

A LIST OF THE ODONATA OF ATHABASCA SAND DUNES PROVINCIAL WILDERNESS PARK, SK

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Introduction

Athabasca Sand Dunes Provincial Wilderness Park (ASDPWP) is situated on the south shore of Lake Athabasca in Saskatchewan. This 1,925 square kilometre park, created in 1986, features open sand sheets, active dunes, extensive pine/lichen forests and a wide variety of interspersed wetlands featuring large rivers, lakes and spruce bogs.^{2,6} Its variety of habitats situated in a remote, northern latitude are home to unique organisms found nowhere else, including at least nine endemic plants and one insect (*Cicindela hirticollis athabascensis*, the Athabasca race of the Beach Tiger Beetle¹). Because so little is known of the invertebrate fauna,⁶ every collecting trip has produced new range extensions for many species and there is much yet to be discovered.

This article reports the results on the Odonata (Dragonfly and Damselfly) portion of a 14-day survey which took place from July 2 to July 15, 2004 at ASDPWP. Participants were Ron Hooper and myself. We collected insects from a variety of orders during this period but mainly concentrated on groups associated with aquatic habitats. The Odonata were my main focus, due to my familiarity with this order of insects in Saskatchewan. This preliminary list of species represents only the second survey for odonates in ASDPWP; the previous survey was done in 2002.⁴

Methods and materials

The survey was carried out on foot from a central base-camp along Thomson Bay between William Point and Beaver Point on the south shore of Lake Athabasca. All study sites were situated between the William River to the west and Cantara Lake/Beaver Point to the east. They included a river, large and small lakes, pine forest, dune slacks (partially vegetated sand dunes), ponds, a large fen/bog complex as well as open sand dunes. Because travel was done completely on foot, specific areas deemed suitable for odonates were chosen within a 20 kilometre radius from base camp. Air photos and topographical maps were used in choosing which sites to visit in the limited time available. The air photos provided for the expedition were especially valuable for this. Information on the sites is given in Table 1.

Aerial nets were used to collect adults patrolling territory and mating at the perimeter of wetlands, and feeding in open, terrestrial habitats ranging from sand dunes to pine forests. Adults were collected during the warmer hours of the day when they are active which was between 9:00 a.m. and 7:00 p.m. approximately. Some dusk-feeding adults were collected up until 9:30 p.m.. Larvae were collected with aquatic insect nets.

Voucher specimens were collected for all species encountered at each site. Mating

Table 1. Specific odonata collecting sites in 2004.

code*	lat./long.	elevation (m)	Site description	Date
ASDG(01)	N59E05'00.53" W109E07'18.10"	215.2	beach edge basecamp at Thomson Bay	VII.02 & 06
ASDG(02)	N59E04'56.15" W109E07'16.61"	219.3	pine forest behind base camp	VII.02
ASDG(03)	N59E04'54.41" W109E06'25.82"	218.3	pine forest behind base camp and to the east	VII.03
ASDG(04)	N59E05'24.94" W109E03'01.04"	224.8	Flycatcher Pond in pine forest at Thomson Bay	VII.03
ASDG(05)	N59E07'09.81" W108E55'25.07"	223.2	fen complex east of Cantara Lake	VII.03
ASDG(06)	N59E04'43.00" W109E07'16.48"	239.3	edge of pine forest and sand dune behind camp	VII.04
ASDG(07)	N59E02'56.19" W109E05'07.98"	265.2	small pond in dune slacks ~4 km south of camp	VII.05
ASDG(08)	N59E01'00.21" W109E01'54.62"	289.7	Robin Lk. ~9 km south of base camp	VII.05
ASDG(09)	N59E08'49.17" W109E16'23.28"	213.1	pond & fen at north end of William Point	VII.07
ASDG(10)	N59E05'19.84" W109E11'52.28"	259.9	thick pine forest south of tip of William Point	VII.07
ASDG(11)	N59E03'57.65" W109E12'31.60"	224.8	bog adjacent to William River	VII.07
ASDG(12)	N59E05'00.92" W109E06'30.15"	215.9	small string bog along beach east of base camp	VII.09
ASDG(13)	N59E06'04.69" W108E56'43.08"	219.1	small ponds southwest of Cantara Lake	VII.10
ASDG(14)	N59E06'21.12" W108E55'43.26"	209.2	bogs south of Cantara Lake	VII.10
ASDG(16)	N59E04'44.53" W109E09'30.47"	228.0	pine forest between dunes in Thomson Bay	VII.12
ASDG(17)	N59E02'39.28" W109E11'49.96"	220.0	William River and adjacent pine forest	VII.12
(CANTAR)	N59E07'34.49" W108E55'49.70"	222.9	Cantara Lake	VII.02 & 10

* brackets () designate referenced abbreviated code

pairs, and cannibalistic and other pairs in predator/prey interactions were kept together. Identification of specimens was carried out in the field using hand lenses and the collector's personal expertise. Further applicable and relevant literature was consulted once the collector returned home and comparisons were performed with personal holdings of other Odonata specimens.^{10, 11, 12} The specimens were immediately prepared and preserved using the latest known methods, and later

deposited at the Royal Saskatchewan Museum in Regina. Confirmation was performed by a second odonatologist at the Royal British Columbia Museum before sending on to the museum in Regina.

Results and discussion

In total, 31 species were recorded for 2004, and in combination with the 22 species from the previous survey in 2002, this produced a combined list of 34 different species now recorded for the area.^{3, 4, 5}

Odonata suborders, families and species	collecting sites
suborder ZYGOPTERA - Damselflies	
Family CALOPTERYGIDAE - Broad-wing Damselflies	
<i>Calopteryx aequabilis</i> - Ebony Jewelwing	11, 17
Family LESTIDAE - Spreadwings	
<i>Lestes congener</i> - Spotted Spreadwing	9
<i>Lestes disjunctus</i> - Common Spreadwing	4, 5, 7, 8, 9, 11, 12, 13, 14, CANTAR
<i>Lestes dryas</i> - Emerald Spreadwing	10
Family COENAGRIONIDAE - Pond Damselflies	
<i>Coenagrion interrogatum</i> - Subarctic Bluet	3, 4, 5, 7, 8, 10, 13, 14
<i>Coenagrion resolutum</i> - Taiga Bluet	4, 5, 7, 8, 10, 13, 14
<i>Enallagma boreale</i> - Boreal Bluet	4, 8, 10, 13
<i>Enallagma cyathigerum</i> - Northern Bluet	8, CANTAR
<i>Enallagma ebrium</i> - Marsh Bluet	13
<i>Nehalennia irene</i> - Sedge Sprite	4, 5, 7, 13, 14
suborder ANISOPTERA - Dragonflies	
Family AESHNIDAE - Darner	
<i>Aeshna canadensis</i> - Canada Darner	17
<i>Aeshna eremita</i> - Lake Darner	every site
<i>Aeshna interrupta</i> - Variable Darner	1, 13
<i>Aeshna juncea</i> - Sedge Darner	1, 10, 11, 16, 17
<i>Aeshna sitchensis</i> - Zigzag Darner	1, 2, 8, 9, 10, 13
<i>Aeshna subarctica</i> - Subarctic Darner	5, 17
<i>Aeshna tuberculifera</i> - Black-tipped Darner	5, 14
<i>Aeshna umbrosa</i> - Shadow Darner	1, 17, CANTAR
Family GOMPHIDAE - Clubtails	
<i>Ophiogomphus colubrinus</i> - Boreal Snaketail	2, 11, 17
Family CORDULIIDAE - Emeralds	
<i>Cordulia shurtleffi</i> - American Emerald	2, 4, 9, 10, 11, 13, 14
<i>Somatochlora albicincta</i> - Ringed Emerald	14, 16
<i>Somatochlora cingulata</i> - Lake Emerald	1, 8, 14, 16, CANTAR
<i>Somatochlora forcipata</i> - Forciphate Emerald	1
<i>Somatochlora franklini</i> - Delicate Emerald	1, 2, 6, 8, 10, 11, 12, 13, 14, 17, CANTARA
<i>Somatochlora kennedyi</i> - Kennedy's Emerald	1
<i>Somatochlora minor</i> - Ocellated Emerald	1, 8, 11
<i>Somatochlora walshii</i> - Brush-tipped Emerald	1, 2, 6, 12, 14, 16, 17
<i>Somatochlora whitehouse</i> - Whitehouse's Emerald	1, 8, 10, 11, 12, 13, 14, CANTARA
Family LIBELLULIDAE - Skimmers	
<i>Leucorrhinia borealis</i> - Boreal Whiteface	1
<i>Leucorrhinia glacialis</i> - Crimson-ringed Whiteface	4, 5, 7, 13
<i>Leucorrhinia hudsonica</i> - Hudsonian Whiteface	1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 13
<i>Leucorrhinia patricia</i> - Canada Whiteface	5, CANTAR
<i>Leucorrhinia proxima</i> - Red-waisted Whiteface	4, 8, 10,
<i>Libellula quadrimaculata</i> - Four-spotted Skimmer	1, 4, 7, 9, 10, 11

Table 2. Odonata species and associated collecting sites. Common names are from the North American Odonata checklist.⁷

The list of species in Table 2 presents the combined species list of dragonflies thus far collected from ASDPWP from the 2002 and 2004 field trips. Listings have been broken down into taxonomic levels from sub-order, down to individual species and then treated separately.

The 2004 survey extended the ranges of several species in the province and contributed to the current knowledge available for the Odonata in Saskatchewan.^{8, 9} The information in this report is based on observations of approximately 4000 individual odonates either collected and examined in-hand, or verified at close proximity on the wing or perched; 332 specimens representing 6 families were retained for the Royal Saskatchewan Museum. In most cases, only a few specimens of each species were collected from a given site and the number does not represent the abundance of that particular species documented there.

This survey provides a baseline for future searches for additional new and interesting records. For a more complete picture of local diversity, further sampling over the entire spring and summer months will most likely add new species. The optimal time of year for adult Odonata sampling in the northwestern part of the province seems to be from mid-July to mid-August. Another way of sampling in the future would be to do more aquatic netting to obtain Odonata in the larval stage, and visiting more sites in subsequent years. ASDPWP sites with the characteristics and traits known to support high species diversity of Odonata in adjacent areas in Canada, instead proved to have large numbers of individuals of low to medium diversity. Species to look for in ASDPWP are: *Aeshna septentrionalis* (Azure Darner), *Somatochlora brevicincta* (Quebec Emerald), *S. hudsonica* (Hudsonian Emerald), *S. septentrionalis* (Muskeg Emerald), and *Sympetrum costiferum* (Saffron-winged Meadowhawk).

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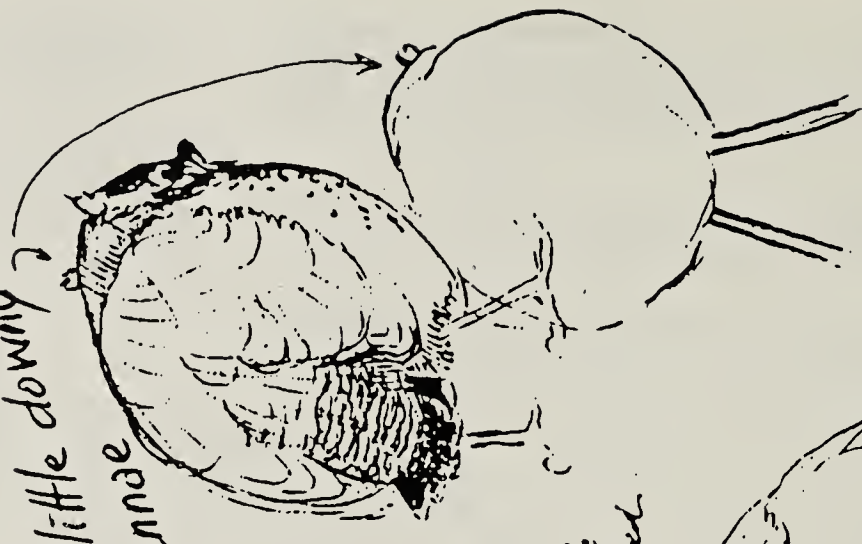


ACTIVIST OPTIONS

Perhaps,
as only gophers can,
sensing our longing
to stick it to “the Man”,
eliminate the eyesore,
the tiny rodent made its way
stealthily
guilelessly
through the chainlink,
with its ineffectual barbed wire topping,
and into the transformer,
into saboteur heaven,
onto the front page of the *Herald* (city section).
Yet the substation still stands:
featured view,
through the plants and stained glass,
of the living room
in which we sit snug,
lattes in hand,
listening to Handel,
admiring the ravens,
dwellers among the high girders,
who raise their young in high-tension safety,
daring the Man
to climb on up
and deconstruct
their nest of sticks among the stays,
and live to croak another day.

- Sandy Ayer

June 19 '92 sunny; midday \rightarrow 20°C. Some heavy cloud; no rain in
 Avonlea. Sunny mostly in eve. C. Waxwings & robins at kit. crab & id yard.
 No sign of Mourning Doves. Wrens about, The ♀ in shed crab & also
 kit. crab (♀ because see ♂ singing on garage same time) ^{rain} the little downy
 antennae



in younger, all tail feathers pale tipped

The juv. ball shape;

leaf sale of (c) J. J. J.

Strong facial patterns



outer tail only
white tip

about, moving position or following adult when one comes near.
The older have begun to run as well as hop.

Two ages of yg about about yd & under window. Two individuals of each ^{above} age: The younger smaller, c downy tufts behind ears, spherical shape, tails → 1 inch long. The older (2 weeks?) longer, bigger, no down, tails → 2 inches long.

The younger ones hop or bounce ^{round} 