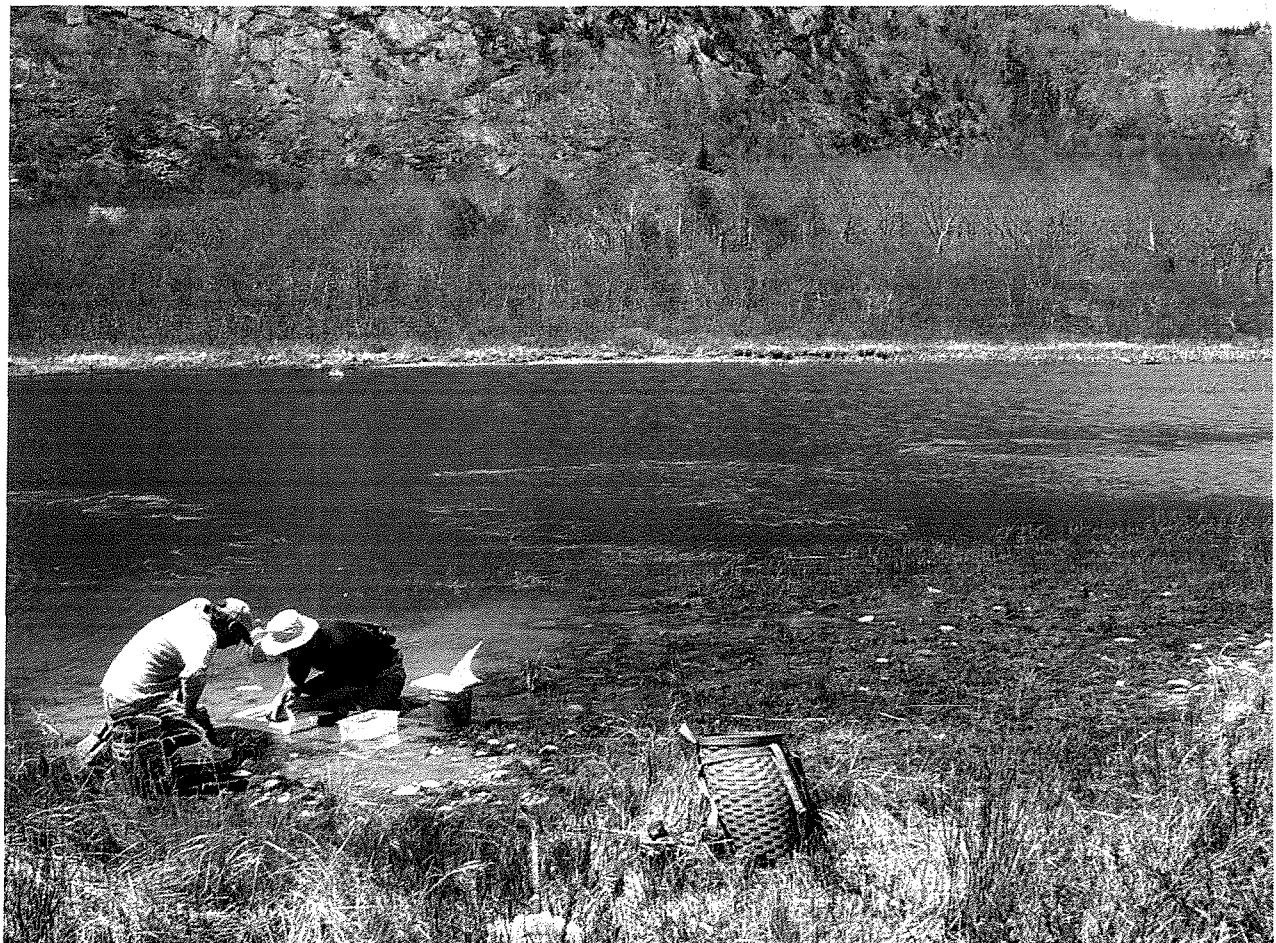


Historic changes in freshwater insect communities on Mount Desert Island, Maine

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Schooner Head Marsh, MDI. Photo by Pepin Mittelhauser

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ABSTRACT

We conducted an inventory of selected taxa of aquatic insects (whirligig beetles - Gyrinidae, predaceous diving beetles - Dytsicidae, burrowing water beetles - Noteridae, backswimmers - Notonectidae, giant water bugs - Belostomatidae, water scorpions - Nepidae, and creeping water bugs - Naucoridae) in Acadia National Park on Mount Desert Island during 2008 and compared our inventory results with William Procter's historic inventory effort conducted in the early to mid 1900s. We sampled these aquatic insect taxa in 16 diverse lentic water bodies in Acadia National Park and captured a total of 1,390 individuals of 46 species within our target taxa. *Notonecta undulata* (Notonectidae) was the most widely distributed of all target taxa (12 sites). Among the Gyrinidae, the most widely distributed species among our 16 sites at ANP were: *Gyrinus sayi* (11 sites), *G. borealis* (10 sites), and *Dineutus nigrior* (10 sites). Among the Hemiptera, *Ranatra fusca* (Nepidae, 10 sites) and *Belostoma flumineum* (Belostomatidae, 11 sites) were the most widespread. The composition of the dytiscid fauna differed greatly between sites; only two species were captured at more than 5 sites: *Dytiscus verticalis* (7 sites) and *Acilius semisulcatus* (6 sites). Schooner Head Marsh was the most diverse site with 25 target taxa documented. Seal Cove Beaver Pond (20 species) and Hodgdon and Duck Ponds (each with 16) were also diverse in target taxa documented. Duck Pond, which was only sampled in August, would likely have been the second most diverse site had it been sampled in May. Schooner Head Marsh and Hodgdon Pond were also the sites with the most unique species. The diversity and abundance of sampled Dytiscidae was much higher in fishless ponds than in ponds containing fish. Among the target taxa, we documented 15 species and one family (Noteridae) not recorded historically on Mount Desert Island and we did not find 10 species that were historically recorded by Procter. We discuss 4 species (1 Dytiscidae, 3 Notonectidae) that have likely increased in abundance and 2 species (both Gyrinidae) that have likely decreased in abundance on Mount Desert Island since the mid 1900's. Additionally, we added the family Hydrometridae (Hemiptera: water measurers) to the families of aquatic beetles and bugs known from Mount Desert Island and noted the absence, in both this effort and Procter's collections, of creeping water bugs (Hemiptera: Naucoridae).

INTRODUCTION

An inventory of the insects of Mount Desert Island (MDI), Maine, conducted between 1928 and 1945 by William Procter (1946) has provided Acadia National Park (ANP) with a unique opportunity to assess historic changes in insect communities. Procter's recently cataloged collection includes extensive notes on the abundance and distribution of aquatic insects in ANP in the early to mid 1900s. Aquatic insect species and diversity have been used to determine the health of aquatic ecosystems.

During 2008, we conducted an inventory of selected freshwater insect taxa to assess changes in their abundance and distribution in ANP on MDI since Procter's work (Procter 1946). Our target taxa comprised three families of aquatic beetles (Coleoptera): whirligig beetles (Gyrinidae), predaceous diving beetles (Dytiscidae - excluding subfamily Hydroporinae, a diverse group of generally small dytiscids), and burrowing water beetles (Noteridae), as well as four families of aquatic insects: backswimmers (Notonectidae), giant water bugs (Belostomatidae), water

scorpions (Nepidae), and creeping water bugs (Naucoridae). We chose the above taxa because they are well-represented in the Procter collection, prominent and relatively easy to sample in freshwater habitats, and large species, many predaceous in habit, and likely to be keystone species in shaping freshwater invertebrate communities. Our ultimate list of target taxa represents a significant expansion of our original proposed study, which would have excluded the Noteridae, Belostomatidae, Nepidae, Naucoridae and some Dytiscidae (subfamilies Agabetinae and Laccophilinae).

Our objectives with this study were to: 1) compile baseline data on the current distribution, habitat associations, and relative abundance of the target taxa of aquatic beetle and bug species at a sample lentic wetlands throughout ANP, including ponds, marshes, and vernal pools; 2) compare the species we documented with specimens in the Procter collection, collected at the same or nearby sites and thus determine shifts in community composition that have occurred in the intervening decades; and 3) assess the impacts of the Great Fire of 1947, that burned a large portion of the eastern half of MDI, on aquatic insect community composition through comparisons of species lists and relative abundances from similar wetlands in burned and unburned areas of ANP.

METHODS

During May and August, 2008, we sampled a total of 16 freshwater wetlands on MDI in ANP (Figure 1; Table 1), with sites generally divided between two habitat groups: 1) vernal (seasonal) pools, and 2) emergent vegetation fringing permanent ponds and lakes. Within each habitat grouping, we chose sites within areas that were burned during the Great Fire of 1947 and in areas that escaped the fire.

Sites were sampled twice, once in May and once in August. In each of the two sampling sessions, we fully sampled 12 sites. Four relatively unproductive sites were not re-sampled in August and four new sites were substituted. In each sampling session, we first obtained dip net samples from each site using a standardized effort of ~40 person-minutes. Dip net sampling was qualitative in nature and was largely intended for compiling species lists rather than relative abundance estimates. In addition to target taxa, during the May sampling we also kept specimens of all taxa of Hydrophilidae (water scavenger beetles), Haliplidae (crawling water beetles), and Corixidae (water boatmen) that we captured. Some specimens from other invertebrate groups were also preserved. In August, we largely restricted our collections to target taxa. Specimens of non-target taxa were sorted to family or order and are deposited in the ANP collections.

To further increase the diversity of sampled taxa and to obtain relative abundance estimates that could be compared among sites and taxa, we also sampled each site with unbaited minnow traps during both the May and August sampling periods. Traps were either fine-meshed (2 mm mesh) wire minnow traps or collapsible plastic-mesh traps with 1 mm mesh. Each trap was set for a period of two days, checked, and removed. Traps were generally placed in very shallow water (<20 cm depth). Table 1 summarizes the number of traps set at each of the 16 study locations.

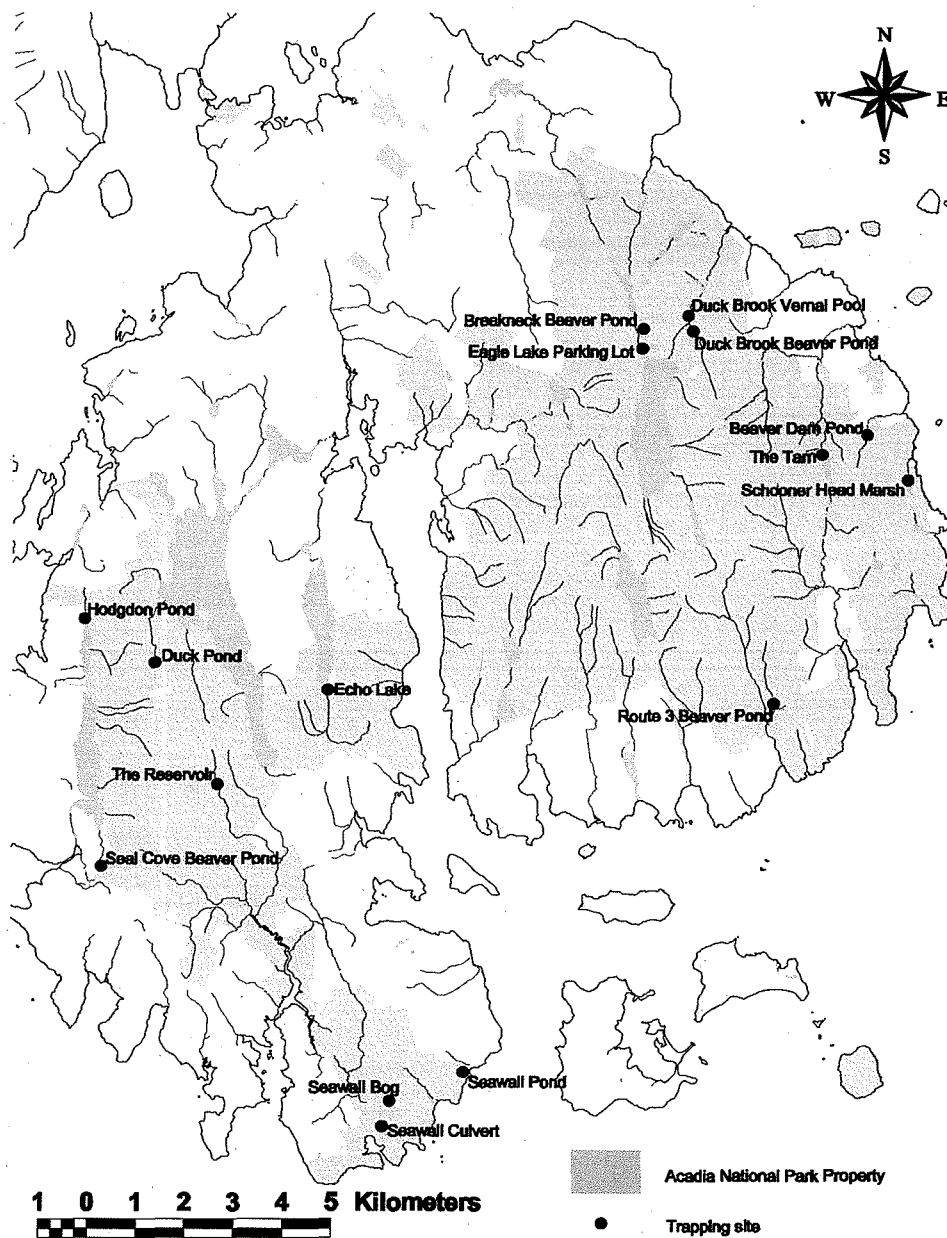


Figure 1. Aquatic insect study locations on Mount Desert Island, Maine, 2008.

Table 1. Habitat information at the aquatic insect study locations on Mount Desert Island, Maine, 2008.

Abbr.	Name	UTM	pH (sample date)	Conductivity (sample date)	Water Temp	1947 Burn	Fish	Dates Traps Set	Dates Checked	# of Traps
SHM	Schooner Head Marsh	0565001	6.65	45.8	18°C (May)	X		12 May	14 May	6 Metal 4 Plastic
		4911363	(11 Aug)	(11 Aug)	20°C (Aug)			11 Aug	13 Aug	6 Metal 4 Plastic
TT	The Tarn	0563286 4911974				X	X	12 May	14 May	6 Metal 3 Plastic
EL	Echo Lake (S outflow)	0552903 4906880			16°C (May)		X	11 May	13 May	6 Metal 4 Plastic
HP	Hodgdon Pond	0548006 4908559	5.93 (12 Aug)	41.5 (12 Aug)	14°C (May)		X	11 May 10 Aug	13 May 12 Aug	7 Metal 3 Plastic 8 Metal 2 Plastic
ELP	Eagle Lake Parking Pool	0559547	6.30	352.9	10.5°C (May)	X	X	12 May	14 May	6 Metal 4 Plastic
		4914159	(11 Aug)	(11 Aug)	18°C (Aug)			11 Aug	13 Aug	6 Metal 4 Plastic
BBP	Breakneck Beaver Pond	0559434	6.40	132.9	13°C (May)	X	X	12 May	14 May	6 Metal 4 Plastic
		4914434	(11 Aug)	(11 Aug)	19.5°C (Aug)			11 Aug	13 Aug	6 Metal 4 Plastic
DBB	Duck Brook Beaver Pond	0560479 4914590	5.68 (11 Aug)	88.2 (11 Aug)	15°C (May) 18°C (Aug)	X	X	12 May 11 Aug	14 May 13 Aug	7 Metal 3 Plastic 4 Metal 6 Plastic
DBV	Duck Brook Vernal Pool	560535 4914715	5.34 (11 Aug)	37.4 (11 Aug)	16.5°C (Aug)	X		11 Aug	13 Aug	4 Metal 6 Plastic
R3B	Route 3 Beaver Pond	562333 4906752	6.24 (11 Aug)	84.9 (11 Aug)	19.5°C (Aug)	X		11 Aug	13 Aug	5 Metal 2 Plastic
SCB	Seal Cove Beaver Pond	0548324	5.82	44.1	17°C (May)			11 May	13 May	6 Metal 4 Plastic
		4903417	(12 Aug)	(12 Aug)	24.5°C (Aug)			10 Aug	12 Aug	8 Metal 2 Plastic
SB	Seawall Bog	0554285 4898792	4.58 (12 Aug)	29.6 (12 Aug)	25°C (Aug)			11 May 10 Aug	13 May 12 Aug	7 Metal 3 Plastic 6 Metal 4 Plastic
SC	Seawall Culvert	0554096 4897906			11°C (May)			11 May	13 May	5 Metal 0 Plastic
SP	Seawall Pond	0555892 4899000	5.09 (12 Aug)	63.8 (12 Aug)	20°C (Aug)		X	11 May 10 Aug	13 May 12 Aug	7 Metal 3 Plastic 8 Metal 2 Plastic
BDP	Beaver Dam Pond	0564031 4912360			15°C (May)		X	12 May	14 May	7 Metal 3 Plastic
DP	Duck Pond	0549458 4907624	4.67 (12 Aug)	27.7 (12 Aug)	18°C (Aug)			10 Aug	12 Aug	8 Metal 2 Plastic
TR	The Reservoir	550754 4905078	5.40 (12 Aug)	30.4 (12 Aug)	16.5°C (Aug)		X	10 Aug	12 Aug	8 Metal 1 Plastic

During both May and August, we placed chemical glow sticks (Cylaupe™) in some of the traps. In August, yellow glow sticks were placed in half of the wire minnow traps at each site to facilitate a comparison of the relative effectiveness of the glow sticks as an attractant. When we checked the traps we counted and, if possible, identified *in situ* all target insect species. Samples of each species captured at each wetland were preserved in 70% ethanol, and a subsample was later pinned. As with specimens captured via dip net, all were deposited in the collection at ANP Headquarters.

Collected insect specimens were later identified in the laboratory using dissecting microscopes and taxonomic keys. The sexual organs of males of most Gyrinid and some Dytiscid beetles were removed from the body cavity to facilitate species-level identification. For the Gyrinidae, taxonomic references used were: Oygur and Wolfe (1991), Ciegler (2003), Epler (1996), and Malcolm (1971). For the Dytiscidae, we primarily relied on Larson *et al.* (2000). For the target families of Hemiptera, we used keys and illustrations from Riechart (1976, and 1978) and material available online at: <http://edis.ifas.ufl.edu/IN578> (Belostomatidae), http://insects.ummz.lsa.umich.edu/~ethanbr/aim/Keys/Heteroptera/id_hom_nepidae.html, (Nepidae), and http://insects.ummz.lsa.umich.edu/~ethanbr/aim/Keys/Heteroptera/id_hom_notonectidae.html (Notonectidae).

We checked the identification of some Gyrinidae against specimens housed at the University of Maine, Orono collection. Additionally, we compared some of our specimens against conspecifics or congeners in the Procter collection housed at ANP.

RESULTS AND DISCUSSION

Characteristics of Sampled Sites

Sixteen sites within ANP on MDI were chosen for more detailed sampling. Table 1 summarizes the UTM coordinates, trapping details, and site characteristics for all trapping locations. During the May sampling, water temperature varied from 10.5 to 18°C and water temperature varied from 16.5 to 25°C. The pH at study locations, sampled during August, ranged from 4.58 at Seawall Bog to 6.40 at Breakneck Beaver Pond; conductivity ranged from 27.7 at Duck Pond to 352.9 at Eagle Lake Parking Lot.

Overview of Specimens Captured

In all, we captured a total of 1,390 individuals of 46 species within our target taxa (Table 2; Appendix 1); 850 of these were captured in traps (598 in May, 252 in August) and 540 were captured with dip nets (279 in May, 261 in August). We prepared 844 vouchers specimens, representing all captured target taxa and deposited these in the ANP collection (246 pinned specimens and 203 vials with 598 specimens of target taxa; Appendix 2). Additional samples of non-target species, particularly water boatmen (Corixidae) and water scavenger beetles (Hydrophilidae) were sorted by higher taxonomic groupings and were likewise deposited in the ANP collection. In total, we captured and identified 20 species of Dytiscidae, 14 species of Gyrinidae, 6 species of Notonectidae, and 2 species each within the Nepidae and Belostomatidae. We found no individuals of the single species of Naucoridae known from New England,

Table 2. Target aquatic insect taxa documented in Acadia National Park on Mount Desert Island during 2008. TSN refers to Taxonomic Serial Number.

FAMILY	SPECIES	TSN
Belostomatidae	<i>Belostoma flumineum</i> Say, 1832	103689
Belostomatidae	<i>Lethocerus americanus</i> (Leidy, 1847)	103709
Dytiscidae	<i>Acilius semisulcatus</i> Aubé, 1838	112075
Dytiscidae	<i>Agabetes acuductus</i> (Harris, 1828)	112073
Dytiscidae	<i>Coptotomus longulus</i> ssp. <i>lenticus</i> Hilsenhoff, 1980	728555
Dytiscidae	<i>Dytiscus fasciventris</i> Say, 1824	112126
Dytiscidae	<i>Dytiscus harrisii</i> Kirby, 1837	112127
Dytiscidae	<i>Dytiscus verticalis</i> Say, 1823	112130
Dytiscidae	<i>Graphoderus fascicollis</i> (Harris, 1828)	728337
Dytiscidae	<i>Graphoderus liberus</i> (Say, 1825)	112167
Dytiscidae	<i>Graphoderus perplexus</i> Sharp, 1882	112168
Dytiscidae	<i>Hydaticus aruspex</i> Clark, 1864	112174
Dytiscidae	<i>Hydaticus piceus</i> LeConte, 1863	112175
Dytiscidae	<i>Ilybius biguttulus</i> (Germar, 1824)	112185
Dytiscidae	<i>Ilybius confusus</i> Aubé, 1838	112195
Dytiscidae	<i>Ilybius discedens</i> Sharp, 1882	112194
Dytiscidae	<i>Ilybius pleuriticus</i> LeConte, 1850	112188
Dytiscidae	<i>Laccophilus maculosus</i> Say, 1823	112279
Dytiscidae	<i>Matus ovatus</i> Leech, 1941	112305
Dytiscidae	<i>Neoporus clypealis</i> (Sharp, 1882)	728405
Dytiscidae	<i>Rhantus consimilis</i> Motschulsky, 1859	112096
Dytiscidae	<i>Rhantus suturellus</i> (Harris, 1828)	112093
Dytiscidae	<i>Rhantus wallisi</i> Hatch, 1953	112092
Gyrinidae	<i>Dineutus horni</i> Roberts	112720
Gyrinidae	<i>Dineutus nigrior</i> Roberts	112719
Gyrinidae	<i>Gyrinus aeneolus</i> LeConte, 1868	112661
Gyrinidae	<i>Gyrinus affinis</i> Aube	s.n.
Gyrinidae	<i>Gyrinus aquiris</i> Laconte, 1868	112691
Gyrinidae	<i>Gyrinus borealis</i> Aube	112699
Gyrinidae	<i>Gyrinus dichrous</i> LeConte, 1868	112687
Gyrinidae	<i>Gyrinus fraternus</i> Couper	112685
Gyrinidae	<i>Gyrinus gibber</i> LeConte, 1868	112696
Gyrinidae	<i>Gyrinus latilimbus</i> Fall	112680
Gyrinidae	<i>Gyrinus maculiventris</i> LeConte, 1868	112662
Gyrinidae	<i>Gyrinus pernitidus</i> LeConte, 1868	112695
Gyrinidae	<i>Gyrinus pugionis</i> Fall	112671
Gyrinidae	<i>Gyrinus sayi</i> Aubé, 1838	193589
Nepidae	<i>Nepa apiculata</i> Uhler, 1862	103766
Nepidae	<i>Ranatra fusca</i> Palisot, 1820	103755
Noteridae	<i>Hydrocanthus iricolor</i> Say, 1823	112626
Notonectidae	<i>Buenoa confusa</i> Truxal, 1953	103584
Notonectidae	<i>Notonecta insulata</i> Kirby, 1837	103576
Notonectidae	<i>Notonecta irrorata</i> Uhler, 1879	103573
Notonectidae	<i>Notonecta lunata</i> Hungerford, 1926	103577
Notonectidae	<i>Notonecta petrunkevitchi</i> Hutchinson, 1945	103582
Notonectidae	<i>Notonecta undulata</i> Say, 1832	103568

Pelocoris femoratus. Among the Dytiscidae, we also identified to species one individual within the subfamily Hydroporinae (a group excluded from this survey) and identified to genus 4 specimens of *Agabus* sp.

Relative Contribution of Capture Methods

Minnow trapping, though considerably more labor-intensive than dip netting, was crucial in our obtaining many of the sampled species. In May, of 17 target Dytiscid taxa that we captured, 11 were found only in minnow trap samples (only 1 species was captured by dip-net but not in minnow traps). Additionally, 3 of 9 sampled taxa of Hemiptera were found only in minnow traps. Minnow trapping was less successful in August, perhaps due to the generally cool and rainy weather during the trapping period. Dip net sampling, however, was critical to obtaining whirligig beetle specimens, most species and the great majority of individuals were obtained in this manner.

In general, August sampling added relatively little to the overall diversity of target taxa that we encountered. Only four species of predaceous diving beetles (3 in the genus *Ilybius*) and one species of whirligig beetle were added to our list in August. Again, this may, in part, be because of unfavorable weather conditions in August.

The use of glow sticks in the minnow traps greatly enhanced the rate of capture of sampled target taxa in August (Table 3; equal comparisons could not be done for May). With the exception of the Gyrinidae, which are poorly sampled in minnow traps, captures per trap were enhanced from 33% (Nepidae) to 187% (Dytiscidae) with the use of glow sticks. Captures per trap of non-target water boatmen were also 91% greater in traps with glow sticks.

Table 3. Captures of target aquatic insects in metal minnow traps with and without yellow glow sticks, 2008.

	With Glow Sticks	No Glow Sticks	Ratio of Glow Stick / No Glow
Dytiscidae	101	35	2.87
Notonectidae	64	26	2.45
Belostomatidae	15	7	2.20
Nepidae	4	3	1.33
Corixidae	42	22	1.91
Hydrophilidae	4	4	1.00

Distribution of Species

None of the sampled target taxa were recorded at all 16 sites (Table 4). Of the 46 target species identified to species level, 12 (27%) were found at only a single site over the course of the study (4 Dytiscidae species, 6 Gyrinidae, 1 Nepidae, and 1 Notonectidae). Among the Gyrinidae, the most widely distributed species among our 16 sites were: *Gyrinus sayi* (11 sites), *G. borealis* (10 sites), and *Dineutus nigrior* (10 sites). *Notonecta undulata* (Notonectidae) was the most widely distributed of all target taxa (12 sites). Among the Hemiptera, other widespread species were

Table 4. Diversity of selected taxa of aquatic insects at trapping sites. Number represents total number of taxa recorded at that site. In parentheses, B = Belostomatidae; D = Dytiscidae; G = Gyrinidae; NE = Nepidae; NR = Noteridae; and NN = Notonectidae. Numbers after these abbreviations are the total number of taxa observed within the taxonomic group.

	May	August	Overall
Schooner Head Marsh	17 (B=0; D=9; G=3; NE=1; NR=0; NN=4)	19 (B=2; D=8; G=6; NE=1; NR=0; NN=2)	25 (B=2; D=11; G=7; NE=1; NR=0; NN=4)
The Tarn	8 (B=1; D=0; G=5; NE=1; NR=0; NN=1)	n/a	8 (B=1; D=0; G=5; NE=1; NR=0; NN=1)
Echo Lake	9 (B=2; D=1; G=2; NE=2; NR=0; NN=2)	n/a	9 (B=2; D=1; G=2; NE=2; NR=0; NN=2)
Hodgdon Pond	14 (B=1; D=1; G=8; NE=0; NR=0; NN=4)	11 (B=1; D=1; G=5; NE=0; NR=0; NN=4)	16 (B=1; D=2; G=8; NE=0; NR=0; NN=5)
Eagle Lake Parking Lot	12 (B=0; D=4; G=4; NE=1; NR=1; NN=2)	5 (B=2; D=2; G=0; NE=0; NR=1; NN=0)	13 (B=1; D=4; G=4; NE=1; NR=1; NN=2)
Breakneck Beaver Pond	13 (B=1; D=2; G=6; NE=1; NR=1; NN=2)	8 (B=1; D=2; G=4; NE=0; NR=1; NN=0)	15 (B=1; D=4; G=6; NE=1; NR=1; NN=2)
Duck Brook Beaver Pond	12 (B=0; D=5; G=3; NE=1; NR=0; NN=3)	4 (B=2; D=0; G=1; NE=0; NR=0; NN=1)	14 (B=2; D=5; G=3; NE=1; NR=0; NN=3)
Duck Brook Vernal Pool	3 (B=0; D=0; G=1; NE=0; NR=0; NN=2) (dip net only)	13 (B=2; D=6; G=3; NE=0; NR=0; NN=2)	15 (B=2; D=6; G=4; NE=0; NR=0; NN=3)
Route 3 Beaver Pond	n/a	10 (B=2; D=2; G=3; NE=1; NR=0; NN=2)	10 (B=2; D=2; G=3; NE=1; NOTOR=0; NN=2)
Seal Cove Beaver Pond	16 (B=1; D=6; G=5; NE=1; NR=1; NN=2)	8 (B=1; D=2; G=3; NE=0; NR=0; NN=2)	20 (B=2; D=8; G=5; NE=1; NR=1; NN=3)
Seawall Bog	10 (B=1; D=5; G=0; NE=1; NR=0; NN=3)	8 (B=2; D=3; G=1; NE=0; NR=0; NN=2)	13 (B=2; D=5; G=1; NE=1; NR=0; NN=4)
Seawall Culvert	3 (B=0; D=3; G=0; NE=0; NR=0; NN=0)	n/a	3 (B=0; D=3; G=0; NE=0; NR=0; NN=0)
Seawall Pond	6 (B=0; D=0; G=2; NE=1; NR=0; NN=3)	5 (B=0; D=0; G=1; NE=0; NR=0; NN=4)	7 (B=0; D=0; G=2; NE=1; NR=0; NN=4)
Beaver Dam Pond	4 (B=0; D=1; G=2; NE=0; NR=0; NN=1)	n/a	4 (B=0; D=1; G=2; NE=0; NR=0; NN=1)
Duck Pond	n/a	16 (B=2; D=8; G=3; NE=1; NR=0; NN=2)	16 (B=2; D=8; G=3; NE=1; NR=0; NN=2)
The Reservoir	n/a	6 (B=0; D=2; G=2; NE=0; NR=0; NN=2)	6 (B=0; D=2; G=2; NE=0; NR=0; NN=2)

Ranatra fusca (Nepidae, 10 sites) and *Belostoma flumineum* (Belostomatidae, 11 sites). The composition of the dytiscid fauna differed greatly between sites; only two species were captured at more than 5 sites: *Dytiscus verticalis* (7 sites) and *Acilius semisulcatus* (6 sites).

There was considerable variability in the diversity of sampled target taxa among the 16 sites (Table 4). We recorded 25 target taxa species at Schooner Head Marsh (55% of all target taxa including *Agabus* sp.) but only 7 species at Seawall Pond (fewer species still were recorded at 3 sites that were sampled in only 1 period). After Schooner Head Marsh, the sites with the highest recorded species diversity were Seal Cover Road Beaver Pond (20 species) and Hodgdon and Duck Ponds (each with 16). Duck Pond, which was only sampled in August, would likely have been the second most diverse site had it also been sampled in May. A discussion of some factors that likely contributed to differences in species diversity among sites can be found below.

Schooner Head Marsh and Hodgdon Pond were also the sites with the most unique species (species recorded nowhere else in ANP during this study). Each of those sites had 4 unique species. Two unique species were recorded at the Echo Lake Outlet Marsh and one each at Duck Brook Beaver Pond and Duck Pond.

Comparison of Species Observed with Those Historically Collected by Procter

Based on our survey and Procter's historic inventory and collection, we recorded 56 species within the target beetle and bug taxa in ANP on MDI (Table 5). Of these, 31 species (55% of total) were observed by both Procter and us. We recorded 15 species (27% of total) not collected by Procter, who in turn found 10 species (18% of total) that we did not observe in 2008.

Table 5. Breakdown of species distributions between two collections: present study and Procter collection

Family	# Species Observed Only by Us	# Species Observed Only by Procter	# Species Observed in Both Studies	Total # Species
Dytiscidae ¹	9	5	12	26
Noteridae	1	0	0	1
Gyrinidae	1	5	13	19
Notonectidae ²	3	0	3	6
Nepidae	1	0	1	2
Belostomatidae	0	0	2	2
Naucoridae	0	0	0	0
All Target Taxa	16	11	30	56

¹ We exclude from analysis the subfamily Hydroporinae and the genus *Agabus* (Colymbetinae), as these groups were specifically excluded from our target taxa. Additionally, Procter is likely to have misidentified specimens that he has labeled as "*Coptotomus interrogatus*", a species currently known only from Massachusetts southwards. These specimens are likely the same taxon, *C. longulus*, found by us.

² Procter does not record the species *Notonecta lunata*, but our examination found 1 specimen of this species misidentified in the ANP collection as *N. undulata*.

Overall, there was a distinct difference in the relative species diversity recorded in these two collections (present study and Procter) among the groups of target taxa. In our survey of Dytiscidae and the closely related Noteridae, 11 species (39%) were found only in this study (not collected by Procter). Similarly, among the three Hemiptera families surveyed, we added 4 species to the total of 10 collected in ANP; no species were unique to Procter's collection. Among the Gyrinidae, however, these ratios were quite different. More than 65% of the 19 whirligig beetle species collected to date from ANP were found in both studies. Of the remainder, 26% were unique to the Procter collection and 1 species (*Gyrinus maculiventris*) was unique to our collection. The Gyrinidae and Dytiscidae on MDI are diverse and we suspect that our two days of dip-netting was not sufficient to fully inventory the diversity present on the island in all habitats.

We can only speculate about the reasons that we found so many species, particularly among dytiscid beetles and aquatic bugs, that were not found in the course of Procter's long period of collecting in ANP. We have relatively little information about Procter's collection protocols for our target taxa and cannot fully assess the effort he devoted to seeking specimens from the different taxonomic groups.

One probable difference between our study and Procter's is our use of minnow traps, a technique not, to our knowledge, used by Procter. As noted above, many of the predaceous diving beetle and some of the bug species that we found were only collected from traps, not via dip net. Among the Dytiscidae, where we added 9 new species to the ANP list, 6 of these new species were only collected by us in minnow traps and in 2 of the remaining 3 species, we caught only a single individual by dip net. Furthermore, the one group in which Procter found more novel species than we did, the Gyrinidae, is the one group of target taxa in which our use of minnow traps was not productive.

However, not all differences between the lists of species that we observed and those observed by Procter can be readily explained by differences in sampling techniques or by chance. Although Procter likely did not use minnow traps, he spent a good deal more time collecting by dip net than we did and was able to sample some sites in a variety of seasons over a number of years. It seems likely that, some of the "new" species of Dytiscidae that we recorded are recent additions to the MDI fauna, even if we only found them in minnow traps. Moreover, some of the species that were collected by dip net show an apparent significant difference of abundance between the studies (Table 6). The following species have likely changed in abundance on MDI since the Procter collection was completed and some may represent recent additions or deletions of species from the local fauna. These species include:

Table 6. Comparison of Procter's historic inventory results with our 2008 results for selected target taxa of aquatic insects on Mount Desert Island.

Taxa	2008 inventory results	Procter's 1930s-1940s inventory results
BELOSTOMATIDAE		
<i>Belostoma flumineum</i>	Common: taken at 11 stations; Most number of specimens observed at Duck Pond	Rare: Only recorded at Northeast Creek
<i>Lethocerus americanus</i>	Common: taken at 9 stations. Most number of specimens observed at Seawall Bog	Widespread "in all of the swampy ponds"
DYTISCIDAE		
<i>Acilius semisulcatus</i>	Occasional: taken at 6 stations. Most number of specimens observed at Seawall Bog	Common: "most generally distributed of this family, being in most of the small ponds".
<i>Agabetes acuductus</i>	Uncommon: taken at 3 stations.	Not reported
<i>Coptotomus interrogatus</i>	Not reported	Uncommon: reported at 4 stations on MDI.
<i>Coptotomus longulus</i> ssp <i>lenticus</i>	Uncommon: taken at 4 stations	Not reported
<i>Dytiscus dauricus</i>	Not reported	Rare: Taken only at Tremont 30 July 1935
<i>Dytiscus fasciventris</i>	Rare: Only taken at Duck Pond	Not reported
<i>Dytiscus harrisii</i>	Rare: Only taken at Duck Brook Beaver Pond	Not reported
<i>Dytiscus verticalis</i>	Occasional: taken at 7 stations. Most number of specimens observed at Seawall Bog	Rare: Taken only at Tremont 30 July 1935
<i>Graphoderus fascicollis</i>	Occasional: taken at 5 stations. Most number of specimens observed at Schooner Head Marsh	Rare: Taken only at Ireson Hill 5 October 1932
<i>Graphoderus cinereus</i>	Not reported	Mis-ID: Specimen annotated to <i>G. fascicollis</i> .
<i>Graphoderus liberus</i>	Uncommon: taken at 4 stations. Most number of specimens observed at Seawall Bog	Rare: taken only at Sunken Heath.
<i>Graphoderus perplexus</i>	Rare: taken only at Schooner Head Marsh	Not reported
<i>Hydaticus aruspex</i>	Rare: taken at 2 stations	Rare: Taken only at 2 stations; both in Northeast Creek
<i>Hydaticus piceus</i>	Rare: taken at 2 stations	Not reported
<i>Ilybius angustior</i>	Not reported	Rare: reported at ice ponds in Southwest Harbor on 14 July
<i>Ilybius biguttulus</i>	Uncommon: taken at 4 stations.	Occasional: "common in small ponds and pools from Aug 1 to Sept".
<i>Ilybius confusus</i>	Rare: taken at 2 stations	Rare: Reported only at Shea's Corners in a brook 29 June 1939
<i>Ilybius discedens</i>	Rare: taken only at Hodgdon Pond	Not reported
<i>Ilybius ignarus</i>	Not reported	Rare: reported only at Northeast Creek.
<i>Ilybius pleuriticus</i>	Occasional: taken at 5 stations. Most number of specimens observed at Schooner Head Marsh	Rare: reported only at Northeast Creek 31 July 1941
<i>Ilybius subaeneus</i>	Not reported	Rare: reported at ice ponds in Southwest Harbor on 14 July and pond at nurseries on 29 July.
<i>Laccophilus maculosus</i>	Uncommon: taken at 4 stations. Most number of specimens observed at Schooner Head Marsh	Occasional: "commonly found in the smaller pools of the island"
<i>Matus ovatus</i>	Uncommon: taken at 3 stations	Not reported
<i>Neoporus clypealis</i>	Rare: taken only at Schooner Head Marsh	Rare: Only reported at Northeast Creek
<i>Rhantus biotatus</i>	Not reported	Rare: 2 individuals taken in New Mill Pond 21 July 1934.
<i>Rhantus consimilis</i>	Rare: taken only at Seal Cove Beaver Pond	Not reported
<i>Rhantus suturellus</i>	Rare: taken only at Schooner Head Marsh	Rare: one specimen taken from Northeast Creek; first record for Maine
<i>Rhantus wallisi</i>	Rare: taken only at Schooner Head Marsh and Seawall Bog	Not reported
GYRINIDAE		
<i>Dineutus americanus</i>	Not reported	Rare: record of capture lost.
<i>Dineutus horni</i>	Occasional: taken at 6 stations. Less widespread than <i>D. nigrior</i>	Common: taken at 19 station on MDI; slightly more widespread than <i>D. nigrior</i>

Table 6 (continued).

Taxa	2008 inventory results	Procter's 1930s-1940s inventory results
<i>Dineutus nigrrior</i>	Common: taken at 10 stations. More widespread than <i>D. horni</i>	Common: taken at 16 stations on MDI; slightly less widespread than <i>D. horni</i>
<i>Gyrinus aeneolus</i>	Rare: taken only at The Tarn	Rare: One specimen taken during August 1932 (record of capture lost)
<i>Gyrinus affinis</i>	Occasional: taken at 5 stations. Most number of specimens observed at The Reservoir	Uncommon: Reported from 10 stations. No notes on abundance.
<i>Gyrinus aquiris</i>	Rare: taken only at Echo Lake	Rare: "a scarce form here"; reported at 4 stations.
<i>Gyrinus borealis</i>	Common: taken at 10 stations. Most number of specimens observed at Schooner Head Marsh	Common: "generally distributed and one of our common forms".
<i>Gyrinus confinis</i>	Not reported	Rare: 1 specimen taken at The Tarn (13 July 1939)
<i>Gyrinus dichrous</i>	Rare: Only recorded at Hodgdon Pond	Common: found in considerable numbers. Recorded at 15 stations.
<i>Gyrinus fraternus</i>	Rare: Only recorded at Hodgdon Pond	Occasional: taken at 9 stations (abundant at Seal Cove Pond 1 Sept 1939 and Long Pond NE end 21 Sep 1939)
<i>Gyrinus gibber</i>	Rare: Only recorded at Hodgdon Pond	Occasional: "wherever found, it occurs in numbers"; recorded at 13 stations.
<i>Gyrinus latilimbus</i>	Uncommon: taken at 3 stations. Most number of specimens observed at Breakneck Beaver Pond	Occasional: "never found in numbers" recorded at 16 stations.
<i>Gyrinus lecontei</i>	Not reported	Rare: "scarce form"; taken at 3 stations (all in May)
<i>Gyrinus maculiventris</i>	Rare: Only recorded at Schooner Head Marsh	Not reported
<i>Gyrinus minutus</i>	Not reported	Common: 'taken in large numbers' at 11 stations
<i>Gyrinus pernitidus</i>	Rare: Only recorded at Schooner Head Marsh	Rare: "a scarce form". Taken at 4 stations.
<i>Gyrinus pugionis</i>	Occasional: taken at 5 stations. Most number of specimens observed at Breakneck Beaver Pond	Occasional: "a fair number taken"; recorded at 15 stations.
<i>Gyrinus sayi</i>	Common: taken at 11 stations. Most number of specimens observed at Echo Lake	Common: "the predominant form here".
<i>Gyrinus ventralis</i>	Not reported	Rare: one specimen taken at Little Round Pond 18 Aug 1939
NEPIDAE		
<i>Nepa apiculata</i>	Rare: only reported at Echo Lake	Not reported
<i>Ranatra fusca</i>	Occasional: taken at 10 stations. Most number of specimens observed at Schooner Head Marsh	Uncommon: "in various small ponds where there is plenty of vegetation"
NOTERIDAE		
<i>Hydrocanthus iricolor</i>	Uncommon: taken at 3 stations	Not reported?
NOTONECTIDAE		
<i>Buenoa confusa</i>	Occasional: taken at 5 stations	Not reported
<i>Notonecta insulata</i>	Uncommon: taken at 4 stations. Most number of specimens observed at Schooner Head Marsh	Not reported
<i>Notonecta irrorata</i>	Common: taken at 9 stations. Most number of specimens observed at Duck Brook Vernal Pool	Scarce, reported only at a dugout peat swamp on Seal Cove Road
<i>Notonecta lunata</i>	Common: taken at 9 stations. Most number of specimens observed at Seawall Pond	Specimen in Procter collection (ACAD 34489) annotated to <i>Notonecta lunata</i>
<i>Notonecta petrunkevitchi</i>	Rare: only reported at Hodgdon Pond	Not reported
<i>Notonecta undulata</i>	Common and widespread: taken at 12 stations. Most number of specimens observed at Seal Cove Beaver Pond	Common and widespread

Species that Have Likely Increased in Abundance on MDI

Hydrocanthus iricolor (Noteridae): We found this, the only species in its family recorded from ANP to date, at 3 sites using dip nets. Procter did not record this species or any other member of the Noteridae.

Buenoa confusa (Notonectidae): We caught this small backswimmer at five sites using dip nets. It was quite common at some of the sites and easily observed and caught, yet Procter did not find it on MDI. This species has likely been a recent addition to the MDI fauna.

Notonecta irrorata (Notonectidae): A large and distinctive species, this was among the most widely distributed species in our study (found at 9 sites). This species, however, was only recorded at one site by Procter and was deemed "scarce" by him. It has almost certainly increased in abundance in recent decades.

Notonecta insulata (Notonectidae): Also a large and distinctive species. We found it at 4 sites and it was fairly common in 2 of them. Procter did not collect this species, which is likely more abundant currently and may be a recent addition to the MDI fauna.

Species that Have Likely Decreased in Abundance on MDI

Gyrinus minutus (Gyrinidae): This introduced European species was "taken in large numbers" by Procter at 11 sites on MDI. We were unable to locate any individuals.

Gyrinus dichrous (Gyrinidae): Procter found considerable numbers of this tiny species at 15 sites yet we found only 2 specimens at Hodgdon Pond.

In addition to the target taxa, we also found a single individual water measurer (*Hydrometra* sp., Hydrometridae) in the Duck Brook Beaver Pond. Although we did not attempt to identify it to species, the only known species in this family in New England is *H. martini*. Procter did not record any collections of Hydrometridae.

Influence of Fish on Species Distributions

Fish predation and competition exerts a very strong influence on the structure of freshwater insect communities (Gilinsky 1984), including water beetles (Arnott et al. 2006) and backswimmers (Cook and Streams 1984). Yet, there is still little information available about the influence of fish on the distribution of New England aquatic bugs and beetles. Such information would be of value for some regulatory wetland determinations, including identifying vernal pool habitat and distinguishing between permanent and intermittent streams.

We attempted to distribute our sampling equally between sites with fish and fishless sites. Due to incomplete or incorrect information, our May sampling sites included 8 locations with fish and

4 without. Our August sampling, however, was equally divided, with 6 sites in each group.³ In all, we recorded 11 species of fish in minnow traps. Nine-spined sticklebacks were the most widespread, occurring in 5 of 9 sites with fish.

Overall, the diversity of dytiscid beetles was much higher in fishless sites than in ones with fish. In both May and August, the mean number of Dytiscidae species that we captured at fishless sites was 3 or more times higher than at sites with fish (6.3 vs. 2.1 in May, 4.8 vs. 1.5 in August). Mean water bug (Notonectidae, Nepidae, and Belostomatidae combined) diversity was somewhat higher at with fish (4.3 vs. 3.6 species in May and 4.3 vs. 2.8 species in August).

Similarly, we captured a greater abundance of predaceous diving beetles and backswimmers per minnow trap in fishless ponds than in ponds with fish. For the Dytiscidae, per trap captures (May and August combined) were more than 6 times higher in fishless ponds (19.8 vs. 3.0 per 10 traps) while the Notonectidae capture rate was more than 3 times higher in fishless (33.5 vs. 10.1).

Finally, the two ponds in which we had the highest rate of fish captures (both greater than 10 fish per trap), the Tarn and Beaver Dam Pond, also had the lowest diversity of Dytiscidae + Hemiptera species of any sites in the May sampling (1 species in the Tarn, 4 species in Beaver Dam Pond, both were not sampled in August).⁴

The mean diversity of Gyrinidae species, on the other hand, was less clearly divided between sites with and without fish. In May, the mean diversity was greater at sites with fish (4.1 vs. 2.7) but the opposite was true in August (fishless 3.2, fish 2.2).

Our data suggest that several species of the Dytiscidae may be good indicators of fishless conditions. We captured 45 individuals in the genus *Graphoderus* (3 species recorded by us on MDI) in 6 sites – all 45 were captured in completely fishless sites. This genus is very easily identified in the field. Similarly, Arnott *et al.* (2006) found the common species *Graphoderus liberus* only in fishless sites in Ontario.

Distribution of Target Taxa in Burned vs. Non-Burned Areas of MDI

Our assessment of aquatic insects between burned and non-burned areas on MDI was complicated by the influence of fish on insect distribution. Table 7 lists the diversity of species between burned and unburned sites and fish and fishless sites. No clear relationships are apparent when comparing species diversity at burned and unburned sites.

³ We found no fish in Seal Cove Beaver Pond in May and a single chain pickerel in August. For our purposes, here, we consider it “fishless”. In Hodgdon Pond, we have directly observed numerous fish and thus considered it a pond with fish despite failing to capture fish in our minnow traps. The Seawall Culvert site, a very small pool (<100m²) was not considered in this analysis and was abandoned as unsuitable after May.

⁴ Again, this excludes Seawall Culvert, in which we found 3 species of Dytiscidae + Hemiptera.

Table 7. Diversity of aquatic insects at selected sites in Acadia National Park among burned and unburned sites (1947 fire) in areas with and without fish; number represents number of species recorded.

	Fish		Fish-less	
	Burned	Not Burned	Burned	Not Burned
# of sites	5	4	3	4
Belostomidae	2	2	2	2
Dytiscidae	9	5	14	14
Gyrinidae	7	10	8	5
Nepidae	1	2	1	1
Noteridae	1	0	0	1
Notonectidae	3	6	4	5

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MAY 2008 Results

[illegible]

SPECIES	BDP		BBP		DBB		DBV		DP		ELP		EL	HP		R3B		SHM		SCB		SB		SC		SP		TR		TT	
			134	146	136	148	135	147	128B	140	133	145			127B	139	138	150	137	149	129	141	132	144			131	143	130	142	
	D	T	D	T	D	T	D	T	D	T	D	T	D	T	D	T	D	T	D	T	D	T	D	T	D	T	D	T	D	T	
Matus ovatus							1	1																							
Neoporus clypealis																															
Rhantus consimilis																															
Rhantus suturellus																		1													
Rhantus wallisi																			4												
GYRINIDAE			4	0	11	0	14	0	13	2	0	0			14	1	17	0	20	0	16	0	1	0			1	0	8	0	
Dineutus horni			1												10	1			1												
Dineutus nigror			1				2		4	1							4		5		6		1								
Gyrinus aeneolus																															
Gyrinus affinis															1											1		5			
Gyrinus aquiris																															
Gyrinus borealis			1		11		11		7	1							11		2		7										
Gyrinus dichrous																															
Gyrinus fraternus															1																
Gyrinus gibber															1																
Gyrinus latilimbus																															
Gyrinus maculiventris																															
Gyrinus pernitidus																			5												
Gyrinus pugionis			1						2										3		3										
Gyrinus sayi							1								1		2		4									3			
NEPIDAE			0	0	0	0	0	0	1	0	0	0			0	0	0	1	1	3	0	0	0	0			0	0	0	0	
Nepa apiculata																															
Ranatra fusca									1									1	1	3											
NOTERIDAE			2	0	0	0	0	0	0	0	2	0			0	0	0	0	0	0	0	0	0			0	0	0	0		
Hydrocanthus iricolor			2								2																				
NOTONECTIDAE			0	0	3	0	4	6	25	37	0	0			8	4	2	6	4	5	18	22	1	9			25	2	1	4	
Buenoa confusa									9						1						5		1				2				
Notonecta insulata																			1									1			
Notonecta irrorata							2	3									1										2			4	
Notonecta lunata															2												4				
Notonecta petrunkevitchi															4	3															
Notonecta undulata					3		2	3	16	37					1	1	1	6	3	5	13	22		9			17	2			

Appendix 2. List of vouchers from this study that are inserted into the collections at Acadia National Park.

CATALOG #	SPECIES	FAMILY	#	SEX	LOCATION DESCRIPTION	COLLECTION #	METHOD	DATE	Type	Location
55240	<i>Belostoma flumineum</i>	BELOSTOMATIDAE	2		Duck Brook Beaver Pond MDI	B136	DIP NET	11-Aug-2008	Alcohol	T5-F2
55241	<i>Belostoma flumineum</i>	BELOSTOMATIDAE	1		Eagle Lake Parking Lot MDI	B145	TRAP	13-Aug-2008	Alcohol	T5-F3
55243	<i>Belostoma flumineum</i>	BELOSTOMATIDAE	1		Eagle Lake Parking Lot MDI	B133	DIP NET	11-Aug-2008	Alcohol	T5-F5
54931	<i>Belostoma flumineum</i>	BELOSTOMATIDAE	1		Hodgdon Pond MDI	B119	TRAP	13-May-2008	Pinned	
54932	<i>Belostoma flumineum</i>	BELOSTOMATIDAE	1		Hodgdon Pond MDI	B119	TRAP	13-May-2008	Pinned	
55242	<i>Belostoma flumineum</i>	BELOSTOMATIDAE	1		Route 3 Beaver Pond MDI	B138	DIP NET	11-Aug-2008	Alcohol	T5-F4
54933	<i>Belostoma flumineum</i>	BELOSTOMATIDAE	1		Seal Cove Beaver Pond MDI	B129	DIP NET	10-Aug-2008	Pinned	
55239	<i>Belostoma flumineum</i>	BELOSTOMATIDAE	2		Seawall Bog MDI	B132	DIP NET	10-Aug-2008	Alcohol	T5-F1
54934	<i>Belostoma flumineum</i>	BELOSTOMATIDAE	1		The Tam MDI	B126	TRAP	14-May-2008	Pinned	
55009	<i>Lethocerus americanus</i>	BELOSTOMATIDAE	1		Breakneck Beaver Pond MDI	B146	TRAP	13-Aug-2008	Pinned	
55012	<i>Lethocerus americanus</i>	BELOSTOMATIDAE	1		Breakneck Beaver Pond MDI	B146	TRAP	13-Aug-2008	Pinned	
55016	<i>Lethocerus americanus</i>	BELOSTOMATIDAE	1		Breakneck Beaver Pond MDI	B122	TRAP	14-May-2008	Pinned	
55019	<i>Lethocerus americanus</i>	BELOSTOMATIDAE	1		Duck Brook Vernal Pool MDI	B147	TRAP	13-Aug-2008	Pinned	
55013	<i>Lethocerus americanus</i>	BELOSTOMATIDAE	1		Echo Lake MDI	B120	TRAP	13-May-2008	Pinned	
55010	<i>Lethocerus americanus</i>	BELOSTOMATIDAE	1		Route 3 Beaver Pond MDI	B150	TRAP	13-Aug-2008	Pinned	
55011	<i>Lethocerus americanus</i>	BELOSTOMATIDAE	1		Route 3 Beaver Pond MDI	B150	TRAP	13-Aug-2008	Pinned	
55015	<i>Lethocerus americanus</i>	BELOSTOMATIDAE	1		Route 3 Beaver Pond MDI	B150	TRAP	13-Aug-2008	Pinned	
55014	<i>Lethocerus americanus</i>	BELOSTOMATIDAE	1		Schooner Head Marsh MDI	B149	TRAP	13-Aug-2008	Pinned	
55018	<i>Lethocerus americanus</i>	BELOSTOMATIDAE	1		Seal Cove Beaver Pond MDI	B118	TRAP	13-May-2008	Pinned	
55017	<i>Lethocerus americanus</i>	BELOSTOMATIDAE	1		Seawall Bog MDI	B117	TRAP	13-May-2008	Pinned	
55248	<i>Lethocerus sp.</i>	BELOSTOMATIDAE	1		Eagle Lake Parking Lot MDI	B133	DIP NET	11-Aug-2008	Alcohol	T5-G1
55058	<i>Acilius semisulcatus</i>	DYTISCIDAE	1		Breakneck Beaver Pond MDI	B134	DIP NET	11-Aug-2008	Alcohol	T1-G3
55057	<i>Acilius semisulcatus</i>	DYTISCIDAE	2		Duck Pond MDI	B140	TRAP	12-Aug-2008	Alcohol	T1-G2
54998	<i>Acilius semisulcatus</i>	DYTISCIDAE	1	M	Eagle Lake Parking Lot MDI	B121	TRAP	14-May-2008	Pinned	
54996	<i>Acilius semisulcatus</i>	DYTISCIDAE	1	F	Seawall Bog MDI	B117	TRAP	13-May-2008	Pinned	
54997	<i>Acilius semisulcatus</i>	DYTISCIDAE	1	M	Seawall Bog MDI	B117	TRAP	13-May-2008	Pinned	
55056	<i>Acilius semisulcatus</i>	DYTISCIDAE	1		Seawall Bog MDI	B117	TRAP	13-May-2008	Alcohol	T1-G1
55061	<i>Acilius semisulcatus</i>	DYTISCIDAE	1		Seawall Bog MDI	B144	TRAP	12-Aug-2008	Alcohol	T1-H1
55059	<i>Acilius semisulcatus</i>	DYTISCIDAE	1		Seawall Culvert	B116	TRAP	13-May-2008	Alcohol	T1-G4
55060	<i>Acilius semisulcatus</i>	DYTISCIDAE	1		The Reservoir MDI	B142	TRAP	12-Aug-2008	Alcohol	T1-G5
54990	<i>Agabates acuductus</i>	DYTISCIDAE	1		Schooner Head Marsh MDI	B125	TRAP	14-May-2008	Pinned	
55255	<i>Agabus sp.</i>	DYTISCIDAE	3		Breakneck Beaver Pond MDI	B122	TRAP	14-May-2008	Alcohol	T5-H3
55256	<i>Agabus sp.</i>	DYTISCIDAE	1		Seawall Culvert	B116	TRAP	13-May-2008	Alcohol	T5-H4
55091	<i>Coptotomus longulus ssp lenticus</i>	DYTISCIDAE	1		Duck Brook Beaver Pond MDI	B123	TRAP	14-May-2008	Alcohol	T2-C3
55090	<i>Coptotomus longulus ssp lenticus</i>	DYTISCIDAE	1		Duck Pond MDI	B140	TRAP	12-Aug-2008	Alcohol	T2-C2
55089	<i>Coptotomus longulus ssp lenticus</i>	DYTISCIDAE	1		Schooner Head Marsh MDI	B103	DIP NET	9-May-2008	Alcohol	T2-C1
54988	<i>Coptotomus longulus ssp lenticus</i>	DYTISCIDAE	1	F	Seal Cove Beaver Pond MDI	B110	DIP NET	11-May-2008	Pinned	
54989	<i>Coptotomus longulus ssp lenticus</i>	DYTISCIDAE	1		Seal Cove Beaver Pond MDI	B118	TRAP	13-May-2008	Pinned	
54952	<i>Dytiscus fasciventris</i>	DYTISCIDAE	1	M	Duck Pond MDI	B140	TRAP	12-Aug-2008	Pinned	
54943	<i>Dytiscus harrisii</i>	DYTISCIDAE	1	F	Duck Brook Beaver Pond MDI	B123	TRAP	14-May-2008	Pinned	
54942	<i>Dytiscus verticalis</i>	DYTISCIDAE	1	M	Duck Brook Beaver Pond MDI	B123	TRAP	14-May-2008	Pinned	
54936	<i>Dytiscus verticalis</i>	DYTISCIDAE	1	F	Eagle Lake Parking Lot MDI	B121	TRAP	14-May-2008	Pinned	
54938	<i>Dytiscus verticalis</i>	DYTISCIDAE	1	F	Eagle Lake Parking Lot MDI	B145	TRAP	13-Aug-2008	Pinned	
54941	<i>Dytiscus verticalis</i>	DYTISCIDAE	1	M	Eagle Lake Parking Lot MDI	B121	TRAP	14-May-2008	Pinned	
54937	<i>Dytiscus verticalis</i>	DYTISCIDAE	1	F	Seal Cove Beaver Pond MDI	B118	TRAP	13-May-2008	Pinned	
54935	<i>Dytiscus verticalis</i>	DYTISCIDAE	1	F	Seawall Bog MDI	B117	TRAP	13-May-2008	Pinned	

54939	Dytiscus verticalis	DYTISCIDAE	1	M	Seawall Bog MDI	B117	TRAP	13-May-2008	Pinned	
54940	Dytiscus verticalis	DYTISCIDAE	1	M	Seawall Bog MDI	B117	TRAP	13-May-2008	Pinned	
55043	Graphoderus fascicollis	DYTISCIDAE	1		Duck Brook Vernal Pool MDI	B147	TRAP	13-Aug-2008	Alcohol	T1-D3
54984	Graphoderus fascicollis	DYTISCIDAE	1	F	Duck Pond MDI	B140	TRAP	12-Aug-2008	Pinned	
54985	Graphoderus fascicollis	DYTISCIDAE	1	M	Duck Pond MDI	B140	TRAP	12-Aug-2008	Pinned	
55044	Graphoderus fascicollis	DYTISCIDAE	1		Duck Pond MDI	B140	TRAP	12-Aug-2008	Alcohol	T1-D4
55041	Graphoderus fascicollis	DYTISCIDAE	2		Schooner Head Marsh MDI	B125	TRAP	14-May-2008	Alcohol	T1-D1
55045	Graphoderus fascicollis	DYTISCIDAE	1		Schooner Head Marsh MDI	B149	TRAP	13-Aug-2008	Alcohol	T1-D5
55046	Graphoderus fascicollis	DYTISCIDAE	1		Seal Cove Beaver Pond MDI	B110	DIP NET	11-May-2008	Alcohol	T1-E1
55042	Graphoderus fascicollis	DYTISCIDAE	1		Seawall Bog MDI	B117	TRAP	13-May-2008	Alcohol	T1-D2
54986	Graphoderus liberus	DYTISCIDAE	1	F	Duck Pond MDI	B140	TRAP	12-Aug-2008	Pinned	
54987	Graphoderus liberus	DYTISCIDAE	1	M	Duck Pond MDI	B140	TRAP	12-Aug-2008	Pinned	
55034	Graphoderus liberus	DYTISCIDAE	3		Duck Pond MDI	B128B	DIP NET	10-Aug-2008	Alcohol	T1-B4
55039	Graphoderus liberus	DYTISCIDAE	1		Duck Pond MDI	B140	TRAP	12-Aug-2008	Alcohol	T1-C4
55040	Graphoderus liberus	DYTISCIDAE	1		Route 3 Beaver Pond MDI	B138	DIP NET	11-Aug-2008	Alcohol	T1-C5
55032	Graphoderus liberus	DYTISCIDAE	1		Schooner Head Marsh MDI	B149	TRAP	13-Aug-2008	Alcohol	T1-B2
55035	Graphoderus liberus	DYTISCIDAE	1		Schooner Head Marsh MDI	B137	DIP NET	11-Aug-2008	Alcohol	T1-B5
55037	Graphoderus liberus	DYTISCIDAE	1		Schooner Head Marsh MDI	B103	DIP NET	9-May-2008	Alcohol	T1-C2
55038	Graphoderus liberus	DYTISCIDAE	9		Schooner Head Marsh MDI	B125	TRAP	14-May-2008	Alcohol	T1-C3
55031	Graphoderus liberus	DYTISCIDAE	3		Seawall Bog MDI	B107	DIP NET	11-May-2008	Alcohol	T1-B1
55033	Graphoderus liberus	DYTISCIDAE	6		Seawall Bog MDI	B132	DIP NET	10-Aug-2008	Alcohol	T1-B3
55036	Graphoderus liberus	DYTISCIDAE	8		Seawall Bog MDI	B117	TRAP	13-May-2008	Alcohol	T1-C1
54981	Graphoderus perplexus	DYTISCIDAE	1	F	Schooner Head Marsh MDI	B125	TRAP	14-May-2008	Pinned	
54982	Graphoderus perplexus	DYTISCIDAE	1	F	Schooner Head Marsh MDI	B137	DIP NET	11-Aug-2008	Pinned	
54983	Graphoderus perplexus	DYTISCIDAE	1	M	Schooner Head Marsh MDI	B125	TRAP	14-May-2008	Pinned	
55047	Graphoderus perplexus	DYTISCIDAE	4		Schooner Head Marsh MDI	B125	TRAP	14-May-2008	Alcohol	T1-E2
55048	Graphoderus perplexus	DYTISCIDAE	1		Schooner Head Marsh MDI	B103	DIP NET	9-May-2008	Alcohol	T1-E3
54974	Hydaticus aruspex	DYTISCIDAE	1	F	Duck Brook Beaver Pond MDI	B123	TRAP	14-May-2008	Pinned	
54975	Hydaticus aruspex	DYTISCIDAE	1	M	Duck Brook Beaver Pond MDI	B123	TRAP	14-May-2008	Pinned	
55053	Hydaticus aruspex	DYTISCIDAE	1		Seal Cove Beaver Pond MDI	B118	TRAP	13-May-2008	Alcohol	T1-F3
54977	Hydaticus piceus	DYTISCIDAE	1	M	Breakneck Beaver Pond MDI	B122	TRAP	14-May-2008	Pinned	
54976	Hydaticus piceus	DYTISCIDAE	1	F	Eagle Lake Parking Lot MDI	B145	TRAP	13-Aug-2008	Pinned	
55054	Hydaticus piceus	DYTISCIDAE	1		Eagle Lake Parking Lot MDI	B121	TRAP	14-May-2008	Alcohol	T1-F4
55055	Hydaticus piceus	DYTISCIDAE	1		Eagle Lake Parking Lot MDI	B133	DIP NET	11-Aug-2008	Alcohol	T1-F5
54978	Hydrocanthus iricolor	DYTISCIDAE	1		Seal Cove Beaver Pond MDI	B110	DIP NET	11-May-2008	Pinned	
54979	Hydrocanthus iricolor	DYTISCIDAE	1		Seal Cove Beaver Pond MDI	B110	DIP NET	11-May-2008	Pinned	
54980	Hydrocanthus iricolor	DYTISCIDAE	1		Seal Cove Beaver Pond MDI	B110	DIP NET	11-May-2008	Pinned	
54967	Ilybius biguttulus	DYTISCIDAE	1	M	Duck Brook Vernal Pool MDI	B147	TRAP	13-Aug-2008	Pinned	
55062	Ilybius biguttulus	DYTISCIDAE	6		Duck Brook Vernal Pool MDI	B147	TRAP	13-Aug-2008	Alcohol	T1-H2
54968	Ilybius biguttulus	DYTISCIDAE	1	F	Route 3 Beaver Pond MDI	B138	DIP NET	11-Aug-2008	Pinned	
55063	Ilybius biguttulus	DYTISCIDAE	5		Route 3 Beaver Pond MDI	B150	TRAP	13-Aug-2008	Alcohol	T1-H3
55064	Ilybius biguttulus	DYTISCIDAE	1		Route 3 Beaver Pond MDI	B138	DIP NET	11-Aug-2008	Alcohol	T1-H4
54966	Ilybius biguttulus	DYTISCIDAE	1	M	Seal Cove Beaver Pond MDI	B141	TRAP	12-Aug-2008	Pinned	
55082	Ilybius confusus	DYTISCIDAE	4		Breakneck Beaver Pond MDI	B134	DIP NET	11-Aug-2008	Alcohol	T1-J2
55083	Ilybius confusus	DYTISCIDAE	9		Breakneck Beaver Pond MDI	B146	TRAP	13-Aug-2008	Alcohol	T1-J3
54960	Ilybius confusus	DYTISCIDAE	1	F	Schooner Head Marsh MDI	B149	TRAP	13-Aug-2008	Pinned	
54961	Ilybius confusus	DYTISCIDAE	1	F	Schooner Head Marsh MDI	B149	TRAP	13-Aug-2008	Pinned	
54962	Ilybius confusus	DYTISCIDAE	1	F	Schooner Head Marsh MDI	B149	TRAP	13-Aug-2008	Pinned	
54963	Ilybius confusus	DYTISCIDAE	1	M	Schooner Head Marsh MDI	B149	TRAP	13-Aug-2008	Pinned	
54964	Ilybius confusus	DYTISCIDAE	1	M	Schooner Head Marsh MDI	B149	TRAP	13-Aug-2008	Pinned	

54965	Ilybius confusus	DYTISCIDAE	1	M	Schooner Head Marsh MDI	B149	TRAP	13-Aug-2008	Pinned	
55080	Ilybius confusus	DYTISCIDAE	6		Schooner Head Marsh MDI	B137	DIP NET	11-Aug-2008	Alcohol	T1-I5
55081	Ilybius confusus	DYTISCIDAE	1		Schooner Head Marsh MDI	B149	TRAP	13-Aug-2008	Alcohol	T1-J1
54959	Ilybius discedens	DYTISCIDAE	1	F	Hodgdon Pond MDI	B139	TRAP	12-Aug-2008	Pinned	
54953	Ilybius pleuriticus	DYTISCIDAE	1	F	Duck Brook Vernal Pool MDI	B147	TRAP	13-Aug-2008	Pinned	
54956	Ilybius pleuriticus	DYTISCIDAE	1	M	Duck Brook Vernal Pool MDI	B147	TRAP	13-Aug-2008	Pinned	
55066	Ilybius pleuriticus	DYTISCIDAE	5		Duck Brook Vernal Pool MDI	B147	TRAP	13-Aug-2008	Alcohol	T1-I1
55067	Ilybius pleuriticus	DYTISCIDAE	1		Duck Pond MDI	B140	TRAP	12-Aug-2008	Alcohol	T1-I2
54954	Ilybius pleuriticus	DYTISCIDAE	1	F	Schooner Head Marsh MDI	B149	TRAP	13-Aug-2008	Pinned	
54955	Ilybius pleuriticus	DYTISCIDAE	1	F	Schooner Head Marsh MDI	B149	TRAP	13-Aug-2008	Pinned	
54957	Ilybius pleuriticus	DYTISCIDAE	1	M	Schooner Head Marsh MDI	B149	TRAP	13-Aug-2008	Pinned	
54958	Ilybius pleuriticus	DYTISCIDAE	1	M	Schooner Head Marsh MDI	B149	TRAP	13-Aug-2008	Pinned	
55068	Ilybius pleuriticus	DYTISCIDAE	6		Schooner Head Marsh MDI	B149	TRAP	13-Aug-2008	Alcohol	T1-I3
55065	Ilybius pleuriticus	DYTISCIDAE	1		Seal Cove Beaver Pond MDI	B141	TRAP	12-Aug-2008	Alcohol	T1-H5
55069	Ilybius pleuriticus	DYTISCIDAE	1		The Reservoir MDI	B142	TRAP	12-Aug-2008	Alcohol	T1-I4
55094	Laccophilus maculosus	DYTISCIDAE	1		Duck Pond MDI	B128B	DIP NET	10-Aug-2008	Alcohol	T2-D1
55093	Laccophilus maculosus	DYTISCIDAE	1		Hodgdon Pond MDI	B109	DIP NET	11-May-2008	Alcohol	T2-C5
55096	Laccophilus maculosus	DYTISCIDAE	1		Hodgdon Pond MDI	B127B	DIP NET	10-Aug-2008	Alcohol	T2-D3
54994	Laccophilus maculosus	DYTISCIDAE	1	F	Schooner Head Marsh MDI	B125	TRAP	14-May-2008	Pinned	
54995	Laccophilus maculosus	DYTISCIDAE	1	M	Schooner Head Marsh MDI	B125	TRAP	14-May-2008	Pinned	
55092	Laccophilus maculosus	DYTISCIDAE	3		Schooner Head Marsh MDI	B125	TRAP	14-May-2008	Alcohol	T2-C4
55095	Laccophilus maculosus	DYTISCIDAE	2		Schooner Head Marsh MDI	B137	DIP NET	11-Aug-2008	Alcohol	T2-D2
55097	Laccophilus maculosus	DYTISCIDAE	1		Seal Cove Beaver Pond MDI	B110	DIP NET	11-May-2008	Alcohol	T2-D4
54992	Matus ovatus	DYTISCIDAE	1	F	Duck Brook Beaver Pond MDI	B123	TRAP	14-May-2008	Pinned	
54993	Matus ovatus	DYTISCIDAE	1	M	Duck Brook Beaver Pond MDI	B123	TRAP	14-May-2008	Pinned	
55101	Matus ovatus	DYTISCIDAE	4		Duck Brook Beaver Pond MDI	B123	TRAP	14-May-2008	Alcohol	T2-E3
55098	Matus ovatus	DYTISCIDAE	1		Duck Brook Vernal Pool MDI	B135	DIP NET	11-Aug-2008	Alcohol	T2-D5
55099	Matus ovatus	DYTISCIDAE	1		Duck Brook Vernal Pool MDI	B147	TRAP	13-Aug-2008	Alcohol	T2-E1
55100	Matus ovatus	DYTISCIDAE	1		Eagle Lake Parking Lot MDI	B121	TRAP	14-May-2008	Alcohol	T2-E2
54991	Neoporus clypealis	DYTISCIDAE	1	M	Schooner Head Marsh MDI	B103	DIP NET	9-May-2008	Pinned	
54973	Rhantus consimilis	DYTISCIDAE	1	F	Seal Cove Beaver Pond MDI	B118	TRAP	13-May-2008	Pinned	
54969	Rhantus suturellus	DYTISCIDAE	1	F	Schooner Head Marsh MDI	B103	DIP NET	9-May-2008	Pinned	
54970	Rhantus suturellus	DYTISCIDAE	1	M	Schooner Head Marsh MDI	B137	DIP NET	11-Aug-2008	Pinned	
54971	Rhantus wallisi	DYTISCIDAE	1	F	Schooner Head Marsh MDI	B125	TRAP	14-May-2008	Pinned	
54972	Rhantus wallisi	DYTISCIDAE	1	M	Schooner Head Marsh MDI	B125	TRAP	14-May-2008	Pinned	
55049	Rhantus wallisi	DYTISCIDAE	15		Schooner Head Marsh MDI	B125	TRAP	14-May-2008	Alcohol	T1-E4
55051	Rhantus wallisi	DYTISCIDAE	2		Schooner Head Marsh MDI	B125	TRAP	14-May-2008	Alcohol	T1-F1
55052	Rhantus wallisi	DYTISCIDAE	1		Schooner Head Marsh MDI	B149	TRAP	13-Aug-2008	Alcohol	T1-F2
55050	Rhantus wallisi	DYTISCIDAE	1		Seawall Bog MDI	B117	TRAP	13-May-2008	Alcohol	T1-E5
55174	Dineutus horni	GYRINIDAE	5	4ml f	Beaver Dam Pond MDI	B102	DIP NET	9-May-2008	Alcohol	T4-B1
55184	Dineutus horni	GYRINIDAE	1	F	Beaver Dam Pond MDI	B124	TRAP	14-May-2008	Alcohol	T4-D1
54915	Dineutus horni	GYRINIDAE	1	M	Breakneck Beaver Pond MDI	B134	DIP NET	11-Aug-2008	Pinned	
55188	Dineutus horni	GYRINIDAE	2	1ml f	Breakneck Beaver Pond MDI	B114	DIP NET	12-May-2008	Alcohol	T4-D5
54916	Dineutus horni	GYRINIDAE	1	M	Eagle Lake Parking Lot MDI	B101	DIP NET	9-May-2008	Pinned	
55175	Dineutus horni	GYRINIDAE	2	F	Hodgdon Pond MDI	B119	TRAP	13-May-2008	Alcohol	T4-B2
55176	Dineutus horni	GYRINIDAE	2	1ml f	Hodgdon Pond MDI	B119	TRAP	13-May-2008	Alcohol	T4-B3
55177	Dineutus horni	GYRINIDAE	12	F	Hodgdon Pond MDI	B109	DIP NET	11-May-2008	Alcohol	T4-B4
55178	Dineutus horni	GYRINIDAE	5	M	Hodgdon Pond MDI	B109	DIP NET	11-May-2008	Alcohol	T4-B5
55185	Dineutus horni	GYRINIDAE	6	M	Hodgdon Pond MDI	B127B	DIP NET	10-Aug-2008	Alcohol	T4-D2
55186	Dineutus horni	GYRINIDAE	4	F	Hodgdon Pond MDI	B127B	DIP NET	10-Aug-2008	Alcohol	T4-D3

55187	Dineutus horni	GYRINIDAE	1	M	Hodgdon Pond MDI	B139	TRAP	12-Aug-2008	Alcohol	T4-D4
55181	Dineutus horni	GYRINIDAE	1	F	Schooner Head Marsh MDI	B137	DIP NET	11-Aug-2008	Alcohol	T4-C3
54904	Dineutus horni	GYRINIDAE	1	F	The Tam MDI	B105	DIP NET	9-May-2008	Pinned	
54905	Dineutus horni	GYRINIDAE	1	F	The Tam MDI	B105	DIP NET	9-May-2008	Pinned	
54906	Dineutus horni	GYRINIDAE	1	F	The Tam MDI	B105	DIP NET	9-May-2008	Pinned	
54907	Dineutus horni	GYRINIDAE	1	F	The Tam MDI	B105	DIP NET	9-May-2008	Pinned	
54908	Dineutus horni	GYRINIDAE	1	F	The Tam MDI	B126	TRAP	14-May-2008	Pinned	
54909	Dineutus horni	GYRINIDAE	1	F	The Tam MDI	B126	TRAP	14-May-2008	Pinned	
54910	Dineutus horni	GYRINIDAE	1	M	The Tam MDI	B105	DIP NET	9-May-2008	Pinned	
54911	Dineutus horni	GYRINIDAE	1	M	The Tam MDI	B105	DIP NET	9-May-2008	Pinned	
54912	Dineutus horni	GYRINIDAE	1	M	The Tam MDI	B105	DIP NET	9-May-2008	Pinned	
54913	Dineutus horni	GYRINIDAE	1	M	The Tam MDI	B105	DIP NET	9-May-2008	Pinned	
54914	Dineutus horni	GYRINIDAE	1	M	The Tam MDI	B126	TRAP	14-May-2008	Pinned	
55179	Dineutus horni	GYRINIDAE	7	F	The Tam MDI	B105	DIP NET	9-May-2008	Alcohol	T4-C1
55180	Dineutus horni	GYRINIDAE	5	M	The Tam MDI	B105	DIP NET	9-May-2008	Alcohol	T4-C2
55182	Dineutus horni	GYRINIDAE	15	F	The Tam MDI	B126	TRAP	14-May-2008	Alcohol	T4-C4
55183	Dineutus horni	GYRINIDAE	12	M	The Tam MDI	B126	TRAP	14-May-2008	Alcohol	T4-C5
54926	Dineutus nigrior	GYRINIDAE	1	F	Breakneck Beaver Pond MDI	B134	DIP NET	11-Aug-2008	Pinned	
55194	Dineutus nigrior	GYRINIDAE	4	1m3f	Breakneck Beaver Pond MDI	B114	DIP NET	12-May-2008	Alcohol	T4-F1
55197	Dineutus nigrior	GYRINIDAE	2	1mlf	Duck Brook Beaver Pond MDI	B106	DIP NET	9-May-2008	Alcohol	T4-F4
55195	Dineutus nigrior	GYRINIDAE	2	1mlf	Duck Brook Vernal Pool MDI	B135	DIP NET	11-Aug-2008	Alcohol	T4-F2
54925	Dineutus nigrior	GYRINIDAE	1	F	Duck Pond MDI	B140	TRAP	12-Aug-2008	Pinned	
55193	Dineutus nigrior	GYRINIDAE	4	M	Duck Pond MDI	B128B	DIP NET	10-Aug-2008	Alcohol	T4-E5
55020	Dineutus nigrior	GYRINIDAE	1	M	Eagle Lake Parking Lot MDI	B101	DIP NET	9-May-2008	Pinned	
55021	Dineutus nigrior	GYRINIDAE	1	F	Eagle Lake Parking Lot MDI	B101	DIP NET	9-May-2008	Pinned	
54917	Dineutus nigrior	GYRINIDAE	1	M	Route 3 Beaver Pond MDI	B138	DIP NET	11-Aug-2008	Pinned	
54922	Dineutus nigrior	GYRINIDAE	1	M	Route 3 Beaver Pond MDI	B138	DIP NET	11-Aug-2008	Pinned	
54927	Dineutus nigrior	GYRINIDAE	1	F	Route 3 Beaver Pond MDI	B138	DIP NET	11-Aug-2008	Pinned	
54928	Dineutus nigrior	GYRINIDAE	1	F	Route 3 Beaver Pond MDI	B138	DIP NET	11-Aug-2008	Pinned	
54918	Dineutus nigrior	GYRINIDAE	1	M	Schooner Head Marsh MDI	B103	DIP NET	9-May-2008	Pinned	
55189	Dineutus nigrior	GYRINIDAE	5	1m4f	Schooner Head Marsh MDI	B137	DIP NET	11-Aug-2008	Alcohol	T4-E1
55191	Dineutus nigrior	GYRINIDAE	5	M	Schooner Head Marsh MDI	B103	DIP NET	9-May-2008	Alcohol	T4-E3
55196	Dineutus nigrior	GYRINIDAE	1	F	Schooner Head Marsh MDI	B125	TRAP	14-May-2008	Alcohol	T4-F3
54919	Dineutus nigrior	GYRINIDAE	1	M	Seal Cove Beaver Pond MDI	B129	DIP NET	10-Aug-2008	Pinned	
54920	Dineutus nigrior	GYRINIDAE	1	M	Seal Cove Beaver Pond MDI	B129	DIP NET	10-Aug-2008	Pinned	
54921	Dineutus nigrior	GYRINIDAE	1	M	Seal Cove Beaver Pond MDI	B129	DIP NET	10-Aug-2008	Pinned	
54923	Dineutus nigrior	GYRINIDAE	1	F	Seal Cove Beaver Pond MDI	B129	DIP NET	10-Aug-2008	Pinned	
54924	Dineutus nigrior	GYRINIDAE	1	F	Seal Cove Beaver Pond MDI	B129	DIP NET	10-Aug-2008	Pinned	
55192	Dineutus nigrior	GYRINIDAE	4	F	Seal Cove Beaver Pond MDI	B110	DIP NET	11-May-2008	Alcohol	T4-E4
55199	Dineutus nigrior	GYRINIDAE	1	F	Seal Cove Beaver Pond MDI	B129	DIP NET	10-Aug-2008	Alcohol	T4-G1
55190	Dineutus nigrior	GYRINIDAE	1	M	Seawall Bog MDI	B132	DIP NET	10-Aug-2008	Alcohol	T4-E2
55198	Dineutus nigrior	GYRINIDAE	1	M	Seawall Pond MDI	B111	DIP NET	11-May-2008	Alcohol	T4-F5
55024	Gyrinus aeneolus	GYRINIDAE	1	M	The Tam MDI	B105	DIP NET	9-May-2008	Pinned	
54850	Gyrinus affinis	GYRINIDAE	1	M	Duck Brook Vernal Pool MDI	B128A	DIP NET	12-May-2008	Pinned	
55214	Gyrinus affinis	GYRINIDAE	2	F	Duck Brook Vernal Pool MDI	B128A	DIP NET	12-May-2008	Alcohol	T4-J1
54852	Gyrinus affinis	GYRINIDAE	1	F	Hodgdon Pond MDI	B127B	DIP NET	10-Aug-2008	Pinned	
54855	Gyrinus affinis	GYRINIDAE	1	F	Hodgdon Pond MDI	B109	DIP NET	11-May-2008	Pinned	
55212	Gyrinus affinis	GYRINIDAE	1	M	Hodgdon Pond MDI	B109	DIP NET	11-May-2008	Alcohol	T4-I4
54846	Gyrinus affinis	GYRINIDAE	1	M	Ranger Station Pond Schoodic Peninsula	s.n.	DIP NET	9-Aug-2008	Pinned	
54848	Gyrinus affinis	GYRINIDAE	1	M	Ranger Station Pond Schoodic Peninsula	s.n.	DIP NET	9-Aug-2008	Pinned	

54851	Gyrinus affinis	GYRINIDAE	1	F	Ranger Station Pond Schoodic Peninsula	s.n.	DIP NET	9-Aug-2008	Pinned	
55213	Gyrinus affinis	GYRINIDAE	1	F	Seal Cove Beaver Pond MDI	B110	DIP NET	11-May-2008	Alcohol	T4-I5
54853	Gyrinus affinis	GYRINIDAE	1	F	Seawall Pond MDI	B131	DIP NET	10-Aug-2008	Pinned	
54856	Gyrinus affinis	GYRINIDAE	1	F	Seawall Pond MDI	B111	DIP NET	11-May-2008	Pinned	
54847	Gyrinus affinis	GYRINIDAE	1	M	The Reservoir MDI	B130	DIP NET	10-Aug-2008	Pinned	
54849	Gyrinus affinis	GYRINIDAE	1	M	The Reservoir MDI	B130	DIP NET	10-Aug-2008	Pinned	
54854	Gyrinus affinis	GYRINIDAE	1	F	The Reservoir MDI	B130	DIP NET	10-Aug-2008	Pinned	
55215	Gyrinus affinis	GYRINIDAE	2	M	The Reservoir MDI	B130	DIP NET	10-Aug-2008	Alcohol	T4-J2
55070	Gyrinus aquiris	GYRINIDAE	1	M	Echo Lake MDI	B108	DIP NET	11-May-2008	Pinned	
55071	Gyrinus aquiris	GYRINIDAE	1	M	Echo Lake MDI	B108	DIP NET	11-May-2008	Pinned	
55072	Gyrinus aquiris	GYRINIDAE	1	M	Echo Lake MDI	B108	DIP NET	11-May-2008	Pinned	
55073	Gyrinus aquiris	GYRINIDAE	1	M	Echo Lake MDI	B108	DIP NET	11-May-2008	Pinned	
55074	Gyrinus aquiris	GYRINIDAE	1	M	Echo Lake MDI	B108	DIP NET	11-May-2008	Pinned	
55075	Gyrinus aquiris	GYRINIDAE	1	M	Echo Lake MDI	B108	DIP NET	11-May-2008	Pinned	
55076	Gyrinus aquiris	GYRINIDAE	1	M	Echo Lake MDI	B108	DIP NET	11-May-2008	Pinned	
55077	Gyrinus aquiris	GYRINIDAE	1	M	Echo Lake MDI	B108	DIP NET	11-May-2008	Pinned	
55078	Gyrinus aquiris	GYRINIDAE	1	M	Echo Lake MDI	B108	DIP NET	11-May-2008	Pinned	
55079	Gyrinus aquiris	GYRINIDAE	1	F	Echo Lake MDI	B108	DIP NET	11-May-2008	Pinned	
54891	Gyrinus borealis	GYRINIDAE	1	F	Breakneck Beaver Pond MDI	B134	DIP NET	11-Aug-2008	Pinned	
55230	Gyrinus borealis	GYRINIDAE	2	M	Breakneck Beaver Pond MDI	B114	DIP NET	12-May-2008	Alcohol	T5-D2
54876	Gyrinus borealis	GYRINIDAE	1	M	Duck Brook Beaver Pond MDI	B127A	DIP NET	12-May-2008	Pinned	
54877	Gyrinus borealis	GYRINIDAE	1	M	Duck Brook Beaver Pond MDI	B127A	DIP NET	12-May-2008	Pinned	
54878	Gyrinus borealis	GYRINIDAE	1	M	Duck Brook Beaver Pond MDI	B127A	DIP NET	12-May-2008	Pinned	
55217	Gyrinus borealis	GYRINIDAE	4	F	Duck Brook Beaver Pond MDI	B136	DIP NET	11-Aug-2008	Alcohol	T4-J4
55221	Gyrinus borealis	GYRINIDAE	5	F	Duck Brook Beaver Pond MDI	B106	DIP NET	9-May-2008	Alcohol	T5-B3
55226	Gyrinus borealis	GYRINIDAE	5	M	Duck Brook Beaver Pond MDI	B136	DIP NET	11-Aug-2008	Alcohol	T5-C3
55229	Gyrinus borealis	GYRINIDAE	1	M	Duck Brook Beaver Pond MDI	B106	DIP NET	9-May-2008	Alcohol	T5-D1
55233	Gyrinus borealis	GYRINIDAE	1	M	Duck Brook Beaver Pond MDI	B127A	DIP NET	12-May-2008	Alcohol	T5-D5
54870	Gyrinus borealis	GYRINIDAE	1	M	Duck Brook Vernal Pool MDI	B135	DIP NET	11-Aug-2008	Pinned	
54871	Gyrinus borealis	GYRINIDAE	1	M	Duck Brook Vernal Pool MDI	B135	DIP NET	11-Aug-2008	Pinned	
54872	Gyrinus borealis	GYRINIDAE	1	M	Duck Brook Vernal Pool MDI	B135	DIP NET	11-Aug-2008	Pinned	
54873	Gyrinus borealis	GYRINIDAE	1	M	Duck Brook Vernal Pool MDI	B135	DIP NET	11-Aug-2008	Pinned	
54874	Gyrinus borealis	GYRINIDAE	1	M	Duck Brook Vernal Pool MDI	B135	DIP NET	11-Aug-2008	Pinned	
54875	Gyrinus borealis	GYRINIDAE	1	M	Duck Brook Vernal Pool MDI	B135	DIP NET	11-Aug-2008	Pinned	
55218	Gyrinus borealis	GYRINIDAE	5	F	Duck Brook Vernal Pool MDI	B135	DIP NET	11-Aug-2008	Alcohol	T4-J5
54869	Gyrinus borealis	GYRINIDAE	1	M	Duck Pond MDI	B128B	DIP NET	10-Aug-2008	Pinned	
54879	Gyrinus borealis	GYRINIDAE	1	M	Duck Pond MDI	B140	TRAP	12-Aug-2008	Pinned	
54880	Gyrinus borealis	GYRINIDAE	1	F	Duck Pond MDI	B128B	DIP NET	10-Aug-2008	Pinned	
54881	Gyrinus borealis	GYRINIDAE	1	F	Duck Pond MDI	B128B	DIP NET	10-Aug-2008	Pinned	
54882	Gyrinus borealis	GYRINIDAE	1	F	Duck Pond MDI	B128B	DIP NET	10-Aug-2008	Pinned	
54883	Gyrinus borealis	GYRINIDAE	1	F	Duck Pond MDI	B128B	DIP NET	10-Aug-2008	Pinned	
55227	Gyrinus borealis	GYRINIDAE	2	M	Duck Pond MDI	B128B	DIP NET	10-Aug-2008	Alcohol	T5-C4
55236	Gyrinus borealis	GYRINIDAE	1	M	Eagle Lake Parking Lot MDI	B101	DIP NET	9-May-2008	Alcohol	T5-E3
55219	Gyrinus borealis	GYRINIDAE	2	F	Hodgdon Pond MDI	B109	DIP NET	11-May-2008	Alcohol	T5-B1
55222	Gyrinus borealis	GYRINIDAE	1	F	Hodgdon Pond MDI	B109	DIP NET	11-May-2008	Alcohol	T5-B4
55223	Gyrinus borealis	GYRINIDAE	1	F	Hodgdon Pond MDI	B119	TRAP	13-May-2008	Alcohol	T5-B5
55235	Gyrinus borealis	GYRINIDAE	2	M	Hodgdon Pond MDI	B109	DIP NET	11-May-2008	Alcohol	T5-E2
54884	Gyrinus borealis	GYRINIDAE	1	F	Route 3 Beaver Pond MDI	B138	DIP NET	11-Aug-2008	Pinned	
54885	Gyrinus borealis	GYRINIDAE	1	F	Route 3 Beaver Pond MDI	B138	DIP NET	11-Aug-2008	Pinned	
54886	Gyrinus borealis	GYRINIDAE	1	F	Route 3 Beaver Pond MDI	B138	DIP NET	11-Aug-2008	Pinned	

54887	Gyrinus borealis	GYRINIDAE	1	F	Route 3 Beaver Pond MDI	B138	DIP NET	11-Aug-2008	Pinned	
55216	Gyrinus borealis	GYRINIDAE	7	F	Route 3 Beaver Pond MDI	B138	DIP NET	11-Aug-2008	Alcohol	T4-J3
54888	Gyrinus borealis	GYRINIDAE	1	F	Schooner Head Marsh MDI	B103	DIP NET	9-May-2008	Pinned	
54889	Gyrinus borealis	GYRINIDAE	1	F	Schooner Head Marsh MDI	B103	DIP NET	9-May-2008	Pinned	
54890	Gyrinus borealis	GYRINIDAE	1	F	Schooner Head Marsh MDI	B103	DIP NET	9-May-2008	Pinned	
55232	Gyrinus borealis	GYRINIDAE	5	M	Schooner Head Marsh MDI	B103	DIP NET	9-May-2008	Alcohol	T5-D4
55234	Gyrinus borealis	GYRINIDAE	2	M	Schooner Head Marsh MDI	B137	DIP NET	11-Aug-2008	Alcohol	T5-E1
55220	Gyrinus borealis	GYRINIDAE	1	F	Seal Cove Beaver Pond MDI	B110	DIP NET	11-May-2008	Alcohol	T5-B2
55224	Gyrinus borealis	GYRINIDAE	5	F	Seal Cove Beaver Pond MDI	B129	DIP NET	10-Aug-2008	Alcohol	T5-C1
55225	Gyrinus borealis	GYRINIDAE	2	M	Seal Cove Beaver Pond MDI	B129	DIP NET	10-Aug-2008	Alcohol	T5-C2
55231	Gyrinus borealis	GYRINIDAE	1	M	Seal Cove Beaver Pond MDI	B110	DIP NET	11-May-2008	Alcohol	T5-D3
55228	Gyrinus borealis	GYRINIDAE	1	M	The Tarn MDI	B105	DIP NET	9-May-2008	Alcohol	T5-C5
54901	Gyrinus dichrous	GYRINIDAE	1	M	Hodgdon Pond MDI	B109	DIP NET	11-May-2008	Pinned	
54902	Gyrinus dichrous	GYRINIDAE	1	F	Hodgdon Pond MDI	B109	DIP NET	11-May-2008	Pinned	
54892	Gyrinus fraternus	GYRINIDAE	1	M	Hodgdon Pond MDI	B109	DIP NET	11-May-2008	Pinned	
54893	Gyrinus fraternus	GYRINIDAE	1	M	Hodgdon Pond MDI	B109	DIP NET	11-May-2008	Pinned	
54894	Gyrinus fraternus	GYRINIDAE	1	M	Hodgdon Pond MDI	B109	DIP NET	11-May-2008	Pinned	
54895	Gyrinus fraternus	GYRINIDAE	1	M	Hodgdon Pond MDI	B109	DIP NET	11-May-2008	Pinned	
54896	Gyrinus fraternus	GYRINIDAE	1	M	Hodgdon Pond MDI	B109	DIP NET	11-May-2008	Pinned	
54897	Gyrinus fraternus	GYRINIDAE	1	F	Hodgdon Pond MDI	B109	DIP NET	11-May-2008	Pinned	
54898	Gyrinus fraternus	GYRINIDAE	1	F	Hodgdon Pond MDI	B109	DIP NET	11-May-2008	Pinned	
54899	Gyrinus fraternus	GYRINIDAE	1	F	Hodgdon Pond MDI	B109	DIP NET	11-May-2008	Pinned	
54900	Gyrinus fraternus	GYRINIDAE	1	F	Hodgdon Pond MDI	B127B	DIP NET	10-Aug-2008	Pinned	
55025	Gyrinus gibber	GYRINIDAE	1	M	Hodgdon Pond MDI	B109	DIP NET	11-May-2008	Pinned	
55026	Gyrinus gibber	GYRINIDAE	1	F	Hodgdon Pond MDI	B109	DIP NET	11-May-2008	Pinned	
55209	Gyrinus gibber	GYRINIDAE	1	M	Hodgdon Pond MDI	B109	DIP NET	11-May-2008	Alcohol	T4-I1
55210	Gyrinus gibber	GYRINIDAE	2	F	Hodgdon Pond MDI	B109	DIP NET	11-May-2008	Alcohol	T4-I2
55211	Gyrinus gibber	GYRINIDAE	1	F	Hodgdon Pond MDI	B127B	DIP NET	10-Aug-2008	Alcohol	T4-I3
54857	Gyrinus latilimbus	GYRINIDAE	1	M	Breakneck Beaver Pond MDI	B114	DIP NET	12-May-2008	Pinned	
54859	Gyrinus latilimbus	GYRINIDAE	1	F	Breakneck Beaver Pond MDI	B114	DIP NET	12-May-2008	Pinned	
54860	Gyrinus latilimbus	GYRINIDAE	1	F	Breakneck Beaver Pond MDI	B114	DIP NET	12-May-2008	Pinned	
54861	Gyrinus latilimbus	GYRINIDAE	1	F	Breakneck Beaver Pond MDI	B114	DIP NET	12-May-2008	Pinned	
54862	Gyrinus latilimbus	GYRINIDAE	1	F	Breakneck Beaver Pond MDI	B114	DIP NET	12-May-2008	Pinned	
54863	Gyrinus latilimbus	GYRINIDAE	1	F	Breakneck Beaver Pond MDI	B114	DIP NET	12-May-2008	Pinned	
54864	Gyrinus latilimbus	GYRINIDAE	1	F	Breakneck Beaver Pond MDI	B114	DIP NET	12-May-2008	Pinned	
54865	Gyrinus latilimbus	GYRINIDAE	1	F	Breakneck Beaver Pond MDI	B114	DIP NET	12-May-2008	Pinned	
54866	Gyrinus latilimbus	GYRINIDAE	1	F	Breakneck Beaver Pond MDI	B114	DIP NET	12-May-2008	Pinned	
54867	Gyrinus latilimbus	GYRINIDAE	1	F	Breakneck Beaver Pond MDI	B114	DIP NET	12-May-2008	Pinned	
54868	Gyrinus latilimbus	GYRINIDAE	1	F	Breakneck Beaver Pond MDI	B114	DIP NET	12-May-2008	Pinned	
55201	Gyrinus latilimbus	GYRINIDAE	5	M	Breakneck Beaver Pond MDI	B114	DIP NET	12-May-2008	Alcohol	T4-G3
55200	Gyrinus latilimbus	GYRINIDAE	1	M	Hodgdon Pond MDI	B109	DIP NET	11-May-2008	Alcohol	T4-G2
54858	Gyrinus latilimbus	GYRINIDAE	1	F	The Tarn MDI	B105	DIP NET	9-May-2008	Pinned	
54903	Gyrinus maculiventris	GYRINIDAE	1	F	Schooner Head Marsh Pool MDI	B104	DIP NET	9-May-2008	Pinned	
54810	Gyrinus peritidus	GYRINIDAE	1	M	Schooner Head Marsh MDI	B137	DIP NET	11-Aug-2008	Pinned	
54811	Gyrinus peritidus	GYRINIDAE	1	M	Schooner Head Marsh MDI	B137	DIP NET	11-Aug-2008	Pinned	
54812	Gyrinus peritidus	GYRINIDAE	1	M	Schooner Head Marsh MDI	B137	DIP NET	11-Aug-2008	Pinned	
54813	Gyrinus peritidus	GYRINIDAE	1	M	Schooner Head Marsh MDI	B137	DIP NET	11-Aug-2008	Pinned	
54814	Gyrinus peritidus	GYRINIDAE	1	F	Schooner Head Marsh MDI	B137	DIP NET	11-Aug-2008	Pinned	
54819	Gyrinus pugionis	GYRINIDAE	1	M	Breakneck Beaver Pond MDI	B114	DIP NET	12-May-2008	Pinned	
54820	Gyrinus pugionis	GYRINIDAE	1	M	Breakneck Beaver Pond MDI	B114	DIP NET	12-May-2008	Pinned	

54821	Gyrinus pugionis	GYRINIDAE	1	M	Breakneck Beaver Pond MDI	B114	DIP NET	12-May-2008	Pinned	
54822	Gyrinus pugionis	GYRINIDAE	1	M	Breakneck Beaver Pond MDI	B114	DIP NET	12-May-2008	Pinned	
54825	Gyrinus pugionis	GYRINIDAE	1	F	Breakneck Beaver Pond MDI	B114	DIP NET	12-May-2008	Pinned	
55202	Gyrinus pugionis	GYRINIDAE	1	M	Breakneck Beaver Pond MDI	B134	DIP NET	11-Aug-2008	Alcohol	T4-G4
54817	Gyrinus pugionis	GYRINIDAE	1	M	Duck Pond MDI	B128B	DIP NET	10-Aug-2008	Pinned	
54824	Gyrinus pugionis	GYRINIDAE	1	F	Duck Pond MDI	B128B	DIP NET	10-Aug-2008	Pinned	
54818	Gyrinus pugionis	GYRINIDAE	1	M	Schooner Head Marsh MDI	B137	DIP NET	11-Aug-2008	Pinned	
54826	Gyrinus pugionis	GYRINIDAE	1	F	Schooner Head Marsh MDI	B137	DIP NET	11-Aug-2008	Pinned	
54827	Gyrinus pugionis	GYRINIDAE	1	F	Schooner Head Marsh MDI	B137	DIP NET	11-Aug-2008	Pinned	
54815	Gyrinus pugionis	GYRINIDAE	1	M	Seal Cove Beaver Pond MDI	B129	DIP NET	10-Aug-2008	Pinned	
54816	Gyrinus pugionis	GYRINIDAE	1	M	Seal Cove Beaver Pond MDI	B129	DIP NET	10-Aug-2008	Pinned	
54823	Gyrinus pugionis	GYRINIDAE	1	F	Seal Cove Beaver Pond MDI	B129	DIP NET	10-Aug-2008	Pinned	
55203	Gyrinus pugionis	GYRINIDAE	2	M	Seal Cove Beaver Pond MDI	B110	DIP NET	11-May-2008	Alcohol	T4-G5
55027	Gyrinus pugionis	GYRINIDAE	1	M	The Tam MDI	B105	DIP NET	9-May-2008	Pinned	
55028	Gyrinus pugionis	GYRINIDAE	1	F	The Tam MDI	B105	DIP NET	9-May-2008	Pinned	
55029	Gyrinus pugionis	GYRINIDAE	1	F	The Tam MDI	B105	DIP NET	9-May-2008	Pinned	
55030	Gyrinus pugionis	GYRINIDAE	1	F	The Tam MDI	B105	DIP NET	9-May-2008	Pinned	
54837	Gyrinus sayi	GYRINIDAE	1	M	Beaver Dam Pond MDI	B102	DIP NET	9-May-2008	Pinned	
54842	Gyrinus sayi	GYRINIDAE	1	F	Breakneck Beaver Pond MDI	B114	DIP NET	12-May-2008	Pinned	
54843	Gyrinus sayi	GYRINIDAE	1	F	Breakneck Beaver Pond MDI	B114	DIP NET	12-May-2008	Pinned	
54844	Gyrinus sayi	GYRINIDAE	1	F	Breakneck Beaver Pond MDI	B114	DIP NET	12-May-2008	Pinned	
55208	Gyrinus sayi	GYRINIDAE	1	M	Breakneck Beaver Pond MDI	B114	DIP NET	12-May-2008	Alcohol	T4-H5
54831	Gyrinus sayi	GYRINIDAE	1	M	Duck Brook Beaver Pond MDI	B127A	DIP NET	12-May-2008	Pinned	
54832	Gyrinus sayi	GYRINIDAE	1	M	Duck Brook Beaver Pond MDI	B127A	DIP NET	12-May-2008	Pinned	
54833	Gyrinus sayi	GYRINIDAE	1	M	Duck Brook Beaver Pond MDI	B127A	DIP NET	12-May-2008	Pinned	
54841	Gyrinus sayi	GYRINIDAE	1	F	Duck Brook Beaver Pond MDI	B106	DIP NET	9-May-2008	Pinned	
54830	Gyrinus sayi	GYRINIDAE	1	M	Duck Brook Vernal Pool MDI	B135	DIP NET	11-Aug-2008	Pinned	
55022	Gyrinus sayi	GYRINIDAE	1	M	Eagle Lake Parking Lot MDI	B101	DIP NET	9-May-2008	Pinned	
55023	Gyrinus sayi	GYRINIDAE	1	F	Eagle Lake Parking Lot MDI	B101	DIP NET	9-May-2008	Pinned	
55204	Gyrinus sayi	GYRINIDAE	4	F	Echo Lake MDI	B108	DIP NET	11-May-2008	Alcohol	T4-H1
55206	Gyrinus sayi	GYRINIDAE	3	M	Echo Lake MDI	B108	DIP NET	11-May-2008	Alcohol	T4-H3
54838	Gyrinus sayi	GYRINIDAE	1	M	Hodgdon Pond MDI	B109	DIP NET	11-May-2008	Pinned	
55238	Gyrinus sayi	GYRINIDAE	1	F	Hodgdon Pond MDI	B127B	DIP NET	10-Aug-2008	Alcohol	T5-E5
55207	Gyrinus sayi	GYRINIDAE	1	M	Ranger Cabin Pond, Schoodic Peninsula	s.n.	DIP NET	9-Aug-2008	Alcohol	T4-H4
54840	Gyrinus sayi	GYRINIDAE	1	M	Ranger Station Pond Schoodic Peninsula	s.n.	DIP NET	9-Aug-2008	Pinned	
54828	Gyrinus sayi	GYRINIDAE	1	M	Route 3 Beaver Pond MDI	B138	DIP NET	11-Aug-2008	Pinned	
54829	Gyrinus sayi	GYRINIDAE	1	M	Route 3 Beaver Pond MDI	B138	DIP NET	11-Aug-2008	Pinned	
54835	Gyrinus sayi	GYRINIDAE	1	M	Schooner Head Marsh MDI	B137	DIP NET	11-Aug-2008	Pinned	
54836	Gyrinus sayi	GYRINIDAE	1	M	Schooner Head Marsh MDI	B137	DIP NET	11-Aug-2008	Pinned	
54839	Gyrinus sayi	GYRINIDAE	1	M	Schooner Head Marsh MDI	B137	DIP NET	11-Aug-2008	Pinned	
54845	Gyrinus sayi	GYRINIDAE	1	F	Schooner Head Marsh MDI	B137	DIP NET	11-Aug-2008	Pinned	
55205	Gyrinus sayi	GYRINIDAE	1	F	Seal Cove Beaver Pond MDI	B110	DIP NET	11-May-2008	Alcohol	T4-H2
54834	Gyrinus sayi	GYRINIDAE	1	M	The Reservoir MDI	B130	DIP NET	10-Aug-2008	Pinned	
55237	Gyrinus sayi	GYRINIDAE	2	F	The Reservoir MDI	B130	DIP NET	10-Aug-2008	Alcohol	T5-E4
55250	Haliplus sp.	HALIPLIDAE	1		Beaver Dam Pond MDI	B102	DIP NET	9-May-2008	Alcohol	T5-G3
55251	Haliplus sp.	HALIPLIDAE	3		Schooner Head Marsh MDI	B137	DIP NET	11-Aug-2008	Alcohol	T5-G4
55249	Haliplus sp.	HALIPLIDAE	1		Seawall Bog MDI	B132	DIP NET	10-Aug-2008	Alcohol	T5-G2
55253	Troposternus sp.	HYDROPHILIDAE	2		Schooner Head Marsh MDI	B149	TRAP	13-Aug-2008	Alcohol	T5-H1
55252	Troposternus sp.	HYDROPHILIDAE	1		Seal Cove Beaver Pond MDI	B141	TRAP	12-Aug-2008	Alcohol	T5-G5
54929	Nepa apiculata	NEPIDAE	1		Echo Lake MDI	B108	DIP NET	11-May-2008	Pinned	

54930	<i>Nepa apiculata</i>	NEPIDAE	1	Echo Lake MDI	B120	TRAP	13-May-2008	Pinned	
55004	<i>Ranatra fusca</i>	NEPIDAE	1	Duck Brook Beaver Pond MDI	B127A	DIP NET	12-May-2008	Pinned	
55005	<i>Ranatra fusca</i>	NEPIDAE	1	Duck Brook Beaver Pond MDI	B123	TRAP	14-May-2008	Pinned	
55006	<i>Ranatra fusca</i>	NEPIDAE	1	Eagle Lake Parking Lot MDI	B121	TRAP	14-May-2008	Pinned	
54999	<i>Ranatra fusca</i>	NEPIDAE	1	Schooner Head Marsh MDI	B103	DIP NET	9-May-2008	Pinned	
55000	<i>Ranatra fusca</i>	NEPIDAE	1	Schooner Head Marsh MDI	B149	TRAP	13-Aug-2008	Pinned	
55001	<i>Ranatra fusca</i>	NEPIDAE	1	Schooner Head Marsh MDI	B149	TRAP	13-Aug-2008	Pinned	
55002	<i>Ranatra fusca</i>	NEPIDAE	1	Schooner Head Marsh MDI	B125	TRAP	14-May-2008	Pinned	
55007	<i>Ranatra fusca</i>	NEPIDAE	1	Seawall Bog MDI	B117	TRAP	13-May-2008	Pinned	
55008	<i>Ranatra fusca</i>	NEPIDAE	1	Seawall Pond MDI	B115	TRAP	13-May-2008	Pinned	
55003	<i>Ranatra fusca</i>	NEPIDAE	1	The Tarn MDI	B126	TRAP	14-May-2008	Pinned	
55257	<i>Ranatra</i> sp.	NEPIDAE	1	Duck Pond MDI	B128B	DIP NET	10-Aug-2008	Alcohol	T5-H5
55084	<i>Hydrocanthus iricolor</i>	NOTERIDAE	2	Breakneck Beaver Pond MDI	B114	DIP NET	12-May-2008	Alcohol	T2-B1
55086	<i>Hydrocanthus iricolor</i>	NOTERIDAE	2	Breakneck Beaver Pond MDI	B134	DIP NET	11-Aug-2008	Alcohol	T2-B3
55085	<i>Hydrocanthus iricolor</i>	NOTERIDAE	1	Eagle Lake Parking Lot MDI	B121	TRAP	14-May-2008	Alcohol	T2-B2
55087	<i>Hydrocanthus iricolor</i>	NOTERIDAE	1	Eagle Lake Parking Lot MDI	B113	DIP NET	12-May-2008	Alcohol	T2-B4
55088	<i>Hydrocanthus iricolor</i>	NOTERIDAE	2	Eagle Lake Parking Lot MDI	B133	DIP NET	11-Aug-2008	Alcohol	T2-B5
55254	<i>Hydrometra</i> sp.	NOTERIDAE	1	Duck Brook Beaver Pond MDI	B136	DIP NET	11-Aug-2008	Alcohol	T5-H2
55247	<i>Buenoa confusa</i>	NOTONECTIDAE		Duck Pond MDI	B128B	DIP NET	10-Aug-2008	Alcohol	??
54949	<i>Buenoa confusa</i>	NOTONECTIDAE	1	Seal Cove Beaver Pond MDI	B129	DIP NET	10-Aug-2008	Pinned	
54950	<i>Buenoa confusa</i>	NOTONECTIDAE	1	Seal Cove Beaver Pond MDI	B129	DIP NET	10-Aug-2008	Pinned	
54951	<i>Buenoa confusa</i>	NOTONECTIDAE	1	Seal Cove Beaver Pond MDI	B129	DIP NET	10-Aug-2008	Pinned	
55245	<i>Buenoa confusa</i>	NOTONECTIDAE		Seal Cove Beaver Pond MDI	B129	DIP NET	10-Aug-2008	Alcohol	??
55246	<i>Buenoa confusa</i>	NOTONECTIDAE		Seawall Bog MDI	B132	DIP NET	10-Aug-2008	Alcohol	??
55244	<i>Buenoa confusa</i>	NOTONECTIDAE		Seawall Pond MDI	B131	DIP NET	10-Aug-2008	Alcohol	??
55134	<i>Notonecta insulata</i>	NOTONECTIDAE	1	Duck Brook Vernal Pool MDI	B128A	DIP NET	12-May-2008	Alcohol	T2-I1
55123	<i>Notonecta insulata</i>	NOTONECTIDAE	1	Schooner Head Marsh MDI	B125	TRAP	14-May-2008	Pinned	
55124	<i>Notonecta insulata</i>	NOTONECTIDAE	1	Schooner Head Marsh MDI	B125	TRAP	14-May-2008	Pinned	
55125	<i>Notonecta insulata</i>	NOTONECTIDAE	1	Schooner Head Marsh MDI	B125	TRAP	14-May-2008	Pinned	
55126	<i>Notonecta insulata</i>	NOTONECTIDAE	1	Schooner Head Marsh MDI	B125	TRAP	14-May-2008	Pinned	
55127	<i>Notonecta insulata</i>	NOTONECTIDAE	1	Schooner Head Marsh MDI	B125	TRAP	14-May-2008	Pinned	
55128	<i>Notonecta insulata</i>	NOTONECTIDAE	1	Schooner Head Marsh MDI	B125	TRAP	14-May-2008	Pinned	
55129	<i>Notonecta insulata</i>	NOTONECTIDAE	5	Schooner Head Marsh MDI	B125	TRAP	14-May-2008	Alcohol	T2-H1
55132	<i>Notonecta insulata</i>	NOTONECTIDAE	1	Schooner Head Marsh MDI	B137	DIP NET	11-Aug-2008	Alcohol	T2-H4
55130	<i>Notonecta insulata</i>	NOTONECTIDAE	1	Seawall Bog MDI	B117	TRAP	13-May-2008	Alcohol	T2-H2
55133	<i>Notonecta insulata</i>	NOTONECTIDAE	1	Seawall Bog MDI	B107	DIP NET	11-May-2008	Alcohol	T2-H5
55131	<i>Notonecta insulata</i>	NOTONECTIDAE	1	The Reservoir MDI	B130	DIP NET	10-Aug-2008	Alcohol	T2-H3
55138	<i>Notonecta irrorata</i>	NOTONECTIDAE	1	Duck Brook Beaver Pond MDI	B123	TRAP	14-May-2008	Alcohol	T2-I5
55139	<i>Notonecta irrorata</i>	NOTONECTIDAE	1	Duck Brook Beaver Pond MDI	B127A	DIP NET	12-May-2008	Alcohol	T2-J1
55145	<i>Notonecta irrorata</i>	NOTONECTIDAE	2	Duck Brook Vernal Pool MDI	B135	DIP NET	11-Aug-2008	Alcohol	T3-B2
55140	<i>Notonecta irrorata</i>	NOTONECTIDAE	4	Eagle Lake Parking Lot MDI	B121	TRAP	14-May-2008	Alcohol	T2-J2
55137	<i>Notonecta irrorata</i>	NOTONECTIDAE	1	Hodgdon Pond MDI	B119	TRAP	13-May-2008	Alcohol	T2-I4
55144	<i>Notonecta irrorata</i>	NOTONECTIDAE	1	Route 3 Beaver Pond MDI	B138	DIP NET	11-Aug-2008	Alcohol	T3-B1
55135	<i>Notonecta irrorata</i>	NOTONECTIDAE	1	Schooner Head Marsh MDI	B125	TRAP	14-May-2008	Alcohol	T2-I2
55136	<i>Notonecta irrorata</i>	NOTONECTIDAE	2	Seawall Bog MDI	B117	TRAP	13-May-2008	Alcohol	T2-I3
55141	<i>Notonecta irrorata</i>	NOTONECTIDAE	1	Seawall Pond MDI	B115	TRAP	13-May-2008	Alcohol	T2-J3
55142	<i>Notonecta irrorata</i>	NOTONECTIDAE	1	Seawall Pond MDI	B131	DIP NET	10-Aug-2008	Alcohol	T2-J4
55143	<i>Notonecta irrorata</i>	NOTONECTIDAE	1	Seawall Pond MDI	B132	DIP NET	10-Aug-2008	Alcohol	T2-J5
54947	<i>Notonecta irrorata</i>	NOTONECTIDAE	1	The Reservoir MDI	B142	TRAP	12-Aug-2008	Pinned	
54948	<i>Notonecta irrorata</i>	NOTONECTIDAE	1	The Reservoir MDI	B142	TRAP	12-Aug-2008	Pinned	

55107	Notonecta lunata	NOTONECTIDAE	1	Beaver Dam Pond MDI	B124	TRAP	14-May-2008	Pinned	
55108	Notonecta lunata	NOTONECTIDAE	1	Beaver Dam Pond MDI	B124	TRAP	14-May-2008	Pinned	
55109	Notonecta lunata	NOTONECTIDAE	1	Beaver Dam Pond MDI	B124	TRAP	14-May-2008	Pinned	
55110	Notonecta lunata	NOTONECTIDAE	1	Beaver Dam Pond MDI	B124	TRAP	14-May-2008	Pinned	
55111	Notonecta lunata	NOTONECTIDAE	1	Beaver Dam Pond MDI	B124	TRAP	14-May-2008	Pinned	
55112	Notonecta lunata	NOTONECTIDAE	1	Beaver Dam Pond MDI	B124	TRAP	14-May-2008	Pinned	
55119	Notonecta lunata	NOTONECTIDAE	1	Breakneck Beaver Pond MDI	B122	TRAP	14-May-2008	Alcohol	T2-G2
55121	Notonecta lunata	NOTONECTIDAE	1	Duck Brook Beaver Pond MDI	B123	TRAP	14-May-2008	Alcohol	T2-G4
55115	Notonecta lunata	NOTONECTIDAE	2	Hodgdon Pond MDI	B127B	DIP NET	10-Aug-2008	Alcohol	T2-F3
55116	Notonecta lunata	NOTONECTIDAE	1	Hodgdon Pond MDI	B109	DIP NET	11-May-2008	Alcohol	T2-F4
55118	Notonecta lunata	NOTONECTIDAE	1	Hodgdon Pond MDI	B119	TRAP	13-May-2008	Alcohol	T2-G1
55122	Notonecta lunata	NOTONECTIDAE	2	Schooner Head Marsh MDI	B125	TRAP	14-May-2008	Alcohol	T2-G5
55113	Notonecta lunata	NOTONECTIDAE	4	Seawall Pond MDI	B131	DIP NET	10-Aug-2008	Alcohol	T2-F1
55114	Notonecta lunata	NOTONECTIDAE	1	Seawall Pond MDI	B111	DIP NET	11-May-2008	Alcohol	T2-F2
55117	Notonecta lunata	NOTONECTIDAE	8	Seawall Pond MDI	B115	TRAP	13-May-2008	Alcohol	T2-F5
55120	Notonecta lunata	NOTONECTIDAE	2	The Tam MDI	B126	TRAP	14-May-2008	Alcohol	T2-G3
55102	Notonecta petrunkevitchi	NOTONECTIDAE	1	Hodgdon Pond MDI	B139	TRAP	12-Aug-2008	Pinned	
55103	Notonecta petrunkevitchi	NOTONECTIDAE	1	Hodgdon Pond MDI	B139	TRAP	12-Aug-2008	Pinned	
55104	Notonecta petrunkevitchi	NOTONECTIDAE	1	Hodgdon Pond MDI	B139	TRAP	12-Aug-2008	Pinned	
55105	Notonecta petrunkevitchi	NOTONECTIDAE	4	Hodgdon Pond MDI	B127B	DIP NET	10-Aug-2008	Alcohol	T2-E4
55106	Notonecta petrunkevitchi	NOTONECTIDAE	5	Hodgdon Pond MDI	B119	TRAP	13-May-2008	Alcohol	T2-E5
55149	Notonecta undulata	NOTONECTIDAE	1	Breakneck Beaver Pond MDI	B122	TRAP	14-May-2008	Alcohol	T3-C1
55170	Notonecta undulata	NOTONECTIDAE	1	Breakneck Beaver Pond MDI	B134	DIP NET	11-Aug-2008	Alcohol	T3-G2
55150	Notonecta undulata	NOTONECTIDAE	3	Duck Brook Beaver Pond MDI	B127A	DIP NET	12-May-2008	Alcohol	T3-C2
55152	Notonecta undulata	NOTONECTIDAE	4	Duck Brook Beaver Pond MDI	B123	TRAP	14-May-2008	Alcohol	T3-C4
55163	Notonecta undulata	NOTONECTIDAE	3	Duck Brook Beaver Pond MDI	B136	DIP NET	11-Aug-2008	Alcohol	T3-E5
55146	Notonecta undulata	NOTONECTIDAE	1	Duck Brook Vernal Pool MDI	B128A	DIP NET	12-May-2008	Alcohol	T3-B3
55166	Notonecta undulata	NOTONECTIDAE	2	Duck Brook Vernal Pool MDI	B135	DIP NET	11-Aug-2008	Alcohol	T3-F3
55160	Notonecta undulata	NOTONECTIDAE	9	Duck Pond MDI	B140	TRAP	12-Aug-2008	Alcohol	T3-E2
55167	Notonecta undulata	NOTONECTIDAE	16	Duck Pond MDI	B128B	DIP NET	10-Aug-2008	Alcohol	T3-F4
55151	Notonecta undulata	NOTONECTIDAE	4	Eagle Lake Parking Lot MDI	B121	TRAP	14-May-2008	Alcohol	T3-C3
55155	Notonecta undulata	NOTONECTIDAE	1	Echo Lake MDI	B108	DIP NET	11-May-2008	Alcohol	T3-D2
55157	Notonecta undulata	NOTONECTIDAE	6	Hodgdon Pond MDI	B119	TRAP	13-May-2008	Alcohol	T3-D4
55161	Notonecta undulata	NOTONECTIDAE	1	Hodgdon Pond MDI	B127B	DIP NET	10-Aug-2008	Alcohol	T3-E3
55173	Notonecta undulata	NOTONECTIDAE	1	Hodgdon Pond MDI	B139	TRAP	12-Aug-2008	Alcohol	T3-G5
55169	Notonecta undulata	NOTONECTIDAE	1	Route 3 Beaver Pond MDI	B138	DIP NET	11-Aug-2008	Alcohol	T3-G1
55147	Notonecta undulata	NOTONECTIDAE	7	Schooner Head Marsh MDI	B110	DIP NET	11-May-2008	Alcohol	T3-B4
55153	Notonecta undulata	NOTONECTIDAE	7	Schooner Head Marsh MDI	B125	TRAP	14-May-2008	Alcohol	T3-C5
55154	Notonecta undulata	NOTONECTIDAE	12	Schooner Head Marsh MDI	B103	DIP NET	9-May-2008	Alcohol	T3-D1
55168	Notonecta undulata	NOTONECTIDAE	1	Schooner Head Marsh MDI	B149	TRAP	13-Aug-2008	Alcohol	T3-F5
55171	Notonecta undulata	NOTONECTIDAE	3	Schooner Head Marsh MDI	B137	DIP NET	11-Aug-2008	Alcohol	T3-G3
54944	Notonecta undulata	NOTONECTIDAE	1	Seal Cove Beaver Pond MDI	B129	DIP NET	10-Aug-2008	Pinned	
54945	Notonecta undulata	NOTONECTIDAE	1	Seal Cove Beaver Pond MDI	B129	DIP NET	10-Aug-2008	Pinned	
54946	Notonecta undulata	NOTONECTIDAE	1	Seal Cove Beaver Pond MDI	B129	DIP NET	10-Aug-2008	Pinned	
55148	Notonecta undulata	NOTONECTIDAE	14	Seal Cove Beaver Pond MDI	B118	TRAP	13-May-2008	Alcohol	T3-B5
55162	Notonecta undulata	NOTONECTIDAE	5	Seal Cove Beaver Pond MDI	B141	TRAP	12-Aug-2008	Alcohol	T3-E4
55164	Notonecta undulata	NOTONECTIDAE	10	Seal Cove Beaver Pond MDI	B129	DIP NET	10-Aug-2008	Alcohol	T3-F1
55156	Notonecta undulata	NOTONECTIDAE	16	Seawall Bog MDI	B117	TRAP	13-May-2008	Alcohol	T3-D3
55158	Notonecta undulata	NOTONECTIDAE	3	Seawall Bog MDI	B107	DIP NET	11-May-2008	Alcohol	T3-D5
55159	Notonecta undulata	NOTONECTIDAE	8	Seawall Pond MDI	B115	TRAP	13-May-2008	Alcohol	T3-E1