

SKIPPERS AND BUTTERFLIES OF CRIMSON LAKE PROVINCIAL PARK, ALBERTA

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Crimson Lake Provincial Park was established in 1949 and is located 8 miles northwest of Rocky Mountain House, Alberta. The park is 13.5 square miles in area in Township 40, Ranges 7 and 8 west of the Fifth Meridian. The two lakes in the park, Crimson and Twin, are believed to be spring fed or filled by seepage from the neighbouring wetlands. Crimson Lake Park is drained from the north and south by Buster and Prentice Creeks, respectively. Both these creeks flow into the North Saskatchewan River.

The study area is interesting ecologically because it is situated in a phytogeographic mixing zone known as the Boreal Foothills Ecoregion (Strong and Leggat, 1981).¹¹ This is the most arboreally diverse ecoregion in Alberta, and is recognized by the codominant occurrence of aspen, Balsam Poplar, and Lodgepole Pine. Aspen Parkland lies a relatively short distance to the east of the park. The main vegetative units of the Park are lowlands of bogs and bog forests, and mixed wood highlands. Approximately seventy-five to eighty percent of the study area is wetlands.

The wetlands represent a continuum of ecological succession illustrating a drying trend. The three bog communities in the area from wettest to driest are sedge bogs dominated by sedges, willows and Swamp Birch (*Betula pumila*); Tamarack-Swamp Birch bogs; and Black Spruce bog forests. In the study area, the successional trend resulting in Black Spruce bog forests does not always occur. It appears that a high

water table in conjunction with water seepage from neighbouring communities results in "permanent" wet bogs.

The mixed wood highlands vary from almost pure stands of aspen to pure stands of Lodgepole Pine, with the aspen dominated mixed woods being the most common.

Sand dunes are present in the study area. No active dunes now exist due to stabilization by vegetation. Fine-to-medium-grained aeolian sheet sand is often encountered between the dunes, but this is generally patchy and quite thin. In many places, the interdune areas are now filled with muskeg.

Various activities associated with oil companies and the construction of parks facilities have altered the landscape and natural flora. Oil companies are responsible for a good deal of land clearing for well sites, pipelines, and seismic lines. Exotic grasses and legumes now replace the natural ground cover.

Further information on the flora and vegetation can be found in Biggs et al.¹

Annotated List

The following list is the result of field observations and collections made by the author on 24 different days over a four-year period from 1981 to 1984, with a seasonal spread of 18 May to 18 August. Specific dates for which each species has been recorded are written in an abbreviated format (e.g. 18/5/84 means 18 May 1984).

Sightings and collections made by Norbert Kondla on the following days are also included: 16 May 1978, 19 June 1978, 31 May 1979, 26 June 1979, 16 April 1981, 28 July 1981. Most of the common names are from Hooper.⁶ Scientific names mostly follow Howe for genus, and Miller and Brown for species and subspecies.^{7 8}

HESPERIIDAE -- Skippers.

Northern Cloudy Wing (*Thorybes pylades*)

— Occasional in aspen woods and along cutlines and roadways in mixedwoods from mid-May to mid-June; 19/6/78, 31/5/79, 10/6/83, 15/6/84. It is at the western edge of its known range in southern Alberta in this study area.

Dreamy Dusky Wing (*Erynnis icelus*) —

Common in aspen woods and along cutlines in mixedwoods from mid-May to mid-June; 31/5/79, 10-11/6/83, 18 + 20/5/84, 15-16/6/84.

Persius Dusky Wing (*Erynnis persius*) —

Fairly common in aspen woods and along roadways from mid-June to mid-July; 10-11/6/83, 14/7/84.

Common Checkered Skipper (*Pyrgus communis communis*) — Recorded once on 16/6/84 on a dry sandy ridge in mixed forest. This is the northwesternmost record of this species in southern Alberta to date.

Arctic Skipper (*Carterocephalus palaemon mandan*) — Occasional along roadways and cutlines in aspen woods and mixed forest in mid-June; 11/6/83, 15-16/6/84.

Manitoba Skipper (*Hesperia comma manitoba*) — Occasional along sandy cutlines in mixedwoods and pine woods during the latter half of July; 27 + 29-31/7/82, 14/7/84. These are the easternmost records of this species away from the Rocky Mountains in southern Alberta.

Peck's Skipper (*Polites coras*) — Scarce along cutlines and roadways; 14/7/84. In this area, the species is at the western edge of its known range in southern Alberta.

Long Dash (*Polites mystic dacotah*) — Occasional along roadways and cutlines in aspen woods and pine woods during the latter half of July; 23 + 26 + 29/7/82, 13-15/7/84.

Roadside Skipper (*Amblyscirtes vialis*) — Rare along a cutline in aspen woods; 15/6/84. This represents the westernmost record of this species, to date, in southern Alberta.

PAPILIONIDAE — Swallowtails.

Tiger Swallowtail (*Papilio glaucus canadensis*) — Common in aspen woods and mixed forest. Recorded from 9 June to 15 July, 29-30/6/81, 9-10/6/83, 14-16/6/84, 13 + 15/7/84.

PIERIDAE — Whites, Sulphurs and Marbles.

Western Checkered White (*Pieris occidentalis occidentalis*) — Occasional in disturbed areas along roadways and on cutlines. Observed only on 17/8/84, but suspect it to be more common.

Cabbage White (*Pieris rapae*) — Uncommon in disturbed areas around oil well sites, and along roadways and cutlines during August; 2/8/81, 17-18/8/84. The low abundance and short flight period of this ubiquitous species in this area is interesting. The increase in human disturbance in the area should lead to an increase in this species.



Arctic Skipper & Silvery Blues

Anon.

Large Marble (*Euchloe ausonides*) — Scarce along roadways in aspen woods. A few individuals were recorded on 11/6/83.

Alfalfa Butterfly (*Colias philodice eriphyle*) — Fairly common in disturbed areas. Reported from 10 June to 18 August; 29-31/7/82, 10-11/6/83, 15/6/84, 14/7/84, 17-18/8/84.

Alexandra Sulphur (*Colias alexandra astraea*) — Occasional along edges of aspen and mixed woods; 26 + 29-30/7/82, 14/7/84.

Giant Sulphur (*Colias gigantea gigantea*) — Fairly common, but local, in wet meadows during the latter half of July; 23 + 26/7/82, 14-15/7/84.

Pink-edged Sulphur (*Colias interior interior*) — Common in mixed forest and pine woods from 13 July to 18 August; 2/8/81, 23 + 26-27 + 29 + 31/7/82, 13-15/7/84, 16-18/8/84.

LYCAENIDAE — Gossamer-winged Butterflies.

Dorcas Copper (*Epidemia dorcas*) — Common in moist areas bordering tamarack bogs. Flight period recorded from 23 July to 18 August; 2/8/81, 23 + 26-27 + 29-31/7/82, 17-18/8/84.

Purplish Copper (*Epidemia helloides*) — Rare, a male was collected on 31/7/82 in a disturbed area around a well site. This is the westernmost known record for southern Alberta.

Mariposa Copper (*Epidemia mariposa penroseae*) — Scarce, a male was recorded on 2/8/81 on a cutline in mixed woods.

Brown Elfin (*Callophrys augustus*) — Common in sandy areas in pine woods and mixed woods from mid-May to mid-June; 31/5/79, 10-11/6/83, 18 + 20/5/84, 15-16/6/84.

Hoary Elfin (*Callophrys polios obscurus*) — Fairly common on sandy ridges in mixed woods or pine woods from mid-May to mid-June; 31/5/79, 18 + 20/5/84, 16/6/84.

Western Pine Elfin (*Callophrys eryphon*) — Occasional in pine woods; 31/5/79, 18/5/84.

Gray Hairstreak (*Strymon melinus*) — Individual recorded on 31/7/82 on a sandy ridge bordering mixed woods. In this area, the Gray Hairstreak is near the northwestern edge of its range in Alberta.

Western Tailed Blue (*Everes amyntula albrighti*) — Common in aspen and mixed woods with a recorded flight period of 9 June to 15 July; 1/7/81, 9-11/6/83, 15-16/6/84, 13-15/7/84.

Spring Azure (*Celastrina ladon*) — Fairly common in aspen woods and mixed forest; flight period recorded from 18 May to 16 June; 31/5/79, 9/6/83, 18 + 20/5/84, 15-16/6/84.

Silvery Blue (*Glaucopsyche lygdamus couperi*) — Common in aspen woods, mixed forest, and along cutlines and roadways; flight period recorded from 18 May to 17 August; 26/7/82, 9-11/6/83, 18 + 20/5/84, 15-16/6/84, 14/7/84, 17/8/84.

Scudder's Blue (*Lycaeides argyrognomon scudderi*) — Uncommon on sandy ridges in pine woods and mixed woods during the latter half of July; 23 + 29 + 31/7/82, 14/7/84.

Greenish Blue (*Plebejus saepiolus amica*) — Common in disturbed areas along roads, trails, cutlines, and well sites as well as damp meadows. Recorded flight period from 11 June to 30 July; 23 + 29-30/7/82, 11 + 16/6/83, 13-15/7/84.

Rustic Arctic Blue (*Plebejus franklinii rustica*) — Rare, an individual recorded on 10/6/83. This is the most northwestern report of this taxon in southern Alberta. *P.f. megalis* has been collected only 50 km west-southwest of the study area by C. Bird and D. Johnson.

NYMPHALIDAE — Brush-footed Butterflies.

Atlantis Fritillary (*Speyeria atlantis hollandi*) — Fairly common in mixed pine, spruce and aspen woods; flight period recorded from 14 July to 18 August; 2/8/81, 23 + 26-27 + 29-31/7/82, 14-15/7/84, 17-18/8/84.



Pearl Crescent

R.W. Knapton

Bean's Fritillary (*Speyeria atlantis beanii*) - Common in mixed woods of pine, spruce and aspen from mid-July to mid-August; 2/8/81, 23 + 26-27 + 29-31/7/82, 14-15/7/84, 17-18/8/84.

Bog Fritillary (*Boloria eunomia dawsoni*) — Occasional in black spruce and tamarack bogs; 11/6/83, 14/7/84.

Silver-bordered Fritillary (*Boloria selene*) - Fairly common in wet grassy meadows and bordering tamarack bogs; flight period recorded from 11 June to 2 August; 2/8/81, 23 + 26 + 29/7/82, 11/6/83, 13-14/7/84.

Meadow Fritillary (*Boloria bellona jenistai*) — Occasional along roadways and cutlines in poplar woods; 11/6/83, 15/6/84.

Frigga Fritillary (*Boloria frigga saga*) — Occasional in damp grassy areas bordering tamarack 5/79, 10-11/6/83, 18 + 20/5/84, 15-16/6/84.

Purple Lesser Fritillary (*Boloria titania grandis*) — Common in mixed forest, coniferous woods, and open areas adjacent woods; flight period recorded from 23 July to 18 August; 28/7/81, 2/8/81, 23 + 26-27 + 29-31/7/82, 16-18/8/84.

Woodland Pearl Crescent (*Phyciodes pascoensis*) — Common in aspen woods, mixed forest, grassy fields, and along roadways and cutline; flight period recorded from 9 June to 18 August; 29-30/6/81, 2/8/81, 23 + 26 + 30-31/7/82, 9 + 11/6/83, 15 + 16/6/84, 13-15/7/84, 17-18/8/84.

Tawny Crescent (*Phyciodes batesii*) — Occasional in poplar woods and along cutlines in mixedwoods during July; 26 + 29/7/82, 14-15/7/84. These are the westernmost known records of this species in southern Alberta.

Green Comma (*Polygonia faunus rusticus*) — Uncommon in poplar woods and mixed forest; flight period recorded from mid-May to mid-July; 11/6/83, 18 + 20/5/84, 16/6/84, 15/7/84.

Satyr Angle Wing (*Polygonia satyrus*) — Occasional in poplar woods and mixed forest; recorded for May and August; 31/5/79, 2/8/81, 18/5/84, 17/8/84.

Mourning Cloak (*Nymphalis antiopa*) — Uncommon in poplar woods; two light periods recorded - one from mid-May to mid-June, the other during August; 11/6/83, 18/5/84, 17-18/8/84.

Milbert's Tortoise Shell (*Nymphalis milberti furcillate*) — Common in aspen woods and disturbed areas along cutlines and roadways. Flight period recorded from 16 April to 17 August; 31/5/79, 16/4/81, 2/8/81, 23 + 30-31/7/82, 18 + 20/5/84, 17/8/84.

White Admiral (*Limenitis arthemis rubrofasciata*) — Fairly common in aspen woods and mixed forest during July; 26-27/7/82, 13-15/7/84.

SATYRIDAE — Meadow Browns

Ringlet (*Coenonympha inornate benjamini*) — Occasional in grassy areas along roads; 2/8/81, 23 + 29 + 31/7/82.

Red-disked Alpine (*Erebia discoidalis*) — Occasional and local in open grassy areas during the latter half of May; 31/5/79, 18 + 20/5/84.

Common Alpine (*Erebia epipsodea*) — Common in open grassy areas, and along roadways and cutlines through wooded areas; flight period recorded from 9 June to 30 June; 29-30/6/81, 9-11/6/83, 14-16/6/84.

Macoun's Arctic (*Oeneis Macounii*) — Uncommon in mixed forest, and coniferous woods; flight period recorded from 9 June to 1 July in odd-numbered years only; 26/6/79, 1/7/81, 9-11/6/83.

Jutta Arctic (*Oeneis jutta ridingiana*) — Occasional in black spruce and tamarack bogs; 23 + 27/7/82, 14-15/7/84. This species is probably more abundant than I've indicated if it is more common in odd-numbered years as it is in northeastern Alberta and Saskatchewan.^{5 6}

Summary

Fifty species have been recorded in the study area as follows: Hesperiidae - 9, Papilionidae - 1, Pieridae - 7, Lycaenidae - 13, Nymphalidae - 15, Satyridae - 5. On a monthly basis 13 species were recorded during May, 26 in June, 29 in July and 16 in August. The greatest diversity of species in the Rhopaloceran fauna of Crimson Lake Park occurs in mid-June (52%) and the end of July (44%). This obvious dual peak in species numbers is in contrast to other Alberta regional studies at Plateau Mountain, Banff National Park, Calgary Kananaskis Provincial Park and Indian Grave Recreational Area.^{2 3 4 8 10}

Favourable habitats already exist in the study area for some species not recorded to date. These expected species include Tawny-edged Skipper (*Polites themistocles*), Mustard White (*Pieris napi*), Red Admiral (*Vanessa atalanta*), Gray Comma (*Polygonia progne*), Meadow Crescent (*Phyciodes campestris*), and Mancinus Alpine (*Erebia disa*). Undoubtedly, the Painted Lady (*Vanessa cardui*), occurred in the area during their spectacular migrations of 1973 and 1983, but I have no evidence.

The presence of sand dunes in the area and the proximity of the Aspen Parkland increase the diversity of butterfly species recorded. This accounts for the presence of prairie-parkland species such as common Checkered Skipper, Gray Hairstreak and Rustic Arctic Blue. On the other hand, there is a low presence of cordilleran taxa considering the nearest mountain habitat is only 40 to 50 km away.

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