

THE ODONATE FAUNA OF AN ARTIFICIAL LAKE IN THE LOWER LAURENTIDES, QUEBEC, CANADA

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Abstract — From the man-made lake Parent 52 spp. (39.3% of the fauna of Quebec) are reported, their flight periods are recorded and their local abundance is indicated.

Introduction

The area referred to as the Lower Laurentides includes the lower portion of the Laurentian Shield. It is formed by that part of the Laurentian maple forest or the maple-linden forest (GRANTNER, 1966) situated on the northern shore of the Saint Lawrence river which is receiving between 2,750 to 3,250 day-degrees (CHAPMAN & BROWN, 1966). In the Lower Laurentides LEBUIS & PILON (1976), PILON & LEBUIS (1976) and POITRAS (1978) have provided information on the dragonfly fauna of different natural aquatic habitats. Because of the touristic importance of this area however

there are now more and more man-made odonate breeding sites whose fauna and ecology need a thorough examination. The present note deals with the artificial lake Parent.

Study site

Lake Parent is located some 15 km N of Saint-Jerôme, near the northern boundary of the plain of Montreal. It is the result of the construction of a road which partially blocked a stream, causing the birth of a shallow, permanent water body. The substrate of the lake is muddy, with submerged and emerging vegetation. The lake is surrounded by forest, classified by GRANTNER (1966) as a maple-linden region, which is characterized by the American linden (*Tilia americana*), the white ash (*Fraxinus americana*) and the butternut (*Juglans cinerea*) (cf. RICHARD, 1977).

Observations and discussion

During the summers of 1979 and 1980, 52 species were collected, all of which had previously been recorded in the province of Quebec (HUTCHINSON & LAROCHELLE, 1977). Eleven of these are represented by a single capture, viz.: *Lestes unguiculatus* (8.VIII), *L. dryas* (14.VII), *Coenagrion interrogatum* (13.VI), *Aeshna tuberculifera* (16.VIII), *A. constricta* (31.VII), *Gomphus brevis* (4.VI), *G. scudderi* (2.VI), *Cordulegaster maculata* (6.VI), *Didymops transversa* (26.VI), *Epithea cynosura* (17.VI) and *Libellula pulchella* (23.VI). Except for *G. scudderi*, the date of capture of which represents an extension of the flight period in Quebec, our records are within the range of the known flight period for this province.

Tables I and II list the species with less than 100 specimens captured at lake Parent, the number of specimens captured and the flight period for each of these species. It is to be noted that there is an extension of the flight period for the province of Quebec for seven Zygoptera (*Lestes disjunctus*, *Amphiagrion saucium*, *Nehalennia irene*, *Enallagma carunculatum*, *E. cyathigerum*, *E. antennatum* and *Ischnura posita*) and nine Anisoptera (*Basiaeschna janata*, *Aeshna interrupta*, *Gomphus spicatus*, *Cordulia shurtleffi*, *Dorocordulia libera*, *Sympetrum costiferum*, *S. semicinctum* and *L. frigida*).

Table I — Number of individuals captured and flight periods for Zygoptera collected at lake Parent — (* extension of the known flight period).

Species	Number captured	Flight period
<i>Lestes congener</i>	32	8.VIII-3.X*
<i>L. disjunctus</i>	38	27.VI-3.IX*
<i>L. rectangularis</i>	6	25.VII-21.VIII
<i>Chromagrion conditum</i>	11	2.VI-9.VII
<i>Amphiagrion saucium</i>	2	6.VI*
<i>Nehalennia irene</i>	50	2.VI*-31.VII
<i>Coenagrion resolutum</i>	52	2.VI-3.VII
<i>Enallagma carunculatum</i>	4	17.VI*-14.VII
<i>E. boreale</i>	4	26.V-4.VI
<i>E. cyathigerum</i>	34	2.VI*-11.VIII
<i>E. vernale</i>	5	4.VI-17.VI
<i>E. exsulans</i>	3	31.VII-11.VIII
<i>E. antennatum</i>	2	8.VIII*
<i>Ischnura posita</i>	3	2.VI-13.VI

Table II — Number of individuals captured and flight periods for Anisoptera collected at lake Parent — (* extension of the known flight period).

Species	Number captured	Flight period
<i>Basiaeschna janata</i>	2	26.V*
<i>Aeshna interrupta</i>	4	8.VIII-23.IX*
<i>A. canadensis</i>	34	18.VII-16.IX
<i>A. umbrosa</i>	8	23.VI-23.IX
<i>Gomphus exilis</i>	7	26.V-22.VI
<i>G. spicatus</i>	49	2.VI-9.VII
<i>Epithea spinigera</i>	4	4.VI-22.VI
<i>Cordulia shurtleffi</i>	6	26.V*-31.VII
<i>Dorocordulia libera</i>	9	4.VI*-16.VIII
<i>Libellula quadrimaculata</i>	53	26.V-31.VII
<i>L. julia</i>	51	26.V-18.VII
<i>Plathemis lydia</i>	12	4.VI-11.VIII
<i>Sympetrum costiferum</i>	12	8.VIII-10.X*
<i>S. semicinctum</i>	70	5.VII-23.IX*
<i>S. rubicundulum</i>	2	3.VII-18.VII
<i>S. internum</i>	12	14.VII-16.VIII
<i>Leucorrhinia hudsonica</i>	11	26.V-11.VIII
<i>L. proxima</i>	10	17.VI-16.VIII
<i>L. glacialis</i>	2	4.VI*-13.VI
<i>L. intacta</i>	5	4.VI-14.VI
<i>L. frigida</i>	38	17.VI-11.VIII*

trum costiferum, *S. semicinctum*, *Leucorrhinia glacialis* and *L. frigida*).

Enallagma hageni, *E. ebrium*, *Ischnura verticalis*, *Epithea canis*, *Sympetrum vicinum* and *S. obtrusum* were particularly abundant in the habitat sampled. In Figure 1 are presented the curves of the captures during the flight period indicating clearly the character of these species. *E. ebrium*, *E. hageni* and *I. verticalis* are true summer species, *S. obtrusum* and *S. vicinum* are late summer species while *E. canis* is an early summer species and the only one with a synchronous flight period.

Surprisingly enough, the present work is the first one in Quebec recording the dragonfly occurrence throughout the entire season. This very fact has permitted to increase the known flight period in Quebec for 22 species in a single locality only.

With 52 species collected, lake Parent should be considered as reasonably rich, harbouring 39.3% of the total fauna of the province (132 species). It also indicates that man-made habi-

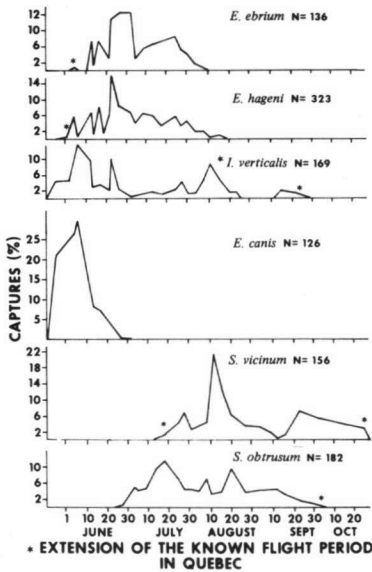


Fig. 1. Flight periods of

Parent. and at lake

tats are able to achieve an equilibrium when given time.

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