

Preliminary Analysis of Carbonized Macro-botanical Remains from Petun Sites In Grey and Simcoe Counties, Ontario

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This paper summarizes analyses of carbonized macro-botanical remains recovered from the excavation of Petun sites located in Grey and Simcoe counties by Charles Garrad, Petun Research Institute, as well as botanical archaeological collections amassed by other researchers. Preliminary findings show that agriculture was well established among the Petun in the late sixteenth and early seventeenth centuries and included maize, bean, squash and sunflower. Maize of the typical Eastern Complex or eight-row form was the most abundant food plant represented. This is similar to the findings in Huronia and on other Ontario Late Woodland sites. Native seed and charred wood assemblages suggest that Petun communities had access to resources from local environments that were similar to resources used by their Huron neighbours. Chemical analysis of pipe dottle suggests that tobacco was also used.

Introduction

The identification of plant remains from Ontario archaeological sites has been documented for some time. The earliest report of maize was from the Jackes site, located in Toronto (Boyle, 1888). In the last decade of the nineteenth century cultivated plants were also reported from two sites in south-western Ontario. Coyne (1893) mentions the presence of maize cobs on the Neutral Southwold Earthworks site in Elgin County and David Boyle (1888) reported maize and bean from a site on Pelee Island. However, systematic collection and the use of flotation techniques were not extensively used until the late 1970s and early 1980s.

Charles Garrad, of the Petun Research Institute, recognized the potential value of information from biological remains. He recovered large quantities of both animal and plant remains from his excavations conducted during his more than thirty years of intensive research on proto-historic and historic Petun sites in both Grey and Simcoe counties. Peter Hamalainen's 1981 masters thesis, "Patterns of Faunal Exploitation by the Petun Indians," has provided much information on the use of large and small fauna by the Petun people. In contrast, no similar study of plant-related subsistence has been available from Petun sites. Over several decades the author has

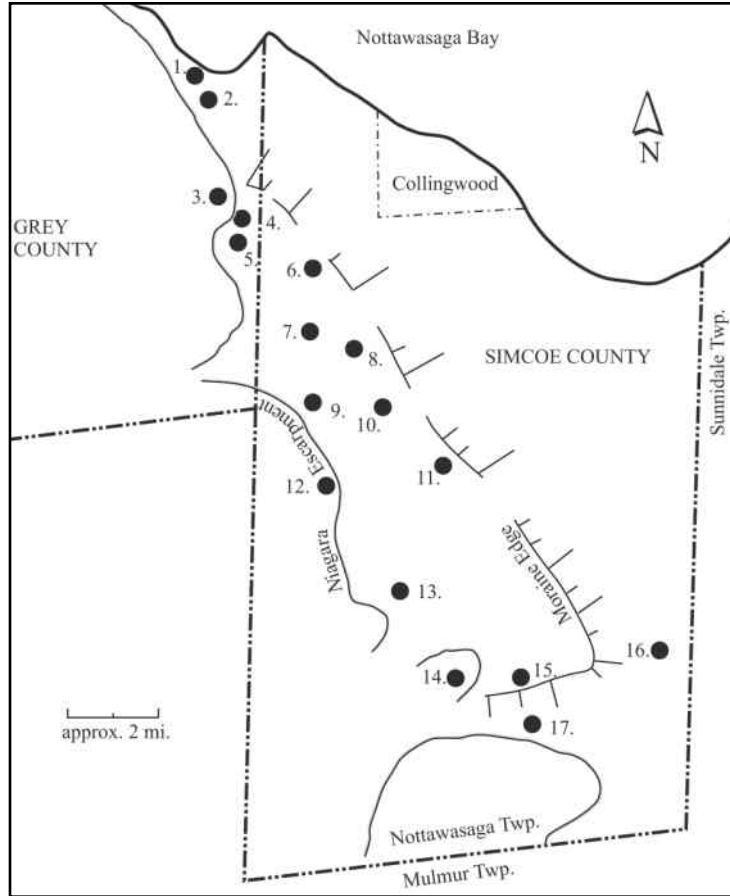
identified a total of thirty-three plant taxa from Petun site excavations that included botanical material excavated by W.J. Wintemberg in the 1920s and Charles Garrad's excavations in the 1970s, 1980s, 1990s and into the twenty-first century. This paper first summarizes the identifications of both cultivated and native plants from over twenty Petun sites that the author has been examining. Secondly it details specific evidence of plant remains from nine of these proto-historic and historic Petun sites.

Summary of Cultivated and Native Plants from Petun Sites

Study Area: Archaeological Sites and the Environment
The historic Petun, also known as the Tobacco Nation or Khionontateronon (Garrad and Heidenreich 1978), were located to the west of Huronia across Nottawasaga Bay (Figure 1). The occupied portion of the Petun area lay below the Niagara Escarpment in areas now known as Collingwood, Grey County, and Nottawasaga Township in Simcoe County, Ontario. There are over twenty sites in the area and nine have been extensively studied for this paper.

The soils here are predominately well-drained loams, ideally suited for swidden agriculture. Surface waters are plentiful as the area is heavily

Figure 1. The locations of Petun sites mentioned in text: Plater-Fleming (1), Plater-Martin (2), Haney-Cook (3), MacMurchy (4), McAllister (5), Rock Bottom (6), McConnell (7), Young-McQueen (8), McEwen (9), Kelly-Campbell (10), Glebe (11), Graham-Ferguson (12), Connor-Rolling (13), Hamilton-Lougheed (14), Melville (15), White (16), Sidey-Mackay (17). Adapted from Garrad (1998a, 1998b).



dissected by creeks issuing from the Niagara Escarpment (Garrad and Heidenreich 1978:394).

Floristically, the Petun area lies in a small segment of the “Huron-Ontario” section of the Great Lakes-St. Lawrence Forest Region (Rowe 1977:44-45). Forest communities here are dominated by deciduous broad-leaved trees, which range northward into the mixed forest. Trees common to both the deciduous and mixed forest regions are sugar maple (*Acer saccharum*) and beech (*Fagus grandifolia*). Associated with them are basswood (*Tilia americana*), white ash (*Fraxinus americana*), red ash (*F. pennsylvanica*), yellow birch (*Betula alleghaniensis*), red maple (*A. rubrum*), red oak (*Quercus rubra*), white oak (*Q. alba*) and bur oak (*Q. macrocarpa*). There are small groups of hemlock (*Tsuga canadensis*) and balsam fir (*Abies balsamea*) and the occasional white pine (*Pinus strobus*) as well as a scattering of aspen (*Populus tremuloides*). Fruit

bearing trees that are fairly common are butternut (*Juglans cinerea*), black cherry (*Prunus serotina*) pin cherry (*P. pennsylvanica*) and choke cherry (*P. virginiana*). Bitternut hickory (*Carya cordiformis*) and wild plum (*P. nigra*) find their northern limit in Simcoe County. In poorly drained soil or bottomland are silver maple (*A. saccharinum*), slippery elm (*Ulmus rubra*) and rock elm (*U. thomasi*), sycamore (*Platanus occidentalis*) and black ash (*F. nigra*). Eastern white cedar (*Thuja occidentalis*) is found locally in swamp areas on abandoned fields. Willow (*Salix* sp.) and dogwood (*Cornus* sp.) are found in open areas. Tamarack (*Larix laricina*) is scattered throughout most swamps (Rowe 1977:93).

Macro-Botanical Archaeological Data

Data have been collected and tabulated (Tables 1-3) from the published archaeological literature

Table 1. Cultivated plants (presence or absence) from *Petun* sites in Simcoe and Grey counties.

Site	Date (A.D.)	Maize	Bean	Squash	Sunflower	Tobacco	Reference
Plater-Martin ¹	1640-1650	x	—	x	x	—	Fecteau and McAndrews (1977); this report
Plater-Fleming ¹	1640-1650	x	—	—	—	x ³	this report
Kelly-Campbell ¹	1640-1650	x	—	—	—	—	this report
McEwen ²	1640-1650	x	—	—	—	—	this report
Rock Bottom ²	1639-1650	x	—	—	—	—	this report
Connor-Rolling ²	1630-1650	x	—	x	—	—	this report
Graham-Ferguson ²	1630	x	—	—	—	—	this report
Hamilton-Lougheed ²	1620	x	—	—	—	—	this report
Haney-Cook ²	1615-1620	x	—	—	—	—	this report
Melville ²	1615	x	—	—	x	—	McAndrews, personal communication
Glebe ²	1610-1615	x	—	—	—	—	McAndrews (1979)
MacMurchy ¹	1610-1615	x	—	—	—	x ³	Bell (1953); Sykes (1981); Garrad (personal communication)
McQueen-McConnell ²	1610-1615	x	—	—	—	—	this report
McAllister ¹	1610	x	x	—	—	—	this report
Sidey-MacKay ²	1575-1600	x	x	x	x	—	Wintenberg (1946); Garrad (personal communication)
Young-McQueen ²	1545-1616	x	—	—	—	—	McAndrews (1982)
White ²	1600-1650	x	—	—	—	—	Garrad (personal communication)

¹Grey County²Simcoe County³trace chemical elements**Table 2.** Native plant remains (presence or absence) from *Petun* sites.

Site	Fleshy Fruits							Greens			Nuts			Reference	
	Raspberry	Strawberry	Sumac	Blueberry	Grape	Hawthorn	Cherry	Wild Plum	Mustard	Purslane	Oak	Oak/Hazelnut	Butternut		Basswood
Plater-Martin	x	—	x	—	x	x	—	x	—	—	—	—	—	—	Fecteau and McAndrews (1977)
Plater-Fleming	—	—	—	—	—	—	—	x	—	—	—	—	—	—	Garrad, personal communication
Kelly-Campbell	—	—	—	—	—	—	—	x	—	—	—	—	—	—	Garrad, personal communication
Graham-Ferguson	—	—	—	—	—	—	—	x	—	—	—	—	—	—	Garrad, personal communication
Haney-Cook	—	—	—	—	—	—	—	x	—	—	—	—	—	—	Garrad, personal communication
Melville	x	x	—	x	x	x	x	x	x	x	—	—	—	—	McAndrews, personal communication
Glebe	—	—	—	—	—	—	—	x	—	—	x	x	—	—	McAndrews, personal communication
McQueen-McConnell	—	—	—	—	—	—	—	—	—	—	—	x	x	—	this report
McAllister	—	—	—	—	—	—	—	x	—	—	—	x	—	—	this report
Sidey-MacKay	—	—	—	—	—	—	—	x	—	x	—	x	—	—	Wintenberg (1946)
Young-McQueen	—	—	—	—	—	—	—	—	—	—	—	—	x	—	McAndrews, personal communication

Table 3. Charred wood (presence or absence) identified from *Petun* sites.

Site	Angiosperm (deciduous)											Gymnosperm (coniferous)					
	Maple	Sugar Maple	Birch	Beech	Ash	Butternut	Ironwood	Poplar/Willow	Basswood	Elm	White Elm	Indeterminate Ring Porous	Indeterminate Diffuse Porous	Indeterminate	Pine	Hemlock/Fir	Indeterminate Conifer
Plater-Martin	—	—	—	—	—	—	—	x	—	—	—	x	x	—	—	—	
Haney-Cook	x	x	—	x	x	—	—	—	—	—	—	x	x	—	—	—	
McAllister	—	x	x	x	x	x	x	—	—	—	x	x	x	x	x	—	x
McQueen-McConnell	x	x	—	x	x	x	x	—	x	x	x	x	x	x	x	—	—
Sidey-MacKay	—	x	—	x	—	—	x	—	—	—	—	—	—	—	—	—	—
Hamilton-Lougheed	—	x	—	x	x	—	—	—	—	—	x	—	x	—	—	—	—
Melville	x	x	x	x	x	—	x	—	—	x	—	—	x	—	—	x	x
McEwen	x	x	—	x	x	x	x	—	—	—	—	x	x	—	—	—	x

(Wintenberg 1946), from the identification of plant remains (Bell 1953; Fecteau and McAndrews 1977; Fecteau 1980, 1983, 1996, 2000a, 2000b, 2000c, 2000d, 2000e, 2000f, 2001, 2002a, 2002b, 2003a, 2003b, 2003c, 2003d, 2003e, 2004a, 2004b; McAndrews 1979, 1982) and from plant material identified and catalogued, but as yet unpublished, from more recent excavations by Garrad. Botanical specimens from collections given to Garrad from excavations in the 1930s, 1950s and 1960s will be assessed in the future. The author has catalogued close to 16,000 botanical specimens in 600 samples collected from 17 Petun sites (Table 4). Identifications in this paper are derived from analysis of plant remains recovered from habitation areas and from middens.

The bulk of the macro-floral remains is comprised of charred wood. Wood was present on all sites and accounted for over 10,000 specimens. This was followed by 2,648 cultivated plant specimens, 868 seed and seed fragments of native plants, 123 bark fragments and 30 seeds that could not be identified. The bulk of the floral material was maize. Maize was identified from the presence of kernels (1,389), kernel fragments (689), cob segments (211), cob segment fragments (321), cupules (5) and stalk or husk fragments (18).

The Sidey-Mackay site had the greatest amount of maize remains accounting for 18 percent (472 specimens) of all the maize specimens. One probable sunflower was tentatively identified from the Connor-Rolling site. Single bean specimens were identified from the Sidey-Mackay site and the Young-McQueen site as well as two specimens in the McAllister assemblage.

Wild plum was identified from 14 sites as either whole seeds or seed fragments. The greatest numbers of plum seeds were from the Plater-Martin site (136 whole seeds and 20 seed fragments). One hawthorn seed was identified from the 1996 excavations at the McConnell site. Small amounts of nanny-berry (*Viburnum cf. lentago*) were present in the plant assemblages from the Connor-Rolling and Plater-Martin sites. Unidentified tubers were found in the assemblages from the Melville site, the Conner-Rolling site, the Sidey-Mackay site and the Young-McQueen sites. Small amounts of butternut were present in the Plater-Martin, Sidey-Mackay and

McConnell sites. A few acorn nutshell fragments were found in the Connor-Rolling, Plater-Martin, Sidey-Mackay and McConnell sites.

The author also examined botanical material collected by W.J. Wintenberg during his 1926 excavations of the Sidey-Mackay site (Fecteau 2000b). Botanical remains were analyzed from 17 Sidey-Mackay samples. Cultivated plants were represented by maize, bean and squash. Maize cob material shows that the majority of cobs were of the ten-row variety followed closely by eight-row. Twelve- and fourteen-row cobs were also present.

A total of nine beans were sufficiently intact to measure. Bean metric averages are 11.06 mm in length, 6.20 mm in width, and 4.33 mm in thickness resulting in an average length to width ratio of 1.78. Although the Sidey-Mackay bean population is relatively small, the bean size is the same or only slightly larger, on average, than that measured from the extensive bean populations of the Huron sites to the east (Monckton, 1992:37), the Neutral sites in southwestern Ontario (Fecteau, 1985:155) and the St. Lawrence Iroquois Steward site in Dundas County in southeastern Ontario (Table 5). Squash was represented by two stalk fragments.

Native food plants were represented by seeds of wild plum and by acorn nut-shell fragments. Birch bark fragments were found in three samples. Sugar maple, beech, ironwood, birch and pine were identified from the charred wood fragments.

Detailed Botanical Analysis of Nine Sites

This section discusses the identifications of both cultivated and native plants from nine Petun sites. Two sites, Plater-Martin and McAllister, are located in Grey County and seven sites, Hamilton-Lougheed, Kelly-Campbell, Haney-Cook, McQueen-McConnell, Melville, McEwen and Sidey-Mackay, are located in Simcoe County.

Maize

Maize was the most prominent plant recovered from these sites. It was identified in 31 of 41 samples from seven of nine sites. A total of 933 maize specimens was identified (Table 6). Maize kernels and cob segment fragments were the most common form of plant macro-fossil, next

Table 4. Frequency of identified carbonized macro-fossil remains.

Site	Cultivated Plants										Native Plants										Totals
	Maize Kernel	Maize Kernel Fragment	Maize Cob Segment	Maize Cob Segment Fragment	Maize Cupule	Maize Stalk/Husk Fragment	Sunflower	Bean	Squash Stalk (Pedicel)	Wild Plum (Seed)	Wild Plum (Seed Fragment)	Hawthorn	Nannyberry?	Tuber?	Butternut (Nut Fragments)	Oak (Acorn Fragments)	Unknown Fragments	Charcoal	Bark		
Melville	50	18	31	25	0	0	0	0	5	27	1	0	0	2	0	0	3	1472	15	1649	
MacMurchy	19	0	6	5	0	0	0	0	0	1	0	0	0	0	0	0	0	22	0	53	
Haney-Cook	12	4	0	0	0	1	0	0	0	3	1	0	0	0	0	0	0	734	4	759	
McEwen (1974)	3	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	
Rock Bottom (1987)	0	0	0	0	0	0	0	0	0	4	89	0	0	0	0	0	0	12	0	106	
Plater-Fleming	35	11	5	8	0	0	0	0	0	21	10	0	0	0	0	0	0	20	1	111	
Connor-Rolling	188	79	21	7	0	0	0	0	3	67	96	0	3	1	0	12	0	551	36	1,053	
Plater-Martin	125	45	31	54	0	1	0	0	1	136	20	0	7	0	3	1	25	107	26	582	
Sidey-Mackay	301	149	4	17	0	1	0	0	1	6	0	0	0	1	6	1	1	2,932	0	3,421	
McAllister	37	7	4	11	0	6	0	2	1	9	1	0	0	1	0	0	1	53	5	736	
Young-McQueen	166	118	1	5	0	0	0	0	0	0	0	0	0	0	0	0	0	13	0	304	
Kelly-Campbell	63	49	29	86	0	1	0	0	0	2	2	0	0	0	0	0	0	6	1	239	
McConnell (1993)	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26	0	30	
McConnell (1995)	27	15	1	1	0	0	0	0	0	0	1	0	0	0	0	0	1	334	5	386	
McConnell (1996)	53	16	0	7	0	0	0	0	0	0	0	1	0	0	4	2	0	2,568	1	2,651	
McConnell (1997)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,282	
McConnell (1998)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	668	
McConnell (1999)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	44	
McConnell (2000)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	38	
Glebe	197	2	77	94	0	8	0	0	0	6	9	0	0	0	3	0	0	125	29	543	
Graham-Ferguson	98	150	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	251	
Hamilton-Loughheed	10	7	1	0	5	0	0	0	0	0	1	0	0	0	0	0	0	0	0	596	
Pretty River	4	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35	0	46	
Totals	1,389	689	211	321	5	18	1	4	10	283	234	1	10	5	17	5	30	10,181	123	15,968	

to charred wood fragments. Small numbers of kernel fragments, cob segments and stalk fragments were also present.

Metric analyses of 14 measurable kernels were confined to four sites. Width-to-thickness ratios are generally similar to more extensive kernel populations from site collections in Huronia. Cob segments of four-row, six-row, eight-row, ten-row and twelve-row varieties were identified from five sites (Table 7). The largest cob segment population was recovered from the McAllister site (n=74) and is useful for comparison to other Petun and Huron sites. The large percentage of eight-row segments (almost 70 percent) is similar to cob samples from contemporary Huron village sites to the east (Monckton, 1992:28) and to other Huron/Petun villages in Simcoe county (Sykes 1981:24-25). A recent examination of a cob segment population of 21 cobs from Wintemberg's Sidey-Mackay collection at the Canadian Museum of Civilization shows a slightly different profile. The ten-row variety is most common, followed by twelve-row, eight-row and fourteen-row. The Sidey-Mackay cob sample differs slightly from other southern Ontario site collections. Both the Huron maize cob populations to the east (Monckton, 1992:28) and the Seed-Barker site cob population to the south show that a majority of the cobs are eight-row followed by ten-row—the remainder consisting of four-row, six-row and twelve-row varieties. In contrast, the majority of Sidey-Mackay cob segments are ten-row and twelve-row. This predominance of ten-row and twelve-row might be a result of the collection method used.

Other Cultigens

The importance of other cultigens (bean, squash, sunflower and tobacco) cannot be discussed in depth at this time due to the paucity of evidence. However, a few comments can be made regarding three sunflower specimens found on the Melville site (two seeds) and the Hamilton-Lougheed site (one seed). Following Monckton (1992:39) and Yarnell (1978:296), all measurements were converted to uncarbonized achene measurements. This was done by multiplying carbonized seed length by 1.30 and width by

1.45. The mean length/width products of Melville (28) and Hamilton-Lougheed (27) are significantly smaller than that of second millennium A.D. Mississippian material from sites in Iowa, South Dakota, Mississippi, Missouri and Ohio, but are similar in size to those of Middle to Late Archaic sites in Tennessee and Kentucky and those of Huron sites in Monckton's study (Monckton, 1992:57). More specimens are needed to properly address relationships with other populations.

Native Plants

Small amounts of butternut shell fragments, weighing a total of 14.9 grams, were identified from the McAllister and McQueen-McConnell site assemblages. Seeds of seven fleshy fruit taxa were identified along with seeds from two plants that have edible fleshy leaves. The widest variety and greatest number of seeds were identified from samples collected from the Melville site. Seeds of fleshy fruits included, in descending order of abundance, raspberry, strawberry, hawthorn, wild plum, cherry, blueberry, and grape. Seeds of garden greens included bedstraw, mustard, and purslane (Table 8).

Discussion

The plant specimens from the sites discussed in this paper were collected by hand. They do not, therefore, represent the full range of plants used by the inhabitants. They do, however, offer data that can be compared to other proto-historic sites in Ontario and perhaps in the Midwest.

The most abundant evidence of Petun plant food use is maize. It is represented by kernels, kernel fragments, cob sections, cob fragments, and stalk fragments. Most kernels are thick, rounded, broader-than-deep flint kernels typical of Northern flint type maize. Although the maize cob data from three sites are few, the overall majority of cobs (about 70 percent) are Eastern Complex, or eight-row maize. This finding (abundance of eight-row corn) is similar to findings at assemblages in Huronia and other Ontario Late Woodland sites and also at Fort Ancient sites in the Midwest. The Sidey-Mackay

Table 5. *Bean seed metrics from Ontario sites.*

Site	Culture	Date AD	Beans Measured (n)	Mean Length (mm)	Mean Width (mm)	LxW	L:W
Sidey-Mackay	Petun	1575-1600	9	11.06	6.20	68.57	1.78
Lawson	Neutral	1500-1550	119	9.98	5.83	58.18	1.71
Harrietsville	Neutral	1450-1475	3	11.36	6.68	75.89	1.70
Steward	St Lawrence	1450	125	10.11	6.31	63.79	1.60

Table 6. *Maize plant remains (percentage) from Petun sites by plant parts.*

Site	Kernel	Kernel Fragment	Cob Segment	Cob Segment Fragment	Stalk Fragment	Total Percent	Total Frequency
McAllister	31.7	3.8	23.7	36.5	4.7	100.4	312
McQueen-McConnell	52.0	7.9	2.6	36.8	0	99.3	38
Haney-Cook	100	0	0	0	0	100.0	5
Melville	1.2	5.9	0	92.8	0	99.9	518
Hamilton-Lougheed	33.3	47.6	0	19.0	0	99.9	21
Plater-Martin	50.0	0	50.0	0	0	100.0	4
Kelly-Campbell	14.2	65.7	11.4	8.6	0	99.9	35

Table 7. *Maize cobs (percentage), by row number variety, from Petun sites.*

Site	4-row	6-row	8-row	10-row	12-row	Total Percent	Total Frequency
Plater-Martin	0	0	50	50	0	100	2
Kelly-Campbell	0	33	67	0	0	100	3
McQueen-McConnell	0	0	100	0	0	100	1
McAllister	0	4	68	27	1	99	74
Melville	12	0	76	12	0	100	25

Table 8. *Charred seeds (percentage), by taxon, from selected Petun sites.*

Site	Wild Plum	Cherry	Grape	Hawthorn	Sumac	Bramble	Strawberry	Blueberry	Purslane	Mustard	Bedsraw	Unknown	Total Percent	Total Frequency
McAllister	100	0	0	0	0	0	0	0	0	0	0	0	100.0	3
Melville	1.7	4.9	1.7	16.3	0	44.3	22.9	1.7	1.7	3.3	0	1.7	100.2	61
Hamilton-Lougheed	20	0	20	0	20	20	0	0	0	0	20	0	100.0	5
Plater-Martin	100	0	0	0	0	0	0	0	0	0	0	0	100.0	5

cob population is atypical, showing a larger proportion of ten- and twelve-row cobs.

Agriculture has been clearly documented for Petun sites, with 16 sites yielding maize and one, the Sidey-Mackay site, having all four cultivated food plants—maize, bean, squash and sunflower (Wintemberg 1946). The writer has recently identified bean from MacMurchy site collections as well as squash stalks from the Plater-Martin site. Sunflower seeds were identified on the Plater-Martin, Hamilton-Lougheed, Melville, and Sidey-Mackay sites. Tobacco seeds have not yet been identified on any Petun sites. We know, however, that two characteristic alkaloids of tobacco, nicotine and nornicotine, have both been found in pipe residues from the MacMurchy and Plater-Fleming sites. Future research that includes flotation will most likely find the minute seeds of tobacco as well as other small seeds from native plants in archaeological soils.

Wild plum seeds have been identified on 11 Petun sites, to date. Evidence of small fleshy fruits is sparse on most sites. This is to be expected from sites where macro-fossils were hand-collected. The Melville site reflects, to some extent, an array of plants that are common to sites in Huronia and other Late Woodland sites where flotation was used.

Even though wood charcoal assemblages represent a random sample of wood use and availability, they are relatively similar to other charred wood assemblages in southern Ontario. The Petun charcoal assemblages, especially the larger ones from Sidey-Mackay, McQueen-McConnell, and McEwen show larger proportions of the climax species maple and beech with lesser amounts of

ash and elm. These results suggest a diverse mixed forest that included small amounts of successional species, such as pine and birch, during occupation of these villages (Table 9).

Conclusion

This preliminary analysis of Petun macro-floral remains provides the first qualitative assessment of plant remains from late sixteenth and early seventeenth century Petun sites in Simcoe and Grey counties in southern Ontario. It suggests that macro-botanical data can be derived from a few sites for comparison with other culture groups in order to develop a more complete picture of the lives of peoples in any given area.

Although this is a preliminary synthesis of botanical material, it has provided a picture of the environment of the Petun as well as a cursory inventory of their agricultural and native food sources. In the future, there will be a comprehensive study that will include additional botanical data collected by flotation from other Petun sites to compare to the macrofloral remains already identified. This will provide a more detailed understanding of Petun plant subsistence and will allow us to better compare their food lifeways with other cultures of the Northeast.

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Table 9. Charred wood (percentage), by taxon, from selected Petun sites.

Site	Maple	Beech	Ash	Birch	Butternut	Ironwood	Elm	Indeterminate Ring Porous	Indeterminate Diffuse Porous	Pine	Indeterminate Conifer	Indeterminate	Total Percent	Total Grams
Sidey-Mackay	19.8	11.3	0	9.8	0	2.4	0	0.2	55.3	0	1.1	99.9	64.38	
McAllister	6.8	7.4	11.4	0.3	1.2	7.5	2.7	0.6	7.7	48.8	5.1	0	99.5	33.40
McQueen-McConnell	24.7	17.9	7.9	0	0.9	7.1	25.9	1.3	4.2	0.2	5.3	4.2	99.6	141.80
Hamilton-Lougheed	40.4	9.4	0	4.5	0	0.7	18.8	0	26.1	0	0	0	99.9	7.17
McEwen	57.5	24.6	7.6	0	0.1	1.7	0.2	0	1.4	0	6.6	0.3	100.0	147.80

analysis upon which this paper is based has been part of ongoing Petun macro-floral research, which commenced in 1977. The author thanks the following people for their aid in the making of this paper. I am much indebted to Charles Garrad for providing the Petun macrofloral remains over the last three decades. I also thank Charlie for his patience in waiting for the botanical reports over these many years. I thank Dr. J. H. "Jock" McAndrews and the staff at the Botany Department, Royal Ontario Museum for allowing me to use their laboratory facilities and comparative collections in my "early years" of archaeobotanical research. I am also grateful to Jock for his instruction, guidance, direction and continued support over the last three decades with regard to archaeobotanical matters. I also thank Dr. Marti Latta for introducing me to archaeology in her 1971 field course at the MacLeod site. As one of Marti's early students, it was a privilege to be able to deliver this paper in her honour at the joint OAS/ESAF symposium in Midland, Ontario. I also thank Andrew Murray who redrafted the Petun site location map. Andrew and Jackie Dolling also offered advice on the presentation of the map. I am also indebted to the editors and anonymous reviewers of this journal for their helpful comments and suggestions. The author takes full responsibility for any errors, omissions or misinterpretations. The Petun macro-floral research continues.

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Cet article récapitule les analyses des macro-restes botaniques carbonisés recueillis lors des fouilles de sites pétuns situés dans les comtés Grey et Simcoe par Charles Garrad, Petun Research Institute, ainsi que les macro-restes présents dans des collections botaniques archéologiques accumulées par d'autres chercheurs. Les observations préliminaires révèlent que l'agriculture, bien établie chez les Pétuns à la fin du XVI^e siècle et au début du XVII^e, comprenait le maïs, les haricots, la courge et le tournesol. Le maïs typique des complexes orientaux, ou à huit rangées de grains, a été la plante nutritive la plus abondante. Ce résultat correspond assez étroitement aux conclusions des recherches menées en Huronie et sur d'autres sites du Sylvicole récent en Ontario. Les assemblages des semences natives et des bois calcinés permettent de croire que les communautés de Pétuns avaient, dans leur région, accès à des ressources environnementales similaires aux ressources utilisées par leurs voisins hurons. L'analyse chimique des résidus présents dans la cheminée des pipes laisse croire que le tabac était aussi en usage.

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