
INSECTS

RESULTS OF THE 2008 INTERNATIONAL BUTTERFLY COUNT IN SASKATCHEWAN

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Nine International Butterfly Counts (1JC) were conducted in Saskatchewan in 2008, the same as in 2007 and one more than in 2006. Counts in 2008 were conducted at Bjorkdale, Fort Qu'Appelle, Last Mountain Lake National Wildlife Area, Nisbet Forest, Pasquia Hills, Preeceville, Regina, Saskatoon and Waskesiu River. The Waskesiu River count was last conducted in 2006. Duck Mountain Park was the only count done in 2007 that was not repeated in 2008. Count statistics are presented in Table 1, and count results in Table 2.

There were 66 species recorded in 2008 compared to 60 in 2007, 62 in 2006 and 57 in 2005.^{1,2,3} The total number of butterflies counted was 4983 compared to 4007 in 2007, 3669 in 2006, and 6972 in 2005, of which 5389 were Painted Ladies. Butterflies per party-hour (ph) is used as a measure to relate butterfly numbers to observer effort so as to provide a comparable index of abundance over years. Butterflies per party-hour was 62 in 2008 for the nine counts compared to 48 in 2007 and 2006 and 86 in 2005, although again, if Painted Ladies are removed from the 2005 count, the butterflies per party-hour would be only 27. It appears from this that overall numbers of butterflies were up in 2008 but such provincial averaging may mask local results. In general the more southerly counts and those held earlier in the year had significantly fewer butterflies than did the later counts along the forest fringe.

Count conditions in 2008 were variable. Temperatures ranged from a low of 16° at Waskesiu River to a high of 28° at Pasquia Hills. Wind speeds exceeding 30 km/hr at Pasquia Hills, Preeceville, Regina and Saskatoon may have had some negative influence on the number of open field butterflies that would have been seen. Lack of sun (< 50% of count period) may also have negatively influenced counts at Last Mountain Lake and Preeceville.

Species totals on the counts ranged from 15 at Last Mountain Lake to 31 at Bjorkdale and averaged 22 for the nine counts. This was down from 24 in 2007 but up from 20 in 2006 and 18 in 2005. Anything more than 20 species is very respectable for a single-day butterfly count and over 30 is exceptional. Only five counts exceeded 20 species in 2008, whereas seven did in 2007.

Numbers of individuals ranged from 139 at Last Mountain Lake to 1733 at Pasquia Hills. This compares to a range of 153 at Last Mountain Lake and 1013 at Bjorkdale in 2007 and 115 at Fort Qu'Appelle and 1152 at Eastend in 2006. The number of individuals per party-hour ranged from 15 at Last Mountain lake and Saskatoon to 173 at Pasquia Hills. This compares with a range from 22 at Last Mountain Lake to 127 at Bjorkdale in 2007 and from 19 at Fort Qu'Appelle to 164 at Eastend in 2006.

Table 1. 1JC statistics - Saskatchewan 2008

1JC name	yrs. held	1JC date	no. of spp.	no. of b'flies	b'flies/ph	no. of obs.	no. of ph	ph on foot	km on foot	km by car	time start - end	% sun* am	% sun pm	temp. deg.C	wind km/hr
WaR	11	2 JN	22	155	17	3	9	9	10.8	0	1015-1710	76-100	<25	16-19	8-8
Reg	13	19 JN	19	391	39	7	10	10	4.8	0	0830-1500	95	95	17-25	17-35
FtQ	18	21 JN	23	187	27	7	7		8	32	0930-1600	100	75	23	8
Sto	14	5 JY	25	326	15	11	22	26	11.2	45	0930-1800	51-75	<25	21-26	27-37
LML	2	8 JY	15	139	15	4	9.5	9.5	6.4	0	1000-1700	<25	26-50	17-20	19-13
Bjo	8	18 JY	31	1206	134	1	9	2	5	35	0900-1800	100	75	17-23	0-16
Pre	7	19 JY	18	428	66	3	6.5	6.5	5		0800-1450	<25	<25	19-25	24-32
PaH	8	22 JY	30	1733	173	1	10	2	3	25	0830-1830	100	65	22-28	16-32
NiF	13	5 AU	19	418	70	3	6	6	8	0	1000-1700	51-75	51-75	20-23	8-16
totals		9 1JCs	66	4983	62	30	89				0800-1830	<25-100	<25-95	16-28	0-35

Abbreviations: spp. = species, ph = party hours, b'flies = butterflies, obs. = observers,

Bjo = Bjorkdale, FtQ = Fort Qu'Appelle, LML = Last Mountain Lake National Wildlife Area, NiF = Nisbet Forest,

PaH = Pasquia Hills, Reg = Regina, Sto = Saskatoon, WaR = Waskesiu River

* The format of the % sun columns has changed to accommodate new North American Butterfly Association categories used by some compilers. The categories are 11%-25%, 26%-50%, 51%-75%, 76%-100% .

** The "total" in column 6 is the average for all counts, not the total; that in column 7 is the total number of people who participated in 1JC counts (some participated in more than one count), totals in columns 12 - 16 are extremes in 2008

Table 2. 1JC results - Saskatchewan 2008

SPECIES NAME	WaR 2 JN	Reg 19 JN	FtQ 21 JN	Sto 5 JY	LML 8 JY	Bjo 18 JY	Pre 19 JY	PaH 22 JY	NIF 5 AU	totals
Silver-spotted Skipper		1		12						13
Northern Cloudywing	2		1				1			4
<i>Unident. Duskywing</i>	9									9
Dreamy Duskywing	17		1							18
Juvenal's Duskywing										
Afranius Duskywing										
Persius Duskywing	5									5
Grizzled Skipper										
C. Checkered Skipper			2	1						3
Common Sootywing										
<i>Unident. Skipper</i>				2	8					10
Arctic Skipper		3	6							9
Least Skipper								2		2
Garita Skipperling		1	18	8	3		6			36
European Skipper										
Uncas Skipper										
C. Branded Skipper										
Plains Skipper										
Dakota Skipper										
Nevada Skipper										
Peck's Skipper				3						3
Draco Skipper										
Tawny-edged Skipper			3	1	7		1	1		13
Long Dash Skipper				7	8	19		14		48
Rhesus Skipper										
Delaware Skipper										
Woodland Skipper										
Hobomok Skipper	2	35	5			1				43
Dun Skipper						29	4	26	16	75
Dusted Skipper										
Oslar's Roadside Skipper										
Com. Roadside Skipper	5	1	1							7
Kahli Swallowtail										
Old World Sw'tail (Dods)										
Old World Sw'tail (Huds)								10		10
Anise Swallowtail										
<i>Anise/ Old World Sw'tail</i>										
Can. Tiger Swallowtail	17	5	4	4		4		24		58
<i>Unident. White</i>		5								5
Western White				3		18	1			22
Margined White										
Mustard White	1					19		2		22

Count location	WaR	Reg	FtQ	Sto	LML	Bjo	Pre	PaH	NiF	totals
Cabbage White	3	9	2	9	9	142	35		1	210
Large Marble										
Olympia Marble										
<i>Unident. Sulphur</i>										
Clouded Sulphur	2	30	27	7	35	9	3	2	7	122
Orange Sulphur		1								1
Q. Alexandra's Sulphur										
Christina Sulphur										
Giant Sulphur								1		1
Pink-edged Sulphur						104		183		287
Harvester										
<i>Unident. Copper</i>										
Gray Copper										
Bronze Copper					2	1				3
Ruddy Copper										
Dorcas Copper						1		9	3	13
Purplish Copper		5			1					6
Acadian Hairstreak										
Coral Hairstreak									18	18
Edwards' Hairstreak										
Banded Hairstreak										
Striped Hairstreak				2						2
<i>Unident. Elfin</i>										
Brown Elfin	6									6
Hoary Elfin										
Eastern Pine Elfin	12									12
Western Pine Elfin										
Gray Hairstreak										
<i>Unident. Blue</i>	7	23		20	9		3			62
West. Tailed Blue	3	1	13	6		26	6	3	1	59
Spring Azure	3									3
Summer Azure										
Rocky Mt. Dotted Blue										
Arrowhead Blue										
Silvery Blue	9	44	17	29	8	35		33		175
Northern Blue						9		76		85
Melissa Blue		10	5							15
Greenish Blue		12	2	18	8	31	4	27		102
Boisduval's Blue										
Lupine (Acmon) Blue										
Prairie Arctic Blue			1						1	2
<i>Unident. large Fritillary</i>				14			6		43	63
Variegated Fritillary										
Great Spangled Frit.				2		66	78	8	40	194

Count location	WaR	Reg	FtQ	Sto	LML	Bjo	Pre	PaH	NiF	totals
Aphrodite Fritillary						37		13	16	66
Edwards' Fritillary										
Zerene Fritillary										
Callippe Fritillary			1							1
Atlantis Fritillary				3		85		750		838
Northwestern Fritillary			6	15		43	2	98	13	177
Mormon Fritillary										
<i>Unident. small Fritillary</i>	9								16	25
Bog Fritillary										
Silver-bordered Fritillary				1	1	2		13	3	20
Meadow Fritillary	5					4		5	9	23
Frigga Fritillary	3									3
Freija Fritillary	18									18
Arctic Fritillary							2		49	51
Gorgone Checkerspot					1					1
Sagebrush Checkerspot										
<i>Unident. Crescent</i>				37	8				8	53
Pearl Crescent		2	4	7						13
Northern Crescent	1		3	66	11	285	134	226	18	744
Tawny Crescent		1		1		31	18	73	1	125
Variable Checkerspot										
<i>Unident. Comma</i>				1						1
Eastern Comma										
Satyr Comma	1			6		5	1			13
Green Comma	5							2		7
Hoary Comma								2		2
Gray Comma						8		1		9
<i>Unident. Nymphalids</i>		2								2
Compton Tortoiseshell	3									3
Mourning Cloak	7								3	10
Milbert's Tortoiseshell						4		3	2	9
Painted Lady		12			1					13
Red Admiral										
White Admiral			1	29	4	86	23	96	1	240
Viceroy						3		7		10
Northern Pearly-Eye						65	70	23		158
Eyed Brown										
Little Wood-Satyr										
Common Ringlet		183	63	11	13	2				272
<i>Unident. Wood-Nymph</i>										
Com. Wood-Nymph						32	30		149	211
Small Wood-Nymph										
<i>Unident. Alpine</i>										
Taiga Alpine										

Count location	WaR	Reg	FtQ	Sto	LML	Bjo	Pre	PaH	NiF	totals
Red-disked Alpine Common Alpine Ridings' Satyr				1						1
<i>Unident. Arctic</i> Macoun's Arctic Uhler's Arctic		5	1							6
Jutta Arctic Monarch <i>Unident. butterfly</i>					2					2
Total number of butterflies	155	391	187	326	139	1206	428	1733	418	4983
Total number of species	22	19	23	25	15	31	18	30	19	
Count location	WaR	Reg	FtQ	Sto	LML	Bjo	Pre	PaH	NiF	totals

Bjo = Bjorkdale, FtQ =Fort Qu'Appelle, LML=Last Mt. Lake National Wildlife Area,
NiF=Nisbet Forest, Pre = Preeceville, PaH = Pasquia Hills, Sto = Saskatoon,
Reg = Regina, WaR = Waskesiu River



*Group of Old World Swallowtails and Canadian Tiger Swallowtails, 20 June 2008,
John Kozial*

The number of observers ranged from one at Bjorkdale and Pasquia Hills to 11 at Saskatoon compared to highs of 13 and 11, also at Saskatoon in 2007 and 2006 respectively. There was a total of 89 party-hours logged ranging from six ph at Nisbet Forest to 22 ph at Saskatoon. This compares with 96 party hours in 2007 and 77 in 2006.

The highest combined total from all counts of individual species in 2008 was 838 for Atlantis Fritillary, including an amazing 750 at Pasquia Hills. Other unusually high species counts at individual locations were 19 Long Dash Skippers at Bjorkdale, 29 and 26 Dun Skippers at Bjorkdale and Pasquia Hills respectively, 183 and 104 Pink-edged Sulphurs at Pasquia Hills and Bjorkdale, 18 Coral Hairstreaks at Nisbet Forest, 76 Northern Blues at Pasquia Hills, 285, 226 and 134 Northern Crescents at Bjorkdale, Pasquia Hills and Preeceville, 73, 31 and 18 Tawny Crescents at Pasquia Hills, Bjorkdale and Preeceville, 96 and 86 White Admirals at Pasquia Hills and Bjorkdale, and 70 and 65 Northern Pearly-Eyes at Preeceville and Bjorkdale.

It was a poor year for transient species. Common Checkered Skippers were present on two counts (a total of 2 individuals), Orange Sulphur on one (1) and Painted Ladies on two (12). There were no Variegated Fritillaries, Red Admirals or Monarchs.

Virtually all of the common non-transient species that might be expected considering the dates and locations of the nine counts were found in 2008. There were no new species for the Saskatchewan 1JC. John Kozial notes "the two male specimens of *Polygonia gracilis gracilis* observed and collected in the Pasquia Hills 1JC count in 2008 represent the most southerly known

collection location in the province, outside the Precambrian area. There is only one additional record (a single specimen at Candle Lake) south of the Precambrian area; that location is, however farther north than the Pasquia Hills location. There are a small number of widely scattered records for the Precambrian area of northern Saskatchewan (pers. comm. R. Hooper)." Other more unusual species noted included two Least Skippers and one Giant Sulphur at Pasquia Hills. A single Hobomok Skipper at Bjorkdale on July 18 was unusually late as was a Western-tailed Blue at Nisbet Forest on August 5. The previous late dates for Saskatchewan were July 14 and August 4 respectively.

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1. GOLLOP, M. and A. LEIGHTON. 2005. Results of the 2005 International Butterfly Counts in Saskatchewan. *Blue Jay* 63:193-199
2. GOLLOP, M. and A. LEIGHTON. 2007. Results of the 2006 International Butterfly Counts in Saskatchewan. *Blue Jay* 65:89-95
3. GOLLOP, M and A. LEIGHTON. 2007. Results of the 2007 International Butterfly Counts in Saskatchewan. *Blue Jay* 65:211-217



Aberrant form of Arctic Fritillary, 2 August 2008.
John Kozial