

Fig. 1 Isle Royale National Park and 2010 study sites, including regional context (inset)



Fig. 2 Exuviae abundance (tall, light columns) and number of chironomid species (short, dark columns) emerging by season and zone from coastal rock pools, 2010

		April					June							July							gust		October						
	0 0.2	-	0.8	1	0 0.2	0.4	4 0.6	0.8	1 (0 (0.2	0.4	0.6	0.8	1	0 0.2		.4 0.		81	0	0.2	0.4	0.6	0.8	1 0	0.	2 0.4	4 0.6
Limnophyes Sp. 1		 1	J		1	l.	I]		I	I			Ţ	I	I	I					
Micropsectra nana	-				1											-					-					-			
Limnophyes carolinensis Psectrocladius cf. sensilipes	-				- - -				-	Ľ.,						-					-					-			
Psectrocladius limbatellus	-	•							-								and the second					-				1			
Corynoneura arctica	_				_				-							_					-					_			
Metriocnemus ursinus	-				-				-							-	1				-					-			
Chironomus Sp. 3 Psectrocladius pilosus									-							-					-					-			
Psectrocladius subsensilis)				1				-]										-			
Corynoneura doriceni	-				-				-		_					-					-					-			
Chironomus Sp. 1 Cricotopus fuscus	-				-				-							-										-			
<i>Glyptotendipes</i> nr. <i>paripes</i>	-				-				-																	1			
Ablabesmyia illinoensis	1																												
Cricotopus bicinctus Dicrotendipes modestus	-				1				-							-					-					-			
Chironomus anthracinus	-				-				-							-					1					-			
Chironomus montuosus	1				1				-							1					_					1			
Paratanytarsus laccophilus Procladius abetus																													
Ablabesmyia aspera	-				-				-							-										-			
Polypedilum Sp. 1]				1				-]													
Cricotopus sylvestris]]])			

Fig. 3 Proportional abundance of monthly emergence by species used in beta diversity analyses, from lichen zone pools, Isle Royale, 2010

		A	pril			May							Jur	ne					Ju	lv				А	Oct	October				
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Diamesa insignipes	-				_						-						-					-					-			
Eukiefferiella claripennis	-				-						-						-					-					1			
Limnophyes carolinensis	-				-						-						-					-					-			
Paratanytarsus natvigi	-				-						-		-									-					-			
Psectrocladius cf. sensilipes Corynoneura arctica																										 				
	1				-						-	_					-					-					1			
Cricotopus curtus Eukiefferiella coerulescens	-																-					-					-	_		
Cricotopus fuscus	-				-												-					-					- 1			
Conchapelopia fasciata	-				-						-											-					-			
Potthastia gaedii	-				+																					 				
Cricotopus Sp. 1	-				-						-						-					-					-			
Cricotopus intersectus	-				-						-						-					-					-			
Paracladius quadrinodosus	-				-						-						1					-					1			
Paratanytarsus laccophilus	-				-						-						1					-					1			
Paratanytarsus dimorphus																														
Cricotopus bicinctus	-				-						-											1					1			
Orthocladius nigritus	-				-													I				1					1			
Neozavrelia cf. luteola	-				1						-			all and the second second	I		1					1					1			
Hydrosmittia ruttneri	1				1												-	san na s]]			
Protanypus hamiltoni																														
Cricotopus tristis]]]			
Orthocladius dorenus												ang distinction in the										_					-			
Orthocladius obumbratus																	_					_					-			
Synorthocladius semivirens																							10.800120201		845012431					
Ablabesmyia illinoensis	-				_						-											-					-			
Corynoneura doriceni	_				_						-						-					-					- 1			
Cricotopus sylvestris	-				_						-						-					-					-			
Pseudodiamesa branickii	-				-						-						-					-					-			
Cricotopus magus																						_					-			
Cricotopus annulator	-				-						-						-										-			
Heterotrissocladius Sp. A Orthocladius annectens	-				-						-											-					-			
					-						-						-					-	11.50 (See 1995) (See				-			
Conchapelopia cornuticauda Thienemannimyia norena	la				-						-						-					-	1.975.01.00.222				-			
Nanocladius nr. branchiocolu																	+													
Psectrocladius limbatellus	13_				-						-						-					-								
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Fig. 4 Proportional abundance of monthly emergence by species used in beta diversity analyses, from splash zone pools, Isle Royale, 2010



Fig. 5 Daily water temperature variation in splash (black line) and lichen (gray line) zone pools, with polynomial trend lines, at Passage Island (A) and Datolite Mine (B), Isle Royale, 2010



Fig. 6 Daily water temperature variation detail, and polynomial trend, in splash zone pools at Passage Island (dark lines) and Datolite Mine (gray lines), Isle Royale, 2010. Two sample dates with sharp increases of species accumulation from Raspberry Island (June 8th) and Blueberry Cove (July 6th) are noted (see text for site details)



Fig. 7 Weekly water temperature means in a Passage Island splash pool, May 7 (week 1) to September 30 (week 20), 2010. Diamond center line is the mean, upper and lower points are 95% confidence intervals. Tukey-Kramer circles show significantly different means as non-intersecting or slightly intersecting circles, with nested circles not significantly different. Week 3 data were not logged by the thermistor



Fig. 8 Relationship between mean pool temperature change and new species detected in adjacent months