

# The History of the Exploration of the Vascular Flora of Saint-Pierre et Miquelon

JAMES S. PRINGLE

Royal Botanical Gardens, Box 399, Hamilton, Ontario L8N 3H8

Pringle, James S. 1995. The history of the exploration of the vascular flora of Saint-Pierre et Miquelon. *Canadian Field-Naturalist* 109(3): 357–361.

Although early records were contributed by French explorers and naval officers, the floristic knowledge of Saint-Pierre et Miquelon largely represents the efforts of resident amateurs. The most notable were Ernest-Amédée Delamare, active 1850s–1880s; frère Louis-Arsène, on the islands 1895–1903; Mathurin Le Hors and père Casimir-Julien-Marie Le Gallo, active 1930s–1950s. In recent years, such studies have been continued by Roger Etcheberry and Daniel Abraham.

**Key Words:** Saint-Pierre et Miquelon, history, flora.

Although the French islands of Saint-Pierre et Miquelon are only about 20 km from the Burin Peninsula of Newfoundland (Figure 1) and only 242 square km in total land area, the history of their floristic exploration is significantly distinct from that of Canada. This history has been well recorded, reviews having been published by Louis-Arsène (1927), Le Gallo (1954), and Rouleau and Lamoureux (1992), along with biographical sketches of most of the participants.

The first botanical explorer on Saint-Pierre et Miquelon was Auguste-Jean-Marie Bachelot de la Pylaie (1786–1856; spelling of name varies), a French naturalist. On a brief visit to these islands in 1816 and a longer stay in 1819–1820, he collected specimens of vascular and non-vascular plants representing, according to Bonnet (1888), 215 species. These were later sent to the Muséum national d'Histoire naturelle in Paris via René-Louiche Desfontaines. Bachelot de la Pylaie intended to prepare an illustrated flora of Newfoundland and these islands, but its publication foundered after 1829, in part because of a lack of subscribers and in part because of its author's changing interests. It also appears that he was imprisoned for his political activities, at least briefly, during the 1830s. Only one fascicle of the flora, on marine algae, was ever published (Bachelot de la Pylaie 1830). Three lesser works that were published mentioned higher plants and animals that Bachelot de la Pylaie encountered on his voyages to Newfoundland, presumably including some that were found on Saint-Pierre et Miquelon, although these islands were not mentioned in the titles. Much more material, listed by Leroy (1957) and Catling et al. (1986), remains in Bachelot's manuscripts in the national archives of France and in the Muséum national d'Histoire naturelle in Paris. In his later years, Bachelot de la Pylaie concentrated on archaeology and mineralogy (Boyer 1948; Le Gallo 1948a, 1955a and references cited therein; Leroy 1957; South 1980).

In 1822 Charles-François Beautemps-Beaupré (1766–1854, on whom see Prevost 1949), a French naval officer and former ambassador to the United States, traveled to many parts of the world charting the coastlines and conducting other scientific studies. He collected specimens of 38 species on Saint-Pierre et Miquelon (Louis-Arsène 1927; Leroy 1957); these specimens are likewise at the Muséum national d'Histoire naturelle in Paris.

No significant botanical exploration of the islands followed until 1858, when Alphonse Gautier (1834–?, on whom see Le Gallo 1948a), a pharmacist, was sent from France to work at the hospital at Saint-Pierre, where he remained for five years. Gautier's observations on the natural history and meteorology of the islands were published and submitted as a doctoral thesis to l'Université de Montpellier in 1866. He listed 181 vascular plants, but, as noted by Louis-Arsène (1927) and Le Gallo (1948a), he provided no documentation, and later botanists have doubted some of his identifications. Some plants were identified only to genus, and some "difficult" groups, such as the Cyperaceae, were largely omitted from consideration. Many species collected by Bachelot de la Pylaie and Beautemps-Beaupré were not mentioned in his list.

The archipelago's first long-term resident botanical explorer was Ernest-Amédée Delamare (1835–1888, on whom see Le Gallo 1948a), a surgeon sent from France by the navy in 1858. After four years he was recalled to France for enhancement of his professional qualifications, and while he was there a disagreement led to the severance of his naval affiliation. In 1866, however, the colonial authorities invited him back as a civilian physician, and he spent the remaining 22 years of his life in practice in the village of Miquelon. It was during this time that he undertook his botanical studies, concentrating on Miquelon and doing little if any botanizing on Saint-Pierre. He corresponded with and sent specimens to



a number of European botanists, notably Ambroise Viaud-Grand-Marais of Nantes, France, through whom many of his specimens reached the Muséum national d'Histoire naturelle in Paris. He received medals from the international exposition at Paris in 1875 and the exposition at Anvers in 1885 for his studies of the peat bogs of Miquelon. Several taxa typified by Delamare's specimens were named for him, those accepted today being the marine brown-algal genus *Delamarea* Har. and the fresh-water moss *Fontinalis novae-angliae* Sull. var. *delamarei* (Renauld & Cardot) W. H. Welch.

In 1888 Edmond Bonnet, a Parisian botanist who did not himself visit the islands, published the first flora of Saint-Pierre et Miquelon, based on specimens collected by Bachelot de la Pylaie, Beauteemps-Beaupré, and Delamare. Meanwhile Delamare himself collaborated with two French bryologists, Ferdinand Renauld and Jules Cardot (not themselves collectors on the islands), in writing a flora of Miquelon, which was published the same year. This flora listed 246 species, but, as noted by Louis-Arsène (1927), Delamare concentrated his attention largely on bryophytes and missed some of the more common vascular plants. The French botanists P. A. Hariot (1889) and F. C. G. Arnold (1887) published, respectively, on Delamare's specimens of algae and lichens.

The previous year abbé Jules Dominique (1838-1902) of Nantes, France, had published a short note on the flora and fauna of Miquelon (Dominique 1887), but neither Delamare and his French collaborators nor Louis-Arsène cited any vascular-plant specimens collected by him, although they presumably would have been aware of any such specimens had they existed. In France, at least, his botanical interests were concentrated on lichens.

Arthur Charles Waghorne (1851-1900), a Church of England clergyman, began publication of a list of the vascular plants of Newfoundland, including Labrador and the French islands, in 1893, following many years of field work. This list remained incomplete at the time of his death, treating only the polypetalous and gamopetalous dicots. Between parishes in Newfoundland, Waghorne had been his denomination's chaplain of Saint-Pierre et Miquelon in 1876-1877, and doubtless his own botanical collections included specimens from these islands. Much of his floristic list, however, was based on earlier publications, including that of Delamare et al. (1888) (Anonymous 1891; Brassard 1980).

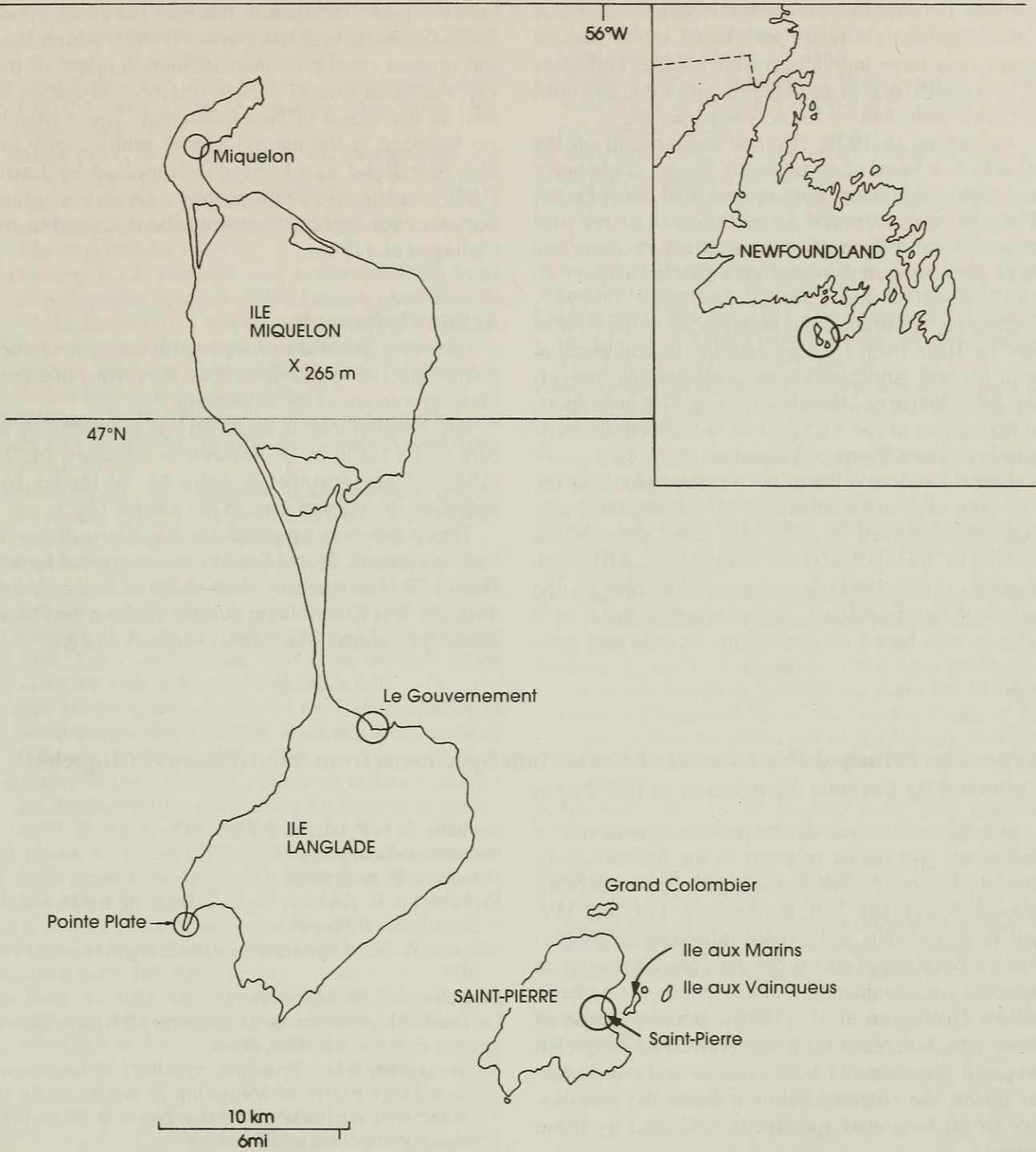
The resurgence of interest in floristics in Québec around the turn of the century (Pringle: 1995:326) was paralleled on Saint-Pierre et Miquelon, beginning with the work of frère Louis-Arsène (né Jean-Marie Bizuel 1875-1959). Louis-Arsène came to Saint-Pierre from his native France as a teacher in 1895, and remained until his school was closed in 1903 and the Frères de l'Instruction Chrétienne were

expelled from the islands. He subsequently served as a teacher and administrator in several schools in Québec and Ottawa. Eventually his administrative duties in the Frères de l'Instruction Chrétienne led to extensive travels to other parts of the world, and much of his later life was spent on the island of Jersey (Channel Islands, U.K.) and in nearby parts of France (Le Gallo 1962).

Louis-Arsène made 130 field trips on both main islands, although he felt that his exploration of Miquelon remained inadequate. Twenty-four years after his "sudden and final departure" from Saint-Pierre, he published a list of the vascular plants then known from the islands, augmented by 129 taxa through his own discoveries (Louis-Arsène 1927). This paper contained extensive discussions of soils, plant communities, and phytogeographic relationships; critical assessments of earlier reports; and the historical review noted above. Like Marie-Victorin and others in Québec, Louis-Arsène corresponded with M. L. Fernald at Harvard, who checked the identifications of many of his specimens. Other specimens of vascular plants were sent to N. L. Britton and J. K. Small at the New York Botanical Garden, including a mountain ash-chokeberry hybrid now called *xSorbaronia arsenei* (Britton ex Louis-Arsène) G. N. Jones, named for its discoverer by Britton. Unlike his predecessors, Louis-Arsène gave particular attention to *Carex*. Many of his additions to the known flora were in this and other cyperaceous genera, but a remarkable number of species in other families, some conspicuous and distinctive, were also first reported by him.

On far-off Jersey, Louis-Arsène maintained his interest in the flora of Saint-Pierre et Miquelon and communicated with those who succeeded him in its study. The first of these was Mathurin Le Hors (1886-1952, on whom see Le Gallo 1955b), a native of the same department of France in which Louis-Arsène's order was based. At Saint-Pierre he was first a secondary-school teacher and administrator, later an electrical engineer for Cable-Français and Western Union. According to Louis-Arsène (1947), Le Hors "assiduously studied botanically not only the small Island of Saint-Pierre, but every corner of Great Miquelon and Langlade," beginning in the 1930s. He was joined in this exploration by père Casimir-Julien-Marie Le Gallo (b. 1906), at that time a priest in the town of Saint-Pierre. Many of their specimens were sent to Louis-Arsène, through whom they came to the attention of Fernald, who was acknowledged (Le Gallo 1954) for many identifications or verifications, along with H. K. Svenson of the New York Botanical Garden (for *Eleocharis*) and several botanists in Montréal. In 1947 Louis-Arsène listed the taxa — 124 native and 26 introduced — that Le Hors and Le Gallo had added to the known flora. Some of these were varieties and





MAP 1. Saint-Pierre et Miquelon (adapted from map in Louis-Arsène 1927:75).

forms, but representatives of five families of vascular plants and 30 genera hitherto unknown from the islands were among their discoveries. Their thoroughness also led to the rediscovery of several previously recorded taxa not found by Louis-Arsène, e.g., *Osmunda regalis* L., last reported by Gautier.

Le Gallo published several papers on the vascular plants, algae, and lichens of the islands, including an “esquisse générale de la flore vasculaire,” a detailed exposition of the different habitats and plant communities (Le Gallo 1947). This was followed by a complete

list of the known vascular flora, with a historical review and notes on distribution and taxonomic problems (Le Gallo 1954), as well as an extensively annotated list of the marine algae (Le Gallo 1948a). After moving to Lac-au-Saumon on Québec’s Gaspé Peninsula about 1946, Le Gallo’s botanical pursuits concentrated more on the marine algae, but he published some notes on Gaspesian vascular plants as well. He also botanized in the West Indies during the 1950s.

Le Gallo’s (1954) list brought the total known vascular flora of the islands to 459 species, of which



94 were introduced, plus three interspecific hybrids. Other than those already mentioned in the present paper, only three individuals were cited as collectors of specimens, one in association with Le Gallo himself, and each of those for only one species.

Beginning in 1979, floristic exploration on the islands has been undertaken by Roger Etcheberry and Daniel Abraham, both residents of Saint-Pierre. They have discovered 13 additional native and numerous introduced flowering-plant species, and have also collected bryophytes (Etcheberry et al. 1987; Rouleau and Lamoureux 1992). In 1987, Etcheberry repatriated the herbaria of Louis-Arsène and Le Hors from France, thereby, in combination with his and Abraham's own contributions, providing Saint-Pierre et Miquelon with its first institutional herbarium, at the Archives de la Collectivité territoriale de Saint-Pierre et Miquelon.

Ernest Rouleau's list of the vascular plants of the Province of Newfoundland, of which the third edition was published in 1978, also listed the vascular plants of Saint-Pierre et Miquelon. Although Rouleau (1916-1991) botanized extensively on the island of Newfoundland, his coverage of the French islands was based on herbarium records and pub-

lished reports. Rouleau's list was followed by an *Atlas* (Rouleau and Lamoureux 1992), which lists and in most cases provides distribution maps for the vascular-plant species of Saint-Pierre et Miquelon as well as the island of Newfoundland. These islands are included in the natural-history bibliography for Newfoundland and Labrador compiled by Laird (1980) and in the bibliography of vascular-plant floristics for insular Newfoundland compiled by Catling et al. (1986).

### Acknowledgments

I am very grateful to Jacques Cayouette for information graciously provided upon his review of a preliminary version of the manuscript.

The location map is based on one published by le père C. Le Gallo in *Le Naturaliste canadien* 74: 25 (1947). I am grateful to John M. Oblender for preparing the version used in the present paper.

This paper was prepared for the *Flora of North America* project. Its publication was supported by the Ottawa Field-Naturalists' Club and the *Flora of North America*. It is Contribution number 72 from the Royal Botanical Gardens, Hamilton, Ontario, Canada.

## Appendix: Principal Repositories of Herbarium Specimens from Saint-Pierre et Miquelon Collected by Persons Mentioned in this Paper

Standard references on the present repositories of herbarium specimens relevant to the present study include *Index Herbariorum*, Part 2, comprising *Regnum Vegetabile* 2, 9, 86, 93, 109, 114, and 117, and Boivin (1980). Additional information has graciously been supplied by Dr. Jacques Cayouette in personal communication. Abbreviations for herbaria follow Holmgren et al. (1990). Because most of those who botanized on Saint-Pierre and Miquelon prepared specimens of both vascular and non-vascular plants, the citations below indicate the repositories of all botanical specimens collected by these persons.

**Abraham, D.** Archives de la Collectivité territoriale de Saint-Pierre et Miquelon.

**Bachelot de la Pylaie, A. J. M. P.** PC

**Beautemps-Beaupré, C. F. P.**

**Delamare, E. A. P.** PC, L

**Etcheberry, R.** Archives de la Collectivité territoriale de Saint-Pierre et Miquelon.

**Gautier, A.** None known to be extant; might be sought at MPU.

**Le Gallo, C. J. M.** MT, QFA

**Le Hors, M.** Archives de la Collectivité territoriale de Saint-Pierre et Miquelon, DAO

**Louis-Arsène, frère.** Principal repository of specimens from Saint-Pierre et Miquelon is Archives de la Collectivité territoriale de Saint-Pierre et Miquelon; some duplicates are at GH and NY.

**Waghorne, A. C.** His own herbarium was destroyed; duplicates are widely distributed (see references cited at the beginning of this appendix for repositories); see also Pringle (1995: 321, 345).

### Literature Cited

**Anonymous.** 1891. Crockford's Clerical Directory for 1891 [= 23rd issue]. Horace Cox, London, U.K.

**Arnold, F.[-C.-G.]** 1887. Lichens de l'île Miquelon (Amérique septentrionale) recueillis par M. le D<sup>r</sup> Delamare et déterminés par M. le D<sup>r</sup> F. Arnold. *Revue mycologique* (Toulouse) 9: 141-144.

**Bachelot de la Pylaie, A.-J.-M.** 1830 ["1829"]. *Flore de*

l'Île de Terre-Neuve et des Îles St-Pierre et Miquelon. Firmin Didot, Paris. (Part 1, text only, all publ.)

**Boivin, B.** 1980. Survey of Canadian herbaria. *Provancheria* 10.

**Bonnet, E.** 1888. Florule des îles Saint-Pierre et Miquelon. *Journal de Botanique* (Morot), séries I, 1: 180-186, 219-221, 234-239, 249-253, 260-266.



- Boyer, J.** 1948. Bachelot de la Pilaie (Auguste-Jean-Marie). Dictionnaire de Biographie Française. Librairie Letouzey et Ané, Paris. 4: 1071-1072.
- Brassard, G.** 1980. Rev. Arthur C. Waghorne (1851-1900). Bulletin, Canadian Botanical Association 13(2, supplement): 17-18.
- Catling, P. M., B. S. Brookes, Y. M. Skorupinski, and S. M. Malette.** 1986. Bibliography of vascular plant floristics for New Brunswick, Newfoundland (insular), and Nova Scotia. Agriculture Canada, Research Branch, Technical Bulletin 1986-3E.
- Delamare, E., F. Renaud, and J. Cardot.** 1888. Flora miquelonensis: florule de l'île Miquelon (Amérique du Nord): Énumération systématique avec notes descriptives des phanérogames, cryptogames vasculaires, mousses, sphaignes, hépatiques et lichens. Annales de la Société botanique de Lyon 15:65-143.
- Dominique, J.** 1887. Quelques mots sur la flore et la faune de l'île Miquelon. Feuille des jeunes Naturalistes 17: 61-62.
- Etcheberry, R., D. Abraham, G.R. Brassard, and M. Favreau.** 1987. Les mousses des Îles St-Pierre-et-Miquelon. Canadian Journal of Botany 65: 879-887.
- Hariot, P.-A.** 1889. Liste des algues recueillies à l'île Miquelon par M. le Docteur Delamare. Journal de Botanique (Morot) 3: 154-157, 181-183, 194-196.
- Holmgren, P. K., N. H. Holmgren, and L. C. Barnett.** 1990. Index Herbariorum. Part I: the herbaria of the world, 8th edition. Regnum Vegetabile 120.
- Laird, M.** 1980. Bibliography of the Natural History of Newfoundland and Labrador. Academic Press, London, U.K., and New York.
- Le Gallo, C.** 1947. Esquisse générale de la flore vasculaire des îles Saint-Pierre et Miquelon. Le Naturaliste canadien 74: 21-42, 79-92, 144-166.
- Le Gallo, C.** 1948a ["1947"]. Algues marines des îles Saint-Pierre et Miquelon. Le Naturaliste canadien 74: 293-318.
- Le Gallo, C.** 1948b. Trois botanistes aux îles Saint-Pierre et Miquelon pendant le 19ième siècle. Le Naturaliste canadien 75: 187-196.
- Le Gallo, C.** 1954. Les plantes vasculaires des îles Saint-Pierre et Miquelon. Le Naturaliste canadien 81: 105-132, 149-164, 181-196, 203-242.
- Le Gallo, C.** 1955a. Bachelot de la Pylaie (1786-1856): naturaliste, voyageur, artiste et archéologue. Le Naturaliste canadien 82: 173-185.
- Le Gallo, C.** 1955b. Mathurin Le Hors: botaniste des îles Saint-Pierre et Miquelon (1886-1952). Le Naturaliste canadien 82: 217-227.
- Le Gallo, C.** 1962. Le cher frère Louis-Arsène. Le Naturaliste canadien 89: 81-104.
- Leroy, J. -F.** 1957. Le premier explorateur de Terre-Neuve et des Îles Saint-Pierre et Miquelon: Bachelot de la Pylaie. Pages 203-230, plates XV-XXIII in Les Botanistes Français en Amérique du Nord avant 1850. Centre National de la Recherche Scientifique, Paris.
- Louis-Arsène, Brother.** 1927. Contributions to the flora of the islands of Saint Pierre et Miquelon. Rhodora 29: 117-133, 144-158, 173-191, 204-221.
- Louis-Arsène, Brother.** 1947. Plants new to the flora of the islands of Saint-Pierre et Miquelon. Rhodora 19: 237-255.
- Prevost, M.** 1949. Beautemps-Beaupré (Charles-François). Dictionnaire de Biographie Française. Librairie Letouzey et Ané, Paris 5: 1185-1186.
- Pringle, J. S.** 1995. The history of the exploration of the vascular flora of Canada. Canadian Field-Naturalist 109(3): 291-356.
- Rouleau, E.** 1978. List of vascular plants of the Province of Newfoundland (Canada). Oxen Pond Botanic Park, St. John's.
- Rouleau, E., and G. Lamoureux.** 1992. Atlas des Plantes Vasculaires de l'Île de Terre-Neuve et des Îles de Saint-Pierre-et-Miquelon/Atlas of the Vascular Plants of the Island of Newfoundland and of the Islands of Saint-Pierre-et-Miquelon. Fleurbec, Saint-Henri-de-Lévis, Quebec.
- South, G.R.** 1980. A. J. M. Bachelot de la Pylaie. Bulletin, Canadian Botanical Association 13(2, supplement): 13-15.
- Waghorne, A.C.** 1893-1898. The flora of Newfoundland, Labrador and St. Pierre et Miquelon. Proceedings and Transactions of the Nova Scotian Institute of Science 8: 359-373; 9: 93-100, 361-401. (Parts 1-3, all publ.; volumes also numbered series II, volumes 1 and 2.)

Received 4 February 1994

Accepted 29 August 1995



Pringle, James S. 1995. "The history of the exploration of the vascular flora of Saint-Pierre et Miquelon." *The Canadian field-naturalist* 109(3), 357–361.  
<https://doi.org/10.5962/p.357637>.

**View This Item Online:** <https://www.biodiversitylibrary.org/item/109902>

**DOI:** <https://doi.org/10.5962/p.357637>

**Permalink:** <https://www.biodiversitylibrary.org/partpdf/357637>

**Holding Institution**

Smithsonian Libraries and Archives

**Sponsored by**

Biodiversity Heritage Library

**Copyright & Reuse**

Copyright Status: In copyright. Digitized with the permission of the rights holder.

License: <http://creativecommons.org/licenses/by-nc-sa/3.0/>

Rights: <https://biodiversitylibrary.org/permissions>

This document was created from content at the **Biodiversity Heritage Library**, the world's largest open access digital library for biodiversity literature and archives. Visit BHL at <https://www.biodiversitylibrary.org>.