

## Ants of Baxter Park: 2013 - The Travelers Range Summary Report

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The ant fauna of Baxter State Park has been little studied. An altitudinal transect up Mt. Katahdin was sampled using pitfall traps in the late 1980s (Daniel Jennings, *personal communication*), but the samples, sent to the Canadian National Collection in Ontario, were never identified and have been lost. Israel Del Toro, a Ph.D. student at the University of Massachusetts, collected ants along two transects along the Park Tote Road, just inside the north end of the park (46.16 North, -68.85 West) – one in forested habitat and one in open habitat - in July 2010. He collected 6 species: one specimen each of *Myrmica americana*, and *Myrmica punctiventris* along the forested transect, and a number of specimens of *M. americana*, *M. detritinodis*, *M. incompleta*, *Formica lasioides*, *F. subsericea*, and *Lasius neoniger* along the open transect. Other records include a note by William Wheeler in his 1906 *Fauna of New England – List of the Formicidae* of a *Camponotus pennsylvanicus* collected from Mount Katahdin (date unknown) and two 1935 records of *Formica aserva* from Mount Katahdin.

A group led by Harvard Forest researcher Aaron Ellison collected ants in the Travelers section of Baxter Park during the week of July 9<sup>th</sup> (Figure 1). Ant samples were collected on all the peaks—Peak of the Ridge, Traveler, North Traveler, and the unnamed peak in between—as well as a range of habitats in between the peaks and extending down in elevation to the South Branch Campground, the shores of Pogy Brook, and along other trails around South Branch Campground (Pogy Brook Trail, Howe Falls Trail, Lower Fowler Pond Trail) (Figures 2, 3). At each site (Table 1), we collected ants by searching a 50 × 50-m plot for one person-hour; we collected three worker ants from any ant nest we encountered during this timed search. Leaf litter, when available, was collected haphazardly (4-L sample) and sieved in the field; the few ants we found in this sieved litter were also collected. Finally, we collected ants from individual nests encountered adjacent to the trails of the Traveler Loop trail system (North Traveler Trail, Traveler Trail, and Center Ridge Trail).

In total, we collected samples of workers from 266 nests representing 27 species (Table 2). Of these, 13 are new records for Piscataquis County, and one, *Formica adamsi* (Figure 4) – collected from a trailside nest west of North Traveler Mountain, is a new species record not only for Maine but also for all of New England.

Four species collected by Del Toro in 2010, *Myrmica americana*, *M. punctiventris*, *M. incompleta*, and *Formica lasioides*, were not collected in our survey of the Traveler Mountain region. Including these in the Baxter State Park list gives a total of 31 species for the park.

Other species known from Piscataquis county, but outside the park, include *Dolichoderus mariae*, *Camponotus nearcticus*, *Formica glacialis*, *F. hewitti*, *F. impexa*, *F. podzolica*, *Aphaenogaster rudis*, *Lasius minutus*, and *Myrmica latifrons*. The total number of species known

from the county currently stands at 40, just under 50% of the 95 species currently known from the State of Maine.

All identifications of ants collected in 2013 (and 2010) have been confirmed at Harvard's Museum of Comparative Zoology (MCZ). Pinned voucher specimens have been deposited at the Maine State entomological collection in Augusta (ELMF). All unpinned specimens from both the 2013 and 2010 collections are stored in 95% ethanol, and also have been deposited at ELMF.

All data (as a .csv spreadsheet) have also been sent to ELMF, and are archived in the Harvard Forest Data Archive, within dataset HF-147

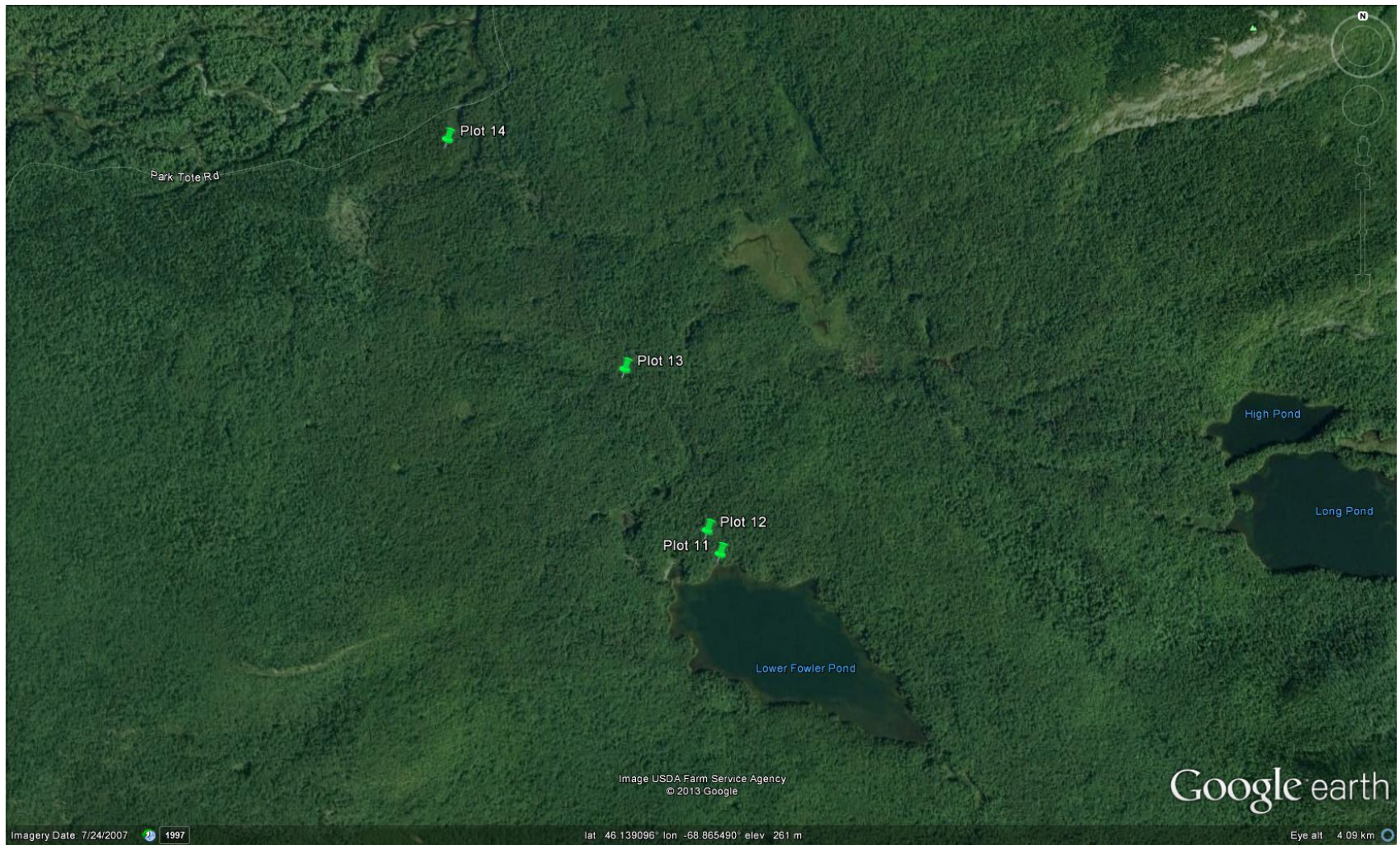
(<http://harvardforest.fas.harvard.edu:8080/exist/xquery/data.xq?id=hf147>).



**Figure 1 – The 2013 ant crew on the way to North Traveler. Left to right: Aaron Ellison, Dave Bourque, Dana Michaud, Charlene Donohus, Kyle Bradford, Kaitlyn O'Donnell**



**Figure 2. Sample locations along the Traveler Loop trail system (plots: yellow “push-pins”; trailside nests: red and pink markers), Pogy Brook Trail and South Branch Pond Campground (cyan push-pins), and Howe Brook Trail (dark blue push-pins). See Table 1 for plot coordinates and descriptions.**



**Figure 3. Sample locations along the Fowler Brook Trail (green push-pins). See Table 1 for plot coordinates and descriptions.**

**Table 1. Plot locations and descriptions from which ants were sampled at Baxter Park, July 9-13, 2013. Colors correspond to “push-pins” on aerial photos of Figures 2 and 3.**

	<b>Plot number</b>	<b>Date sampled</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Elevation (m asl)</b>	<b>Description</b>
<b>Traveler Loop</b>	<b>Plot 1</b>	9-Jul	46.1008	-68.8657	884	North Traveler Trail, rhyolite peak above treeline
	<b>Plot 2</b>	9-Jul	46.1009	-68.8660	881	North Traveler Trail, blueberry grass meadow
	<b>Plot 3</b>	9-Jul	46.1002	-68.8699	792	North Traveler Trail, low kalmia shrubland
	<b>Plot 4</b>	9-Jul	46.1010	-68.8712	795	North Traveler Trail, paper birch woodland
	<b>Plot 5</b>	10-Jul	46.0787	-68.8719	873	Traveler Loop, field just before Peak of the Ridge
	<b>Plot 6</b>	10-Jul	46.0742	-68.8679	997	Traveler Loop, Peak of the Ridge
	<b>Plot 7</b>	10-Jul	46.0742	-68.8598	897	Traveler Loop, spruce-fir forest in saddle
	<b>Plot 8</b>	10-Jul	46.0729	-68.8448	1085	Traveler Loop, Traveler Peak
	<b>Plot 9</b>	10-Jul	46.0884	-68.8408	902	Traveler Loop, unnamed peak
	<b>Plot 10</b>	10-Jul	46.1003	-68.8550	959	Traveler Loop, Top of North Traveler
<b>Pogy Notch Trail and South Branch Pond Campground</b>	<b>Plot 1</b>	10-Jul	46.1077	-68.8941	300	Pogy Brook trail, mixed hardwoods
	<b>Plot 2</b>	10-Jul	46.1016	-68.8921	294	Pogy Brook trail, by washout stream
	<b>Plot 3</b>	10-Jul	46.0995	-68.8916	290	Pogy Brook trail, by canoe landing
	<b>Plot 4</b>	10-Jul	46.0856	-68.8957	301	South Branch Lean-to
	<b>Plot 5</b>	10-Jul	46.0914	-68.8892	290	Pogy Brook trail, red pine stand
	<b>Plot 6</b>	10-Jul	46.1100	-68.8995	337	South Branch campground admin site
	<b>Plot 7</b>	10-Jul	46.1110	-68.8990	363	South Branch campground behind sites 32 and 33
	<b>Plot 15</b>	13-Jul	46.0845	-68.8928	400	Pogy Brook Trail, wetland south of lean-to
<b>Howe Falls Trail</b>	<b>Plot 1</b>	13-Jul	46.0881	-68.8583	530	Howe Falls, main falls
	<b>Plot 2</b>	13-Jul	46.0965	-68.8882	345	Lower Howe Falls and pools
<b>Fowler Brook Trail</b>	<b>Plot 11</b>	11-Jul	46.1352	-68.8649	271	Lower Fowler Pond, pondside
	<b>Plot 12</b>	11-Jul	46.1358	-68.8654	272	Lower Fowler Pond Trail, mixed hardwoods
	<b>Plot 13</b>	11-Jul	46.1404	-68.8688	281	Lower Fowler Pond Trail, floodplain forest
	<b>Plot 14</b>	11-Jul	46.1471	-68.8762	185	Lower Fowler Pond Trail, spruce stand

Table 2. Ant species collected at each sampled plot, along with ants collected from individual nests. Species names in red are new species records for Piscataquis County, and species names in green are new species records for all of New England (including Maine).

	Trail and plot (color corresponds to "push pins" on site aerial photos)																										
	Traveler Loop										Pogy Notch Trail and South Branch Pond Campground							How Falls Trail		Fowler Brook Trail							
	Plot 1	Plot 2	Plot 3	Plot 4	Plot 5	Plot 6	Plot 7	Plot 8	Plot 9	Plot 10	Individual nests (not in plots)	Plot 1	Plot 2	Plot 3	Plot 4	Plot 5	Plot 6	Plot 7	Plot 15	Plot 1	Plot 2	Plot 11	Plot 12	Plot 13	Plot 14		
<b>Dolichoderinae</b>																											
<i>Dolichoderus plagiatus</i>											X															X	
<i>Dolichoderus taschenbergi</i>											X																
<i>Tapinoma sessile</i>		X		X							X	X														X	
<b>Formicinae</b>																											
<i>Camponotus herculeanus</i>						X	X	X		X																	X
<i>Camponotus novaeboracensis</i>	X				X								X						X								
<i>Camponotus pennsylvanicus</i>																				X							
<i>Formica adamsi</i>											X																
<i>Formica argentea</i>			X			X																					
<i>Formica aserva</i>											X	X														X	
<i>Formica cf. fossiceps</i>	X	X	X																								
<i>Formica integra</i>											X																
<i>Formica neorufibarbis</i>		X	X		X	X			X	X																	
<i>Formica subaenescens</i>						X							X			X		X		X	X						
<i>Formica subsericea</i>	X	X	X		X						X	X		X		X	X			X	X	X	X	X			
<i>Lasius alienus</i>												X	X	X	X	X	X	X	X	X	X						X
<i>Lasius flavus</i>																											X
<i>Lasius nearcticus</i>																X											
<i>Lasius neoniger</i>												X	X	X	X		X	X								X	
<i>Lasius pallitarsis</i>												X					X	X		X		X				X	X
<i>Lasius umbratus</i>																					X			X			
<b>Myrmicinae</b>																											
<i>Leptothorax</i> sp. AF-can			X		X	X		X		X									X							X	
<i>Myrmica alaskensis</i>									X																		
<i>Myrmica detritinodis</i>		X	X						X			X								X	X					X	X
<i>Myrmica fracticornis</i>																											X
<i>Myrmica</i> sp. AF-scu								X																			
<i>Stenamma brevicorne</i>																	X									X	X
<i>Stenamma diecki</i>																											X



**Figure 4 – *Formica adamsi* collected west of the summit of North Traveler Mountain (pink marker in Figure 2). Voucher specimen at MCZ; photo: Gary Alpert / MCZ.**