

# The Canadian Field-Naturalist

## A tribute to Paul-Michael Brunelle, odonatologist, 1952–2020

DONALD F. MCALPINE

Department of Natural History, New Brunswick Museum, 277 Douglas Avenue, Saint John, New Brunswick E2K 1E5; email: donald.mcalpine@nbm-mnb.ca

McAlpine, D.F. 2020. A tribute to Paul-Michael Brunelle, odonatologist, 1952–2020. *Canadian Field-Naturalist* 134(4): 379–386. <https://doi.org/10.22621/cfn.v134i4.2711>

Paul Michael Brunelle (Figure 1), 67-years-old, Atlantic Canadian odonatologist, and notable graphic designer, passed away unexpectedly on 18 January 2020. His frozen body was discovered by his former wife in his cabin-cum-laboratory in rural Middle New Cornwall, Nova Scotia. An autopsy revealed cause of death as heart failure.

Paul was born 7 November 1952 in Halifax, Nova Scotia, the eldest among two sons (the second dying shortly after birth) and a younger sister, the children of Paul Joseph Brunelle (1918–2012) and Gwendolyn Pearl Brunelle (1920–1997; nee Myers). Although for much of his adult life Paul's relationship with

his father, a one-time military man, was sometimes strained, they shared a diverting interest in natural history, and he acknowledged his parents support in one of his earlier published journal papers (Brunelle 1997). While the senior Brunelle pursued a retirement passion for the greenhouse culture of cacti and succulents, eventually donating his large collection to Dalhousie University, for the junior Brunelle, the biology of dragonflies and damselflies became so diverting, high consuming, that it led to a life of penury, privation, mild alcoholism, considerable accomplishment, and the esteem and affection of scientific colleagues continent-wide.

Paul graduated from Dartmouth High School in the then city of Dartmouth ("the City of Lakes"), Nova Scotia, since absorbed into the Halifax Regional Municipality. A talented artist, Paul attend the Nova Scotia College of Art and Design (since 2003 NSCAD University) at a period when NSCAD was recognized internationally as "the best art school in North America" (Levine 1973: 15). Opportunities to study aspects of design in England, Scotland, Holland, Germany, and Switzerland broadened his background. Graduating, with a Bachelor of Design in Communication Design in 1976, he founded Graphic Design Associates (GDA) in Halifax, with partner Dereck Day. A variety of significant regional and national design projects followed, including extensive work for Parks Canada, oversight of multi-volume environmental impact statements for Mobil Oil Canada's Venture Development Project and Newfoundland's Hibernia Offshore Development, the design of the Nova Scotia Health card featuring Kejimikujik National Park, and a series of fishing fly stamps for Canada Post. From 1992 to 1994 Paul served as President of the Graphic Designers of Canada (GDC), an organization of design professionals in media and design-related fields and Canada's national certification body for graphic and communication design. He also served as Presi-



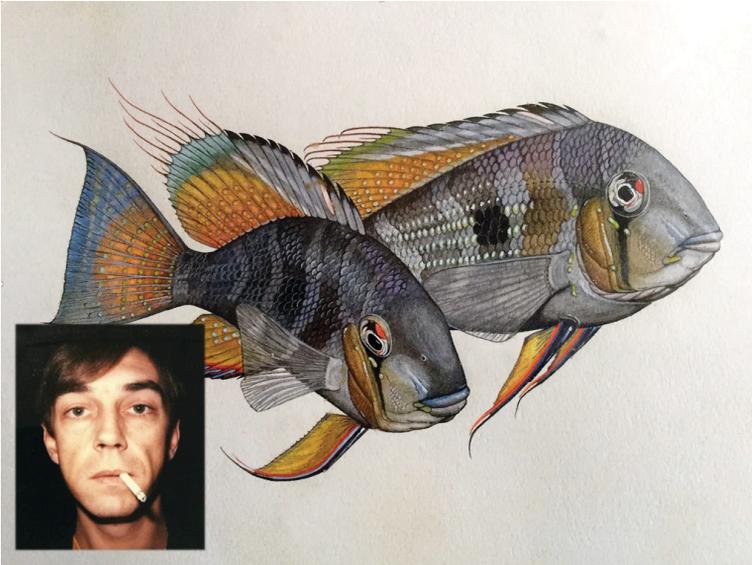
FIGURE 1. Paul-Michael Brunelle 1952–2020, circa 1990. Photo: George Georgakakos.

dent of the Atlantic chapter of GDC from 1989 to 1990, establishing its organizational structure. The Atlantic Canadian Chapter of the Royal Society for the Encouragement of Arts, Manufactures and Commerce awarded Paul their Silver Medal for 1991 (MacLeod 1992). The category that year was graphic design. In 1999 Paul was awarded designation as a fellow of GDC, a mark of his accomplishments and influence on the design profession in Canada. A first-rate natural history illustrator, Paul was also a member of the Guild of Natural Science Illustrators, a North American organization concerned with communicating and clarifying scientific ideas visually. Among his influences, Paul counted J. Fenwick Lansdowne, Glen Loates, and other commercially successful, contemporary, wildlife artists (Editor 1987).

The late 1980s to early 1990s was a time of tumultuous change in Paul's life. He married Meredith Bell, a fellow graphic designer, and his only child, Michael was born (1991). Remarkably, then in his late 30s, Paul also gradually abandoned what was clearly an outstanding career in graphic design to pursue life as a free-lance odonatologist. Although his marriage was short-lived, ending in 1993, Paul and Meredith remained close for the rest of Paul's life (his cabin was located on Meredith's property, a stones-throw from her home). Nonetheless, it may have been Meredith's gift to Paul of a top-quality dissecting microscope, and his growing obsession with dragon-

flies, that doomed the union. Life as a free-lance entomologist proved to be a financially precarious one though. So much so, that in the decades that followed it left Paul lurching from debt (much of the time) to occasional plenty (when project or contract money was available). Nonetheless, Paul managed to pay the rent on a small apartment in Halifax and supported a more-than-modest smoking habit with his own rolled, loose leaf tobacco cigarettes and, when times were especially tight, subsisted largely on rice and beans. But by 2017, with contracts scarce and a focus on preparing his magnum opus (*Atlas of the Dragonflies and Damselflies of Acadia* [Maine and the Maritimes]), Paul moved out of the city with his beloved cat Merry to Middle New Cornwall, first into a barn, and eventually into a largely off-grid cabin constructed for him by his son.

Throughout Paul's life he had a passion for natural history and the outdoors, and like so many notable naturalists through the ages, was self-taught. A trip to the Amazon Basin (Manaus, Brazil) in ~1975 to study and acquire neotropical cichlids (Figure 2) led Paul, on his return to Nova Scotia, to expand an aquarium hobby to include local, non-game, fish. His stated goal was the production of an illustrated volume on the fishes of Nova Scotia (Editor 1987). Along the way, he encountered the strikingly large nymphal stage of Dragonhunter (*Hagenius brevistylus*), the adult of which feeds on large insects, including other dragon-



**FIGURE 2.** A finely executed Brunelle water colour of Threadfin Acara (*Acarichthys heckeleii*) one of a series of paintings of South American cichlids produced circa 1980–1985, which appeared in the Canadian Guild of Natural History Illustrators Newsletter for July 1987 and in the American Cichlid Association journal, *Buntbarsche Bulletin*. This particular painting graced the cover (sadly, not in colour) of *Buntbarsche Bulletin* 105 for December 1984. Inset: Paul, about 1978, shortly after he had returned from his Amazonian quest for neotropical cichlids Photo: unknown.

flies (hence the common name). Raised to emergence in one of his living-room fish tanks, a fascination with dragonflies took hold (Steeves 2001).

That fascination led Paul to devote the latter half of his life to the study of the dragonflies and damselflies of the northeast, at the time relatively poorly known (Figure 3). In the years prior to 1990, only about 4700 records of Odonata had accumulated for the entire Acadian region. In 1993, Paul establish the Atlantic Dragonfly Inventory Program (ADIP), an unfunded, volunteer survey to which interested persons were encouraged to submit specimens and data to given standards. From 1999 to 2003 Paul was contracted by the State of Maine Department of Inland Fisheries and Wildlife to help co-ordinate (with Wildlife Biologist Dr. Philip deMaynadier) the Maine Damselfly and Dragonfly Survey (MDDS) for the same purpose. At the time of Paul's death, as result of his own efforts, his oversight of organized surveys (undertaken largely by amateurs), and his enthusiastic encouragement of anyone who could hold an insect net, he had meticulously databased in excess of 67 000 records of odonates from the Maritimes and Maine.

Through the early 1990s and until his death, Paul's interest in damselflies and dragonflies never flagged and became his primary vocation. Fortunately, this was a time when both government and public concern for the conservation status of wildlife was beginning to expand to encompass some of the more conspicuous invertebrate groups. Funded by a number of government agencies, commercial contracts, foundations, and species assessments, Paul's insect survey work took him to some of the most remote bogs, streams, and marshes of the Maritimes and the northeastern USA, usually alone, and often at risk of sinking into a quagmire. An early highlight was his 1995 discovery of a new species of dragonfly (Young 1999), Broad-tailed Shadowdragon (*Neurocordulia michaeli*), which he described in the scientific literature and named for his son (Brunelle 2000). A dusk-flying species, Paul discovered larvae in the Canoose, a cool, clear, rocky stream in Charlotte County, New Brunswick (Figure 4). The find was of such significance that it led dragonfly specialists from across the continent to make a trek to southeastern New Brunswick when the 1996 annual meeting



**FIGURE 3.** Paul in his Middle New Cornwall, Nova Scotia, cabin-cum-laboratory in September 2017. Inset: Brunelle illustration of Extra-striped Snaketail (*Ophiogomphus anomalus*). Paul drew heavily on his art and graphics skills to illustrate the 80+ papers and reports he produced dealing with dragonflies and damselflies of the northeast. Photo: Bruce Kierstead.



**FIGURE 4.** Paul at dusk in the Canoose Stream, Charlotte County, New Brunswick in about 2000. This is the site of his discovery of Broad-tailed Shadowdragon (*Neurocordulia michaeli*). Photo: J. Steeves.

of the Dragonfly Society of the Americas was held in St. Stephen. That same year, Paul was awarded the Entomological Society of Canada's Norman Criddle Award, which recognizes the contributions of an outstanding non-professional entomologist to entomology in Canada.

Paul was a teacher without peer who encouraged many others in the study of the flying dragons he found so marvelous. Through 1998–2003 Paul was an annual instructor of speciality courses on odonates delivered at the Humboldt Field Research Institute in Stueben, Maine—until his low tolerance for what he viewed as bureaucratic malfeasance and meddling by officials at the Canada–USA border got the better of him and he simply refused to enter the USA. Wry, opinionated, irreverent, more than occasionally profane, Paul particularly enjoyed working with young people, and they with him. A number of students he took under his wing are now pursuing graduate degrees in the study of insects at Canadian universities. The New Brunswick Museum (NBM) now holds one of the larger dragonfly and damselfly collections in Canada (~100 000 specimens), largely due to Paul's efforts. The scope of the NBM collection reflects not only Paul's decades of field study, but just as important, his huge impact on other naturalists in the region. Paul had a deep understanding of

the value of natural history collections and his data collection was meticulous. Most of his collections are housed in the NBM, where Paul held a long-standing appointment as a Research Associate. In fact, Paul was the first NBM Research Associate appointed when the museum established its Research Associate program in 1996. Over the coming decades, Paul became a mainstay of NBM field programs, including those in Protected Natural Areas and a multi-year Community-University Research Alliance program. His customized "odemobile" jeep (Brunelle 1995, also see McAlpine 2020) banged its way over the roughest of tracks and forded washouts in the quest for the next productive wetland, often with some hapless student threatening to vomit out the side window. Paul's deep, baritone voice, well-aged with rum and cigarettes, provided the narration for a 2016 CBC-aired documentary describing some of this biological inventory work and was eventually screened at the United Nations COP13 biodiversity conference in Cancun, Mexico, and later in Croatia through the Canadian embassy there. It is fitting that the fossilized wing of an odonate, recently discovered on the shores of Grand Lake, New Brunswick (an area Paul knew well—see Brunelle [2011]), should be described as new and bear the Brunelle honourific (M. Stimson pers. comm. December 2020).

In the months prior to his death, Paul completed the draft of his *Atlas of the Dragonflies and Damselflies of Acadia*. The 360-page manuscript, written, designed, and replete with illustrations he prepared himself, will hopefully eventually be published, a fitting tribute and legacy to both Paul and the insects he loved.

### Acknowledgements

I am grateful to Meredith Bell, Michael Brunelle, Terry Goodyear, Bruce Kierstead, Joerg-Henner Lotze, and Jamie Steeves for checking and confirming dates and details for various events in Paul's life. Shawn Dalton, Saltscapes Magazine, was very helpful in facilitating use of the image in Figure 4. Jamie Steeves and Bruce Keirstead generously allowed use of their images for this tribute. Scott Rawlins kindly retrieved, checked, and scanned material from the Guild of Natural Science Illustrators archive housed at Arcadia University, Pennsylvania. I am grateful to Matt Stimson, Assistant Curator of Geology and Palaeontology, New Brunswick Museum, who shared a draft copy of a manuscript describing a fossil Grand Lake dragonfly as a new species, named in honour of Paul.

### Literature Cited

**Editor.** 1987. Cichlid illustrations from Nova Scotia. GNSI (Guild of Natural Science Illustrators) Newsletter, March 1987: 10.

- Brunelle, P.-M.** 1995. A 2.5 liter 4WD collecting net for insects and pedestrians. *Argia* 7(3): 21–22.
- Brunelle, P.-M.** 1997. Distribution of dragonflies and damselflies (Odonata) of the Atlantic Provinces, Canada. *Northeastern Naturalist* 4: 61–82. <https://doi.org/10.2307/3858405>
- Brunelle, P.-M.** 2000. A new species of *Neurocordulia* (Odonata: Anisoptera: Corduliidae) from eastern North America. *Canadian Entomologist* 132: 39–48. <https://doi.org/10.4039/Ent13239-1>
- Levine, L.** 1973. The best art school in North America? *Art in America* 61(4): 15.
- MacLeod, J.** 1992. Overseas Chapters [report of Brunelle 1991 Silver Medal Award for graphic design]. *RSA Journal* 140(5427): 234–235.
- McAlpine, D.F.** 2020. In memory: Paul-Michael Brunelle, 1952–2020. *Bulletin of the Entomological Society of Canada* 52: 18–19.
- Steeves, J.** 2001. The Dragonfly Man. *Saltscapes* 2(3): 28–34.
- Young, D.** 1999. Dances with dragonflies: Paul-Michael Brunelle's singular passion netted a new species of Odonata. *Canadian Geographic* 119(6): 61–65.

## Bibliography

(copies of most unpublished Brunelle odonate survey reports are deposited in the NBM Archives and Research Library)

- Brunelle, P.-M.** 1980. Captive maintenance: *Aequidens rivulatus* (Gunter, 1859). *Buntbarsche Bulletin-American Cichlid Association* 76: 4–12.
- Brunelle, P.-M.** 1991. *Anax junius* Drury, *Hagenius brevistylus* Selys, and *Macromia illinoisensis* Walsh, illustrated life size from examples collected in Nova Scotia. *Argia* 3(3): 8.
- Brunelle, P.-M.** 1992. Dragonflies of Nova Scotia. *Conservation* 16: 10–12.
- Brunelle, P.-M.** 1993. Collecting Dragonflies and Damselflies in Eastern Canada, with a Species List and Distribution for Northeastern North America. Privately printed, P.-M. Brunelle, Halifax, Nova Scotia, Canada.
- Brunelle, P.-M.** 1994. Collecting Dragonflies and Damselflies in Atlantic Canada, with a Species List and Distribution for Northeastern North America. Second Edition. Privately printed, P.-M. Brunelle, Halifax, Nova Scotia, Canada.
- Brunelle, P.-M.** 1995. A 2.5 liter 4WD collecting net for insects and pedestrians. *Argia* 7(3): 21–22.
- Brunelle, P.-M.** 1996a. Quality not quantity in Canada, or, where oh where did the *Ophios* go? *Argia* 8(2): 9–13.
- Brunelle, P.-M.** 1996b. *Pantala* in the Maritimes. *Argia* 8(3): 13–15.
- Brunelle, P.-M.** 1997a. Distribution of dragonflies and damselflies (Odonata) of the Atlantic provinces, Canada. *Northeastern Naturalist* 4: 61–82. <https://doi.org/10.2307/3858405>
- Brunelle, P.-M.** 1997b. The role of the amateur in insect conservation. *Northeastern Naturalist* 4: 159–164. <https://doi.org/10.2307/3858711>
- Brunelle, P.-M.** 1997c. Cape Breton Island and Maine. *Argia* 9(3): 21–22.
- Brunelle, P.-M.** 1998a. ADIP (Atlantic Dragonfly Inventory Project) Meetings—May and August. *Argia* 10(1): 2.
- Brunelle, P.-M.** 1998b. DSA (Dragonfly Society of the Americas) Northeastern Group Meeting in southern Maine. *Argia* 10(1): 3–4.
- Brunelle, P.-M.** 1998c. Idyll on Cape Breton Island. *Argia* 10(3): 8–10.
- Brunelle, P.-M.** 1998d. Odonata seminar at Humboldt Field Research Institute, Steuben, Maine. *Argia* 10(3): 18–20.
- Brunelle, P.-M.** 1998e. Maine rare and endangered Odonata: the Maine damselfly and dragonfly survey (illustrated brochure). Maine Department of Inland Fisheries and Wildlife, Bangor, Maine, USA. [Reprinted in 1999 in *Northeastern Naturalist* 6(2): insert.]
- Brunelle, P.-M.** 1998f. The status of *Somatochlora brevicincta* Robert 1954 (Odonata, Anisoptera, Corduliidae) in Nova Scotia. Report prepared for the Nova Scotia Museum, Halifax, Nova Scotia.
- Brunelle, P.-M., and T.W. Donnelly.** 1998. *Somatochlora brevicincta* in New Brunswick and Nova Scotia! *Argia* 9(4): 5.
- deMaynadier, P.G., and P.-M. Brunelle.** 1998a. Peatland damselflies and dragonflies (Odonata). Pages 6–11 in *A survey of rare, threatened, and endangered fauna in Maine: Central Interior, Midcoast, and Penobscot Bay Regions* (1998). Edited by P. deMaynadier and T.P. Hodgman. Report of the Maine Department of Inland Fisheries and Wildlife, Bangor, Maine, USA.
- deMaynadier, P.G., and P.-M. Brunelle.** 1998b. New England Bluet (*Enallagma laterale*) and other lacustrine dragonflies and damselflies (Odonata). Pages 12–18 in *A survey of rare, threatened, and endangered fauna in Maine: Central Interior, Midcoast, and Penobscot Bay Regions* (1998). Edited by P. deMaynadier and T.P. Hodgman. Report of the Maine Department of Inland Fisheries and Wildlife, Bangor, Maine, USA.
- Brunelle, P.-M.** 1999a. Damselflies and dragonflies (Odonata: Zygoptera; Anisoptera) of Daly Point and nearby saltmarshes, Bathurst, Gloucester County, New Brunswick. Report prepared for the New Brunswick Department of Natural Resources and Energy, Bathurst, New Brunswick, Canada.
- Brunelle, P.-M.** 1999b. Maine damselfly and dragonfly survey manual. Endangered Species Group, Maine Department of Inland Fisheries and Wildlife, Bangor, Maine, USA.
- Brunelle, P.-M.** 1999c. Additions to the lists of dragonflies (Odonata: Anisoptera) of the Atlantic provinces, Canada. *Northeastern Naturalist* 6: 35–38. <https://doi.org/10.2307/3858438>
- Brunelle, P.-M.** 1999d. Distribution of damselflies and dragonflies (Odonata) of Maine, United States. *Northeastern Naturalist* 6: 95–118. <https://doi.org/10.2307/3858343>
- Brunelle, P.-M.** 1999e. A course on larval damselflies and dragonflies of the Northeast. *Argia* 11(2): 11.

- Brunelle, P.-M.** 1999f. Damselflies and dragonflies (Odonata: Zygoptera; Anisoptera), of the St. John Stewardship Properties, northern Maine. Report prepared for the Nature Conservancy, Maine Chapter, Brunswick, Maine, USA.
- Brunelle, P.-M.** 2000a. Distribution of damselflies and dragonflies (Odonata) of Cape Breton Island, Nova Scotia, Canada. Parks Canada, Technical Reports in Ecosystem Science, no 24.
- Brunelle, P.-M.** 2000b. A new species of *Neurocordulia* (Odonata: Anisoptera: Corduliidae) from eastern North America. *Canadian Entomologist* 132: 39–48. <https://doi.org/10.4039/Ent13239-1>
- Brunelle, P.-M.** 2000c. Feature researcher: Professor Harold B. White III. *Mainensis* (newsletter of the Maine Damselfly and Dragonfly Survey) 1(1): 3. Accessed 23 December 2020. <https://drive.google.com/file/d/0B985dSJVRA1ma0oydIFSSzNLWG8/view>.
- Brunelle, P.-M.** 2000d. Maine Damselfly and Dragonfly Survey (MDDS): results of 1999 survey. Report prepared for the Maine Department of Inland Fisheries and Wildlife, Endangered Species Group, Bangor, Maine, USA.
- Brunelle, P.-M.** 2000e. The Odonata (Zygoptera, Anisoptera) of Shelburne and Yarmouth Counties, Southwestern Nova Scotia: Report prepared for the Nova Scotia Museum, Halifax, Nova Scotia, Canada.
- Brunelle, P.-M.** 2001a. Feature researcher: Dr. Ronald G. Butler. *Mainensis* (newsletter of the Maine Damselfly and Dragonfly Survey) 2(1): 4. Accessed 23 December 2020. <https://drive.google.com/file/d/0B985dSJVRA1mVzFTWEN0SXpzcIE/view>.
- Brunelle, P.-M.** 2001b. The 2000 season. *Mainensis* (newsletter of the Maine Damselfly and Dragonfly Survey) 2(1): 7–8. Accessed 23 December 2020. <https://drive.google.com/file/d/0B985dSJVRA1mVzFTWEN0SXpzcIE/view>.
- Brunelle, P.-M.** 2001c. A survey for *Williamsonia lintneri* in southern Maine, 2000. Report prepared for the Maine Department of Inland Fisheries and Wildlife, Bangor, Maine, USA.
- Brunelle, P.-M.** 2001d. Maine Damselfly and Dragonfly Survey (MDDS): results of 1999 and 2000 survey. Report prepared for the Maine Department of Inland Fisheries and Wildlife, Bangor, Maine, USA.
- Brunelle, P.-M.** 2001e. Status of *Somatochlora brevicincta* (Odonata: Corduliidae), the Québec Emerald, in North America. IDF-Report (Newsletter of the International Dragonfly Fund) 3(1/2): 1–8.
- deMaynadier, P.G., and P.-M. Brunelle.** 2001a. Peatland damselflies and dragonflies (Odonata). Pages 36–41 in *A Survey of rare, threatened, and endangered fauna in Maine: East Coastal and Eastern Interior Regions (1999–2000)*. Edited by A.P. Weik, P. deMaynadier, and T.P. Hodgman. Report of the Maine Department of Inland Fisheries and Wildlife, Bangor, Maine, USA.
- deMaynadier, P.G., and P.-M. Brunelle.** 2001b. Riverine damselflies and dragonflies (Odonata). Pages 42–72 in *A Survey of rare, threatened, and endangered fauna in Maine: East Coastal and Eastern Interior Regions (1999–2000)*. Edited by A.P. Weik, P. deMaynadier, and T.P. Hodgman. Report of the Maine Department of Inland Fisheries and Wildlife, Bangor, Maine, USA.
- Brunelle, P.-M.** 2002a. Atlantic Dragonfly Inventory Program Manual. Atlantic Dragonfly Inventory Program, Halifax, Nova Scotia, Canada.
- Brunelle, P.-M.** 2002b. Proposed SRANKs for Odonata (Zygoptera, Anisoptera) of New Brunswick, Canada. Report prepared for the Atlantic Canada Conservation Data Centre, Sackville, New Brunswick, Canada.
- Brunelle, P.-M.** 2002c. This issue. *Mainensis* (newsletter of the Maine Damselfly and Dragonfly Survey) 3(1): 1. Accessed 23 December 2020. <https://drive.google.com/file/d/0B985dSJVRA1mUkd3eW9LS0NpRFE/view>.
- Brunelle, P.-M.** 2002d. Feature researcher: Robert Grobe and Donna Maritato. *Mainensis* (newsletter of the Maine Damselfly and Dragonfly Survey) 3(1): 5. Accessed 23 December 2020. <https://drive.google.com/file/d/0B985dSJVRA1mUkd3eW9LS0NpRFE/view>.
- Brunelle, P.-M.** 2002e. Your contributions to date. *Mainensis* (newsletter of the Maine Damselfly and Dragonfly Survey) 3(1): 5. Accessed 23 December 2020. <https://drive.google.com/file/d/0B985dSJVRA1mUkd3eW9LS0NpRFE/view>.
- Brunelle, P.-M.** 2003a. The White Pond Complex. *Mainensis* (newsletter of the Maine Damselfly and Dragonfly Survey) 4(1): 2. Accessed 23 December 2020. <https://drive.google.com/file/d/0B985dSJVRA1mdTlsb0psX01VZ2c/view>.
- Brunelle, P.-M.** 2003b. The ‘Northwest Roadside Fen’. *Mainensis* (newsletter of the Maine Damselfly and Dragonfly Survey) 4(1): 3. Accessed 23 December 2020. <https://drive.google.com/file/d/0B985dSJVRA1mdTlsb0psX01VZ2c/view>.
- Brunelle, P.-M.** 2003c. Our progress to date (lies, d\_\_\_\_ lies, and statistics). *Mainensis* (newsletter of the Maine Damselfly and Dragonfly Survey) 4(1): 5–7. Accessed 23 December 2020. <https://drive.google.com/file/d/0B985dSJVRA1mdTlsb0psX01VZ2c/view>.
- Brunelle, P.-M.** 2003d. Feature researcher: Dr. David Potter. *Mainensis* (newsletter of the Maine Damselfly and Dragonfly Survey) 4(1): 8. Accessed 23 December 2020. <https://drive.google.com/file/d/0B985dSJVRA1mdTlsb0psX01VZ2c/view>.
- Brunelle, P.-M.** 2003e. A preliminary list of the Odonata of Vermont. *Boghaunter* (Occasional News about the Dragonflies and Damselflies of Vermont) 2: 3–7.
- Bredin, K.A., and P.-M. Brunelle.** 2004. Atlantic Canada Conservation Data Centre freshwater mussel and odonate surveys of the Eel River, New Brunswick, in 2003. Report prepared for the New Brunswick Wildlife Council Trust Fund, Fredericton, New Brunswick, Canada.
- Brunelle, P.-M., and P.G. deMaynadier.** 2004. Survey for Hine’s Emerald, *Somatochlora hineana* Williamson, 1931 (Odonata, Corduliidae) in Maine: 2001–2002. Report prepared for the Maine Department of Inland Fisheries and Wildlife, Bangor, Maine, USA.
- Brunelle, P.-M.** 2005a. Odonata survey 2005: (damselflies and dragonflies): Whites Point Property, Digby County, Nova Scotia. Report prepared for Bilcon of Nova Scotia Corp., Digby, Nova Scotia, Canada. Accessed 23 December

2020. <https://novascotia.ca/nse/ea/whitespointquarry/09.Reference.Documents/04.Brunelle.ODONATA.pdf>.
- Brunelle, P.-M.** 2005b. The Hunter. *Argia* 17(2): 16.
- Brunelle, P.-M., and P.G. deMaynadier.** 2005. The Maine damselfly and dragonfly survey: a final report. Report prepared for the Maine Department of Inland Fisheries and Wildlife, Bangor, Maine. Accessed 4 February 2021. <https://drive.google.com/file/d/0B985dSJVRA1mak8wcGtCMIgwV1E/view>.
- Catling, P.M., R.A. Cannings, and P.-M. Brunelle.** 2005. An annotated checklist of the Odonata of Canada. *Bulletin of American Odonatology* 9: 1–20.
- Brunelle, P.-M.** 2006a. Emergence of *Cordulegaster maculata* Selys 1854 in New Brunswick. *Argia* 18(2): 13–15.
- Brunelle, P.-M.** 2006b. Odonata (damselflies and dragonflies) of Rockwood Park, Saint John, New Brunswick, Canada. Report prepared for Friends of Rockwood Park, Saint John, New Brunswick, Canada.
- Catling, P.M., R.A. Cannings, and P.-M. Brunelle.** 2006a. An annotated checklist of the Odonata of Canada update – November 2005. *Argia* 17(4): 26–28.
- Catling, P.M., R.A. Cannings, and P.-M. Brunelle.** 2006b. Errata for an annotated checklist of the Odonata of Canada. *Argia* 17(4): 28.
- Catling, P.M., R. Hutchinson, and P.-M. Brunelle.** 2006c. Use of saltmarsh by dragonflies (Odonata) in the Baie des Chaleurs region of Quebec and New Brunswick in late summer and autumn. *Canadian Field-Naturalist* 120: 413–420. <https://doi.org/10.22621/cfn.v120i4.348>
- Brunelle, P.-M.** 2007a. Status report on the Pygmy Snaketail, *Ophiogomphus howei*, Bromley 1924 in Canada. Report prepared for the Committee on the Status of Endangered Wildlife in Canada, Ottawa, Ontario, Canada.
- Brunelle, P.-M.** 2007b. Courting Corduliidae: on securing *Somatochlora* and navigating *Neurocordulia*. *Boghaunter* (Occasional News about the Dragonflies and Damselflies of Vermont) 9: 1–12.
- Brunelle, P.-M.** 2007c. Odonata (damselflies and dragonflies) survey 2007: Nova Scotia Power Inc. Reservoirs; Paradise, Sheet Harbour, and St. Margaret's Bay Systems. Report prepared for Nova Scotia Power Inc., Halifax, Nova Scotia, Canada.
- Brunelle, P.-M.** 2008a. Odonata (damselflies and dragonflies) survey 2008: Nova Scotia Power Inc. Waters; Black River System. Report prepared for Nova Scotia Power Inc., Halifax, Nova Scotia, Canada.
- Brunelle, P.-M.** 2008b. Odonata (damselflies and dragonflies) survey 2008: Nova Scotia Power Inc. Waters; Nictaux River System. Report prepared for Nova Scotia Power Inc., Halifax, Nova Scotia, Canada.
- Brunelle, P.-M.** 2008c. Odonata survey 2008 (damselflies and dragonflies), Donkin Exploration Project Environmental Assessment. Report prepared for CBCL Consulting Engineers, Halifax, Nova Scotia, Canada.
- Brunelle, P.-M.** 2008d. Odonata survey 2008 (damselflies and dragonflies), East Bay Wind/Hydro Environmental Assessment. Report prepared for Cape Breton Exploration Limited, Glace Bay, Nova Scotia, Canada.
- Brunelle, P.-M.** 2008e. Preliminary Odonata survey 2008 (damselflies and dragonflies), Melford International Terminal Summer/Fall 2008 Surveys. Report prepared for AMEC Earth and Environmental, Halifax, Nova Scotia, Canada.
- Brunelle, P.M.** 2009a. Status report on the Skillet Clubtail, *Gomphus ventricosus*, in Canada. Report prepared for the Committee on the Status of Endangered Wildlife in Canada, Ottawa, Ontario, Canada.
- Brunelle, P.M.** 2009b. Details of Canadian and United States records of the Skillet Clubtail. Accessory report prepared for the Committee on the Status of Endangered Wildlife in Canada, Ottawa, Ontario, Canada.
- Brunelle, P.M.** 2009c. Odonata (damselflies and dragonflies) survey 2009: Nova Scotia Power Inc. Waters; Mersey Hydroelectric System. Report prepared for Nova Scotia Power Inc., Halifax, Nova Scotia, Canada.
- Brunelle, P.M.** 2009d. Odonata (damselflies and dragonflies) survey 2009: Nova Scotia Power Inc. Waters; Sissiboo Hydroelectric System. Report prepared for Nova Scotia Power Inc., Halifax, Nova Scotia, Canada.
- Brunelle, P.M.** 2009e. Odonata (damselflies and dragonflies) survey 2009: Nova Scotia Power Inc. Waters; Tuskent River Hydroelectric System. Report prepared for Nova Scotia Power Inc., Halifax, Nova Scotia, Canada.
- Brunelle, P.-M.** 2010a. Damselflies and dragonflies (Odonata: Zygoptera; Anisoptera) of the Atlantic Maritime Ecozone. Pages 333–369 in *Assessment of Species Diversity in the Atlantic Maritime Ecozone*. Edited by D.F. McAlpine and I.M. Smith. NRC Research Press, National Research Council Canada, Ottawa, Ontario, Canada.
- Brunelle, P.M.** 2010b. Odonata (damselflies and dragonflies) survey 2010: Nova Scotia Power Inc. Waters; Roseway Hydroelectric System. Report prepared for Nova Scotia Power Inc., Halifax, Nova Scotia, Canada.
- Brunelle, P.M.** 2010c. Odonata (damselflies and dragonflies) survey 2010: Nova Scotia Power Inc. Waters; Bear River Hydroelectric System. Report prepared for Nova Scotia Power Inc., Halifax, Nova Scotia, Canada.
- Brunelle, P.-M.** 2011a. Odonata (damselflies and dragonflies) survey 2010: Black Point Quarry. Report prepared for AMEC Earth and Environmental, Halifax, Nova Scotia, Canada.
- Brunelle, P.-M.** 2011b. Odonata (damselflies and dragonflies) survey 2011: Nova Scotia Power Inc. Waters; Harmony Hydroelectric Subsystem. Report prepared for Nova Scotia Power Inc., Halifax, Nova Scotia, Canada.
- Brunelle, P.-M.** 2011c. Odonata (damselflies and dragonflies) survey 2011: Grand Lake Protected Natural Area. Report prepared for the New Brunswick Museum, Saint John, New Brunswick, Canada.
- Brunelle, P.-M.** 2013a. Odonate survey results (2012 and 2013): Appendix G. Goldboro LNG Project. Report prepared for AMEC Earth and Environmental, Halifax, Nova Scotia, Canada. Accessed 23 December 2020. <https://novascotia.ca/nse/ea/goldboro-lng/Appendix-G-OdonateSurvey.pdf>.
- Brunelle, P.-M.** 2013b. The status of *Lanthus vernalis* Carle 1980, Southern Pygmy Clubtail (Odonata, Anisoptera, Gomphidae) in New Brunswick, Canada. Report prepared for the New Brunswick Museum, Saint John, New Brunswick, Canada.

- Lucas, Z., and P.-M. Brunelle.** 2016. *Libellula pulchella* (Twelve-spotted Skimmer): a new dragonfly species report for Sable Island, Nova Scotia. *Argia* 28(1): 9.
- Makepeace, H.S., J.H. Lewis, D.L. Sabine, D.F. McAlpine, and P.-M. Brunelle.** 2017. First occurrences of *Celithemis eponina* (Halloween Pennant) in Maritime Canada (Odonata: Libellulidae) and *Ischnura hastata* (Citrine Forktail) (Odonata: Coenagrionidae) in New Brunswick. *Journal of the Acadian Entomological Society* 13: 46–48. Accessed 20 January 2021. [http://acadianes.org/journal/papers/mcalpine\\_17-6.pdf](http://acadianes.org/journal/papers/mcalpine_17-6.pdf).
- McAlpine, D.F., H.S. Makepeace, D.L. Sabine, P.-M. Brunelle, J. Bell, and G. Taylor.** 2017. First occurrence of *Enallagma pictum* (Scarlet Bluet) (Odonata: Coenagrionidae) in Canada and additional records of *Celithemis martha* (Martha's Pennant) (Odonata: Libellulidae) in New Brunswick: possible climate-change induced range extensions of Atlantic Coastal Plain Odonata. *Journal of the Acadian Entomological Society* 13: 49–53. Accessed 20 January 2021. [http://acadianes.org/journal/papers/mcalpine\\_17-5.pdf](http://acadianes.org/journal/papers/mcalpine_17-5.pdf).
- Lubelczyk, C.B., S.P. Elias, P.G. deMaynadier, P.-M. Brunelle, L.B. Smith, and R.P. Smith, Jr.** 2020. Importation of dragonfly nymphs (Odonata: Anisoptera) to control mosquito larvae (Diptera: Culicidae) in southern Maine. *Northeastern Naturalist* 27: 330–343. <https://doi.org/10.1656/045.027.0214>

Received 14 December 2020

Accepted 11 January 2021