

ARCHAEOENTOMOLOGICAL AND ARCHAEOPARASITOLOGICAL REMAINS FROM THE ÎLOT HUNT SITE, QUEBEC CITY (1850-1900)

Allison Bain

Abstract

The latter of half of the nineteenth century was a period of many changes in the daily lives of city dwellers. For North Americans, health inspectors and permanent boards of health were instituted, and connections to water and sewer systems became widely available for the first time. The domestic sanitary movement, promoting cleanliness of the home and person as a means to be spared epidemic diseases such as smallpox and cholera, was also on the rise. Water and sewer connections combined with the promotion of personal, domestic, and municipal sanitation and hygiene should have improved life in urban centres, though the image of the nineteenth century city provided by documents and artifacts is just the opposite. Preserved insect and parasite remains were studied to elucidate further details about the sanitary and hygienic conditions of the Hunt Site in Québec City between 1850-1900. The results, based on the study of a latrine system amongst other structures will be presented in this discussion.

Résumé

La deuxième moitié du XIX^e siècle a été une période de grands changements dans la vie quotidienne des citoyens. À cette époque, l'Amérique du Nord a vu apparaître les inspecteurs de la santé publique et les commissions permanentes d'hygiène et c'est alors que le raccordement au réseau d'aqueduc et d'égout s'est généralisé. Les campagnes en faveur de l'hygiène au foyer, qui prônaient la propreté domestique et corporelle pour éviter les épidémies, de variole et de choléra par exemple, se sont également multipliées en ce temps-là. Le raccordement à l'aqueduc et à l'égout, ajouté à l'hygiène personnelle, domestique et municipale, aurait dû améliorer la vie dans les centres urbains, et pourtant c'est une image bien différente que les documents et les objets façonnés nous livrent du XIX^e siècle. Des vestiges d'insectes et de parasites conservés ont été étudiés dans le but de préciser les conditions sanitaires qui régnaient sur le site de l'îlot Hunt à Québec entre 1850 et 1900. Les résultats de cette étude, fondée entre autres constructions sur des latrines, seront présentés dans cette communication.

As the theme of this conference is 'transitions', I felt that my research on 19th century medical and sanitary practices at the Hunt Site of Québec City was an appropriate example of a site 'in transition'. The data presented here are some of the results of my doctoral research (at Université Laval) on the Îlot Hunt site (CeEt-110) in Québec City. For my dissertation I attempted to reconstruct medical and sanitary practices of a neighbourhood area from 1850-1900, and to compare and contrast these results with the traditional archaeological data sets of artifactual and documentary records.

The period from 1850-1900 in North American cities was a time of transformation and rapid urban growth, a situation that included Québec City. In studying the changing face of 19th century medical and sanitary practices, this time period saw:

1. The installation of sewer and water systems by cities. This process was not always systematic and often served industrial needs first.
2. The continued creation of sanitary regulations and permanent boards of health.
3. New research in medicine, particularly in the development of germ theory. With this, the connection between the causation and transmission of many epidemic diseases was finally understood (Cartwright 1977).
4. Advances in the sanitary reform movement, a social movement that promoted both moral and domestic purity, advocated by doctors and members of the middle class. One of the main means of promotion by such groups was through the production of handbooks and pamphlets.

As a result of the four factors listed above, there are certain changes that should be visible on urban archaeological sites. Firstly, cities should have become progressively ‘cleaner’ during this period as people switched over to better sanitary systems, closed over privy pits, and installed indoor plumbing. Following this, the population should be less parasitised by intestinal parasites as there was less contact with faecal remains due to both cleaner water and better sanitary disposal systems. As a result, the infant mortality rate should also decline. Thirdly, as people are more educated about the need for personal sanitation, there should be less domestic infestation by insects. Finally, there should also be a noticeably reduced use of patent medicines, most of which were primarily composed of alcohol and likely had a negligible effect on the patient.

However, descriptions of urban filth and decay abound during this time period. Areas of Québec City as well as neighbourhoods in New York, San Francisco, and Chicago were described by travellers and municipal politicians as filthy, unclean, and immoral (Ruddel 1991; Yamin 1997,1998). The Lower Town of Québec City or Basse-Ville was described by Provincial Hygiene Inspectors in the 1880s and 1890s, in a 20-page scathing report, as filthy and unfit to live in. Apparently, citizens freely ignored all municipal efforts to keep the city clean by dumping garbage in any available space, let privy pits overflow and constantly polluted the available water sources (Archives nationale du Québec, Québec, Rapports d’inspection, Conseil d’hygiène de la province de Québec, 1888, 1889, 1891, 1893, 1898, E88 1971-07-003/21. vol 1 [1887-1891]).

The literature described above indicates contradictory images of urban spaces in transition. We then must question how we can access a more realistic version of past sanitary and medical practices, and secondly, how can we know if people were changing their habits during this half-century period?

Methodology

The approach applied here uses the traditional data sources of narrative texts, documents and material cultural remains to access information about past sanitary and medical practices. To this basis, environmental data were added in an approach modelled after one used in an American study (Beaudry 1989, 1993, Mrozowski *et al.* 1989), referred to as the “interdisciplinary analytical approach.” The Îlot Hunt site (CeEt-110) data included documents, structures, and artifacts as well as bones (Boucher 1999), seeds (Fortin 1996), insects and parasites.

The site was excavated by Université Laval between 1991-1995 (Bouchard 1998; L'Anglais 1998, Leclerc 1998; Moussette and Auger 1997), and contains traces of the military, commercial, financial, and domestic history of the city. The site was closely linked to the port industries of the city, and the buildings on site contained a tavern, stores, flour and wine sellers, sailmakers, and insurance agents amongst other enterprises over the fifty-year period under consideration. The site's population was a mixture of inhabitants and merchants that entered Lower Town daily to work. Between 1850-1900, the site contained three houses, a cistern or well, two drains, three warehouses, two privies, a ca. 1875 stable or building, and various secondary buildings. Layers identified by Bouchard (1998), relating to five distinct depositional episodes, dated to 1850, 1860, 1870, 1875, and 1880-1990.

Results

An intensive documentary search yielded a comprehensive demographic, commercial and architectural history of the site over the fifty-year period under consideration. Though the site contained abundant material culture, only 74 objects relating to medical and sanitary practices were recovered. These included jars, pitchers, vials, chamber pots, brushes, combs and medicinal bottles.

An analysis of the material culture remains and structures indicated that the larger privy structure had been cleaned out at least twice during its use during the 1850s and 1860s and was filled for the last time around 1875. These two cleaning episodes may have been related to cholera epidemics that ravaged the city. By 1880-1900, there were no functioning sanitary structures on the site and the yard had been cleared by infilling two large depressions over the privy structure.

The archaeoentomological analysis of 48 levels resulted in the treatment of around 200 kg of soil, equalling a volume of 238 litres. A total of 6755 insects were identified from 35 families, with only 7% of the total fauna classified as indeterminate.

To facilitate a discussion of this body of material, the insects were divided into 11 ecological groupings. These categories ease interpretations by highlighting significant species. They included the decomposer, xylophagous, stored product, hydrophilous, coprophilous, outdoor, synanthropic fauna, medicinal, necrophilous, mycetophagous, and phytophagous faunas. The archaeoentomological samples generally indicated mixed indoor and outdoor deposits in a relatively clean yard environment with low levels of stored product and ectoparasitic faunas. They also detailed the presence of water flowing through the privy structure. The medicinal fauna, containing only the blister beetle, indicates the use of Spanish Fly (Figure 1) which demonstrates the continued use of traditional medicines instead of adapting to new practices.

The archaeoparasitological analysis, an attempt at estimating the faecal content of samples via the ova per gram count of whipworm (*Trichuris trichiura*), yielded very poor results. They showed that faeces were present in the samples in only very low quantities. This paucity of parasite eggs could be due to any of several explanations which include poor preservation, sampling procedure, the consumption of foods with anti-helminthic properties by the site's inhabitants, the addition of lime to the privy, or, the absence of faecal material from the privy, indicating the use of another waste disposal system.

Conclusions

This study resulted in both general and specific conclusions. Firstly, the site was ‘cleaner’ than expected, which was particularly well demonstrated by the insect fauna, confirming that preserved archaeoentomological material is a sensitive source of environmental and cultural proxy data, best suited to multidisciplinary studies such as this one. ‘This site ‘cleanliness’ perhaps indicates that people were conforming to new sanitary regulations, though there was no evidence of changing medical practices during this time period. Furthermore, the reports of the Provincial Hygiene Inspectors may have been exaggerated and/or do not apply specifically to the Hunt site. This is an important area for consideration as we must consider the intended audience for these reports and the class bias brought to them. The archaeoparasitological aspect of this study generated some curious results. The abundance of raspberry

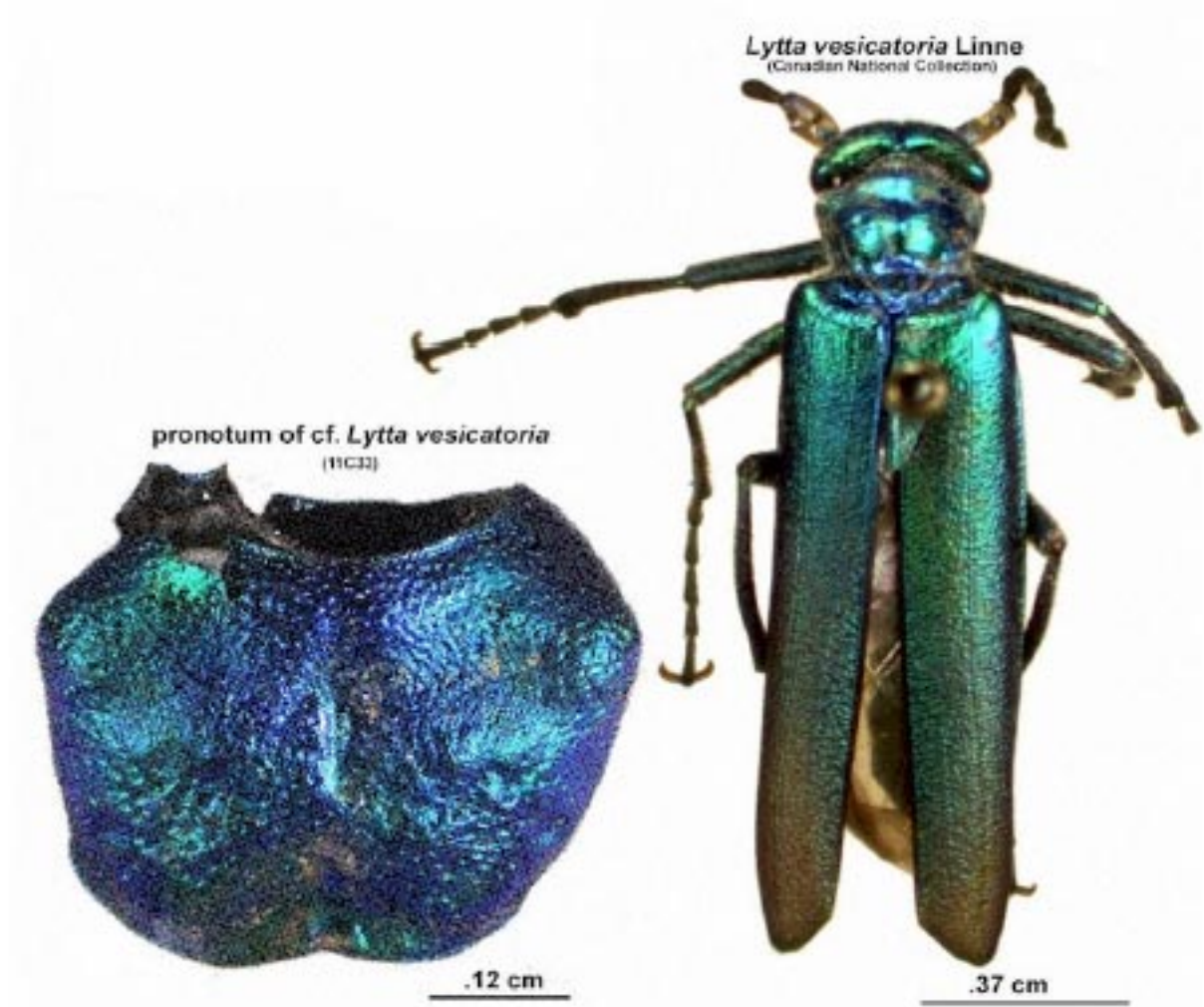


Figure 1. Preserved pronotum (left) from the Îlot Hunt Site and actual Spanish Fly beetle (*Lytta vesicatoria* Linné) (right)

seeds in soil samples is used as a guide to identify which samples are to be processed to find preserved parasite remains. The high numbers of raspberry seeds corresponding with low numbers of preserved whipworm eggs was unexpected, and indicates that we should reconsider our presumption about raspberries as faecal indicators. Parasite ova should also be tested for potential decomposition in archaeological settings. In conclusion, questions generated by this research emphasise the validity of this approach, where contradictory and complimentary data sets lead to further discussion, and ultimately to new interpretations about the past.

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