108	CHIRMTNA	10	121	ORTHSYNO	60	123	ORTHSYLV	230
124	ORTHBICI	40	129	ORTHTHIE	10	134	NAIDIDAE	46

34 CLADRUN4

1	SIMUANGL	2	29	EPHEIGNI	45	33	BAETRHOD	13
34	BAETSCAM	14	56	HELOLARV	1	62	ERPOOCTO	2
67	GAMMPULE	4	79	LEPIHIRT	2	92	TIPUIDAE	1
95	MUSCIDAE	8	101	HACARINA	3	108	CHIRMTNA	1
121	ORTHSYNO	13	122	ORTHRHEO	2	123	ORTHSYLV	6
124	ORTHBICI	8	125	ORTHNANO	1	126	ORTHECLA	1
129	ORTHTHIE	1	134	NAIDIDAE	13	135	LCULIDAE	1

35 CLADRUN5

1	SIMUANGL	3	5	SIMUERYL	4	8	SIMUORNP	1
29	EPHEIGNI	32	33	BAETRHOD	13	34	BAETSCAM	19
52	HELOLIVI	1	62	ERPOOCTO	1	63	THERTESS	1
67	GAMMPULE	3	91	EPHYIDAE	5	92	TIPUIDAE	2
95	MUSCIDAE	7	101	HACARINA	1	106	CHIRPDMB	4
117	TANYTHIE	4	121	ORTHSYNO	36	123	ORTHSYLV	20
124	ORTHBICI	20	126	ORTHECLA	2	129	ORTHTHIE	6
130	POTTLONG	2	133	TUBINOHR	5	134	NAIDIDAE	45

36 FONTRIF1

1	SIMUANGL	120	3	SIMUEQUL	20	5	SIMUERYL	40
7	SIMUORNL	20	9	ELMIAENL	37	10	ELMIAENA	148
14	OULITUBA	1	17	BYTHTENT	3	19	PHYSFONT	3
20	PLANCARI	1	21	PLANVORT	2	22	PLANALBU	1
23	PLANCONT	5	26	SPHACORN	39	29	EPHEIGNI	13
33	BAETRHOD	1	34	BAETSCAM	2	39	LEUCNIGR	10
56	HELOLARV	1	59	POLYTNIG	11	60	DENDLACT	2
61	GLOSCOMP	3	62	ERPOOCTO	4	63	THERTESS	1
65	PISCGEOM	1	67	GAMMPULE	56	68	CRANPSEU	29
73	HPSYPELL	22	74	HPSYANGU	24	75	POLYFLAV	12
79	LEPIHIRT	10	101	HACARINA	8	102	CHIRRSUS	38
106	CHIRPDMB	38	108	CHIRMTNA	226	109	CHIRMTNB	302
117	TANYTHIE	151	121	ORTHSYNO	302	122	ORTHRHEO	604
127	ORTHESPB	151	129	ORTHTHIE	113	130	POTTLONG	75
134	NAIDIDAE	40						

37 FONTRIF2

1	SIMUANGL	420	3	SIMUEQUL	80	6	SIMUERYP	1
7	SIMUORNL	20	8	SIMUORNP	1	9	ELMIAENL	14
10	ELMIAENA	37	17	BYTHTENT	3	19	PHYSFONT	2
20	PLANCARI	1	22	PLANALBU	1	26	SPHACORN	7
29	EPHEIGNI	16	34	BAETSCAM	2	39	LEUCNIGR	3
40	LEUCGENI	2	59	POLYTNIG	6	62	ERPOOCTO	1
63	THERTESS	1	64	HELOSTAG	1	67	GAMMPULE	34
68	CRANPSEU	2	75	POLYFLAV	1	79	LEPIHIRT	3
85	LIMNRHOM	1	101	HACARINA	2	106	CHIRPDMB	120
108	CHIRMTNA	120	109	CHIRMTNB	320	117	TANYTHIE	80
121	ORTHSYNO	120	122	ORTHRHEO	400	124	ORTHBICI	80
126	ORTHECLA	80	127	ORTHESPB	180	129	ORTHTHIE	120

130	POTTLONG	40	134	NAIDIDAE	16			

38 FONTRIF3

1	SIMUANGL	2	6	SIMUERYP	1	9	ELMIAENL	6
10	ELMIAENA	4	13	OULITUBL	1	14	OULITUBA	2
17	BYTHTENT	1	19	PHYSFONT	6	26	SPHACORN	75
27	PISISPEC	1	29	EPHEIGNI	32	34	BAETSCAM	1
39	LEUCNIGR	23	40	LEUCGENI	11	41	NEMOSPEC	10
42	CORINYMP	2	50	POTAELEG	1	56	HELOLARV	7
59	POLYTNIG	19	61	GLOSCOMP	1	67	GAMMPULE	67
68	CRANPSEU	13	73	HPSYPELL	4	79	LEPIHIRT	10
90	MYSTAZUR	1	92	TIPUIDAE	1	101	HACARINA	1
102	CHIRRSUS	8	108	CHIRMTNA	12	109	CHIRMTNB	28
115	TANYABLA	8	117	TANYTHIE	16	121	ORTHSYNO	40
122	ORTHRHEO	76	127	ORTHESPB	16	129	ORTHTHIE	32
130	POTTLONG	4						

39 FONTRIF4

1	SIMUANGL	18	3	SIMUEQUL	7	4	SIMUEQUP	2
7	SIMUORNL	3	9	ELMIAENL	53	10	ELMIAENA	19
13	OULITUBL	3	14	OULITUBA	12	19	PHYSFONT	1
21	PLANVORT	1	26	SPHACORN	16	29	EPHEIGNI	20
39	LEUCNIGR	6	40	LEUCGENI	6	41	NEMOSPEC	2
56	HELOLARV	3	58	DUGELUGU	1	59	POLYTNIG	9
60	DENDLACT	1	63	THERTESS	1	67	GAMMPULE	36
68	CRANPSEU	14	73	HPSYPELL	1	75	POLYFLAV	1
79	LEPIHIRT	13	80	HALERADI	1	88	ATHRCINE	15
101	HACARINA	6	102	CHIRRSUS	2	108	CHIRMTNA	12
109	CHIRMTNB	16	114	TANYMACR	2	115	TANYABLA	4
121	ORTHSYNO	28	122	ORTHRHEO	32	125	ORTHNANO	4
129	ORTHTHIE	2	130	POTTLONG	2	134	NAIDIDAE	3

40 FONTRIF5

1	SIMUANGL	130	3	SIMUEQUL	80	5	SIMUERYL	10
7	SIMUORNL	30	9	ELMIAENL	6	10	ELMIAENA	11
13	OULITUBL	1	14	OULITUBA	5	19	PHYSFONT	7
21	PLANVORT	2	26	SPHACORN	4	29	EPHEIGNI	43
34	BAETSCAM	2	39	LEUCNIGR	7	40	LEUCGENI	6
41	NEMOSPEC	4	56	HELOLARV	2	59	POLYTNIG	21
60	DENDLACT	1	61	GLOSCOMP	2	63	THERTESS	4
64	HELOSTAG	1	65	PISCGEOM	1	67	GAMMPULE	53
68	CRANPSEU	28	73	HPSYPELL	3	74	HPSYANGU	2
75	POLYFLAV	3	79	LEPIHIRT	12	83	ANABNERV	1
88	ATHRCINE	3	92	TIPUIDAE	1	96	RHAGIDAE	1
101	HACARINA	8	104	CHIRTSUS	5	106	CHIRPDMB	5
108	CHIRMTNA	5	115	TANYABLA	40	117	TANYTHIE	20
120	ORTHCORY	1	121	ORTHSYNO	60	122	ORTHRHEO	40
123	ORTHSYLV	5	124	ORTHBICI	10	125	ORTHNANO	10
126	ORTHECLA	5	128	ORTHTVET	10	129	ORTHTHIE	50
130	POTTLONG	5	134	NAIDIDAE	75	135	LCULIDAE	5

41 SPARMAR1

1	SIMUANGL	3	3	SIMUEQUL	1	17	BYTHTENT	1
19	PHYSFONT	2	29	EPHEIGNI	9	34	BAETSCAM	3
48	HALIFLUV	1	59	POLYTNIG	11	61	GLOSCOMP	1
62	ERPOOCTO	10	64	HELOSTAG	1	67	GAMMPULE	10
68	CRANPSEU	6	74	HPSYANGU	1	79	LEPIHIRT	1
106	CHIRPDMB	9	107	CHIRPTEN	3	117	TANYTHIE	3
121	ORTHSYNO	126	134	NAIDIDAE	95	135	LCULIDAE	5

42 SPARMAR2

6	SIMUERYP	4	8	SIMUORNP	1	9	ELMIAENL	1
29	EPHEIGNI	1	34	BAETSCAM	1	59	POLYTNIG	6
61	GLOSCOMP	2	62	ERPOOCTO	7	64	HELOSTAG	1
67	GAMMPULE	1	73	HPSYPELL	1	79	LEPIHIRT	1
102	CHIRRSUS	4	106	CHIRPDMB	30	117	TANYTHIE	4
121	ORTHSYNO	66	125	ORTHNANO	2	132	TUBIHAIR	1
134	NAIDIDAE	17						

43 SPARMAR3

1	SIMUANGL	2	5	SIMUERYL	2	11	LIMNVOLL	1
19	PHYSFONT	2	21	PLANVORT	1	24	ANCYFLUV	21
29	EPHEIGNI	2	39	LEUCNIGR	1	57	GYRILARV	1
59	POLYTNIG	1	62	ERPOOCTO	8	67	GAMMPULE	2
73	HPSYPELL	1	106	CHIRPDMB	4	107	CHIRPTEN	2
110	CHIRENDO	2	117	TANYTHIE	6	120	ORTHCORY	1
121	ORTHSYNO	30	122	ORTHRHEO	6	129	ORTHTHIE	2
132	TUBIHAIR	3	134	NAIDIDAE	24	135	LCULIDAE	1

44 SPARMAR4

1	SIMUANGL	12	3	SIMUEQUL	2	9	ELMIAENL	2
17	BYTHTENT	2	19	PHYSFONT	7	24	ANCYFLUV	1
29	EPHEIGNI	3	34	BAETSCAM	2	41	NEMOSPEC	1
57	GYRILARV	3	59	POLYTNIG	8	61	GLOSCOMP	4
62	ERPOOCTO	1	64	HELOSTAG	1	67	GAMMPULE	16
73	HPSYPELL	2	74	HPSYANGU	3	79	LEPIHIRT	1
106	CHIRPDMB	1	109	CHIRMTNB	1	110	CHIRENDO	1
114	TANYMACR	1	117	TANYTHIE	1	120	ORTHCORY	1
121	ORTHSYNO	31	122	ORTHRHEO	1	125	ORTHNANO	1
132	TUBIHAIR	2	134	NAIDIDAE	6			

45 SPARMAR5

1	SIMUANGL	1	17	BYTHTENT	1	19	PHYSFONT	4
21	PLANVORT	3	24	ANCYFLUV	3	29	EPHEIGNI	1
34	BAETSCAM	5	57	GYRILARV	1	59	POLYTNIG	9
62	ERPOOCTO	12	63	THERTESS	2	64	HELOSTAG	1
67	GAMMPULE	5	68	CRANPSEU	1	106	CHIRPDMB	2
109	CHIRMTNB	2	110	CHIRENDO	4	114	TANYMACR	2
117	TANYTHIE	12	121	ORTHSYNO	72	122	ORTHRHEO	4
125	ORTHNANO	4	129	ORTHTHIE	8	134	NAIDIDAE	1

46 SPARROT1

9	ELMIAENL	3	10	ELMIAENA	1	26	SPHACORN	1
28	EPHEDANI	1	29	EPHEIGNI	5	34	BAETSCAM	2
39	LEUCNIGR	2	40	LEUCGENI	1	56	HELOLARV	1
57	GYRILARV	3	59	POLYTNIG	4	61	GLOSCOMP	3
62	ERPOOCTO	4	64	HELOSTAG	2	67	GAMMPULE	2
68	CRANPSEU	14	73	HPSYPELL	1	79	LEPIHIRT	1
105	CHIRPDMA	8	108	CHIRMTNA	1	109	CHIRMTNB	4
114	TANYMACR	4	116	TANYPROC	2	121	ORTHSYNO	2
122	ORTHRHEO	1	131	PRODOLIV	1	132	TUBIHAIR	22
133	TUBINOHR	24						

47 SPARROT2

28	EPHEDANI	2	40	LEUCGENI	1	55	DYTILARV	1
67	GAMMPULE	8	68	CRANPSEU	5	70	SIALLUTA	9
104	CHIRTSUS	4	105	CHIRPDMA	2	109	CHIRMTNB	4
114	TANYMACR	4	121	ORTHSYNO	2	131	PRODOLIV	2
132	TUBIHAIR	17	133	TUBINOHR	25	135	LCULIDAE	6

48 SPARROT3

1	SIMUANGL	2	11	LIMNVOLL	1	28	EPHEDANI	1
29	EPHEIGNI	4	40	LEUCGENI	2	59	POLYTNIG	1
62	ERPOOCTO	1	64	HELOSTAG	1	65	PISCGEOM	2
67	GAMMPULE	9	68	CRANPSEU	5	70	SIALLUTA	2
73	HPSYPELL	2	74	HPSYANGU	1	79	LEPIHIRT	2
105	CHIRPDMA	2	109	CHIRMTNB	15	131	PRODOLIV	1
132	TUBIHAIR	11	133	TUBINOHR	20	134	NAIDIDAE	2
135	LCULIDAE	12						

49 SPARROT4

19	PHYSFONT	1	28	EPHEDANI	1	29	EPHEIGNI	7
40	LEUCGENI	2	56	HELOLARV	1	59	POLYTNIG	1
61	GLOSCOMP	2	62	ERPOOCTO	3	67	GAMMPULE	17
68	CRANPSEU	3	69	ASELAQUA	6	70	SIALLUTA	11
75	POLYFLAV	1	79	LEPIHIRT	2	98	CERAIDAE	7
104	CHIRTSUS	6	105	CHIRPDMA	6	109	CHIRMTNB	8
114	TANYMACR	2	116	TANYPROC	2	132	TUBIHAIR	150
133	TUBINOHR	275	135	LCULIDAE	75			

50 SPARROT5

1	SIMUANGL	1	10	ELMIAENA	1	19	PHYSFONT	1
28	EPHEDANI	2	29	EPHEIGNI	7	34	BAETSCAM	2
36	CENTLUTE	2	40	LEUCGENI	7	55	DYTILARV	1
61	GLOSCOMP	1	64	HELOSTAG	1	67	GAMMPULE	9
68	CRANPSEU	5	69	ASELAQUA	1	70	SIALLUTA	10
73	HPSYPELL	3	79	LEPIHIRT	2	104	CHIRTSUS	3
105	CHIRPDMA	9	109	CHIRMTNB	12	114	TANYMACR	6
117	TANYTHIE	3	121	ORTHSYNO	3	132	TUBIHAIR	2
133	TUBINOHR	19	135	LCULIDAE	2			

51 SCHORUN1

1	SIMUANGL	400	5	SIMUERYL	1000	7	SIMUORNL	100
19	PHYSFONT	1	29	EPHEIGNI	3	33	BAETRHOD	2
34	BAETSCAM	5	46	CALLPRAE	1	61	GLOSCOMP	1
73	HPSYPELL	1	74	HPSYANGU	1	101	HACARINA	2
102	CHIRRSUS	5	106	CHIRPDMB	5	121	ORTHSYNO	95
126	ORTHECLA	10	129	ORTHTHIE	55			

52 SCHORUN2

1	SIMUANGL	150	3	SIMUEQUL	50	4	SIMUEQUP	1
5	SIMUERYL	650	6	SIMUERYP	2	7	SIMUORNL	150
17	BYTHTENT	2	19	PHYSFONT	2	21	PLANVORT	1
24	ANCYFLUV	3	33	BAETRHOD	6	34	BAETSCAM	30
63	THERTESS	4	67	GAMMPULE	6	73	HPSYPELL	1
74	HPSYANGU	1	101	HACARINA	3	102	CHIRRSUS	10
106	CHIRPDMB	20	121	ORTHSYNO	240	122	ORTHRHEO	10
126	ORTHECLA	30	129	ORTHTHIE	100	134	NAIDIDAE	5

53 SCHORUN3

1	SIMUANGL	60	5	SIMUERYL	125	7	SIMUORNL	20
17	BYTHTENT	3	19	PHYSFONT	6	24	ANCYFLUV	1
29	EPHEIGNI	7	34	BAETSCAM	13	39	LEUCNIGR	1
55	DYTILARV	1	57	GYRILARV	1	59	POLYTNIG	2
62	ERPOOCTO	3	63	THERTESS	2	67	GAMMPULE	9
73	HPSYPELL	1	78	HPTLSPEC	2	101	HACARINA	2
102	CHIRRSUS	40	121	ORTHSYNO	280	122	ORTHRHEO	20
123	ORTHSYLV	20	126	ORTHECLA	40	129	ORTHTHIE	260
134	NAIDIDAE	2						

54 SCHORUN4

1	SIMUANGL	6	3	SIMUEQUL	1	5	SIMUERYL	19
7	SIMUORNL	6	17	BYTHTENT	1	19	PHYSFONT	1
25	ACROLACU	2	29	EPHEIGNI	3	33	BAETRHOD	2
34	BAETSCAM	10	59	POLYTNIG	2	62	ERPOOCTO	4
63	THERTESS	2	67	GAMMPULE	3	73	HPSYPELL	2
102	CHIRRSUS	100	106	CHIRPDMB	30	117	TANYTHIE	20
121	ORTHSYNO	260	126	ORTHECLA	30	129	ORTHTHIE	100
134	NAIDIDAE	4						

55 SCHORUN5

1	SIMUANGL	8	3	SIMUEQUL	4	5	SIMUERYL	48
7	SIMUORNL	8	29	EPHEIGNI	1	33	BAETRHOD	10
34	BAETSCAM	10	57	GYRILARV	1	59	POLYTNIG	1
62	ERPOOCTO	1	63	THERTESS	1	73	HPSYPELL	2
79	LEPIHIRT	1	101	HACARINA	3	102	CHIRRSUS	15
121	ORTHSYNO	135	129	ORTHTHIE	150	134	NAIDIDAE	2

56 SCHOMAR1

1	SIMUANGL	4	7	SIMUORNL	1	17	BYTHTENT	2
19	PHYSFONT	5	25	ACROLACU	20	59	POLYTNIG	1

62	ERPOOCTO	4	73	HPSYPELL	4	100	DIXXIDAE	1
121	ORTHSYNO	9	122	ORTHRHEO	4	125	ORTHNANO	1
128	ORTHTVET	1	129	ORTHTHIE	1	132	TUBIHAIR	2

57 SCHOMAR2

1	SIMUANGL	1	5	SIMUERYL	6	7	SIMUORNL	1
19	PHYSFONT	1	25	ACROLACU	9	40	LEUCGENI	1
59	POLYTNIG	2	61	GLOSCOMP	1	62	ERPOOCTO	3
63	THERTESS	1	67	GAMMPULE	2	73	HPSYPELL	5
106	CHIRPDMB	2	109	CHIRMTNB	1	121	ORTHSYNO	2
129	ORTHTHIE	1	134	NAIDIDAE	17	135	LCULIDAE	3

58 SCHOMAR3

2	SIMUANGP	1	5	SIMUERYL	2	6	SIMUERYP	2
7	SIMUORNL	1	15	VALVPISC	1	17	BYTHTENT	2
19	PHYSFONT	1	21	PLANVORT	1	25	ACROLACU	13
40	LEUCGENI	1	59	POLYTNIG	1	62	ERPOOCTO	4
69	ASELAQUA	1	73	HPSYPELL	4	106	CHIRPDMB	2
121	ORTHSYNO	4	122	ORTHRHEO	1	132	TUBIHAIR	1
134	NAIDIDAE	5	135	LCULIDAE	1			

59 SCHOMAR4

1	SIMUANGL	1	5	SIMUERYL	1	17	BYTHTENT	2
19	PHYSFONT	2	25	ACROLACU	14	59	POLYTNIG	2
61	GLOSCOMP	1	62	ERPOOCTO	1	63	THERTESS	1
67	GAMMPULE	3	68	CRANPSEU	2	69	ASELAQUA	2
73	HPSYPELL	1	106	CHIRPDMB	8	110	CHIRENDO	4
121	ORTHSYNO	20	122	ORTHRHEO	4	123	ORTHSYLV	2
129	ORTHTHIE	4	134	NAIDIDAE	1			

60 SCHOMAR5

5	SIMUERYL	1	17	BYTHTENT	2	19	PHYSFONT	1
25	ACROLACU	21	61	GLOSCOMP	1	62	ERPOOCTO	9
63	THERTESS	1	66	HEMIMARG	1	67	GAMMPULE	2
73	HPSYPELL	1	121	ORTHSYNO	11	134	NAIDIDAE	2
135	LCULIDAE	1						

61 SCHOROT1

1	SIMUANGL	1	29	EPHEIGNI	1	40	LEUCGENI	2
57	GYRILARV	1	61	GLOSCOMP	1	67	GAMMPULE	5
68	CRANPSEU	2	69	ASELAQUA	1	70	SIALLUTA	5
73	HPSYPELL	1	98	CERAIDAE	6	104	CHIRTSUS	3
105	CHIRPDMA	9	107	CHIRPTEN	1	109	CHIRMTNB	1
114	TANYMACR	5	121	ORTHSYNO	1	123	ORTHSYLV	1
132	TUBIHAIR	26	133	TUBINOHR	27	135	LCULIDAE	4

62 SCHOROT2

29	EPHEIGNI	1	39	LEUCNIGR	1	57	GYRILARV	1
59	POLYTNIG	1	62	ERPOOCTO	5	63	THERTESS	1
67	GAMMPULE	9	68	CRANPSEU	8	69	ASELAQUA	1

70	SIALLUTA	10	73	HPSYPELL	4	98	CERAIDAE	4
104	CHIRTSUS	12	105	CHIRPDMA	16	107	CHIRPTEN	2
109	CHIRMTNB	2	114	TANYMACR	4	121	ORTHSYNO	2
131	PRODOLIV	2	132	TUBIHAIR	175	133	TUBINOHR	250
134	NAIDIDAE	25	135	LCULIDAE	125			

63 SCHOROT3

26	SPHACORN	1	29	EPHEIGNI	1	39	LEUCNIGR	1
61	GLOSCOMP	1	62	ERPOOCTO	2	67	GAMMPULE	2
68	CRANPSEU	3	69	ASELAQUA	1	70	SIALLUTA	5
73	HPSYPELL	1	98	CERAIDAE	8	104	CHIRTSUS	3
105	CHIRPDMA	5	109	CHIRMTNB	1	114	TANYMACR	5
131	PRODOLIV	1	132	TUBIHAIR	90	133	TUBINOHR	130
135	LCULIDAE	30						

64 SCHOROT4

13	OULITUBL	1	17	BYTHTENT	2	19	PHYSFONT	3
26	SPHACORN	1	27	PISISPEC	3	28	EPHEDANI	1
29	EPHEIGNI	2	40	LEUCGENI	1	61	GLOSCOMP	3
62	ERPOOCTO	4	63	THERTESS	2	67	GAMMPULE	7
68	CRANPSEU	8	69	ASELAQUA	3	70	SIALLUTA	10
73	HPSYPELL	6	98	CERAIDAE	8	104	CHIRTSUS	5
105	CHIRPDMA	6	107	CHIRPTEN	1	109	CHIRMTNB	11
114	TANYMACR	6	117	TANYTHIE	1	123	ORTHSYLV	1
132	TUBIHAIR	140	133	TUBINOHR	130	135	LCULIDAE	30

65 SCHOROT5

17	BYTHTENT	2	19	PHYSFONT	1	40	LEUCGENI	2
61	GLOSCOMP	1	64	HELOSTAG	1	67	GAMMPULE	2
70	SIALLUTA	4	73	HPSYPELL	1	98	CERAIDAE	3
104	CHIRTSUS	3	105	CHIRPDMA	1	109	CHIRMTNB	2
115	TANYABLA	1	131	PRODOLIV	2	132	TUBIHAIR	40
133	TUBINOHR	56	135	LCULIDAE	24			

66 SILT0001

16	POTAJENK	1	19	PHYSFONT	1	26	SPHACORN	15
27	PISISPEC	3	32	CAENRIVU	1	36	CENTLUTE	11
43	SIGAFALL	1	44	SIGADORS	1	56	HELOLARV	1
67	GAMMPULE	1	70	SIALLUTA	22	89	ATHRATER	2
98	CERAIDAE	17	104	CHIRTSUS	13	109	CHIRMTNB	2
113	CHIRCHIR	2	116	TANYPROC	3	131	PRODOLIV	1
132	TUBIHAIR	60	133	TUBINOHR	220	135	LCULIDAE	20

67 SILT0002

16	POTAJENK	1	26	SPHACORN	1	27	PISISPEC	5
28	EPHEDANI	1	36	CENTLUTE	4	37	CENTPENN	4
43	SIGAFALL	1	44	SIGADORS	2	62	ERPOOCTO	1
69	ASELAQUA	1	70	SIALLUTA	25	88	ATHRCINE	1
98	CERAIDAE	1	104	CHIRTSUS	24	105	CHIRPDMA	2
107	CHIRPTEN	2	109	CHIRMTNB	6	113	CHIRCHIR	4
116	TANYPROC	12	118	TANYPSEC	2	124	ORTHBICI	2

132	TUBIHAIR	11	133	TUBINOHR	22	135	LCULIDAE	6

68 SILT0003

17	BYTHTENT	1	19	PHYSFONT	1	26	SPHACORN	9
27	PISISPEC	9	36	CENTLUTE	7	43	SIGAFALL	1
44	SIGADORS	1	56	HELOLARV	2	70	SIALLUTA	28
88	ATHRCINE	1	98	CERAIDAE	2	104	CHIRTSUS	36
107	CHIRPTEN	1	109	CHIRMTNB	11	110	CHIRENDO	1
113	CHIRCHIR	16	116	TANYPROC	25	123	ORTHSYLV	1
132	TUBIHAIR	45	133	TUBINOHR	115	135	LCULIDAE	40

69 SILT0004

26	SPHACORN	3	27	PISISPEC	7	36	CENTLUTE	1
37	CENTPENN	2	43	SIGAFALL	2	44	SIGADORS	1
45	SIGAVENU	1	55	DYTILARV	1	56	HELOLARV	1
59	POLYTNIG	1	67	GAMMPULE	1	68	CRANPSEU	2
69	ASELAQUA	7	70	SIALLUTA	29	104	CHIRTSUS	21
107	CHIRPTEN	2	109	CHIRMTNB	6	113	CHIRCHIR	2
116	TANYPROC	5	118	TANYPSEC	1	132	TUBIHAIR	60
133	TUBINOHR	90	135	LCULIDAE	50			

70 SILT0005

27	PISISPEC	4	36	CENTLUTE	1	43	SIGAFALL	1
68	CRANPSEU	1	70	SIALLUTA	22	98	CERAIDAE	1
104	CHIRTSUS	11	107	CHIRPTEN	1	109	CHIRMTNB	4
114	TANYMACR	2	115	TANYABLA	1	116	TANYPROC	11
132	TUBIHAIR	50	133	TUBINOHR	30	135	LCULIDAE	20

71 RIFFLE01

1	SIMUANGL	120	3	SIMUEQUL	256	5	SIMUERYL	8
7	SIMUORNL	16	9	ELMIAENL	3	10	ELMIAENA	3
11	LIMNVOLL	3	29	EPHEIGNI	3	33	BAETRHOD	1
34	BAETSCAM	12	35	BAETVERN	1	39	LEUCNIGR	5
57	GYRILARV	1	67	GAMMPULE	87	73	HPSYPELL	2
76	RHYADORS	1	77	AGAPFUSC	1	93	DICRSPEC	34
101	HACARINA	6	105	CHIRPDMA	1	121	ORTHSYNO	6
126	ORTHECLA	1	132	TUBIHAIR	2	133	TUBINOHR	4
135	LCULIDAE	32						

72 RIFFLE02

1	SIMUANGL	22	3	SIMUEQUL	42	5	SIMUERYL	16
7	SIMUORNL	2	9	ELMIAENL	6	11	LIMNVOLL	7
12	LIMNVOLA	1	13	OULITUBL	2	24	ANCYFLUV	1
26	SPHACORN	7	28	EPHEDANI	2	29	EPHEIGNI	1
39	LEUCNIGR	1	57	GYRILARV	1	60	DENDLACT	1
67	GAMMPULE	30	73	HPSYPELL	2	93	DICRSPEC	14
105	CHIRPDMA	1	112	CHIRDEMI	1	132	TUBIHAIR	1
135	LCULIDAE	16	137	LUMBIDAE	2			

73 RIFFLE03

1	SIMUANGL	4	3	SIMUEQUL	9	5	SIMUERYL	3
7	SIMUORNL	1	11	LIMNVOLL	4	22	PLANALBU	1
34	BAETSCAM	1	61	GLOSCOMP	1	62	ERPOOCTO	1
67	GAMMPULE	12	93	DICRSPEC	10	121	ORTHSYNO	1
132	TUBIHAIR	2	134	NAIDIDAE	1	135	LCULIDAE	3
137	LUMBIDAE	1						

74 RIFFLE04

1	SIMUANGL	6	3	SIMUEQUL	22	5	SIMUERYL	6
7	SIMUORNL	2	9	ELMIAENL	2	11	LIMNVOLL	8
17	BYTHTENT	1	26	SPHACORN	4	28	EPHEDANI	1
29	EPHEIGNI	1	61	GLOSCOMP	1	67	GAMMPULE	32
73	HPSYPELL	2	76	RHYADORS	2	93	DICRSPEC	21
121	ORTHSYNO	1	132	TUBIHAIR	2	133	TUBINOHR	2
135	LCULIDAE	19						

75 RIFFLE05

1	SIMUANGL	5	3	SIMUEQUL	6	7	SIMUORNL	2
9	ELMIAENL	2	10	ELMIAENA	1	11	LIMNVOLL	15
24	ANCYFLUV	1	26	SPHACORN	3	28	EPHEDANI	2
39	LEUCNIGR	1	61	GLOSCOMP	1	62	ERPOOCTO	1
67	GAMMPULE	51	73	HPSYPELL	2	75	POLYFLAV	1
93	DICRSPEC	28	101	HACARINA	1	133	TUBINOHR	2
135	LCULIDAE	4						

76 BECCMAR1

1	SIMUANGL	3	2	SIMUANGP	1	4	SIMUEQUP	1
5	SIMUERYL	4	6	SIMUERYP	2	8	SIMUORNP	1
9	ELMIAENL	3	10	ELMIAENA	2	16	POTAJENK	21
17	BYTHTENT	2	19	PHYSFONT	18	22	PLANALBU	1
24	ANCYFLUV	8	26	SPHACORN	4	29	EPHEIGNI	9
34	BAETSCAM	4	39	LEUCNIGR	9	50	POTAELEG	2
53	HYDRGRAC	1	56	HELOLARV	1	61	GLOSCOMP	1
63	THERTESS	1	65	PISCGEOM	2	67	GAMMPULE	86
68	CRANPSEU	4	69	ASELAQUA	2	73	HPSYPELL	1
89	ATHRATER	3	90	MYSTAZUR	1	104	CHIRTSUS	4
106	CHIRPDMB	12	108	CHIRMTNA	8	110	CHIRENDO	2
114	TANYMACR	2	115	TANYABLA	4	117	TANYTHIE	4
122	ORTHRHEO	10	130	POTTLONG	1	131	PRODOLIV	1
132	TUBIHAIR	2	134	NAIDIDAE	1	135	LCULIDAE	6

77 BECCMAR2

5	SIMUERYL	6	7	SIMUORNL	1	9	ELMIAENL	2
10	ELMIAENA	2	15	VALVPISC	1	16	POTAJENK	43
17	BYTHTENT	4	19	PHYSFONT	15	21	PLANVORT	1
24	ANCYFLUV	5	26	SPHACORN	4	29	EPHEIGNI	5
34	BAETSCAM	1	36	CENTLUTE	1	39	LEUCNIGR	13
40	LEUCGENI	1	43	SIGAFALL	1	50	POTAELEG	1
55	DYTILARV	3	61	GLOSCOMP	1	63	THERTESS	1
67	GAMMPULE	55	68	CRANPSEU	4	69	ASELAQUA	1

90	MYSTAZUR	2	102	CHIRRSUS	2	104	CHIRTSUS	4
106	CHIRPDMB	19	108	CHIRMTNA	8	109	CHIRMTNB	3
110	CHIRENDO	3	115	TANYABLA	5	117	TANYTHIE	3
122	ORTHRHEO	6	123	ORTHSYLV	1	130	POTTLONG	1
134	NAIDIDAE	2	135	LCULIDAE	5			

78 BECCMAR3

5	SIMUERYL	1	9	ELMIAENL	2	16	POTAJENK	13
17	BYTHTENT	2	18	LYMNPALU	1	19	PHYSFONT	5
24	ANCYFLUV	2	26	SPHACORN	2	29	EPHEIGNI	4
39	LEUCNIGR	9	55	DYTILARV	1	57	GYRILARV	3
61	GLOSCOMP	1	63	THERTESS	1	67	GAMMPULE	26
68	CRANPSEU	1	102	CHIRRSUS	4	104	CHIRTSUS	2
106	CHIRPDMB	12	107	CHIRPTEN	2	108	CHIRMTNA	6
109	CHIRMTNB	2	115	TANYABLA	8	117	TANYTHIE	6
122	ORTHRHEO	6	123	ORTHSYLV	2			

79 BECCMAR4

1	SIMUANGL	1	2	SIMUANGP	1	5	SIMUERYL	1
8	SIMUORNP	2	16	POTAJENK	43	19	PHYSFONT	9
21	PLANVORT	1	24	ANCYFLUV	7	26	SPHACORN	6
29	EPHEIGNI	3	33	BAETRHOD	1	34	BAETSCAM	3
39	LEUCNIGR	23	40	LEUCGENI	4	55	DYTILARV	1
57	GYRILARV	9	61	GLOSCOMP	1	62	ERPOOCTO	1
63	THERTESS	5	67	GAMMPULE	49	68	CRANPSEU	4
73	HPSYPELL	1	86	SILONIGR	1	89	ATHRATER	2
102	CHIRRSUS	1	106	CHIRPDMB	7	108	CHIRMTNA	1
110	CHIRENDO	3	115	TANYABLA	3	117	TANYTHIE	3
122	ORTHRHEO	1						

80 BECCMAR5

1	SIMUANGL	4	2	SIMUANGP	1	4	SIMUEQUP	2
5	SIMUERYL	4	6	SIMUERYP	3	7	SIMUORNL	1
9	ELMIAENL	3	16	POTAJENK	11	19	PHYSFONT	6
24	ANCYFLUV	2	29	EPHEIGNI	4	30	ECDYINSI	1
34	BAETSCAM	2	39	LEUCNIGR	4	61	GLOSCOMP	1
62	ERPOOCTO	1	67	GAMMPULE	27	68	CRANPSEU	4
69	ASELAQUA	1	89	ATHRATER	1	102	CHIRRSUS	1
106	CHIRPDMB	5	110	CHIRENDO	2	115	TANYABLA	3
117	TANYTHIE	3						

81 SAGIRUN1

1	SIMUANGL	24	2	SIMUANGP	6	3	SIMUEQUL	18
4	SIMUEQUP	14	5	SIMUERYL	60	6	SIMUERYP	54
8	SIMUORNP	16	24	ANCYFLUV	3	29	EPHEIGNI	1
33	BAETRHOD	9	34	BAETSCAM	19	102	CHIRRSUS	8
106	CHIRPDMB	2	117	TANYTHIE	2	121	ORTHSYNO	36
126	ORTHECLA	4	129	ORTHTHIE	8	134	NAIDIDAE	2

82 SAGIRUN2

1	SIMUANGL	12	3	SIMUEQUL	4	4	SIMUEQUP	62

5	SIMUERYL	72	6	SIMUERYP	108.	7	SIMUORNL	4
8	SIMUORNP	22	33	BAETRHOD	35	34	BAETSCAM	145
57	GYRILARV	1	63	THERTESS	1	73	HPSYPELL	1
102	CHIRRSUS	30	104	CHIRTSUS	3	106	CHIRPDMB	6
109	CHIRMTNB	3	115	TANYABLA	3	121	ORTHSYNO	57
123	ORTHSYLV	3	126	ORTHECLA	6	129	ORTHTHIE	12

83 SAGIRUN3

1	SIMUANGL	3	2	SIMUANGP	6	3	SIMUEQUL	6
4	SIMUEQUP	24	5	SIMUERYL	18	6	SIMUERYP	12
7	SIMUORNL	1	8	SIMUORNP	16	17	BYTHTENT	1
19	PHYSFONT	1	33	BAETRHOD	40	34	BAETSCAM	160
57	GYRILARV	1	59	POLYTNIG	2	62	ERPOOCTO	1
64	HELOSTAG	1	67	GAMMPULE	3	69	ASELAQUA	1
71	HPSYCONT	1	101	HACARINA	1	102	CHIRRSUS	22
106	CHIRPDMB	6	121	ORTHSYNO	28	123	ORTHSYLV	2
126	ORTHECLA	2	129	ORTHTHIE	4			

84 SAGIRUN4

1	SIMUANGL	16	3	SIMUEQUL	24	4	SIMUEQUP	90
5	SIMUERYL	120	6	SIMUERYP	186	7	SIMUORNL	8
8	SIMUORNP	24	33	BAETRHOD	2	34	BAETSCAM	32
57	GYRILARV	1	73	HPSYPELL	4	102	CHIRRSUS	23
121	ORTHSYNO	28	123	ORTHSYLV	3	124	ORTHBICI	1
126	ORTHECLA	3	127	ORTHESPB	1	129	ORTHTHIE	3
134	NAIDIDAE	1						

85 SAGIRUN5

1	SIMUANGL	6	3	SIMUEQUL	36	4	SIMUEQUP	42
5	SIMUERYL	60	6	SIMUERYP	146	7	SIMUORNL	12
8	SIMUORNP	28	24	ANCYFLUV	4	33	BAETRHOD	32
34	BAETSCAM	70	62	ERPOOCTO	1	63	THERTESS	1
67	GAMMPULE	1	73	HPSYPELL	3	79	LEPIHIRT	1
87	SERIPERS	1	102	CHIRRSUS	44	106	CHIRPDMB	4
117	TANYTHIE	8	121	ORTHSYNO	56	123	ORTHSYLV	16
124	ORTHBICI	4	126	ORTHECLA	4	129	ORTHTHIE	4

86 GLYCMAR1

1	SIMUANGL	1	9	ELMIAENL	3	10	ELMIAENA	1
13	OULITUBL	2	17	BYTHTENT	57	19	PHYSFONT	8
21	PLANVORT	1	25	ACROLACU	2	29	EPHEIGNI	2
39	LEUCNIGR	10	51	OECHMINI	1	55	DYTILARV	1
57	GYRILARV	11	59	POLYTNIG	8	61	GLOSCOMP	1
62	ERPOOCTO	6	67	GAMMPULE	4	68	CRANPSEU	1
69	ASELAQUA	14	94	PSYCIDAE	2	106	CHIRPDMB	1
109	CHIRMTNB	1	110	CHIRENDO	1	115	TANYABLA	3
121	ORTHSYNO	2	129	ORTHTHIE	3	134	NAIDIDAE	1

87 GLYCMAR2

1	SIMUANGL	3	2	SIMUANGP	2	3	SIMUEQUL	2
5	SIMUERYL	1	6	SIMUERYP	2	9	ELMIAENL	8

17	BYTHTENT	12	19	PHYSFONT	3	21	PLANVORT	1
25	ACROLACU	2	34	BAETSCAM	2	47	HALILARV	1
53	HYDRGRAC	1	57	GYRILARV	2	59	POLYTNIG	7
61	GLOSCOMP	2	62	ERPOOCTO	10	63	THERTESS	1
67	GAMMPULE	5	69	ASELAQUA	4	94	PSYCIDAE	1
109	CHIRMTNB	2	114	TANYMACR	1	115	TANYABLA	1
121	ORTHSYNO	4	125	ORTHNANO	1	128	ORTHTVET	1

88 GLYCMAR3

2	SIMUANGP	1	9	ELMIAENL	4	17	BYTHTENT	31
19	PHYSFONT	7	21	PLANVORT	2	25	ACROLACU	3
29	EPHEIGNI	2	54	ANACLIMB	1	57	GYRILARV	7
59	POLYTNIG	8	61	GLOSCOMP	1	62	ERPOOCTO	15
63	THERTESS	1	67	GAMMPULE	8	68	CRANPSEU	1
69	ASELAQUA	5	73	HPSYPELL	4	94	PSYCIDAE	2
106	CHIRPDMB	1	121	ORTHSYNO	1	129	ORTHTHIE	1

89 GLYCMAR4

1	SIMUANGL	3	2	SIMUANGP	4	6	SIMUERYP	1
9	ELMIAENL	5	17	BYTHTENT	21	19	PHYSFONT	4
21	PLANVORT	2	25	ACROLACU	2	29	EPHEIGNI	1
51	OECHMINI	1	57	GYRILARV	11	59	POLYTNIG	7
62	ERPOOCTO	13	63	THERTESS	5	67	GAMMPULE	4
68	CRANPSEU	1	69	ASELAQUA	4	73	HPSYPELL	2
84	LIMNLUNA	1	94	PSYCIDAE	1	106	CHIRPDMB	1
110	CHIRENDO	1	117	TANYTHIE	2	121	ORTHSYNO	1
122	ORTHRHEO	1	129	ORTHTHIE	1			

90 GLYCMAR5

1	SIMUANGL	1	2	SIMUANGP	1	3	SIMUEQUL	1
9	ELMIAENL	7	13	OULITUBL	2	17	BYTHTENT	26
19	PHYSFONT	1	21	PLANVORT	1	25	ACROLACU	2
39	LEUCNIGR	2	57	GYRILARV	15	59	POLYTNIG	10
61	GLOSCOMP	2	62	ERPOOCTO	12	63	THERTESS	4
66	HEMIMARG	1	67	GAMMPULE	4	68	CRANPSEU	1
69	ASELAQUA	2	79	LEPIHIRT	2	85	LIMNRHOM	1
94	PSYCIDAE	1	96	RHAGIDAE	1	106	CHIRPDMB	3
109	CHIRMTNB	1	115	TANYABLA	1	117	TANYTHIE	1
121	ORTHSYNO	3	122	ORTHRHEO	2	125	ORTHNANO	1
129	ORTHTHIE	2						

91 GLYCROT1

9	ELMIAENL	1	17	BYTHTENT	10	19	PHYSFONT	3
21	PLANVORT	1	29	EPHEIGNI	4	39	LEUCNIGR	3
40	LEUCGENI	4	61	GLOSCOMP	1	62	ERPOOCTO	6
68	CRANPSEU	200	69	ASELAQUA	5	70	SIALLUTA	15
73	HPSYPELL	3	88	ATHRCINE	1	94	PSYCIDAE	1
98	CERAIDAE	1	104	CHIRTSUS	2	105	CHIRPDMA	7
109	CHIRMTNB	7	114	TANYMACR	4	115	TANYABLA	1
117	TANYTHIE	1	121	ORTHSYNO	3	122	ORTHRHEO	1
132	TUBIHAIR	120	133	TUBINOHR	60	135	LCULIDAE	20

92 GLYCROT2

17	BYTHTENT	5	23	PLANCONT	1	26	SPHACORN	3
27	PISISPEC	1	29	EPHEIGNI	3	39	LEUCNIGR	2
40	LEUCGENI	3	55	DYTILARV	1	59	POLYTNIG	1
61	GLOSCOMP	1	62	ERPOOCTO	5	63	THERTESS	2
67	GAMMPULE	1	68	CRANPSEU	3	69	ASELAQUA	5
70	SIALLUTA	12	73	HPSYPELL	1	105	CHIRPDMA	1
109	CHIRMTNB	2	114	TANYMACR	1	132	TUBIHAIR	42
133	TUBINOHR	42	135	LCULIDAE	16			

93 GLYCROT3

9	ELMIAENL	1	13	OULITUBL	1	17	BYTHTENT	30
19	PHYSFONT	8	26	SPHACORN	2	27	PISISPEC	1
29	EPHEIGNI	1	39	LEUCNIGR	16	40	LEUCGENI	1
47	HALILARV	1	53	HYDRGRAC	1	57	GYRILARV	6
59	POLYTNIG	4	61	GLOSCOMP	3	62	ERPOOCTO	6
63	THERTESS	1	65	PISCGEOM	1	67	GAMMPULE	6
68	CRANPSEU	16	69	ASELAQUA	47	70	SIALLUTA	2
73	HPSYPELL	1	89	ATHRATER	1	98	CERAIDAE	1
114	TANYMACR	1	115	TANYABLA	2	121	ORTHSYNO	1
122	ORTHRHEO	3	129	ORTHTHIE	3	132	TUBIHAIR	38
133	TUBINOHR	16	135	LCULIDAE	16			

94 GLYCROT4

9	ELMIAENL	3	14	OULITUBA	1	17	BYTHTENT	23
19	PHYSFONT	3	21	PLANVORT	1	23	PLANCONT	5
26	SPHACORN	4	27	PISISPEC	1	29	EPHEIGNI	2
39	LEUCNIGR	3	40	LEUCGENI	12	57	GYRILARV	2
59	POLYTNIG	7	62	ERPOOCTO	11	67	GAMMPULE	10
68	CRANPSEU	14	69	ASELAQUA	31	70	SIALLUTA	7
73	HPSYPELL	1	75	POLYFLAV	1	98	CERAIDAE	1
101	HACARINA	1	108	CHIRMTNA	1	110	CHIRENDO	1
115	TANYABLA	1	117	TANYTHIE	1	132	TUBIHAIR	28
133	TUBINOHR	4	135	LCULIDAE	5			

95 GLYCROT5

9	ELMIAENL	1	13	OULITUBL	1	17	BYTHTENT	41
19	PHYSFONT	4	26	SPHACORN	4	27	PISISPEC	3
29	EPHEIGNI	1	31	CAENLUCT	1	39	LEUCNIGR	5
40	LEUCGENI	4	47	HALILARV	2	57	GYRILARV	1
59	POLYTNIG	6	61	GLOSCOMP	4	62	ERPOOCTO	6
63	THERTESS	1	68	CRANPSEU	7	69	ASELAQUA	7
70	SIALLUTA	11	109	CHIRMTNB	2	114	TANYMACR	3
117	TANYTHIE	1	132	TUBIHAIR	17	133	TUBINOHR	15
135	LCULIDAE	6						

11. APPLICATION OF TWINSPAN TO RIVER WISSEY HABITATS, 1989

11.1 Parameters

Cut levels 0, 10, 100, 1000
Maximum of 7 indicator species to be used at each division
Maximum level of divisions = 9
Equal weights for pseudospecies levels
Pseudospecies at all levels are available as indicators
Number of samples = 95 Number of species = 137
Length of data array after defining pseudospecies is 3172
Total number of species and pseudospecies is 247

11.2 Sample classification

1. Division of the 95 items in group *

Indicator species (with pseudospecies level in brackets)

```
TUBI NOHR (1) +   TUBI HAIR (1) +   LCUL IDAE (1) +   ORTH SYNO (2)
```

There are 58 items in the negative group 2 (*0)

```
PECTRUN1   PECTRUN2   PECTRUN3   PECTRUN4   PECTRUN5   RANURUN1   RANURUN2
RANURUN3   RANURUN4   RANURUN5   LUCERUN1   LUCERUN2   LUCERUN3   LUCERUN4
LUCERUN5   BERURUN1   BERURUN2   BERURUN3   BERURUN4   BERURUN5   CLADRUN1
CLADRUN2   CLADRUN3   CLADRUN4   CLADRUN5   FONTRIF1   FONTRIF2   FONTRIF3
FONTRIF4   FONTRIF5   SPARMAR1   SPARMAR2   SPARMAR3   SPARMAR4   SPARMAR5
SCHORUN1   SCHORUN2   SCHORUN3   SCHORUN4   SCHORUN5   SCHOMAR1   SCHOMAR2
SCHOMAR3   SCHOMAR4   SCHOMAR5   BECCMAR2   BECCMAR3   BECCMAR4   BECCMAR5
SAGIRUN1   SAGIRUN2   SAGIRUN3   SAGIRUN4   SAGIRUN5   GLYCMAR2   GLYCMAR3
GLYCMAR4   GLYCMAR5
```

There are 37 items in the positive group 3 (*1)

```
GRAVEL01   GRAVEL02   GRAVEL03   GRAVEL04   GRAVEL05   SAND0001   SAND0002
SAND0003   SAND0004   SAND0005   SPARROT1   SPARROT2   SPARROT3   SPARROT4
SPARROT5   SCHOROT1   SCHOROT2   SCHOROT3   SCHOROT4   SCHOROT5   SILT0001
SILT0002   SILT0003   SILT0004   SILT0005   RIFFLE01   RIFFLE02   RIFFLE03
RIFFLE04   RIFFLE05   BECCMAR1   GLYCMAR1   GLYCROT1   GLYCROT2   GLYCROT3
GLYCROT4   GLYCROT5
```

2. Division of the 58 items in group *0

Indicator species (with pseudospecies level in brackets)

```
SIMU ERYL (2) -   BAET RHOD (1) -   SIMU ORNP (1) -   BAET SCAM (2) -
PHYS FONT (1) +   SIMU EQUP (1) -   CRAN PSEU (1) +
```

There are 32 items in the negative group 4 (*00)

```
PECTRUN1   PECTRUN2   PECTRUN3   PECTRUN4   PECTRUN5   RANURUN1   RANURUN2
RANURUN3   RANURUN4   RANURUN5   LUCERUN2   LUCERUN5   BERURUN1   BERURUN2
BERURUN3   BERURUN4   BERURUN5   CLADRUN1   CLADRUN2   CLADRUN3   CLADRUN4
CLADRUN5   SCHORUN1   SCHORUN2   SCHORUN3   SCHORUN4   SCHORUN5   SAGIRUN1
SAGIRUN2   SAGIRUN3   SAGIRUN4   SAGIRUN5
```

There are 26 items in the positive group 5 (*01)

```
LUCERUN1    LUCERUN3    LUCERUN4    FONTRIF1    FONTRIF2    FONTRIF3    FONTRIF4
FONTRIF5    SPARMAR1    SPARMAR2    SPARMAR3    SPARMAR4    SPARMAR5    SCHOMAR1
SCHOMAR2    SCHOMAR3    SCHOMAR4    SCHOMAR5    BECCMAR2    BECCMAR3    BECCMAR4
BECCMAR5    GLYCMAR2    GLYCMAR3    GLYCMAR4    GLYCMAR5
```

3. Division of the 37 items in group *1

Indicator species (with pseudospecies level in brackets)

```
DICR SPEC (1) -   SIAL LUTA (1) +   CHIR MTNB (1) +
```

There are 16 items in the negative group 6 (*10)

```
GRAVEL01    GRAVEL02    GRAVEL03    GRAVEL04    GRAVEL05    SAND0001    SAND0002
SAND0003    SAND0004    SAND0005    RIFFLE01    RIFFLE02    RIFFLE03    RIFFLE04
RIFFLE05    BECCMAR1
```

There are 21 items in the positive group 7 (*11)

```
SPARROT1    SPARROT2    SPARROT3    SPARROT4    SPARROT5    SCHOROT1    SCHOROT2
SCHOROT3    SCHOROT4    SCHOROT5    SILT0001    SILT0002    SILT0003    SILT0004
SILT0005    GLYCMAR1    GLYCROT1    GLYCROT2    GLYCROT3    GLYCROT4    GLYCROT5
```

4. Division of the 32 items in group *00

Indicator species (with pseudospecies level in brackets)

```
NAID IDAE (2) +   ORTH SYNO (3) +
```

There are 16 items in the negative group 8 (*000)

```
PECTRUN1    PECTRUN2    PECTRUN3    PECTRUN4    PECTRUN5    RANURUN1    RANURUN2
RANURUN3    RANURUN4    RANURUN5    SCHORUN1    SAGIRUN1    SAGIRUN2    SAGIRUN3
SAGIRUN4    SAGIRUN5
```

There are 16 items in the positive group 9 (*001)

```
LUCERUN2    LUCERUN5    BERURUN1    BERURUN2    BERURUN3    BERURUN4    BERURUN5
CLADRUN1    CLADRUN2    CLADRUN3    CLADRUN4    CLADRUN5    SCHORUN2    SCHORUN3
SCHORUN4    SCHORUN5
```

5. Division of the 26 items in group *01

Indicator species (with pseudospecies level in brackets)

```
HACA RINA (1) -   POTT LONG (1) -   HELO LARV (1) -
```

There are 7 items in the negative group 10 (*010)

```
LUCERUN1    LUCERUN3    FONTRIF1    FONTRIF2    FONTRIF3    FONTRIF4    FONTRIF5
```

There are 19 items in the positive group 11 (*011)

```
LUCERUN4    SPARMAR1    SPARMAR2    SPARMAR3    SPARMAR4    SPARMAR5    SCHOMAR1
SCHOMAR2    SCHOMAR3    SCHOMAR4    SCHOMAR5    BECCMAR2    BECCMAR3    BECCMAR4
BECCMAR5    GLYCMAR2    GLYCMAR3    GLYCMAR4    GLYCMAR5
```

6. Division of the 16 items in group *10

Indicator species (with pseudospecies level in brackets)

```
CHIR CLAD (1) +
```

There are 6 items in the negative group 12 (*100)

```
RIFFLE01    RIFFLE02    RIFFLE03    RIFFLE04    RIFFLE05    BECCMAR1
```

There are 10 items in the positive group 13 (*101)

```
GRAVEL01    GRAVEL02    GRAVEL03    GRAVEL04    GRAVEL05    SAND0001    SAND0002
```

```
SAND0003    SAND0004    SAND0005
```

7. Division of the 21 items in group *11

Indicator species (with pseudospecies level in brackets)

```
SIGA FALL (1) +
```

There are 16 items in the negative group 14 (*110)

```
SPARROT1    SPARROT2    SPARROT3    SPARROT4    SPARROT5    SCHOROT1    SCHOROT2
SCHOROT3    SCHOROT4    SCHOROT5    GLYCMAR1    GLYCROT1    GLYCROT2    GLYCROT3
GLYCROT4    GLYCROT5
```

There are 5 items in the positive group 15 (*111)

```
SILT0001    SILT0002    SILT0003    SILT0004    SILT0005
```

8. Division of the 16 items in group *000

Indicator species (with pseudospecies level in brackets)

```
SIMU ORNL (3) -
```

There are 11 items in the negative group 16 (*0000)

```
PECTRUN1    PECTRUN2    PECTRUN3    PECTRUN4    PECTRUN5    RANURUN1    RANURUN2
RANURUN3    RANURUN4    RANURUN5    SCHORUN1
```

There are 5 items in the positive group 17 (*0001)

```
SAGIRUN1    SAGIRUN2    SAGIRUN3    SAGIRUN4    SAGIRUN5
```

9. Division of the 16 items in group *001

Indicator species (with pseudospecies level in brackets)

```
SIMU EQUL (1) -    HPSY PELL (1) -    SIMU ERYL (2) -
```

There are 9 items in the negative group 18 (*0010)

```
BERURUN1    BERURUN2    BERURUN3    BERURUN4    BERURUN5    SCHORUN2    SCHORUN3
SCHORUN4    SCHORUN5
```

There are 7 items in the positive group 19 (*0011)

```
LUCERUN2    LUCERUN5    CLADRUN1    CLADRUN2    CLADRUN3    CLADRUN4    CLADRUN5
```

10. Division of the 7 items in group *010

Indicator species (with pseudospecies level in brackets)

```
SIMU ANGL (1) -
```

There are 5 items in the negative group 20 (*0100)

```
FONTRIF1    FONTRIF2    FONTRIF3    FONTRIF4    FONTRIF5
```

There are 2 items in the positive group 21 (*0101)

```
LUCERUN1    LUCERUN3
```

11. Division of the 19 items in group *011

Indicator species (with pseudospecies level in brackets)

```
POTA JENK (1) +
```

There are 15 items in the negative group 22 (*0110)

```
LUCERUN4    SPARMAR1    SPARMAR2    SPARMAR3    SPARMAR4    SPARMAR5    SCHOMAR1
SCHOMAR2    SCHOMAR3    SCHOMAR4    SCHOMAR5    GLYCMAR2    GLYCMAR3    GLYCMAR4
GLYCMAR5
```

There are 4 items in the positive group 23 (*0111)
BECCMAR2 BECCMAR3 BECCMAR4 BECCMAR5

12. Division of the 6 items in group *100

Indicator species (with pseudospecies level in brackets)
SIMU ANGP (1) -
There is 1 item in the negative group 24 (*1000)
BECCMAR1
There are 5 items in the positive group 25 (*1001)
RIFFLE01 RIFFLE02 RIFFLE03 RIFFLE04 RIFFLE05

13. Division of the 10 items in group *101

Indicator species (with pseudospecies level in brackets)
EPHE IGNI (1) +
There are 5 items in the negative group 26 (*1010)
SAND0001 SAND0002 SAND0003 SAND0004 SAND0005
There are 5 items in the positive group 27 (*1011)
GRAVEL01 GRAVEL02 GRAVEL03 GRAVEL04 GRAVEL05

14. Division of the 16 items in group *110

Indicator species (with pseudospecies level in brackets)
CHIR PDMA (1) +
There are 4 items in the negative group 28 (*1100)
GLYCMAR1 GLYCROT3 GLYCROT4 GLYCROT5
There are 12 items in the positive group 29 (*1101)
SPARROT1 SPARROT2 SPARROT3 SPARROT4 SPARROT5 SCHOROT1 SCHOROT2
SCHOROT3 SCHOROT4 SCHOROT5 GLYCROT1 GLYCROT2

15. Division of the 5 items in group *111

Indicator species (with pseudospecies level in brackets)
PHYS FONT (1) +
There are 3 items in the negative group 30 (*1110)
SILT0002 SILT0004 SILT0005
There are 2 items in the positive group 31 (*1111)
SILT0001 SILT0003

16. Division of the 11 items in group *0000

Indicator species (with pseudospecies level in brackets)
CHIR RSUS (1) + THER TESS (1) -
There are 8 items in the negative group 32 (*00000)
PECTRUN1 PECTRUN2 PECTRUN3 PECTRUN4 PECTRUN5 RANURUN2 RANURUN3
RANURUN5
There are 3 items in the positive group 33 (*00001)
RANURUN1 RANURUN4 SCHORUN1

17. Division of the 5 items in group *0001

Indicator species (with pseudospecies level in brackets)
BYTH TENT (1) +
There are 4 items in the negative group 34 (*00010)
SAGIRUN1 SAGIRUN2 SAGIRUN4 SAGIRUN5
There is 1 item in the positive group 35 (*00011)
SAGIRUN3

18. Division of the 9 items in group *0010

Indicator species (with pseudospecies level in brackets)
NAID IDAE (2) +
There are 4 items in the negative group 36 (*00100)
SCHORUN2 SCHORUN3 SCHORUN4 SCHORUN5
There are 5 items in the positive group 37 (*00101)
BERURUN1 BERURUN2 BERURUN3 BERURUN4 BERURUN5

19. Division of the 7 items in group *0011

Indicator species (with pseudospecies level in brackets)
CHIR RSUS (1) -
There are 2 items in the negative group 38 (*00110)
LUCERUN2 LUCERUN5
There are 5 items in the positive group 39 (*00111)
CLADRUN1 CLADRUN2 CLADRUN3 CLADRUN4 CLADRUN5

20. Division of the 5 items in group *0100

Indicator species (with pseudospecies level in brackets)
OULI TUBL (1) +
There are 2 items in the negative group 40 (*01000)
FONTRIF1 FONTRIF2
There are 3 items in the positive group 41 (*01001)
FONTRIF3 FONTRIF4 FONTRIF5

22. Division of the 15 items in group *0110

Indicator species (with pseudospecies level in brackets)
ACRO LACU (1) +
There are 6 items in the negative group 44 (*01100)
LUCERUN4 SPARMAR1 SPARMAR2 SPARMAR3 SPARMAR4 SPARMAR5
There are 9 items in the positive group 45 (*01101)
SCHOMAR1 SCHOMAR2 SCHOMAR3 SCHOMAR4 SCHOMAR5 GLYCMAR2 GLYCMAR3
GLYCMAR4 GLYCMAR5

25. Division of the 5 items in group *1001

Indicator species (with pseudospecies level in brackets)
BAET RHOD (1) -
There is 1 item in the negative group 50 (*10010)
RIFFLE01
There are 4 items in the positive group 51 (*10011)
RIFFLE02 RIFFLE03 RIFFLE04 RIFFLE05

26. Division of the 5 items in group *1010

Indicator species (with pseudospecies level in brackets)
HACA RINA (1) -
There is 1 item in the negative group 52 (*10100)
SAND0001
There are 4 items in the positive group 53 (*10101)
SAND0002 SAND0003 SAND0004 SAND0005

27. Division of the 5 items in group *1011

Indicator species (with pseudospecies level in brackets)
ELMI AENL (1) -
There are 4 itms in the negative group 54 (*10110)
GRAVEL01 GRAVEL03 GRAVEL04 GRAVEL05
There is 1 item in the positive group 55 (*10111)
GRAVEL02

29. Division of the 12 items in group *1101

Indicator species (with pseudospecies level in brackets)
CERA IDAE (1) - EPHE DANI (1) +
There are 8 items in the negative group 58 (*11010)
SPARROT4 SCHOROT1 SCHOROT2 SCHOROT3 SCHOROT4 SCHOROT5 GLYCROT1
GLYCROT2
There are 4 items in the positive group 59 (*11011)
SPARROT1 SPARROT2 SPARROT3 SPARROT5

32. Division of the 8 items in group *00000

Indicator species (with pseudospecies level in brackets)
ORTH TVET (2) -
There are 2 items in the negative group 64 (*000000)
RANURUN2 RANURUN5
There are 6 items in the positive group 65 (*000001)
PECTRUN1 PECTRUN2 PECTRUN3 PECTRUN4 PECTRUN5 RANURUN3

37. Division of the 5 items in group *00101

Indicator species (with pseudospecies level in brackets)
LIMN VOLL (1) -
There are 3 items in the negative group 74 (*001010)
BERURUN1 BERURUN4 BERURUN5
There are 2 items in the positive group 75 (*001011)
BERURUN2 BERURUN3

39. Division of the 5 items in group *00111

Indicator species (with pseudospecies level in brackets)
ELMI AENL (1) +
There are 4 items in the negative group 78 (*001110)
CLADRUN2 CLADRUN3 CLADRUN4 CLADRUN5
There is 1 item in the positive group 79 (*001111)
CLADRUN1

44. Division of the 6 items in group *01100

Indicator species (with pseudospecies level in brackets)
PLAN ALBU (1) -
There is 1 item in the negative group 88 (*011000)
LUCERUN4
There are 5 items in the positive group 89 (*011001)
SPARMAR1 SPARMAR2 SPARMAR3 SPARMAR4 SPARMAR5

45. Division of the 9 items in group *01101

Indicator species (with pseudospecies level in brackets)
ELMI AENL (1) +
There are 5 items in the negative group 90 (*011010)
SCHOMAR1 SCHOMAR2 SCHOMAR3 SCHOMAR4 SCHOMAR5
There are 4 items in the positive group 91 (*011011)
GLYCMAR2 GLYCMAR3 GLYCMAR4 GLYCMAR5

58. Division of the 8 items in group *11010

Indicator species (with pseudospecies level in brackets)
TANY ABLA (1) -
There are 2 items in the negative group 116 (*110100)
SCHOROT5 GLYCROT1
There are 6 items in the positive group 117 (*110101)
SPARROT4 SCHOROT1 SCHOROT2 SCHOROT3 SCHOROT4 GLYCROT2

65. Division of the 6 items in group *000001

Indicator species (with pseudospecies level in brackets)
EPHE IGNI (1) -

There are 4 items in the negative group 130 (*0000010)
PECTRUN3 PECTRUN4 PECTRUN5 RANURUN3
There are 2 items in the positive group 131 (*0000011)
PECTRUN1 PECTRUN2

89. Division of the 5 items in group *011001

Indicator species (with pseudospecies level in brackets)
SIMU ANGL (1) +
There is 1 item in the negative group 178 (*0110010)
SPARMAR2
There are 4 items in the positive group 179 (*0110011)
SPARMAR1 SPARMAR3 SPARMAR4 SPARMAR5

90. Division of the 5 items in group *011010

Indicator species (with pseudospecies level in brackets)
GLOS COMP (1) -
There are 3 items in the negative group 180 (*0110100)
SCHOMAR2 SCHOMAR4 SCHOMAR5
There are 2 items in the positive group 181 (*0110101)
SCHOMAR1 SCHOMAR3

117. Division of the 6 items in group *110101

Indicator species (with pseudospecies level in brackets)
BYTH TENT (1) + PHYS FONT (1) +
There are 3 items in the negative group 234 (*1101010)
SCHOROT1 SCHOROT2 SCHOROT3
There are 3 items in the positive group 235 (*1101011)
SPARROT4 SCHOROT4 GLYCROT2

11.3 Species classification

1. Division of the 137 items in group *

There are 70 items in the negative group 2 (*0)

SIMU ANGL	SIMU ANGP	SIMU EQUL	SIMU EQUP	SIMU ERYL	SIMU ERYP
SIMU ORNL	SIMU ORNP	ELMI AENL	ELMI AENA	OULI TUBA	VALV PISC
LYMN PALU	PHYS FONT	PLAN CARI	PLAN VORT	PLAN ALBU	ANCY FLUV
ACRO LACU	EPHE IGNI	CAEN LUCT	BAET RHOD	BAET SCAM	CLOE DIPT
NEMO SPEC	CORI NYMP	CALL PRAE	HALI FLUV	HELO LIVI	ANAC LIMB
DUGE LUGU	POLY TNIG	ERPO OCTO	THER TESS	HEMI MARG	HPSY CONT
HPSY SILT	HPSY PELL	HPSY ANGU	POLY FLAV	HPTL SPEC	LEPI HIRT
LIMN LUNA	LIMN RHOM	SILO NIGR	MYST AZUR	EPHY IDAE	TIPU IDAE
MUSC IDAE	RHAG IDAE	ANOP SPEC	DIXX IDAE	HACA RINA	CHIR RSUS
CHIR PDMB	CHIR MTNA	CHIR ENDO	TANY THIE	ORTH CORY	ORTH SYNO
ORTH RHEO	ORTH SYLV	ORTH BICI	ORTH NANO	ORTH ECLA	ORTH ESPB
ORTH TVET	ORTH THIE	POTT LONG	NAID IDAE		

There are 67 items in the positive group 3 (*1)

LIMN VOLL	LIMN VOLA	OULI TUBL	POTA JENK	BYTH TENT	PLAN CONT
SPHA CORN	PISI SPEC	EPHE DANI	ECDY INSI	CAEN RIVU	BAET VERN
CENT LUTE	CENT PENN	LEUC NIGR	LEUC GENI	SIGA FALL	SIGA DORS
SIGA VENU	HALI LARV	BRYC ELEV	POTA ELEG	OECH MINI	HYDR GRAC
DYTI LARV	HELO LARV	GYRI LARV	DEND LACT	GLOS COMP	HELO STAG
PISC GEOM	GAMM PULE	CRAN PSEU	ASEL AQUA	SIAL LUTA	RHYA DORS
AGAP FUSC	HALE RADI	POTA ROTU	CHAE VILL	ANAB NERV	SERI PERS
ATHR CINE	ATHR ATER	DICR SPEC	PSYC IDAE	TABA IDAE	CERA IDAE
CHIR CLAD	CHIR TSUS	CHIR PDMA	CHIR PTEN	CHIR MTNB	CHIR CRYP
CHIR DEMI	CHIR CHIR	TANY MACR	TANY ABLA	TANY PROC	TANY PSEC
ORTH EPOI	PROD OLIV	TUBI HAIR	TUBI NOHR	LCUL IDAE	HTAX IDAE
LUMB IDAE					

2. Division of the 70 items in group *0

There are 51 items in the negative group 4 (*00)

SIMU ANGL	SIMU ANGP	SIMU EQUL	SIMU EQUP	SIMU ERYL	SIMU ERYP
SIMU ORNL	SIMU ORNP	VALV PISC	LYMN PALU	PLAN CARI	ANCY FLUV
ACRO LACU	BAET RHOD	BAET SCAM	CLOE DIPT	NEMO SPEC	CORI NYMP
CALL PRAE	HALI FLUV	HELO LIVI	ANAC LIMB	DUGE LUGU	THER TESS
HEMI MARG	HPSY CONT	HPSY SILT	HPSY ANGU	HPTL SPEC	LIMN LUNA
LIMN RHOM	SILO NIGR	EPHY IDAE	MUSC IDAE	ANOP SPEC	DIXX IDAE
HACA RINA	CHIR RSUS	CHIR PDMB	ORTH CORY	ORTH SYNO	ORTH RHEO
ORTH SYLV	ORTH BICI	ORTH NANO	ORTH ECLA	ORTH ESPB	ORTH TVET
ORTH THIE	POTT LONG	NAID IDAE			

There are 19 items in the positive group 5 (*01)

ELMI AENL	ELMI AENA	OULI TUBA	PHYS FONT	PLAN VORT	PLAN ALBU
EPHE IGNI	CAEN LUCT	POLY TNIG	ERPO OCTO	HPSY PELL	POLY FLAV
LEPI HIRT	MYST AZUR	TIPU IDAE	RHAG IDAE	CHIR MTNA	CHIR ENDO
TANY THIE					

3. Division of the 67 items in group *1

There are 16 items in the negative group 6 (*10)

POTA JENK	BYTH TENT	ECDY INSI	HALI LARV	OECH MINI	HELO LARV
GYRI LARV	DEND LACT	GLOS COMP	HELO STAG	GAMM PULE	CRAN PSEU
HALE RADI	ANAB NERV	PSYC IDAE	TANY ABLA		

There are 51 items in the positive group 7 (*11)

LIMN VOLL	LIMN VOLA	OULI TUBL	PLAN CONT	SPHA CORN	PISI SPEC
EPHE DANI	CAEN RIVU	BAET VERN	CENT LUTE	CENT PENN	LEUC NIGR
LEUC GENI	SIGA FALL	SIGA DORS	SIGA VENU	BRYC ELEV	POTA ELEG
HYDR GRAC	DYTI LARV	PISC GEOM	ASEL AQUA	SIAL LUTA	RHYA DORS
AGAP FUSC	POTA ROTU	CHAE VILL	SERI PERS	ATHR CINE	ATHR ATER
DICR SPEC	TABA IDAE	CERA IDAE	CHIR CLAD	CHIR TSUS	CHIR PDMA
CHIR PTEN	CHIR MTNB	CHIR CRYP	CHIR DEMI	CHIR CHIR	TANY MACR
TANY PROC	TANY PSEC	ORTH EPOI	PROD OLIV	TUBI HAIR	TUBI NOHR
LCUL IDAE	HTAX IDAE	LUMB IDAE			

4. Division of the 51 items in group *00

There are 22 items in the negative group 8 (*000)

SIMU ANGP	SIMU EQUP	SIMU ERYL	SIMU ERYP	SIMU ORNL	SIMU ORNP

```
BAET RHOD    CLOE DIPT    CALL PRAE    HELO LIVI    HPSY CONT    HPSY SILT
HPSY ANGU    HPTL SPEC    EPHY IDAE    MUSC IDAE    CHIR RSUS    ORTH SYLV
ORTH BICI    ORTH ECLA    ORTH TVET    ORTH THIE
```

There are 29 items in the positive group 9 (*001)

```
SIMU ANGL    SIMU EQUL    VALV PISC    LYMN PALU    PLAN CARI    ANCY FLUV
ACRO LACU    BAET SCAM    NEMO SPEC    CORI NYMP    HALI FLUV    ANAC LIMB
DUGE LUGU    THER TESS    HEMI MARG    LIMN LUNA    LIMN RHOM    SILO NIGR
ANOP SPEC    DIXX IDAE    HACA RINA    CHIR PDMB    ORTH CORY    ORTH SYNO
ORTH RHEO    ORTH NANO    ORTH ESPB    POTT LONG    NAID IDAE
```

5. Division of the 19 items in group *01

There are 4 items in the negative group 10 (*010)

```
PLAN VORT    LEPI HIRT    RHAG IDAE    CHIR MTNA
```

There are 15 items in the positive group 11 (*011)

```
ELMI AENL    ELMI AENA    OULI TUBA    PHYS FONT    PLAN ALBU    EPHE IGNI
CAEN LUCT    POLY TNIG    ERPO OCTO    HPSY PELL    POLY FLAV    MYST AZUR
TIPU IDAE    CHIR ENDO    TANY THIE
```

6. Division of the 16 items in group *10

There are 8 items in the negative group 12 (*100)

```
BYTH TENT    HALI LARV    OECH MINI    GYRI LARV    GLOS COMP    HELO STAG
CRAN PSEU    PSYC IDAE
```

There are 8 items in the positive group 13 (*101)

```
POTA JENK    ECDY INSI    HELO LARV    DEND LACT    GAMM PULE    HALE RADI
ANAB NERV    TANY ABLA
```

7. Division of the 51 items in group *11

There are 23 items in the negative group 14 (*110)

```
LIMN VOLL    LIMN VOLA    SPHA CORN    EPHE DANI    BAET VERN    LEUC NIGR
BRYC ELEV    POTA ELEG    HYDR GRAC    RHYA DORS    AGAP FUSC    POTA ROTU
CHAE VILL    SERI PERS    ATHR CINE    DICR SPEC    TABA IDAE    CHIR CLAD
CHIR CRYP    CHIR DEMI    ORTH EPOI    HTAX IDAE    LUMB IDAE
```

There are 28 items in the positive group 15 (*111)

```
OULI TUBL    PLAN CONT    PISI SPEC    CAEN RIVU    CENT LUTE    CENT PENN
LEUC GENI    SIGA FALL    SIGA DORS    SIGA VENU    DYTI LARV    PISC GEOM
ASEL AQUA    SIAL LUTA    ATHR ATER    CERA IDAE    CHIR TSUS    CHIR PDMA
CHIR PTEN    CHIR MTNB    CHIR CHIR    TANY MACR    TANY PROC    TANY PSEC
PROD OLIV    TUBI HAIR    TUBI NOHR    LCUL IDAE
```

8. Division of the 22 items in group *000

There are 17 items in the negative group 16 (*0000)

```
SIMU EQUP    SIMU ERYL    SIMU ERYP    SIMU ORNL    SIMU ORNP    BAET RHOD
CLOE DIPT    CALL PRAE    HELO LIVI    HPSY CONT    HPSY SILT    HPTL SPEC
EPHY IDAE    MUSC IDAE    CHIR RSUS    ORTH SYLV    ORTH ECLA
```

There are 5 items in the positive group 17 (*0001)

```
SIMU ANGP    HPSY ANGU    ORTH BICI    ORTH TVET    ORTH THIE
```

9. Division of the 29 items in group *001

There are 9 items in the negative group 18 (*0010)

```
SIMU ANGL   SIMU EQUL   ANCY FLUV   BAET SCAM   THER TESS   HACA RINA
ORTH SYNO   ORTH RHEO   NAID IDAE
```

There are 20 items in the positive group 19 (*0011)

```
VALV PISC   LYMN PALU   PLAN CARI   ACRO LACU   NEMO SPEC   CORI NYMP
HALI FLUV   ANAC LIMB   DUGE LUGU   HEMI MARG   LIMN LUNA   LIMN RHOM
SILO NIGR   ANOP SPEC   DIXX IDAE   CHIR PDMB   ORTH CORY   ORTH NANO
ORTH ESPB   POTT LONG
```

11. Division of the 15 items in group *011

There are 4 items in the negative group 22 (*0110)

```
EPHE IGNI   CAEN LUCT   HPSY PELL   TIPU IDAE
```

There are 11 items in the positive group 23 (*0111)

```
ELMI AENL   ELMI AENA   OULI TUBA   PHYS FONT   PLAN ALBU   POLY TNIG
ERPO OCTO   POLY FLAV   MYST AZUR   CHIR ENDO   TANY THIE
```

12. Division of the 8 items in group *100

There are 6 items in the negative group 24 (*1000)

```
BYTH TENT   HALI LARV   OECH MINI   GYRI LARV   HELO STAG   PSYC IDAE
```

There are 2 items in the positive group 25 (*1001)

```
GLOS COMP   CRAN PSEU
```

13. Division of the 8 items in group *101

There are 6 items in the negative group 26 (*1010)

```
POTA JENK   ECDY INSI   DEND LACT   HALE RADI   ANAB NERV   TANY ABLA
```

There are 2 items in the positive group 27 (*1011)

```
HELO LARV   GAMM PULE
```

14. Division of the 23 items in group *110

There are 4 items in the negative group 28 (*1100)

```
SPHA CORN   LEUC NIGR   POTA ELEG   HYDR GRAC
```

There are 19 items in the positive group 29 (*1101)

```
LIMN VOLL   LIMN VOLA   EPHE DANI   BAET VERN   BRYC ELEV   RHYA DORS
AGAP FUSC   POTA ROTU   CHAE VILL   SERI PERS   ATHR CINE   DICR SPEC
TABA IDAE   CHIR CLAD   CHIR CRYP   CHIR DEMI   ORTH EPOI   HTAX IDAE
LUMB IDAE
```

15. Division of the 28 items in group *111

There are 10 items in the negative group 30 (*1110)

```
OULI TUBL   PLAN CONT   LEUC GENI   DYTI LARV   PISC GEOM   ASEL AQUA
ATHR ATER   CHIR TSUS   CHIR PTEN   CHIR MTNB
```

There are 18 items in the positive group 31 (*1111)

```
PISI SPEC    CAEN RIVU    CENT LUTE    CENT PENN    SIGA FALL    SIGA DORS
SIGA VENU    SIAL LUTA    CERA IDAE    CHIR PDMA    CHIR CHIR    TANY MACR
TANY PROC    TANY PSEC    PROD OLIV    TUBI HAIR    TUBI NOHR    LCUL IDAE
```

16. Division of the 17 items in group *0000

There are 8 items in the negative group 32 (*00000)

```
SIMU EQUP    SIMU ERYL    SIMU ERYP    SIMU ORNL    SIMU ORNP    CALL PRAE
HPSY CONT    HPSY SILT
```

There are 9 items in the positive group 33 (*00001)

```
BAET RHOD    CLOE DIPT    HELO LIVI    HPTL SPEC    EPHY IDAE    MUSC IDAE
CHIR RSUS    ORTH SYLV    ORTH ECLA
```

17. Division of the 5 items in group *0001

There are 3 items in the negative group 34 (*00010)

```
SIMU ANGP    ORTH TVET    ORTH THIE
```

There are 2 items in the positive group 35 (*00011)

```
HPSY ANGU    ORTH BICI
```

18. Division of the 9 items in group *0010

There are 6 items in the negative group 36 (*00100)

```
SIMU ANGL    SIMU EQUL    BAET SCAM    HACA RINA    ORTH SYNO    NAID IDAE
```

There are 3 items in the positive group 37 (*00101)

```
ANCY FLUV    THER TESS    ORTH RHEO
```

19. Division of the 20 items in group *0011

There are 5 items in the negative group 38 (*00110)

```
CORI NYMP    DUGE LUGU    CHIR PDMB    ORTH CORY    POTT LONG
```

There are 15 items in the positive group 39 (*00111)

```
VALV PISC    LYMN PALU    PLAN CARI    ACRO LACU    NEMO SPEC    HALI FLUV
ANAC LIMB    HEMI MARG    LIMN LUNA    LIMN RHOM    SILO NIGR    ANOP SPEC
DIXX IDAE    ORTH NANO    ORTH ESPB
```

23. Division of the 11 items in group *0111

There are 7 items in the negative group 46 (*01110)

```
ELMI AENL    ELMI AENA    OULI TUBA    PLAN ALBU    POLY FLAV    MYST AZUR
TANY THIE
```

There are 4 items in the positive group 47 (*01111)

```
PHYS FONT    POLY TNIG    ERPO OCTO    CHIR ENDO
```

24. Division of the 6 items in group *1000

There are 3 items in the negative group 48 (*10000)

```
BYTH TENT    GYRI LARV    PSYC IDAE
```

There are 3 items in the positive group 49 (*10001)
HALI LARV OECH MINI HELO STAG

26. Division of the 6 items in group *1010

There are 5 items in the negative group 52 (*10100)
POTA JENK ECDY INSI DEND LACT HALE RADI ANAB NERV
There is 1 item in the positive group 53 (*10101)
TANY ABLA

29. Division of the 19 items in group *1101

There are 2 items in the negative group 58 (*11010)
BAET VERN RHYA DORS
There are 17 items in the positive group 59 (*11011)
LIMN VOLL LIMN VOLA EPHE DANI BRYC ELEV AGAP FUSC POTA ROTU
CHAE VILL SERI PERS ATHR CINE DICR SPEC TABA IDAE CHIR CLAD
CHIR CRYP CHIR DEMI ORTH EPOI HTAX IDAE LUMB IDAE

30. Division of the 10 items in group *1110

There are 4 items in the negative group 60 (*11100)
OULI TUBL LEUC GENI PISC GEOM CHIR MTNB
There are 6 items in the positive group 61 (*11101)
PLAN CONT DYTI LARV ASEL AQUA ATHR ATER CHIR TSUS CHIR PTEN

31. Division of the 18 items in group *1111

There are 5 items in the negative group 62 (*11110)
PISI SPEC CERA IDAE PROD OLIV TUBI HAIR LCUL IDAE
There are 13 items in the positive group 63 (*11111)
CAEN RIVU CENT LUTE CENT PENN SIGA FALL SIGA DORS SIGA VENU
SIAL LUTA CHIR PDMA CHIR CHIR TANY MACR TANY PROC TANY PSEC
TUBI NOHR

32. Division of the 8 items in group *00000

There are 6 items in the negative group 64 (*000000)
SIMU EQUP SIMU ORNL SIMU ORNP CALL PRAE HPSY CONT HPSY SILT
There are 2 items in the positive group 65 (*000001)
SIMU ERYL SIMU ERYP

33. Division of the 9 items in group *00001

There are 8 items in the negative group 66 (*000010)
BAET RHOD CLOE DIPT HELO LIVI HPTL SPEC EPHY IDAE MUSC IDAE
ORTH SYLV ORTH ECLA
There is 1 item in the positive group 67 (*000011)
CHIR RSUS

36. Division of the 6 items in group *00100

There is 1 item in the negative group 72 (*001000)
HACA RINA
There are 5 items in the positive group 73 (*001001)
SIMU ANGL SIMU EQUL BAET SCAM ORTH SYNO NAID IDAE

38. Division of the 5 items in group *00110

There are 2 items in the negative group 76 (*001100)
CHIR PDMB ORTH CORY
There are 3 items in the positive group 77 (*001101)
CORI NYMP DUGE LUGU POTT LONG

39. Division of the 15 items in group *00111

There are 5 items in the negative group 78 (*001110)
PLAN CARI NEMO SPEC LIMN RHOM ANOP SPEC ORTH ESPB
There are 10 items in the positive group 79 (*001111)
VALV PISC LYMN PALU ACRO LACU HALI FLUV ANAC LIMB HEMI MARG
LIMN LUNA SILO NIGR DIXX IDAE ORTH NANO

46. Division of the 7 items in group *01110

There are 5 items in the negative group 92 (*011100)
ELMI AENL ELMI AENA OULI TUBA PLAN ALBU MYST AZUR
There are 2 items in the positive group 93 (*011101)
POLY FLAV TANY THIE

52. Division of the 5 items in group *10100

There are 3 items in the negative group 104 (*101000)
DEND LACT HALE RADI ANAB NERV
There are 2 items in the positive group 105 (*101001)
POTA JENK ECDY INSI

59. Division of the 17 items in group *11011

There is 1 item in the negative group 118 (*110110)
ATHR CINE
There are 16 items in the positive group 119 (*110111)
LIMN VOLL LIMN VOLA EPHE DANI BRYC ELEV AGAP FUSC POTA ROTU
CHAE VILL SERI PERS DICR SPEC TABA IDAE CHIR CLAD CHIR CRYP
CHIR DEMI ORTH EPOI HTAX IDAE LUMB IDAE

61. Division of the 6 items in group *11101

There are 5 items in the negative group 122 (*111010)
PLAN CONT DYTI LARV ASEL AQUA ATHR ATER CHIR PTEN

There is 1 item in the positive group 123 (*111011)
CHIR TSUS

62. Division of the 5 items in group *11110

There is 1 item in the negative group 124 (*111100)
LCUL IDAE
There are 4 items in the positive group 125 (*111101)
PISI SPEC CERA IDAE PROD OLIV TUBI HAIR

63. Division of the 13 items in group *11111

There are 4 items in the negative group 126 (*111110)
SIAL LUTA CHIR PDMA TANY MACR TUBI NOHR
There are 9 items in the positive group 127 (*111111)
CAEN RIVU CENT LUTE CENT PENN SIGA FALL SIGA DORS SIGA VENU
CHIR CHIR TANY PROC TANY PSEC

64. Division of the 6 items in group *000000

There are 3 items in the negative group 128 (*0000000)
CALL PRAE HPSY CONT HPSY SILT
There are 3 items in the positive group 129 (*0000001)
SIMU EQUP SIMU ORNL SIMU ORNP

66. Division of the 8 items in group *000010

There are 2 items in the negative group 132 (*0000100)
BAET RHOD ORTH ECLA
There are 6 items in the positive group 133 (*0000101)
CLOE DIPT HELO LIVI HPTL SPEC EPHY IDAE MUSC IDAE ORTH SYLV

73. Division of the 5 items in group *001001

There are 2 items in the negative group 146 (*0010010)
SIMU ANGL SIMU EQUL
There are 3 items in the positive group 147 (*0010011)
BAET SCAM ORTH SYNO NAID IDAE

78. Division of the 5 items in group *001110

There are 4 items in the negative group 156 (*0011100)
PLAN CARI NEMO SPEC ANOP SPEC ORTH ESPB
There is 1 item in the positive group 157 (*0011101)
LIMN RHOM

79. Division of the 10 items in group *001111

There is 1 item in the negative group 158 (*0011110)
ORTH NANO
There are 9 items in the positive group 159 (*0011111)
VALV PISC LYMN PALU ACRO LACU HALI FLUV ANAC LIMB HEMI MARG
LIMN LUNA SILO NIGR DIXX IDAE

92. Division of the 5 items in group *011100

There are 3 items in the negative group 184 (*0111000)
OULI TUBA PLAN ALBU MYST AZUR
There are 2 items in the positive group 185 (*0111001)
ELMI AENL ELMI AENA

119. Division of the 16 items in group *110111

There are 15 items in the negative group 238 (*1101110)
LIMN VOLL LIMN VOLA BRYC ELEV AGAP FUSC POTA ROTU CHAE VILL
SERI PERS DICR SPEC TABA IDAE CHIR CLAD CHIR CRYP CHIR DEMI
ORTH EPOI HTAX IDAE LUMB IDAE
There is 1 item in the positive group 239 (*1101111)
EPHE DANI

122. Division of the 5 items in group *111010

There are 2 items in the negative group 244 (*1110100)
DYTI LARV ATHR ATER
There are 3 items in the positive group 245 (*1110101)
PLAN CONT ASEL AQUA CHIR PTEN

127. Division of the 9 items in group *111111

There is 1 item in the negative group 254 (*1111110)
TANY PROC
There are 8 items in the positive group 255 (*1111111)
CAEN RIVU CENT LUTE CENT PENN SIGA FALL SIGA DORS SIGA VENU
CHIR CHIR TANY PSEC

133. Division of the 6 items in group *0000101

There is 1 item in the negative group 266 (*00001010)
ORTH SYLV
There are 5 items in the positive group 267 (*00001011)
CLOE DIPT HELO LIVI HPTL SPEC EPHY IDAE MUSC IDAE

159. Division of the 9 items in group *0011111

There are 6 items in the negative group 318 (*00111110)
ACRO LACU HALI FLUV ANAC LIMB HEMI MARG LIMN LUNA DIXX IDAE
There are 3 items in the positive group 319 (*00111111)
VALV PISC LYMN PALU SILO NIGR

238. Division of the 15 items in group *1101110

There are 11 items in the negative group 476 (*11011100)
LIMN VOLA BRYC ELEV POTA ROTU CHAE VILL SERI PERS TABA IDAE
CHIR CLAD CHIR CRYP CHIR DEMI ORTH EPOI HTAX IDAE
There are 4 items in the positive group 477 (*11011101)
LIMN VOLL AGAP FUSC DICR SPEC LUMB IDAE

255. Division of the 8 items in group *1111111

There are 7 items in the negative group 510 (*11111110)
CAEN RIVU CENT PENN SIGA FALL SIGA DORS SIGA VENU CHIR CHIR
TANY PSEC
There is 1 item in the positive group 511 (*11111111)
CENT LUTE

267. Division of the 5 items in group *00001011

There is 1 item in the negative group 534 (*000010110)
HPTL SPEC
There are 4 items in the positive group 535 (*000010111)
CLOE DIPT HELO LIVI EPHY IDAE MUSC IDAE

318. Division of the 6 items in group *00111110

There are 2 items in the negative group 636 (*001111100)
ACRO LACU HALI FLUV
There are 4 items in the positive group 637 (*001111101)
ANAC LIMB HEMI MARG LIMN LUNA DIXX IDAE

476. Division of the 11 items in group *11011100

There are 7 items in the negative group 952 (*110111000)
BRYC ELEV POTA ROTU CHAE VILL SERI PERS TABA IDAE CHIR CLAD
HTAX IDAE
There are 4 items in the positive group 953 (*110111001)
LIMN VOLA CHIR CRYP CHIR DEMI ORTH EPOI

510. Division of the 7 items in group *11111110

There are 6 items in the negative group 1020 (*111111100)
CAEN RIVU CENT PENN SIGA DORS SIGA VENU CHIR CHIR TANY PSEC

There is 1 item in the positive group 1021 (*111111101)
SIGA FALL

11.4 Order of species and samples when tabulated (read left-right, top-bottom)

11.4.1 Species

46	CALL PRAE	71	HPSY CONT	72	HPSY SILT	4	SIMU EQUP
7	SIMU ORNL	8	SIMU ORNP	5	SIMU ERYL	6	SIMU ERYP
33	BAET RHOD	126	ORTH ECLA	123	ORTH SYLV	78	HPTL SPEC
38	CLOE DIPT	52	HELO LIVI	91	EPHY IDAE	95	MUSC IDAE
102	CHIR RSUS	2	SIMU ANGP	128	ORTH TVET	129	ORTH THIE
74	HPSY ANGU	124	ORTH BICI	101	HACA RINA	1	SIMU ANGL
3	SIMU EQUL	34	BAET SCAM	121	ORTH SYNO	134	NAID IDAE
24	ANCY FLUV	63	THER TESS	122	ORTH RHEO	106	CHIR PDMB
120	ORTH CORY	42	CORI NYMP	58	DUGE LUGU	130	POTT LONG
20	PLAN CARI	41	NEMO SPEC	99	ANOP SPEC	127	ORTH ESPB
85	LIMN RHOM	125	ORTH NANO	25	ACRO LACU	48	HALI FLUV
54	ANAC LIMB	66	HEMI MARG	84	LIMN LUNA	100	DIXX IDAE
15	VALV PISC	18	LYMN PALU	86	SILO NIGR	21	PLAN VORT
79	LEPI HIRT	96	RHAG IDAE	108	CHIR MTNA	29	EPHE IGNI
31	CAEN LUCT	73	HPSY PELL	92	TIPU IDAE	14	OULI TUBA
22	PLAN ALBU	90	MYST AZUR	9	ELMI AENL	10	ELMI AENA
75	POLY FLAV	117	TANY THIE	19	PHYS FONT	59	POLY TNIG
62	ERPO OCTO	110	CHIR ENDO	17	BYTH TENT	57	GYRI LARV
94	PSYC IDAE	47	HALI LARV	51	OECH MINI	64	HELO STAG
61	GLOS COMP	68	CRAN PSEU	60	DEND LACT	80	HALE RADI
83	ANAB NERV	16	POTA JENK	30	ECDY INSI	115	TANY ABLA
56	HELO LARV	67	GAMM PULE	26	SPHA CORN	39	LEUC NIGR
50	POTA ELEG	53	HYDR GRAC	35	BAET VERN	76	RHYA DORS
88	ATHR CINE	49	BRYC ELEV	81	POTA ROTU	82	CHAE VILL
87	SERI PERS	97	TABA IDAE	103	CHIR CLAD	136	HTAX IDAE
12	LIMN VOLA	111	CHIR CRYP	112	CHIR DEMI	119	ORTH EPOI
11	LIMN VOLL	77	AGAP FUSC	93	DICR SPEC	137	LUMB IDAE
28	EPHE DANI	13	OULI TUBL	40	LEUC GENI	65	PISC GEOM
109	CHIR MTNB	55	DYTI LARV	89	ATHR ATER	23	PLAN CONT
69	ASEL AQUA	107	CHIR PTEN	104	CHIR TSUS	135	LCUL IDAE
27	PISI SPEC	98	CERA IDAE	131	PROD OLIV	132	TUBI HAIR
70	SIAL LUTA	105	CHIR PDMA	114	TANY MACR	133	TUBI NOHR
116	TANY PROC	32	CAEN RIVU	37	CENT PENN	44	SIGA DORS
45	SIGA VENU	113	CHIR CHIR	118	TANY PSEC	43	SIGA FALL
36	CENT LUTE						

11.4.2 Samples

17	RANURUN2	20	RANURUN5	13	PECTRUN3	14	PECTRUN4
15	PECTRUN5	18	RANURUN3	11	PECTRUN1	12	PECTRUN2
16	RANURUN1	19	RANURUN4	51	SCHORUN1	81	SAGIRUN1
82	SAGIRUN2	84	SAGIRUN4	85	SAGIRUN5	83	SAGIRUN3
52	SCHORUN2	53	SCHORUN3	54	SCHORUN4	55	SCHORUN5
26	BERURUN1	29	BERURUN4	30	BERURUN5	27	BERURUN2

28	BERURUN3	22	LUCERUN2	25	LUCERUN5	32	CLADRUN2
33	CLADRUN3	34	CLADRUN4	35	CLADRUN5	31	CLADRUN1
36	FONTRIF1	37	FONTRIF2	38	FONTRIF3	39	FONTRIF4
40	FONTRIF5	21	LUCERUN1	23	LUCERUN3	24	LUCERUN4
42	SPARMAR2	41	SPARMAR1	43	SPARMAR3	44	SPARMAR4
45	SPARMAR5	57	SCHOMAR2	59	SCHOMAR4	60	SCHOMAR5
56	SCHOMAR1	58	SCHOMAR3	87	GLYCMAR2	88	GLYCMAR3
89	GLYCMAR4	90	GLYCMAR5	77	BECCMAR2	78	BECCMAR3
79	BECCMAR4	80	BECCMAR5	76	BECCMAR1	71	RIFFLE01
72	RIFFLE02	73	RIFFLE03	74	RIFFLE04	75	RIFFLE05
6	SAND0001	7	SAND0002	8	SAND0003	9	SAND0004
10	SAND0005	1	GRAVEL01	3	GRAVEL03	4	GRAVEL04
5	GRAVEL05	2	GRAVEL02	86	GLYCMAR1	93	GLYCROT3
94	GLYCROT4	95	GLYCROT5	65	SCHOROT5	91	GLYCROT1
61	SCHOROT1	62	SCHOROT2	63	SCHOROT3	49	SPARROT4
64	SCHOROT4	92	GLYCROT2	46	SPARROT1	47	SPARROT2
48	SPARROT3	50	SPARROT5	67	SILT0002	69	SILT0004
70	SILT0005	66	SILT0001	68	SILT0003		

12. MACROINVERTEBRATES FROM THE RIVER KYM, AUTUMN 1989

Samples were taken from 32 'potential habitats' on the River Kym at Hail Weston during August.

12.1 List of samples by potential habitat, with codes and short names

12.1.1 Study reach

1	SILTBANK	Silt bank
2	FONTSLOW	*Fontinalis antipyretica* (slow run)
3	NPADDEEP	Floating *Nuphar lutea* pads (deep)
4	WILLROOT	*Salix* sp. roots
5	S/G/S/VG	Sand / gravel / silt and vegetation
6	MYRISPIC	*Myriophyllum spicatum*
7	NSUBDEEP	Submerged *Nuphar lutea* pads (deep)
8	GLYCMAXI	*Glyceria maxima* (whole plant)
9	NPADSHAL	Floating *Nuphar lutea* pads (shallow)
10	PECTCLAD	*Potamogeton pectinatus / Cladophora* sp.
11	BUTOSHOO	Shoots of *Butomus umbellatus*
12	BUTOROOT	Roots of *Butomus umbellatus*
13	CLAYSTON	Clay and stones
14	LEMNMINO	*Lemna minor* (locally abundant at study site)
15	NSUBSHAL	Submerged *Nuphar lutea* pads (shallow)
16	SPARSHOO	Shoots of *Sparganium erectum*
17	SPARROOT	Roots of *Sparganium erectum*
18	GRAVSHAL	Gravel (shallower run)
19	CLADPOOL	*Cladophora* sp. in pool
20	SILTPOOL	Silt in pool
21	SCHOSHOO	Shoots of *Schoenoplectus lacustris*
22	MUD.....	Mud
23	POTACRIS	*Potamogeton crispus*
24	SAGISAGI	*Sagittaria Sagittifolia*
25	ALISEMER	Emergent *Alisma plantago-aquatica*
26	SCHOROOT	Roots of *Schoenoplectus lacustris*

12.1.2 Upstream control site

27	SHADRIFF	Shaded riffle (kick sample)
28	FONTSHAL	*Fontinalis antipyretica* in shallow run
29	MUD(W/L)	Mud with wood and leaves
30	RIF(MUD)	Riffle based on resistant clay
31	FONTRIFF	*Fontinalis antipyretica* in riffle
32	RIFFGRAV	Gravel riffle

12.2 List of recorded taxa, with codes and short names

1	PYRRNYMP	*Pyrrhosoma nymphula*	2	ENALCYAT	*Enallagma cyathigerum*
3	PLATPENN	*Platycnemis pennipes*	4	CALOSPLE	*Calopteryx splendens*
5	AESHCYAN	*Aeshna cyanea*	6	PHYSFONT	*Physa fontinalis*
7	SPHACORN	*Sphaerium corneum*	8	BYTHTENT	*Bythinia tentaculata*
9	VALVPISC	*Valvata piscinalis*	10	VALVCRIS	*V. cristata*

11	PLANCARI	*Planorbis carinatus*	12	PLANCONT	*P. contortus*
13	PLANVORT	*P. vortex*	14	PLANCOMP	*P. complanatus*
15	PLANCRIS	*P. crista*	16	PLANALBU	*P. albus*
17	POTAJENK	*Potamopyrgus jenkinsi*	18	LYMNPERE	*Lymnaea pereger*
19	LYMNSTAG	*L. stagnalis*	20	ANCYFLUV	*Ancylus fluviatilis*
21	ACROLACU	*Acroloxus lacustris*	22	ANODCYGN	*Anodonta cygnaea*
23	ERPOOCTO	*Erpobdella octoculata*	24	HELOSTAG	*Helobdella stagnalis*
25	GLOSHETE	*Glossiphonia heteroclita*	26	GLOSCOMP	*G. complanata*
27	THERTESS	*Theromyzon tessulatum*	28	PISCGEOM	*Piscicola geometra*
29	HEMIMARG	*Hemiclepsis marginata*	30	DENDLACT	*Dendrocoelum lacteum*
31	DUGELUGU	*Dugesia lugubris*	32	POTAELEG	*Potamonectes elegans*
33	HALIFLUV	*Haliplus fluviatilis*	34	HALILARV	*Haliplus* larva
35	STICDUOD	*Stictotarsus duodecimpustulatus*	36	ELMIAENA	*Elmis aenea* adult
37	ELMIAENL	*E. aenea* larva	38	OULITUBA	*Oulimnius tuberculatus* adult
39	OULITUBL	*O. tuberculatus* larva	40	GYRIBICO	*Gyrinus bicolor*
41	GYRILARV	*Gyrinus* larva	42	ANACBIPU	*Anacaena bipustulata*
43	DYTILARV	Dytiscidae larva	44	SIALLUTA	*Sialis lutaria*
45	ASELAQUA	*Asellus aquaticus*	46	BAETSCAM	*Baetis scambus*
47	CLOEDIPT	*Cloeon dipterum*	48	CLOESIMI	*C. simile*
49	CENTLUTE	*Centroptilum luteolum*	50	CAENLUCT	*Caenis luctuosa*
51	ATHRATER	*Athripsodes aterrimus*	52	PHRYGRAN	*Phryganaea grandis*
53	HPSYANGU	*Hydropsyche angustipennis*	54	HPSYSILT	*H. siltalai*
55	TINOWAEN	*Tinodes waeneri*	56	SIMUERYL	*Simulium erythrocephalum* larva
57	PSYCIDAE	Psychodidae	58	GERRLACU	*Gerris lacustris*
59	GERRNYMP	*Gerris* nymph	60	SIGAFALL	*Sigara falleni*
61	SIGADORS	*S. dorsalis*	62	SIGAFOSS	*S. fossarum*
63	CORINYMP	Corixidae nymph	64	NOTOMACU	*Notonecta maculata*

12.3 Data listed by sample

1 SILTBANK

5	AESHCYAN	2	7	SPHACORN	3	8	BYTHTENT	8
9	VALVPISC	4	18	LYMNPERE	3	22	ANODCYGN	3
23	ERPOOCTO	4	26	GLOSCOMP	2	27	THERTESS	1
32	POTAELEG	2	39	OULITUBL	29	44	SIALLUTA	6
45	ASELAQUA	8	51	ATHRATER	1	61	SIGADORS	1
63	CORINYMP	1						

2 FONTSLOW

3	PLATPENN	10	4	CALOSPLE	4	6	PHYSFONT	20
8	BYTHTENT	4	10	VALVCRIS	1	13	PLANVORT	1
14	PLANCOMP	1	18	LYMNPERE	70	23	ERPOOCTO	10
24	HELOSTAG	1	32	POTAELEG	6	33	HALIFLUV	81
38	OULITUBA	1	39	OULITUBL	43	45	ASELAQUA	29
47	CLOEDIPT	14	60	SIGAFALL	5	61	SIGADORS	69
63	CORINYMP	16						

3 NPADDEEP

3	PLATPENN	17	6	PHYSFONT	9	9	VALVPISC	1
13	PLANVORT	1	21	ACROLACU	2	23	ERPOOCTO	14
26	GLOSCOMP	2	28	PISCGEOM	1	33	HALIFLUV	5
39	OULITUBL	2	44	SIALLUTA	1	45	ASELAQUA	5

47 CLOEDIPT	9	58 GERRLACU	1	61 SIGADORS	8
63 CORINYMP	5				

4 WILLROOT

3 PLATPENN	1	6 PHYSFONT	1	7 SPHACORN	2
8 BYTHTENT	622	10 VALVCRIS	330	12 PLANCONT	50
13 PLANVORT	30	18 LYMNPERE	1	23 ERPOOCTO	33
24 HELOSTAG	4	27 THERTESS	1	28 PISCGEOM	1
29 HEMIMARG	1	31 DUGELUGU	9	33 HALIFLUV	2
38 OULITUBA	92	39 OULITUBL	17	45 ASELAQUA	138
51 ATHRATER	150	60 SIGAFALL	9	61 SIGADORS	57
62 SIGAFOSS	3	63 CORINYMP	10		

5 S/G/S/VG

3 PLATPENN	3	6 PHYSFONT	32	7 SPHACORN	91
8 BYTHTENT	110	9 VALVPISC	379	10 VALVCRIS	20
12 PLANCONT	20	16 PLANALBU	20	16 PLANALBU	38
18 LYMNPERE	185	23 ERPOOCTO	10	24 HELOSTAG	5
26 GLOSCOMP	2	32 POTAELEG	1	34 HALILARV	1
39 OULITUBL	2	43 DYTILARV	1	44 SIALLUTA	7
45 ASELAQUA	18	50 CAENLUCT	3	52 PHRYGRAN	6
61 SIGADORS	9	63 CORINYMP	15		

6 MYRISPIC

3 PLATPENN	19	6 PHYSFONT	4	9 VALVPISC	1
10 VALVCRIS	1	11 PLANCARI	1	12 PLANCONT	1
13 PLANVORT	2	18 LYMNPERE	12	23 ERPOOCTO	3
26 GLOSCOMP	1	33 HALIFLUV	2	42 ANACBIPU	1
45 ASELAQUA	4	47 CLOEDIPT	19	52 PHRYGRAN	1
61 SIGADORS	9	63 CORINYMP	15		

7 NSUBDEEP

2 ENALCYAT	1	3 PLATPENN	5	6 PHYSFONT	8
9 VALVPISC	2	13 PLANVORT	1	16 PLANALBU	1
18 LYMNPERE	4	21 ACROLACU	4	23 ERPOOCTO	2
26 GLOSCOMP	1	33 HALIFLUV	2	39 OULITUBL	1
40 GYRIBICO	2	45 ASELAQUA	2	47 CLOEDIPT	12
60 SIGAFALL	4	61 SIGADORS	16	62 SIGAFOSS	2
63 CORINYMP	10				

8 GLYCMAXI

3 PLATPENN	5	6 PHYSFONT	8	7 SPHACORN	1
8 BYTHTENT	3	9 VALVPISC	1	13 PLANVORT	2
16 PLANALBU	1	21 ACROLACU	6	23 ERPOOCTO	6
24 HELOSTAG	3	26 GLOSCOMP	1	27 THERTESS	1
33 HALIFLUV	1	38 OULITUBA	1	39 OULITUBL	2
44 SIALLUTA	1	45 ASELAQUA	44	47 CLOEDIPT	45
48 CLOESIMI	2	60 SIGAFALL	2	61 SIGADORS	11
63 CORINYMP	28				

9 NPADSHAL

6	PHYSFONT	9	9 VALVPISC	2	13 PLANVORT 1
16	PLANALBU	1	21 ACROLACU	2	23 ERPOOCTO 5
41	GYRILARV	2	51 ATHRATER	1	59 GERRNYMP 3
61	SIGADORS	2	63 CORINYMP	1	

10 PECTCLAD

1	PYRRNYMP	1	3 PLATPENN	5	6 PHYSFONT 2
7	SPHACORN	2	8 BYTHTENT	4	9 VALVPISC 84
16	PLANALBU	6	18 LYMNPERE	2	23 ERPOOCTO 7
24	HELOSTAG	4	25 GLOSHETE	2	26 GLOSCOMP 3
32	POTAELEG	2	45 ASELAQUA	25	47 CLOEDIPT 70
48	CLOESIMI	1	49 CENTLUTE	1	60 SIGAFALL 3
63	CORINYMP	2			

11 BUTOSHOO

3	PLATPENN	1	6 PHYSFONT	10	9 VALVPISC 1
10	VALVCRIS	1	11 PLANCARI	1	13 PLANVORT 2
16	PLANALBU	1	21 ACROLACU	5	23 ERPOOCTO 18
24	HELOSTAG	1	26 GLOSCOMP	2	28 PISCGEOM 1
29	HEMIMARG	1	44 SIALLUTA	2	45 ASELAQUA 20
47	CLOEDIPT	2	50 CAENLUCT	3	63 CORINYMP 1

12 BUTOROOT

3	PLATPENN	13	6 PHYSFONT	11	7 SPHACORN 7
18	LYMNPERE	1	21 ACROLACU	3	23 ERPOOCTO 9
24	HELOSTAG	14	26 GLOSCOMP	8	27 THERTESS 1
30	DENDLACT	1	32 POTAELEG	1	44 SIALLUTA 10
45	ASELAQUA	200	47 CLOEDIPT	4	52 PHRYGRAN 1
60	SIGAFALL	2	61 SIGADORS	1	63 CORINYMP 1

13 CLAYSTON

7	SPHACORN	1	9 VALVPISC	6	18 LYMNPERE 2
23	ERPOOCTO	2	24 HELOSTAG	1	28 PISCGEOM 1
32	POTAELEG	1	49 CENTLUTE	1	

14 LEMNMINO

10	VALVCRIS	1	23 ERPOOCTO	1	28 PISCGEOM 1
63	CORINYMP	3			

15 NSUBSHAL

3	PLATPENN	2	6 PHYSFONT	8	7 SPHACORN 1
8	BYTHTENT	1	9 VALVPISC	1	12 PLANCONT 1
13	PLANVORT	3	16 PLANALBU	2	18 LYMNPERE 1
21	ACROLACU	5	23 ERPOOCTO	3	26 GLOSCOMP 1
28	PISCGEOM	1	45 ASELAQUA	25	47 CLOEDIPT 9
61	SIGADORS	1	63 CORINYMP	1	

16 SPARSHOO

6	PHYSFONT	2	8 BYTHTENT	1	11 PLANCARI	1
13	PLANVORT	2	21 ACROLACU	8	23 ERPOOCTO	18
24	HELOSTAG	5	26 GLOSCOMP	4	39 OULITUBL	1
47	CLOEDIPT	1	50 CAENLUCT	2		

17 SPARROOT

6	PHYSFONT	15	7 SPHACORN	29	8 BYTHTENT	5
9	VALVPISC	1	13 PLANVORT	6	23 ERPOOCTO	15
24	HELOSTAG	4	26 GLOSCOMP	3	32 POTAELEG	1
35	STICDUOD	1	44 SIALLUTA	6	45 ASELAQUA	41
47	CLOEDIPT	1	52 PHRYGRAN	5	60 SIGAFALL	1
61	SIGADORS	2	63 CORINYMP	1		

18 GRAVSHAL

7	SPHACORN	2	8 BYTHTENT	1	9 VALVPISC	2
23	ERPOOCTO	24	39 OULITUBL	11	50 CAENLUCT	8

19 CLADPOOL

7	SPHACORN	15	8 BYTHTENT	51	9 VALVPISC	827
10	VALVCRIS	63	11 PLANCARI	23	13 PLANVORT	44
15	PLANCRIS	222	18 LYMNPERE	28	23 ERPOOCTO	4
33	HALIFLUV	3	34 HALILARV	1	39 OULITUBL	86
45	ASELAQUA	2	60 SIGAFALL	1	61 SIGADORS	13
63	CORINYMP	13	64 NOTOMACU	1		

20 SILTPOOL

7	SPHACORN	3	23 ERPOOCTO	4	26 GLOSCOMP	1
38	OULITUBA	1	44 SIALLUTA	2	50 CAENLUCT	1
60	SIGAFALL	1	61 SIGADORS	1	63 CORINYMP	1

21 SCHOSHOO

13	PLANVORT	1	21 ACROLACU	17	23 ERPOOCTO	4
24	HELOSTAG	3	28 PISCGEOM	1	30 DENDLACT	2
31	DUGELUGU	1	39 OULITUBL	1	45 ASELAQUA	8

22 MUD.....

7	SPHACORN	2	23 ERPOOCTO	3	39 OULITUBL	2
45	ASELAQUA	1	50 CAENLUCT	1		

23 POTACRIS

3	PLATPENN	2	7 SPHACORN	1	13 PLANVORT	1
14	PLANCOMP	1	23 ERPOOCTO	3	24 HELOSTAG	1
26	GLOSCOMP	1	28 PISCGEOM	1	39 OULITUBL	2
45	ASELAQUA	20	47 CLOEDIPT	1	60 SIGAFALL	6
61	SIGADORS	20	63 CORINYMP	2		

24 SAGISAGI

3	PLATPENN	1	6 PHYSFONT	4	7 SPHACORN 2
21	ACROLACU	1	23 ERPOOCTO	16	24 HELOSTAG 1
26	GLOSCOMP	3	28 PISCGEOM	1	39 OULITUBL 5
44	SIALLUTA	1	45 ASELAQUA	113	47 CLOEDIPT 11
49	CENTLUTE	2	60 SIGAFALL	4	61 SIGADORS 4
63	CORINYMP	3			

25 ALISEMER

6	PHYSFONT	2	7 SPHACORN	2	19 LYMNSTAG 2
21	ACROLACU	2	23 ERPOOCTO	13	24 HELOSTAG 6
26	GLOSCOMP	1	28 PISCGEOM	1	29 HEMIMARG 1
34	HALILARV	1	39 OULITUBL	14	43 DYTILARV 1
44	SIALLUTA	2	45 ASELAQUA	19	

26 SCHOROOT

7	SPHACORN	12	22 ANODCYGN	1	24 HELOSTAG 2
39	OULITUBL	8	44 SIALLUTA	3	45 ASELAQUA 11
51	ATHRATER	1	52 PHRYGRAN	1	61 SIGADORS 1

27 SHADRIFF

8	BYTHTENT	22	9 VALVPISC	70	10 VALVCRIS 4
11	PLANCARI	2	11 PLANCARI	4	15 PLANCRIS 2
15	PLANCRIS	4	18 LYMNPERE	12	20 ANCYFLUV 5
23	ERPOOCTO	12	36 ELMIAENA	1	37 ELMIAENL 4
38	OULITUBA	14	39 OULITUBL	186	45 ASELAQUA 25
46	BAETSCAM	12	47 CLOEDIPT	2	50 CAENLUCT 41
53	HPSYANGU	17	54 HPSYSILT	2	55 TINOWAEN 1
56	SIMUERYL	1	57 PSYCIDAE	2	

28 FONTSHAL

3	PLATPENN	1	6 PHYSFONT	98	7 SPHACORN 4
8	BYTHTENT	273	9 VALVPISC	210	10 VALVCRIS 137
11	PLANCARI	3	11 PLANCARI	57	13 PLANVORT 183
15	PLANCRIS	27	15 PLANCRIS	55	18 LYMNPERE 2
23	ERPOOCTO	2	28 PISCGEOM	1	32 POTAELEG 5
33	HALIFLUV	3	36 ELMIAENA	1	37 ELMIAENL 1
38	OULITUBA	3	39 OULITUBL	401	45 ASELAQUA 8
49	CENTLUTE	10	50 CAENLUCT	38	51 ATHRATER 2
60	SIGAFALL	2	61 SIGADORS	9	63 CORINYMP 15

29 MUD(W/L)

7	SPHACORN	3	8 BYTHTENT	6	9 VALVPISC 17
18	LYMNPERE	1	23 ERPOOCTO	3	37 ELMIAENL 1
39	OULITUBL	40	45 ASELAQUA	1	50 CAENLUCT 10
53	HPSYANGU	7	54 HPSYSILT	1	

30 RIF(MUD)

7	SPHACORN	11	8 BYTHTENT	4	23 ERPOOCTO 1

24	HELOSTAG	2	26 GLOSCOMP	1	39 OULITUBL 1
50	CAENLUCT	1	60 SIGAFALL	1	61 SIGADORS 3
63	CORINYMP	1			

31 FONTRIFF

6	PHYSFONT	1	8 BYTHTENT	7	9 VALVPISC 4
13	PLANVORT	2	18 LYMNPERE	1	24 HELOSTAG 1
39	OULITUBL	34	45 ASELAQUA	4	46 BAETSCAM 2
50	CAENLUCT	2	57 PSYCIDAE	1	63 CORINYMP 2

32 RIFFGRAV

7	SPHACORN	24	8 BYTHTENT	5	9 VALVPISC 7
18	LYMNPERE	12	21 ACROLACU	1	22 ANODCYGN 1
23	ERPOOCTO	11	24 HELOSTAG	2	26 GLOSCOMP 1
37	ELMIAENL	6	39 OULITUBL	128	45 ASELAQUA 1
50	CAENLUCT	88	53 HPSYANGU	2	56 SIMUERYL 1

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