

THE QUEBEC INSTITUTE OF BIODIVERSITY

Register for the Quebec natural sciences research collections
Annual report (year 2016)

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The register of Quebec natural sciences research collections

Since 2003, members of the Quebec Institute of Biodiversity (IQBIO) have traveled in the province of Quebec to compile a repertory of Quebec's natural sciences research collections. The work involved in developing this register was essentially to record the existence of these collections, to visit them and to document them.

Why a register

A register of natural sciences research collections is essential for understanding Quebec's biodiversity and its risks (for example, invasive exotic species, endangered species), for proposing urgent interventions to safeguard the most precious collections, and finally for planning future needs for conservation areas as well as financial and professional resources. Let us emphasize the importance of preserving the collections that are part of Quebec's heritage and that are a privileged witness to current or past ecosystems.

By creating a computerized database gathering the metadata on the different collections, one can follow the taxonomic, ecological and bio-geographic representativeness of each collection, but also its specialization, its growth, its fusion with others or its decline. From the ecological point of view, the register makes it possible to document, if need be, the arrival of a new specie, the range extension of another or its disappearance pure and simple. Also by opening a window on the world of natural science collections to the general public, this register contributes to the dissemination and explanation of scientific knowledge, to document the richness of ecosystems and thus to understand the importance of the conservation of natural environments.

The register update

Between 2003 and 2009, more than 150 visits were carried out by the visiting committees of the IQBIO. These visits made it possible to collect basic data on more than 250 collections preserved in Quebec territory. The IQBIO sought to identify and document the taxonomic, geographical and ecological characteristics of the collections and to publicize the institutions or individuals who retain them. It was therefore necessary to obtain and compile descriptive metadata (data on data) on each collection.

Year 2015

In January 2015, by reviewing the status of the register, there were 254 collections of which about half had been documented. Since the metadata of most collections has not been reviewed for more than 10 years, updating the register was absolutely essential. The board of directors of the IQBIO has therefore placed this project in its priorities, created an ad hoc committee and hired Juliette Duranleau as project agent to carry it out.

In 2015, the updating of the register began with the computerization of existing data. A questionnaire was then developed and sent to Quebec collectors to compile as much information as possible about their collection. This document validated and acquired a number of the metadata that were deemed most important to ensure the quality of the register. After a questionnaires re-launch in the fall of 2015, of the 217 questionnaires sent, 93 were returned, with a response rate of 43%. The update of the metadata via the questionnaires made it possible to find the location and the persons responsible for the majority of the collections inscribed on the register.

Year 2016

The year 2016 began with the updating of several documents in the register (see Documents produced in 2016). A re-launch of questionnaires was done during the winter of 2016, followed by another one in the fall of 2016. Meanwhile, several problems of identification of some collectors with their coordinates have been solved. Currently, of the 268 collections on the register, the metadata update is completed for 123 of them, which corresponds to 46% of the collections. Some collections have disappeared or have been integrated with others and we have added 21 new collections to the register. The tables showing the distribution of the collections according to their character, their place of preservation and their status, as well as the progress of their cataloging are presented in Appendix 1.

Transferring the register to a relational database

During the summer of 2016, steps were taken to transfer the register from its original form (database in Excel) to a relational database in Access. To achieve this, we have obtained the help of a person familiar with Access relational database. Philippe Cadieux (Ph.D.) guided Juliette Duranleau in all stages of the transfer. First, an enormous standardization work was done in the original database to avoid duplication or errors arising from this transfer. All the metadata in the original database have therefore been reviewed one by one. Numerous corrections have been made (for example, two names of identical depository institutions but written differently). The original base was then given to Philippe Cadieux. In a first step, he separated the original register into several data tables (data on the nature of the collections, data on responsible persons, etc.). Then he made the transfer of data into Access. The relational data base is now completed and used as the primary register to input new data (new collections, metadata updates, etc.).

The collector of the month

The collections register committee has initiated a new section entitled "The Collector of the Month" which is published every month on the IQBIO website but also on its Facebook page. This is a small article featuring a collector or curator involved in the field of natural sciences research collections. This section is a portrait of passionate people who have devoted part of their lives to Quebec collections. You will discover exceptional collectors and curators as well as their inspiring journey in connection with the research collections.

The idea of the collector of the month was first launched in the spring of 2016, at a meeting of the collections register committee. After several months of research and design of several models of articles, a final template was adopted and a first interview with a collector was carried out at the end of August. The first article "The Collector of the Month" was therefore available online in September 2016. Since then, interviews with collectors from several different fields (collectors of marine invertebrates, insects, plants, mushrooms, etc.) continue and a new article appears each month. Until now this section is appreciated by many readers and is gaining popularity every month on our Facebook page. It is a project that directly contributes to the visibility of the IQBIO and reaches a larger community.

Visits

Several visits to collections were made during the fall of 2016. A total of four visits were made to collections located in the greater Montreal area. A report on each visit was completed. This report describes the nature of the visit, the maintenance of the collection, the space it occupies and its future prospects. Several other visits are planned for the year 2017 at the rate of at least one visit per month.

Financing activities

To finance the collections register project, we had to campaign to various foundations. Since we had obtained a \$ 10,000 donation from the Trottier Family Foundation in 2015, we continued our efforts in 2016 with other organizations. Our efforts have yielded results because three foundations have given us financial support to continue our project until 2018. After the donation of \$ 10,000 from the Gosling Foundation in April, two other foundations have decided to subsidize the update project of the collections register. In June 2016, the Salamander Foundation and the Chawkers Foundation donated \$ 10,000 and \$ 5,000 respectively. The budgetary data for the updating project of the register of collections is presented in Appendix 2.

Documents produced in 2016

State of the register for the Quebec natural sciences research collections: Update (7 February 2016)

Report on funding activities (final version, 11 April 2016)

Update of the register for the Quebec natural sciences research collections: Final report (year 2015) (final version, 17 April 2016)

Census of Quebec collections (on the IQBIO website, May 2016, updated in December 2016)

4 articles « The Collector of the Month » (September, October, November and December 2016)

Conclusion

An up-to-date collections register allows the IQBIO to keep accurate statistics on the number, nature and location of the numerous and diverse Quebec natural sciences research collections scattered throughout the territory. Thus, the IQBIO can better meet its mission and be able to ask or recommend actions to preserve certain collections in a precarious situation. There are several steps to complete the collections register project. In fact, this project is in continuous evolution since old collections disappear and new ones appear. Also the register must improve over time. Here are some objectives to be achieved during the year 2017:

- Continue to update the register: re-launch questionnaires, communicate with collection managers who have not been contacted by email, etc.
- Solve complex cases (unknown or silent collection managers)
- Plan and conduct visits to known collections
- Find new collections to add to the register and document them
- Create an electronic file for each collection (scan the paper files)
- Plan and conduct other interviews for the "Collector of the Month"
- Organize meetings and workshops to share knowledge about natural sciences research collections or to educate collections managers on best practices in documentation and sharing of metadata or collection data

Appendix 1

Updates about collections register data (December 2016)

Table 1. Distribution of Quebec natural sciences research collections according to their taxonomic or ecological character and their status

Collection with character		Number	Percentage	Status (number et percentage)			
				Public	Parapublic	Private	Uncertain
ecological		23	9%	9 (39%)	2 (9%)	5 (22%)	7 (30%)
taxonomic	Arachnology	9	3%	3 (33%)	2 (22%)	4 (44%)	-
	Bryology	10	4%	3 (30%)	4 (40%)	3 (30%)	-
	Entomology	64	24%	12 (19%)	10 (16%)	41 (64%)	1 (2%)
	Herbarium	35	13%	8 (23%)	17 (49%)	9 (26%)	1 (3%)
	Herpetology	6	2%	2 (33%)	2 (33%)	2 (33%)	-
	Ichthyology	16	6%	6 (37,5%)	7 (44%)	3 (19%)	-
	Invertebrates (marine, freshwater, terrestrial)	18	7%	7 (39%)	4 (22%)	6 (33%)	1 (6%)
	Malacology	12	4,5%	6 (50%)	4 (33%)	2 (17%)	-
	Mammalogy	9	3%	-	6 (67%)	3 (33%)	-
	Mycology	23	9%	3 (13%)	13 (56,5%)	7 (30%)	-
	Myriapodology	4	1,5%	2 (50%)	1 (25%)	1 (25%)	-
	Ornithology	14	5%	1 (7%)	9 (64%)	3 (21%)	1 (7%)
	Phycology	13	5%	4 (31%)	5 (38,5%)	3 (23%)	1 (8%)
Parasitology	7	3%	3 (43%)	-	-	4 (57%)	
other (ex. : cerebral cuts of vertebrates ou plant morphological parts)		5	2%	2 (40%)	3 (60%)	-	-

Table 2. Distribution of Quebec natural sciences research collections by location and status

Places of conservation	Number of collections with status			Total	
	public	parapublic	private	Number	Proportion
Government laboratories or museums (Canada, Quebec or Montreal)	78	-	1	79	30,5%
Laboratories of crown corporations (eg, Hydro-Quebec)	-	-	-	-	-
Universities	-	89	22	111	43%
Collegiate institutions	-	7	-	7	3%
Private non-profit and public-interest museums	-	-	11	11	4%
Private home of individual owner	-	-	44	44	17%
Other (eg, Camp-École Chicobi, private laboratories)	-	-	7	7	3%

Note : The table above shows the distribution of the conservation areas of 259 collections. Nine collections with uncertain status were ignored in the calculations.

Table 3. Progress in the cataloging of data from Quebec natural sciences research collections

Cataloging Code	Nombre (et pourcentage) de collections à statut							Total	
	public	parapublic	private hosted in a public institution	private hosted in a parapublic institution	private hosted in a private institution	private in a private home	Uncertain	Number	%
C1	14	28	-	6	10	11	-	69	26
C2	8	10	-	2	1	3	-	24	9
C3	5	6	-	-	4	1	-	16	6
C4	7	8	-	-	-	3	-	18	7
C5	40	30	1	14	3	20	4	112	42
ND	4	14	-	-	-	6	5	29	11

C1 Completely computerized data catalog
 C2 Partially computerized data catalog
 C3 Complete manuscript data catalog
 C4 Incomplete manuscript data catalog
 C5 No catalog known to date
 ND Not defined

Appendix 2

Annual budget allocation for the update of the register of collections (2015 to 2018)

DATED DECEMBER the 31st 2016

	Achievements 2015	Estimates 2016	Achievements 2016	Revised estimates 2017	Revised estimates 2018
Revenues					
External financing		10 000	10 000	25 000	
Carry-over of the previous year				3 035	13 935
IQBIO contribution	14 000	2 000			
Total (\$)	14 000	12 000	10 000	28 035	13 935
Labor expenditures					
1) Computerization of existing data	400				
2) Follow-up/Search collections	4 200	1500	470	750	750
3) Questionnaire/Update of the register	4 100	2700	920	1750	1750
4) Visits		1000	200	2500	2500
5) Database		1500	970	700	700
6) Reports	1 440	1300	1590	2000	2000
7) Financing	3 000	1200	810	700	700
8) Other (web, conferences, workshops)	750	400	1380	3000	3000
Total (\$)	13 890	9600	6340	11400	11400
Disbursements					
Deplacment cost	35	1 000	75	1 600	1 500
Software		500		100	100
Office expenses	75	100	40	150	135
Consultant		600	510	400	400
Other (conferences, workshops)		200		450	400
Total (\$)	110	2 400	625	2 700	2 535
Grand Total (\$)	14 000	12 000	6 965	14 100	13 935
Balance (revenues - spendings)			3 035	13 935	0

