

THE ODONATA OF THE PROVINCE OF PRINCE EDWARD ISLAND, CANADA

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Abstract — Based upon literature records, museum specimens, and field collecting of adults, 39 spp. have been recorded. All of these may maintain breeding populations on the island. However, 6 spp. are represented by single specimens and these might have accidentally flown across Northumberland Strait from the nearby provinces of New Brunswick or Nova Scotia.

Introduction

While searching the literature in preparation for a review article on the Odonata of peatlands and marshes in Canada (HILTON, 1987), I was struck by how little information had been published on the Odonata of Prince Edward Island (PEI). WALKER (1953, 1958) and WALKER & CORBET (1975) listed 20 species but these were obtained from WALKER (1917, 1933). Prince Edward Island is by far the smallest Canadian province and one would certainly expect it to have a reduced dragonfly fauna in comparison to that of larger provinces. However, 20 species seemed far too few even for its relatively tiny land mass (567,000 hectares). In addition, there are other widespread species in adjacent New Brunswick (NB) and Nova Scotia (NS) which one would predict should be present in PEI. This dearth of information prompted me to undertake a survey of the Odonata of PEI.

Methods

Species occurrence and distribution of Odonata within PEI were obtained from literature

records, museum specimens and field collecting. I examined (and confirmed the identifications of) all PEI odonate specimens in the Canadian National Collection, Ottawa (CNC), Lyman Entomological Museum of Macdonald College, McGill University, Ste. Anne de Bellevue, Quebec (LEM) and the University of Prince Edward Island, Charlottetown (UPEI). My own collecting took place throughout PEI at varying times during the summers of 1985-89. Only adults were collected and these were netted, transferred to glassine envelopes for several hours to allow for gut evacuation, killed and color-preserved by soaking in acetone for 24 hr, air dried and stored in clear cellophane envelopes. Specimens thus preserved were taken to Bishop's University, identified and incorporated into Bishop's University Natural History Museum's insect collection.

Species list and collecting localities

I have followed the taxonomic arrangement employed by WALKER (1953, 1958) and WALKER & CORBET (1975) for the following species accounts. Although aspects of this nomenclature may not be agreed upon by all authorities, anyone working with Odonata in Canada will constantly be referring to WALKER (1953, 1958) and WALKER & CORBET (1975). Consequently, by adhering to their species arrangement it will be easier for anyone wishing to compare species distributions in this paper with their synopsis.

For brevity, I have omitted published localities obtained from literature records. Anyone

wishing this information can consult the relevant publications. Abbreviations used are: CP (copulating pair) and TP (tandem pair). Unless otherwise indicated, all locality records are from my collections.

Lestidae

Lestes congener Hagen — Brackley Beach Community Center: 15-VII-1987, 1 ♂. — Experiment Station, Charlottetown: 29-IX-1954, F. Farquharson, 1 ♀ (UPEI). — Mermaid: 16-IX-1953, J. White, 1 ♂ (UPEI). — See also WALKER (1917).

L. unguiculatus Hagen — Alberton: 14-VIII-1986, 3 TP. — Brackley Beach: 24-VII-1940, J. McDunnough, 1 ♀, 1 ♂; G. Walley, 1 ♀; 2-VIII-1940, G. Walley, 1 ♀, 2 ♂; 24-VII-1967, J. Martin, 12 ♀, 21 ♂ (CNC). — Bridge Pool, Dunk River: 22-VII-1971, J. Macleod, 1 ♀ (UPEI). — Charlottetown: 24-IX-1952, R. Simms, 1 ♂; 10-X-1952, D. Reardon, 1 ♀; ?-VIII-1956, E. Warton, 1 ♂ (UPEI). — Dalvay House (=Dalvay, =Dalvay-by-the-Sea): 4-VIII-1940, J. McDunnough, 4 ♂, G. Walley, 1 ♀, 1 ♂; 14-VIII-1940, 1 ♂, 19-VIII-1940, 1 ♀, G. Walley (CNC). — 2.3 km West Ebenezer: 11-VIII-1986, 1 TP. — Junction highways Nos 24 & 325: 19-VII-1987, 18 ♂. — Junction highways Nos 235 & 249: 11-VIII-1986, 7 TP; 18-VII-1987, 1 ♂. — Kinlock: 16-IX-1972, R. Edwards, 1 ♀ (UPEI). — Mount Herbert: 3-X-1952, M. Jenkins, 1 ♂ (UPEI). — Mount Stewart: 15-IX-1954, F. Farquharson, 1 ♀ (UPEI). See also WALKER (1917).

L. dryas Kirby — Between Baltic and East Baltic: 13-VIII-1986, 1 TP. — Brackley Beach Community Center: 15-VII-1987, 1 ♂, 1 TP. — Freeland: 14-VIII-1986, 1 ♀, 3 ♂; 17-VII-1987, 1 ♀, 3 ♂. — Highway No. 219 nr Tracadie Cross: 15-VII-1987, 5 ♂, 1 TP. — Junction highways Nos 13 & 235: 18-VII-1987, 15 ♂, 1 TP. — Junction highways Nos 24 & 325: 19-VII-1987, 5 ♂. — Junction highways Nos 235 & 249: 11-VIII-1986, 5 TP; 18-VII-1987, 4 ♂. — St Mary's Road: 19-VII-1987, 1 ♂. — Stanhope: 10-VII-1941, T. Freeman, 2 ♀ (CNC). — See also WALKER (1917).

L. disjunctus Selys — Alberton: 14-VIII-1986, 9 ♂, 1 CP, 6 TP; 17-VII-1987, 1 TP. — Between Baltic and East Baltic: 13-VIII-1986, 4 ♂, 1 TP; 16-VII-1987, 4 ♂, 1 TP. — Bear River:

16-VII-1987, 6 ♂, 1 TP. — Brackley Beach Community Center: 15-VII-1987, 2 TP. — Cavendish: 15-VIII-1986, 1 TP. — Charlottetown: 11-VIII-1986, 11 ♂, 1 TP; 18-VII-1987, 2 ♂. — Dalvay House: 19-VII-1940, G. Walley, 1 ♂ (CNC). — Dingman's Mills: 16-VII-1987, 2 ♂. — East Royalty: 12-VIII-1986, 1 ♀, 4 ♂. — 2.3 km west of Ebenezer: 11-VIII-1986, 4 ♂, 5 TP; 15-VII-1987, 1 ♀, 3 ♂. — Forest Hill: 13-VIII-1986, 7 ♂. — Freeland: 14-VIII-1986, 1 ♀, 27 ♂, 1 CP, 1 TP; 17-VII-1987, 1 ♀, 12 ♂, 2 TP. — Junction highways Nos 21 & 215: 12-VIII-1986, 5 ♂. — Junction highways Nos 24 & 325: 19-VII-1987, 8 ♀, 1 ♂. — Junction highways Nos 307 & 357: 13-VIII-1986, 5 ♂; 16-VII-1987, 1 ♀, 2 ♂. — Lorne Valley: 13-VIII-1986, 3 ♂. — Margate: 15-VIII-1986, 1 ♂. — Mount Albion: 18-VII-1987, 1 ♀, 2 ♂. — Selkirk Road: 12-VIII-1986, 2 ♀. — Springton: 15-VIII-1986, 2 ♂. — St Mary's Road: 19-VII-1987, 1 ♀, 3 ♂. — Stanhope: 17-VII-1964, 2 ♀, G. Jamieson (LEM). — Tyne Valley: 14-VIII-1986, 10 ♂. — Watervale: 12-VIII-1986, 3 ♂, 1 TP. — See also WALKER (1917).

L. forcipatus Rambur — Derby: 30-VI-1989, 2 ♀. — Freeland: 17-VII-1987, 1 ♀, 2 ♂, 1 TP. — Junction highways Nos 24 & 325: 19-VII-1987, 2 ♂. Mount Albion: 18-VII-1987, 1 ♂. Coenagrionidae

Chromagrion conditum (Hagen) — Junction highways Nos 145 & 148: 30-VI-1989, 5 ♂.

Nehalennia irene (Hagen) — Between Baltic and East Baltic: 13-VIII-1986, 1 ♂; 16-VII-1987, 2 TP. — Cavendish: 15-VIII-1986, 3 ♂. — Between Conway and Freeland: 14-VIII-1986, 2 ♂; 17-VII-1987, 1 ♂, 1 TP. — Dalvay House: 19-VII-1940, 1 ♀; 20-VII-1940, 3 ♀, 2 ♂, J. McDunnough (CNC). — Derby: 30-VI-1989, 1 ♀, 1 ♂, 3 TP. — East Royalty: 15-VII-1987, 1 ♂; 12-VI-1988, 2 ♀, 4 ♂. — 2.3 km west of Ebenezer: 15-VII-1987, 2 ♀. — Harrington: 22-VI-1981, V. Friesen, 1 ♂ (UPEI). — Junction highways Nos 21 & 215: 12-VIII-1986, 1 ♂. — Junction highways Nos 145 & 148: 30-VI-1989, 4 ♂, 1 TP. — Junction highways Nos 307 & 357: 13-VIII-1986, 4 ♂, 2 TP; 16-VII-1987, 1 ♀. — St Mary's Road: 19-VII-1987, 2 ♀, 2 ♂. — Stanhope: 19-VII-1964, G. Jamieson, 3 ♀ (LEM). — See also WALKER (1917).

N. gracilis Morse. — St Mary's Road: 19-VII-1987, 1 ♂.

Coenagrion resolutum (Hagen) — Between Baltic and East Baltic: 16-VII-1987, 1 ♂, 1 TP. — Conway: 17-VII-1987, 2 ♂, 1 TP. — Dalvay House: 14-VII-1940, J. McDunnough, 1 ♂ (CNC). — Derby: 30-VI-1989, 1 ♂. — 2.3 km west of Ebenezer: 15-VII-1987, 1 ♂. — Junction highways Nos 13 & 235: 18-VII-1987, 1 ♂. — Junction highways Nos 145 & 148: 30-VI-1989, 3 ♂. — Junction highways Nos 307 & 357: 16-VII-1987, 1 ♂. — Miscouche: 2-VII-1975, D. Heustis, 1 ♂ (UPEI). — North River: 30-VI-1981, V. Friesen, 1 ♂ (UPEI). — 2.5 km east of St Mary's Road: 15-VI-1988, 2 ♂.

Enallagma carunculatum Morse — Stanhope: 19-VII-1964, G. Jamieson, 1 ♂ (LEM).

E. civile (Hagen) — Dingman's Mills: 16-VII-1987, 1 ♀, 2 ♂. — Oyster Bed Bridge: 11-VIII-1986, 4 ♂, 1 TP. — Tyne Valley: 14-VIII-1986, 2 ♂; 17-VII-1987, 3 ♂, 1 TP. — See also WALKER (1917).

E. boreale Selys — Glenfinnan: 1-VI-1971, J. Macleod, 1 ♀ (UPEI). — Mount Albion: 15-VI-1988, 1 ♂. — Stanhope: 19-VII-1964, G. Jamieson, 1 ♂ (LEM). — Vernon River: 16-VI-1970, R. Wenn, 1 ♂ (UPEI).

E. cyathigerum (Charpentier) — Bayfield: 16-VII-1987, 2 ♂, 1 TP. — Brackley Beach: 24-VII-1967, J. Martin, 1 ♂ (CNC). — Charlottetown: 18-VII-1987, 2 ♂. — Derby: 30-VI-1989, 2 ♂, 1 CP, 5 TP. — Freeland: 14-VIII-1986, 2 ♂. — Junction highways Nos 307 & 357, 16-VII-1987, 1 TP. — Mount Albion: 18-VII-1987, 1 ♂. — St Mary's Road: 19-VII-1987, 2 ♂, 1 TP. — Tyne Valley: 17-VII-1987, 1 ♂.

E. hageni (Walsh) — Alberry Plains: 17-VI-1971, J. Macleod, 1 ♂ (UPEI). — Alberton: 14-VIII-1986, 5 ♂, 5 TP; 17-VII-1987, 4 ♂, 1 TP. — Between Baltic and East Baltic: 16-VII-1987, 1 ♀. — Brackley Beach Community Center: 15-VII-1987, 2 ♂, 1 TP. — Charlottetown: 11-VIII-1986, 2 ♂; 18-VII-1987, 4 ♂. — Cherry Valley: 17-VII-1965, B. Hayden, 1 ♂ (UPEI). — Conway: 17-VII-1987, 3 ♂. — Covehead: 15-VII-1987, 10 ♂. — Dalvay House: 19-VII-1940, 2 ♀, 5 ♂; 20-VII-1940, 13 ♂, G. Walley (CNC). — De Roche Point: 28-VI-1982, L. Drake, 1 ♂, C. Wenn, 1 ♂ (UPEI). — East Royalty: 12-VIII-1986, 1 ♂; 15-VII-1987, 3 ♂. — 2.3 km west of Ebenezer: 11-VIII-1986, 1 ♂; 15-VII-1987, 1 ♂. — Greenwich: 8-VII-1982, V. Bryanton, 1 ♀, 1

♂, L. Drake, 2 ♀ (UPEI). — Harrington: 22-VI-1981, V. Friesen, 1 ♂, K. Macdonald, 1 ♀ (UPEI). — Highway No 219 nr Tracadie Cross: 15-VII-1987, 1 ♂. — Junction highways Nos 235 & 249: 18-VII-1987. — Lakeside: 2-VII-1970, R. Wenn, 2 ♀, 3 ♂ (UPEI). — Lorne Valley: 13-VIII-1986, 1 ♂. — Margate: 15-VIII-1986, 13 ♂, 1 TP. — Mount Albion: 18-VII-1987, 9 ♂, 1 TP. — North River: 2-VI-1981, V. Friesen, 6 ♀, 1 ♂ (UPEI). — Roseneath: 20-VII-1966, R. Doucette, 1 ♀ (UPEI). — Stanhope: 17-VII-1964, 1 ♂; 19-VII-1964, 3 ♂; 20-VII-1964, 1 ♂, G. Jamieson (LEM). — Tracadie Cross: 15-VII-1987, 5 ♂, 1 TP. — Tyne Valley: 14-VIII-1986, 1 ♂. — Vernon River: 16-VI-1970, R. Wenn (UPEI). — Watervale: 12-VIII-1986, 2 ♂. — Wellington: 2-VII-1975, B. Jenkins, 2 ♀ (UPEI). — See also WALKER (1917).

E. ebrium (Hagen) — Alberton: 14-VIII-1986, 1 ♂. — Bear River: 16-VII-1987, 1 ♂. — Conway: 17-VII-1987, 2 ♂. — Dingman's Mills: 16-VII-1987, 8 ♂, 4 TP. — Five Houses: 13-VIII-1986, 1 ♂; 16-VII-1987, 2 ♂. — Forest Hill: 13-VIII-1986, 2 ♂; 16-VII-1987, 2 ♂. — Highway No 219 nr Tracadie Cross: 15-VII-1987, 2 ♂. — Junction highways Nos 21 & 215: 12-VIII-1986, 1 ♂. — Junction highway Nos 145 & 148: 30-VI-1989, 3 ♂. — Junction highways Nos 307 & 357: 13-VII-1986, 1 ♂; 16-VII-1987, 3 ♂. — Lorne Valley: 13-VIII-1986, 3 ♂. — Mount Albion: 18-VII-1987, 1 ♂. — St Mary's Road: 19-VII-1987, 2 ♂. — Watervale: 12-VIII-1986, 10 ♂.

Ischnura verticalis (Say) — Alberton: 14-VIII-1986, 2 ♀; 17-VII-1987, 4 ♀, 2 ♂. Between Baltic and East Baltic: 16-VII-1987, 1 ♀, 1 ♂, 2 CP. — Bear River: 16-VII-1987, 1 ♂. — Bunbury: 12-VII-1971, J. Macleod, 1 ♀ (UPEI). — Cavendish: 15-VIII-1986, 2 ♀, 1 ♂. — Cavendish Beach: 22-VII-1967, J. Martin, 1 ♂ (CNC). — Cavendish golf course: 15-VIII-1986, 7 ♀, 2 ♂. — Charlottetown: 11-VIII-1986, 16 ♀, 3 ♂; 18-VII-1987, 3 ♀, 1 ♂; 12-VI-1988, 4 ♂, 1 CP. — Cornwall: 21-VI-1982, V. Bryanton, 4 ♀, 2 ♂, C. Wenn, 3 ♀, 2 ♂ (UPEI). — Covehead: 15-VII-1987, 14 ♀, 10 ♂. — Dalvay House: 19-VII-1940, G. Walley, 1 ♀, 2 ♂; 20-VII-1940, J. McDunnough, 3 ♂ (CNC). — Derby: 30-VI-1989, 1 ♂. — DeRoche Point: 28-VI-1982, V. Bryanton, 1 ♀, 1 ♂, L. Drake, 1 ♀, 1 ♂ (UPEI). — Dingman's Mills: 13-VIII-1986, 1 ♂; 16-VII-

-1987, 1 ♀, 3 ♂. — East Royalty: 12-VIII-1986, 8 ♀, 4 ♂; 15-VII-1987, 5 ♀, 7 ♂; 12-VI-1988, 5 ♀, 4 ♂, 1 CP. — 2.3 km west of Ebenezer: 11-VIII-1986, 2 ♀, 2 ♂. — Five Houses: 13-VIII-1986, 6 ♀, 1 ♂; 16-VII-1987, 2 ♀, 2 ♂. — Forest Hill: 13-VIII-1986, 3 ♀, 3 ♂. — Freeland: 14-VIII-1986, 1 ♀, 1 ♂. — Greenwich: 8-VII-1982, "V.B.", 2 ♀, L. Drake, 1 ♀ (UPEI). — Harrington: 22-VI-1981, V. Friesen, 2 ♀, 1 ♂ (UPEI). — Junction highways Nos 13 & 235: 18-VII-1987, 3 ♀, 6 ♂. — Junction highways Nos 235 & 249: 11-VIII-1986, 3 ♀, 2 ♂. — Junction highways Nos 307 & 357: 13-VIII-1986, 2 ♀, 1 ♂. — Lorne Valley: 13-VIII-1986, 2 ♀, 4 ♂. — Margate: 15-VIII-1986, 7 ♀, 6 ♂. — Mount Albion: 18-VII-1987, 5 ♀, 3 ♂; 15-VI-1988, many (none kept). — North River: V. Friesen, 2-VI-1981, 1 ♀; 18-VI-1981, 2 ♀ (UPEI). — Oyster Bed Bridge: 11-VIII-1986, 3 ♀, 1 ♂. — Selkirk Road: 12-VIII-1986, 2 ♀, 2 ♂, 1 CP. — Springton: 15-VIII-1986, 1 ♀, 1 ♂. — Tracadie Cross: 12-VIII-1986, 2 ♀; 15-VII-1987, 3 ♀, 1 ♂. — Tyne Valley: 14-VIII-1986, 15 ♀, 9 ♂; 17-VII-1987, 8 ♀, 4 ♂. — Vernon River: 3-VI-1970, L. Drake, 1 ♂, R. Wenn, 1 ♂ (UPEI). — Watervale: 12-VIII-1986, 1 ♀. — West Royalty: 10-VI-1970, R. Wenn, 1 ♀, 1 ♂ (UPEI). — See also WALKER (1917).

Aeshnidae

Aeshna interrupta Walker — Alberton: 14-VIII-1986, 3 ♂; 17-VII-1987, 1 ♂. — Between Baltic and East Baltic: 14-VIII-1986, 2 ♂, 1 TP. — Bayfield: 16-VII-1987, 1 ♂. — Bear River: 16-VII-1987, 1 ♀. — Brackley Beach Community Center: 15-VII-1987, 2 ♂. — Charlottetown: 18-VII-1987, 1 ♂. — Dalvay House: 5-VIII-1940, G. Walley, 1 ♂ (CNC). — 2.3 km west of Ebenezer: 11-VIII-1986, 4 ♂. — Freeland: 14-VIII-1986, 2 ♂. — Margate: 15-VIII-1986, 1 ♂. — Mount Vernon: 12-VIII-1986, 1 ♀. — Watervale: 12-VIII-1986, 5 ♀, 1 ♂. — See also WALKER (1917).

A. canadensis Walker — Alberton: 14-VIII-1986, 1 ♂. — Between Baltic and East Baltic: 13-VIII-1986, 4 ♂. — Bayfield: 16-VII-1987, 2 ♂. — Brackley Beach Community Center: 15-VII-1987, 5 ♂. — Dalvay House: 4-VIII-1940, J. McDunnough, 1 ♀; 5-VIII-1940, G. Walley, 1 ♀, 3 ♂; 6-VIII-1940, J. McDunnough, 2 ♂, G. Walley, 1 ♂; 7-VIII-1940, G. Walley, 1 ♂ (CNC). — 2.3 km west of Ebenezer: 11-VIII-1986,

2 ♂. — Forest Hill: 13-VIII-1986, 1 ♀. — Stanhope: 25-VII-1937, ?, 1 ♂ (UPEI). — UPEI campus: 1-VIII-1971, A. Cairns, 1 ♀ (UPEI). See also WALKER (1917).

A. tuberculifera Walker-Dalvay House: 5-VIII-1940, G. Walley, 1 ♂; 6-VIII-1940, J. McDunnough, 1 ♀ (CNC).

A. umbrosa Walker — Alberton: 14-VIII-1986, 1 ♂. — Freeland: 14-VIII-1986, 2 ♂. — Junction highways Nos 235 & 249: 11-VIII-1986, 1 ♀. — See also WALKER (1917).

Anax junius (Drury) — Junction highways Nos 235 & 249: 11-VIII-1986, 2 ♂. — See also WALKER (1958).

Cordulegastridae

Cordulegaster maculatus Selys — Ban-nockburn Road, Clyde River: 8-VII-1971, A. Joshi, 1 ♂ (UPEI).

Corduliidae

Epiheca canis McLachlan — Mount Albion: 15-VI-1988, 3 ♂. — See also WALKER & CORBET (1975).

Somatochlora walshii (Scudder) — Dalvay House: 16-VIII-1940, J. McDunnough, 2 ♀, 5 ♂, G. Walley, 4 ♂ (CNC).

S. minor Calvert — Alberton: 14-VII-1940, J. McDunnough, 1 ♀, 1 ♂ (CNC).

S. elongata (Scudder) — See WALKER (1917).

S. williamsoni Walker — Alberton: 17-VII-1987, 1 ♂. — Brackley Beach Community Center: 15-VII-1987, 1 ♂.

S. kennedyi Walker — Alberton: 14-VII-1940, G. Walley, 1 ♂ (CNC). — Portage: 18-VII-1940, G. Walley, 1 ♂ (CNC).

Dorocordulia libera (Selys) — Five Houses: 16-VII-1987, 1 ♀.

Libellulidae

Libellula quadrimaculata Linnaeus — Alberton: 14-VIII-1986, 5 ♂; 17-VII-1987, 2 ♂. — Between Baltic and East Baltic: 16-VII-1987, 1 ♀, 6 ♂. — Brackley Beach Community Center: 15-VII-1987, 12 ♂. — Charlottetown: 18-VII-1987, 2 ♂. — Derby: 30-VI-1989, 2 ♂. — East Royalty: 15-VII-1987, 3 ♂. — Freeland: 17-VII-1987, 1 ♂. — Junction highways Nos 145 & 148: 30-VI-1989, 2 ♂. — St Mary's Road: 19-VII-1987, 4 ♂. — 2.5 km east of St Mary's Road: 15-VI-1988, 3 ♂. — Tyne Valley: 17-VII-1987, 1 ♂. — See also WALKER (1917).

L. lydia Drury — Canoe Cove: 5-VIII-1970,

R. Wenn, 1 ♂ (UPEI). — Junction highways Nos 234 & 249: 11-VIII-1986, 1 ♂. — Mount Albion: 18-VII-1987, 2 ♂. — Tracadie Cross: 15-VII-1987, 1 ♂.

Sympetrum costiferum (Hagen) — Alberton: 14-VIII-1986, 1 ♀, 2 ♂. — Charlottetown: 27-IX-1952, M. Arseneault, 1 ♀ (UPEI). — Between Conway and Freeland: 14-VIII-1986, 1 ♂. — Greenwich: 17-VIII-1970, R. Wenn, 1 ♀ (UPEI). — Junction highways Nos 21 & 215: 12-VIII-1986, 1 ♂. — Rocky Point: ?-X-1952, N. Hansen, 1 ♂ (UPEI). — Stanhope; 27-IX-1942, L. Brady, 1 ♀ (UPEI). — Tracadie Cross: 12-VIII-1986, 1 ♂. — Watervale: 12-VIII-1986, 1 ♀, 1 ♂.

S. danae (Sulzer) — Dalvay House: 4-VIII-1940, G. Walley, 1 ♂ (CNC).

S. rubicundulum (Say) — See WALKER (1917).

S. internum Montgomery — Alberton: 14-VIII-1986, 3 ♂; 17-VII-1987, 2 ♂. — Between Baltic and East Baltic: 13-VIII-1986, 1 ♀, 6 ♂, 3 TP. — Bear River: 16-VII-1987, 1 ♀. — Bethel: 28-IX-1974, J. Lund, 1 ♀ (UPEI). — Brackley Beach: 16-VII-1940, 1 ♂, 24-VII-1940, 1 ♀, 25-VII-1940, 1 ♀, G. Walley; 24-VII-1940, J. McDunnough, 1 ♀ (CNC). — Brackley Beach Community Center: 15-VII-1987, 2 ♂. — Bunbury: 12-VII-1971, J. Macleod, 2 ♀, 1 ♂ (UPEI). — Canoe Cove: 18-VII-1987, 1 ♂. — Cavendish golf course: 15-VIII-1986, 1 ♂. — Charlottetown: 11-VIII-1986, 3 ♀, 6 ♂; 18-VII-1987, 1 ♀. — Between Conway and Freeland: 14-VIII-1986, 8 ♂, 3 CP; 17-VII-1987, 2 ♀, 3 ♂, 1 CP. — Dalvay House: 21-VII-1940, G. Walley, 1 ♂ (CNC). — Dingman's Mills: 16-VII-1987, 1 ♀. — Dundas: 2-IX-1952, V. Matheson, 1 ♂ (UPEI). — East Royalty: 12-VIII-1986, 2 ♀, 2 ♂. — 2.3 km west of Ebenezer: 11-VIII-1986, 12 ♂; 15-VII-1987, 1 ♂. — Greenwich: 17-VIII-1970, R. Wenn, 1 ♀, 1 ♂ (UPEI). — Highway No. 219 nr Tracadie Cross: 15-VII-1987, 3 ♀. — Junction highways Nos 13 & 235: 18-VII-1987, 1 ♀. — Junction highways Nos 21 & 215: 12-VIII-1986, 4 ♂. — Junction highways Nos 24 & 325: 19-VII-1987, 1 ♀, 3 ♂. — Junction highways Nos 235 & 249: 11-VIII-1986, 3 ♀, 8 ♂; 18-VII-1987, 3 ♂, 3 CP. — Junction highways Nos 307 & 357: 13-VIII-1986, 1 ♂, 2 TP. — Margate: 15-VIII-1986, 2 ♂. — Mount Albion: 18-VII-1987, 1 ♀, 5 ♂, 2 CP. — Scale's Pond,

Dunk River: 23-VII-1981, V. Friesen, 3 ♂ (UPEI). — St Mary's Road: 19-VII-1987, 3 ♂, 1 CP. — Stanhope: 18-VII-1964, G. Jamieson, 3 ♂ (LEM). — Tracadie Cross: 15-VII-1987, 1 ♂. — Tyne Valley: 14-VIII-1986, 5 ♂. — UPEI campus: 18-VIII-1972, A. Joshi, 1 ♀ (UPEI). — Victoria Park, Charlottetown: 3-VIII-1981, K. Macdonald, 1 ♀, 3 ♂ (UPEI). — Watervale: 12-VIII-1986, 1 ♀, 3 ♂. — West Royalty: 10-VIII-1970, K. Karmody, 1 ♀ (UPEI). — See also WALKER (1917).

S. obtusum (Hagen) — Brackley Beach: 24-VII-1940, J. McDunnough, 2 ♂ (CNC). — Charlottetown: 23-IX-1952, W. Batt, 1 ♂; 4-XI-1953, H. Carr, 1 ♂ (UPEI). — See also WALKER (1917).

Leucorrhinia hudsonica (Selys) — Alberton: 17-VII-1987, 1 ♂. — Between Baltic and East Baltic: 16-VII-1987, 9 ♂, 1 CP, 1 TP. — Bayfield: 16-VII-1987, 3 ♂, 1 CP. — Scale's Pond, Dunk River: 23-VII-1981, V. Friesen, 1 ♀ (UPEI). — 2.5 km east of St Mary's Road: 15-VI-1988, 4 ♂. — Stanhope: 17-VII-1964, G. Jamieson, 1 ♂ (LEM). — See also WALKER (1917).

L. proxima Calvert — Alberton: 17-VII-1987, 3 ♂. — Between Baltic and East Baltic: 16-VII-1987, 8 ♂. — Bayfield: 16-VII-1987, 1 ♂. — Freeland: 14-VIII-1986, 1 ♂; 17-VII-1987, 2 ♀, 4 ♂, 2 CP. — Junction highways Nos 145 & 148: 30-VI-1989, 1 ♀, 5 ♂. — Mount Albion: 18-VII-1987, 1 ♂. — St Mary's Road: 19-VII-1987, 5 ♂. 2.5 km east of St Mary's Road: 15-VI-1988, 1 ♂. — Wellington: 2-VII-1975, B. Jenkins, 2 ♂, N. LeBlanc, 1 ♂ (UPEI).

L. intacta Hagen — Greenwich: 8-VII-1982, L. Drake, 1 ♀ (UPEI). — See also WALKER (1917).

Discussion

A total of 39 odonate species have now been recorded from PEI. Of these, 20 (51.3%) were previously published in the literature, including *Somatochlora elongata* and *Sympetrum rubicundulum* (WALKER, 1917); two species which I did not collect, nor were they represented in the museums I examined. I collected 28 species (71.8%), including *Lestes forcipatus*, *Chromagrion conditum*, *Nehalennia gracilis*, *Enallagma ebrium*, *Somatochlora williamsoni* and *Dorocordulia libera*, all of which were

neither previously reported nor collected. The CNC contains 17 species (43.6%), including previously unreported and uncollected *Aeshna tuberculifera*, *Somatochlora kennedyi*, *S. minor*, *S. walshii* and *Sympetrum danae*. The UPEI collection contains 16 species (41.0%), only one of which, *Cordulegaster maculatus*, had not already been reported or collected. The LEM has seven species (17.9%), of which only *Enallagma carunculatum* had not already been reported or collected.

The following six species are represented by only one specimen: *Nehalennia gracilis* (this study), *Enallagma carunculatum* (LEM), *Cordulegaster maculatus* (UPEI), *Somatochlora elongata* (Walker, 1917), *Dorocordulia libera* (this study) and *Sympetrum danae* (CNC). Since larvae were not collected it is difficult to know whether breeding populations of these species exist in PEI. It is possible that these individuals flew onto PEI from nearby NB or NS since, at their closest, these two provinces are separated from PEI by Northumberland Strait at distances of 14 and 22 km respectively. *S. danae* has been recorded from NB (WALKER & CORBET, 1975). The other five species all occur in both NB and NS (WALKER, 1953, 1958; WALKER & CORBET, 1975). However, peatland habitats (favored by *N. gracilis*, *D. libera* and *S. danae*), forest streams with intermittent rapids and pools (preferred habitats of *C. maculatus* and *S. elongata*) and lakes, rivers and brackish water (habitats of *E. carunculatum*) can be found at various locations throughout PEI. Therefore it is possible that breeding populations occur in some of these habitats, especially those not easily accessible to collectors. If so, the six solitary specimens could represent individuals fortuitously captured while they wandered from their breeding habitats.

Aeshna tuberculifera, *Somatochlora walshii*, *S. minor*, *S. kennedyi* and *Sympetrum danae* have not been collected since 1940, while *Somatochlora elongata* and *Sympetrum rubicundulum* have not been collected since

WALKER reported their presence in 1917. Although I visited the localities (determined from published records or museum labels) where these species were collected, I may not have been able to locate the exact habitats occupied by these odonates in 1940 and 1917, respectively. These species may still exist at certain PEI locales, or perhaps they no longer reside in PEI because their required habitats have subsequently been destroyed by various land-use practices that have altered PEI's landscape during the past half-century.

Due to the abundance of peatland habitats in PEI, it is surprising that species typical of peat bogs such as *Cordulia shurtleffi* Scudder and *Libellula julia* Uhler are not present. Both occur in NB and NS where they occupy the same habitats as (among other species) *Epitheca canis*, *Leucorrhinia hudsonica* and *L. proxima*. These latter three species are found at peatland habitats in PEI.

Undoubtedly other species of Odonata remain to be discovered in PEI. This is particularly likely in non-agricultural areas where forested regions prevent collectors from gaining easy access to breeding habitats.

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