

# PARSONS SITE PLANT REMAINS

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## INTRODUCTION

During recent years, the amount of information related to Iroquoian plant use has increased greatly. Much of these data have been provided through large scale salvage excavations that have exposed major or entire settlement plans. Such investigations have not only produced large numbers of flotation samples, but have also provided opportunities to examine the spatial distributions of plant remains within the village context. The plant remains from the Parsons site provide valuable comparative data on Late Woodland plant use from both of these perspectives.

While some data were previously available on wood charcoal recovered from the site (Fecteau 1982), these are limited to manually collected pieces of charcoal that were recovered during the 1952 and 1953 *University of Toronto* excavations conducted under the direction of J.N. Emerson. In addition, three maize kernels were also manually recovered. Since this material was not collected by flotation, however, it cannot be assumed that it adequately represents plant remains present in the archaeological deposits.

The present study examines material collected from flotation samples recovered during the 1989-1990 excavations from a wide range of archaeological features.

## METHODS

Flotation samples were recovered from over 40 features distributed throughout the excavation area, including the interiors of six longhouses, exterior activity areas, and a midden. A sample derived from 31 of these contexts was subjected to analysis.

Following measurement of volume, each soil sample was processed using the bucket method of flotation (Crawford 1983). The heavy fractions were collected using a 2.00 mm screen. Artifacts, bone, and plant material from this fraction were removed and weighed together with the light fraction. The entire analyzed component weight is therefore referred to as the "recovered

fraction" in the plant remains tables presented below.

Recovered fractions were dried for 48 hours and then passed through a series of screens whose apertures measure 4.00, 2.80, 2.36, 2.00, 1.40, 1.00, 0.710, 0.425, and 0.212 mm. Particle size fractions were sorted separately, enabling seed sorting and examination of the particle size distribution of each sample.

Sorting involved the separation of material larger than 2.36 mm into its constituent components: wood charcoal, other carbonized plant material (e.g. maize, cupules, and unidentified plant parts), bone, uncharred plant material (e.g., rootlets), and mineral (Tables 52 and 53). This sorting of the three largest particle size categories provided a basis on which to estimate the proportions of wood charcoal and other components relative to the entire sample. Below the 2.36 mm screen, only seeds were extracted.

Material was examined under a stereoscope at varying magnifications. The identification of the plant remains was aided by reference to the Montgomery Seed Collection of the Royal Ontario Museum and to comparative material housed at the Department of Anthropology, *University of Toronto* at Mississauga.

Wood charcoal was analyzed from a select number of features in order to determine tree genera available to the inhabitants and also to aid in the interpretation of site taphonomy. Fragments of wood were broken in half in order to provide a clean surface exhibiting a transverse section of the cell structure. This material was weighed and examined under a stereoscope. The results of Fecteau's (1982) analysis of wood charcoal, recovered from a large number of samples from a wide range of archaeological contexts, are included in the present study. Unfortunately, however, it was not possible to determine the nature of the features from which this material was recovered.

Table 52. Parsons Site Plant Remains Sample Components.

Provenience	Soil Volume (litres)	Recovered Fractions (g)	Wood Charcoal (g)	Other Plant Parts (g)	Bone (g)	Total without Mineral or Uncharred Matter (g)
<b>House 3</b>						
Wall Trench	10	148.56	48.33	1.26	2.52	52.11
Feature 89	5	240.91	212.83	.21		213.04
Feature 113	12	62.09	14.53	.7	.19	15.42
Sums	27	451.56	275.69	2.17	2.71	280.57
Percentage			98.26	.77	.97	100
<b>House 4</b>						
Feature 26	5	15.94	12.69	.58	.03	13.3
Percentage			95.41	4.36	.23	100
<b>House 7</b>						
Feature 140	7	87.4	57.22	.74	5.75	63.71
Feature 143	12	147.02	137.3	.27	.03	137.6
Feature 144	4.5	67.64	48.84	.15	.61	49.6
Sums	23.5	302.06	243.36	1.16	6.39	250.91
Percentage			96.99	.46	2.55	100
<b>House 8</b>						
Feature 152	6	103.37	34.84	2.83	8.82	46.49
Feature 159	5	92.11	30.76	.48	.29	31.53
Feature 160	5	57.32	31.41	.62	.09	32.12
Feature 165	4.5	28.08	20	.31	.61	20.92
Feature 179	6	38.65	30.14	.72	.29	31.15
Feature 183	16	76.62	74.22	6.53	2.45	83.2
Feature 191	10	3.54	.09		.22	.31
Feature 193	11	37.4	25.84	.61	.04	26.49
Feature 198	5	17.66	8.32	23.04	5.19	36.55
Sums	68.5	454.75	255.62	35.14	18	308.76
Percentage			82.79	11.38	5.83	100
<b>House 9</b>						
Feature 170	6	32.27	21.16	2.58		23.74
Percentage			89.3	10.7		100
<b>House 10</b>						
Feature 210	2	3.93	3.41	.53		3.94
Feature 228	5	50.88	38.28	.47		38.75
Feature 236	15	40.11	11.32	.35		11.67
Feature 237	14	38.34	11.57	.21		11.78
Sums	36	133.26	64.58	1.56		66.14
Percentage			97.64	2.36		100
<b>Exterior Features</b>						
Feature 20	5	51.41	33.89	.94		34.83
Feature 185	18	313.95	172.53	22.61	.09	195.23
Feature 199	11	54.77	25.53	.61	.23	26.37
Feature 201	5	36.96	12.09	.23	1.28	13.6
Feature 207	10	51.61	17.73	1.56	.14	19.43
Feature 209	10	18.56	13.02	.27	1.2	14.49
Feature 216	5	8.85	1.55	.41		1.96
Sums	64	536.11	276.34	26.63	2.94	305.91
Percentage			90.33	8.71	.96	100
<b>Midden 4</b>						
	10	65.02	28.33	.86	.27	29.46
Percentage			96.16	2.92	.92	100
<b>Site Total</b>						
	459	1990.97	1177.77	70.68	30.34	1278.79
Percentage			92.1	5.53	2.37	100

## RESULTS

The analyzed plant remains reveal a rich assemblage of plant taxa that includes both the familiar and the unexpected. The concentration or density of charred seeds is highly variable between the different contexts analyzed in the present study. Overall, the cumulative density is approximately five seeds per litre of soil. However, seed concentration varies considerably

from a density of 2 to 52 seeds per litre. Wood charcoal also exhibits a wide variability in concentration, ranging from 0.009 to 42.6 grams/litre.

All native cultivated plants — maize (*Zea mays*), bean (*Phaseolus vulgaris*), cucurbit (*Cucurbita pepo*), sunflower (*Helianthus annuus*), and tobacco (*Nicotiana rustica*) — were utilized by the occupants of the site (Table 54).

Table 53. Parsons Site Plant Remains Sample Components — Other Plant Parts.

Provenience	Maize	Cupules	Acorn Shell	Unidentified	Total
<b>House 3</b>					
Wall Trench	1.16	.05	.03	.02	1.26
Feature 89				.21	.21
Feature 113	.43	.05		.22	.7
Sums	1.59	.1	.03	.45	2.17
Percentage	73.27	4.61	1.38	20.74	100
<b>House 4</b>					
Feature 26	.6				.6
Percentage100					100
<b>House 7</b>					
Feature 140	.55	.03	.13	.03	.74
Feature 143		.02		.25	.27
Feature 144	.15				.15
Sums	.7	.05	.13	.28	1.16
Percentage	60.34	4.31	11.21	24.14	100
<b>House 8</b>					
Feature 152	1.14	1.46		.23	2.63
Feature 159	.16	.18			.34
Feature 160	.51			.11	.62
Feature 165	.22			.09	.31
Feature 179	.72				.72
Feature 183	4.74	1.76		.03	6.53
Feature 191					
Feature 193	.51	.02		.08	.61
Feature 198	23.04				23.04
Sums	31.04	3.42		.54	35
Percentage	88.69	9.77		1.54	100
<b>House 9</b>					
Feature 170	2.58				2.58
Percentage100					100
<b>House 10</b>					
Feature 210	.5	.03			.53
Feature 228	.47				.47
Feature 236	.31	.04			.35
Feature 237	.15			.06	.21
Sums	1.43	.07		.06	1.56
Percentage	91.67	4.49		3.85	100
<b>Exterior Features</b>					
Feature 20	.58	.24		.12	.94
Feature 185	9.43	11.98		1.2	22.61
Feature 199	.08			.53	.61
Feature 201	.21			.02	.23
Feature 207	.88			.68	1.56
Feature 209	.16			.11	.27
Feature 216					
Sums	11.34	12.22		2.66	26.22
Percentage	43.25	46.61		10.14	100
<b>Midden 4</b>					
Feature	.65	.17		.04	.86
Percentage	75.58	19.77		4.65	100
<b>Site Total</b>					
Percentage	71.18	22.85	.23	5.74	100

(*Portulaca oleracea*), wild rye/barnyard grass (*Elymus sp./Agropyron sp.*), a possible occurrence of wild rice (*Zizania aquatica*), and several other species of small grass.

Other plant taxa (Table 57) include sumac (*Rhus typhina*), pepper-grass (*Lepidium sp.*), bush honeysuckle (*Dier-villa lonicera*), spikenard (*Aralia sp.*), ironwood (*Ostrya virginiana*), and cat-tail (*Typha latifolia*).

Two unexpected plant taxa were also identified in the analyzed sample. A single wheat seed (*Triticum aestivum/compactum*) and five foxtail grass seeds (*Setaria glauca*) were recovered from Feature 113 in House 3, while a second wheat seed was present in Feature 201, an exterior feature located between Houses 8 and 10. Both of these species were originally native only to Eurasia. While wheat is a European cultigen, foxtail grass is a weed commonly associated with European cultivation and waste places (Gleason and Cronquist 1963:115).

Wood charcoal analysis revealed a range of tree genera that is very similar to other assemblages in southern Ontario. Maple (*Acer sp.*), is dominant, followed by beech (*Fagus grandifolia*), and ash (*Fraxinus sp.*). Other species present include pine (*Pinus strobus*), ironwood (*Ostrya virginiana*), elm (*Ulmus americana*), and oak (*Quercus sp.*) (Figure 36).

In his analysis of 107 wood charcoal samples manually collected during the 1952-1953 excavations, Fecteau (1982) documented single occurrences of poplar/willow (*Populus/Salix*), basswood (*Tilia americana*), hickory (*Carya sp.*), and butternut/black walnut (*Juglans sp.*) in addition to the species identified in the

— present study. It should be noted that the wood charcoal identified in the earlier study was quantified in terms of percent weight and percent of samples containing each taxon. Both sets of

figures support the dominance of maple followed by beech.

A wide variety of fleshy fruits were present (Table 55), including bramble (*Rubus sp.*), strawberry (*Fragaria sp.*), plum (*Prunus nigra*), cherry (*Prunus sp.*), hawthorn (*Crataegus sp.*), elderberry (*Sambucus sp.*), and black nightshade (*Solanum nigrum/americanum*).

Taxa in the greens/grains category (Table 56) include chenopod (*Chenopodium sp.*), erect knotweed (*Polygonum erectum*), purslane

Table 54. Parsons Site Plant Remains Sample Components — Cultigens.

Provenience	Maize Kernels	Bean	Cucurbit	Sunflower	Tobacco	Total Cultigens	Total Seeds per Sample
<b>House 3</b>							
Wall Trench	12		1	1		14	42
Feature 89	1					1	46
Feature 113	4					4	37
Sums	17		1	1		19	145
Percentage	11.72		.69	.69		13.1	100
<b>House 4</b>							
Feature 26	6				2	8	16
Percentage	37.5				12.5	50	100
<b>House 7</b>							
Feature 140	6			1		7	21
Feature 143	1					1	29
Feature 144	1			1		2	10
Sums	8			2		10	61
Percentage	13.11			3.28		16.39	100
<b>House 8</b>							
Feature 152	11			3	1	15	58
Feature 159	2			1		3	82
Feature 160	5			1		6	73
Feature 165	3			2		5	11
Feature 179	7			2		9	41
Feature 183	47			2	4	53	296
Feature 191	1			1		2	14
Feature 193	5				1	6	19
Feature 198	231		1			232	260
Sums	312		1	12	6	331	842
Percentage	37.05		.12	1.43	.71	39.31	100
<b>House 9</b>							
Feature 170	26			4		30	47
Percentage	55.32			8.51		63.83	100
<b>House 10</b>							
Feature 210	5					5	10
Feature 228	5					5	27
Feature 236	3					3	22
Feature 237	2	1				3	21
Sums	15	1				16	77
Percentage	19.46	1.3				20.78	100
<b>Exterior Features</b>							
Feature 20	6	1		1		8	80
Feature 185	94	1		8		103	407
Feature 199	1					1	346
Feature 201	2					2	12
Feature 207	9			1		10	178
Feature 209	2		1	1(?)		3	42
Feature 216							5
Sums	114	2	1	10		127	1070
Percentage	10.65	.19	.09	.93		11.87	100
<b>Midden 4</b>							
Percentage	22.58	6.45				20.93	100
<b>Site Total</b>							
Percentage	22.06	.22	.13	1.27	.35	24.03	100

## DISCUSSION

Apart from the unusual occurrence of the two Eurasian species, the charred seed taxa from the Parsons features reflect a plant remains assemblage typical of Late Iroquoian settlements. The following discussion will first examine the nature of the local paleoenvironment

and then consider the interpretation of plant remains composition and the distribution of plant taxa within the settlement. The implications and possible significance of the recovered exotic species are discussed in detail in Robertson, Monckton and Williamson (this volume).

Table 55. Parsons Site Plant Remains Sample Components — Fleshy Fruits.

Provenience	Bramble	Strawberry	Plum	Pincherry	U/I Cherry	Hawthorn	Elderberry	Black Nightshade	Total Fleshy Fruit	Total Seeds per Sample
<b>House 3</b>										
Wall Trench	12	5				1			18	42
Feature 89	1		1			1			3	46
Feature 113	5								5	37
Sums	18	5	1			2			26	145
Percentage	12.41	3.45	.69			1.38			17.93	100
<b>House 4</b>										
Feature 26		2							2	16
Percentage		12.5							12.5	100
<b>House 7</b>										
Feature 140	2								2	21
Feature 143	6	10							16	29
Feature 144	3								3	10
Sums	11	10							21	61
Percentage	18.03	16.39							34.43	100
<b>House 8</b>										
Feature 152	5	6	1					7	19	58
Feature 159	68	1							69	82
Feature 160	51								51	73
Feature 165		1							1	11
Feature 179	10	1				8			19	41
Feature 183	169	16						4	189	296
Feature 191	1	1							2	14
Feature 193	5	2						1	8	19
Feature 198	19								19	260
Sums	328	28	1			8		12	377	842
Percentage	38.95	3.33	.12			.95		1.43	44.77	100
<b>House 9</b>										
Feature 170	2	1					1		4	47
Percentage	4.26	2.13					2.13		8.51	100
<b>House 10</b>										
Feature 210	2								2	10
Feature 228	8	2					4		14	27
Feature 236	6								6	22
Feature 237	18								18	21
Sums	34	2					4		40	77
Percentage	44.16	2.6					5.19		51.95	100
<b>Exterior Features</b>										
Feature 20	37				1				38	80
Feature 185	248	10	1	2		1	1		263	407
Feature 199	309				1				310	346
Feature 201	4	2	1						7	12
Feature 207	115	4					25		144	178
Feature 209	18								18	42
Feature 216	2								2	5
Sums	733	16	2	2	2		26	1	782	1070
Percentage	68.5	1.5	.19	.19	.19		2.43	.09	73.8	100
<b>Midden 4</b>										
	7	3							10	31
Percentage	22.58	9.68							32.26	100
<b>Site Total</b>										
Site Total	1133	67	4	2	2	10	27	17	1262	2289
Percentage	49.5	2.93	.17	.09	.09	.44	1.18	.74	55.13	100

*The Local Paleoenvironment*

Wood charcoal is the most common plant material in the assemblage, and contributes over 90% of the plant remains by weight. The dominance of maple (*Acer* sp.), beech (*Fergus grandifolia*), and ash (*Fraxinus* sp.) in the analyzed sample is in accord with wood charcoal assemblages recovered from other Iroquoian sites (e.g., Fecteau 1978; Lennox et al. 1986; Monckton 1992). The close correspondence between the composition of charred wood taxa represented in most assemblages from sites in southern Ontario, and pollen and biomass figures for regional forests of the thirteenth

century strongly supports the hypothesis that the people collected firewood in a nonselective manner (Monckton 1992:87-90; 1994; Roberston et al. 1995:74-76). Such non-selective collection probably occurred in mature forest stands where fallen wood could be collected from the forest floor.

Ethnohistoric accounts suggest that the land of the Huron was "a well cleared country" (Biggar 1922-1936; 3:50). This statement pertains to Simcoe County, which was among the most heavily settled areas of southern Ontario during the protohistoric period. Such a characterization may not be representative of the north shore area of Lake Ontario a hundred

Table 56. Parsons Site Plant Remains Sample Components — Greens/Grains.

Provenience	Chenopod	Erect Knotweed	Knotweed Species	Amaranth	Purslane	Wheat	Foxtail	Wild Rye / Barnyard Grass	Wild Rice	Other Small Grass	Total Greens/Grains	Total Seeds per Sample
<b>House 3</b>												
Wall Trench												42
Feature 89												46
Feature 113	2					1	5			12	20	37
Sums	2					1	5			12	20	145
Percentage	1.38					.69	3.45			6.28	13.79	100
<b>House 4</b>												
Feature 28	1										1	16
Percentage	6.25										6.25	100
<b>House 7</b>												
Feature 140												21
Feature 143	4									1	5	29
Feature 144	6										6	10
Sums	10									1	11	61
Percentage	16.39									1.64	16.03	100
<b>House 8</b>												
Feature 152	1										1	58
Feature 159												82
Feature 160												73
Feature 165												11
Feature 179	1										1	41
Feature 183	8									2	10	296
Feature 191												14
Feature 193												19
Feature 198												200
Sums	10									2	12	842
Percentage	1.19									.24	1.43	100
<b>House 9</b>												
Feature 170								1			1	47
Percentage								2.13			2.13	100
<b>House 10</b>												
Feature 210												10
Feature 228	3										3	27
Feature 236												22
Feature 237												21
Sums	3										3	77
Percentage	3.9										3.9	100
<b>Exterior Features</b>												
Feature 20					3						3	80
Feature 185		4	2(?)					1			5	407
Feature 199		1									1	346
Feature 201		1				1					2	12
Feature 207												178
Feature 209												42
Feature 216												5
Sums		6			3	1		1			11	1070
Percentage		.56			.28	.09		.09			1.02	100
<b>Midden 4</b>												
Site Total	26	6			3	5	5	1	1	15	48	2289
Percentage	1.14	.26			.13	.09	.22	.04	.04	.66	2.1	100

years earlier. Furthermore, it should be noted that rather than providing a direct reflection of its immediate surroundings, the species profile of any given wood charcoal assemblage may instead reflect that of a landscape which included areas of both disturbed and undisturbed forest as has been suggested for the Middle Iroquoian Wiacek village in Simcoe County (Robertson et al. 1995:74-76).

During the process of village relocation, it is likely that a new village would not have been established beyond a reasonable distance of the former settlement, where successional forest and wild plant foods were already established (Monckton 1994:213-217). Forest regeneration is likely to have been well under way at the margins of settlement and field clearings prior to their abandonment, and such disturbed areas would have continued to provide an accessible and diverse range of resources after the new village was established a short distance away.

Thus the previous village area would have remained a resource of considerable economic importance to the current settlement.

*Cultigens*

As expected, maize (*Zea mays*) is the dominant cultigen, accounting for 91 percent of cultigen seeds and 22 percent of seeds in the assemblage. Kernels were generally fragmentary and, therefore, did not permit measurements. Nevertheless, metrical analysis of maize at other sites indicates that Eastern eight row - maize was grown (Crawford 1985; Monckton 1992). Eight row kernels frequently lack the embryo and are crescent-shaped with sides whose angle averages about 45 degrees. Although sunflower (*Helianthus annuus*) is rarely mentioned in ethnohistoric accounts (Thwaites 1896-1901; 37:105; 65:129; Biggar 1922-36; 3:50), it is the second most abundant

**Table 57. Parsons Site Plant Remains Sample Components — Other Plant Taxa.**

	Provenience	Sumac	Spikenard	Ironwood	Cat-tail	Bush Peppergrass	Honeysuckle	Other Taxa	Unknown	Unidentifiable	Total Seeds per Sample
House 3											
Wall Trench				3				3	1	6	42
Feature 89	1							1	13	28	46
Feature 113									19	9	37
Sums	1			3				4	33	43	145
Percentage	.69			2.07				2.76	22.76	29.66	100
House 4											
Feature 26				3				3	3	3	16
Sums				18.75				18.75	18.75		100
Percentage											
House 7											
Feature 140				10				10	1	1	21
Feature 143				6				6	2	4	29
Feature 144											10
Sums				16				16	3	5	61
Percentage				26.23				26.23	4.92	8.2	100
House 8											
Feature 152				9				9	1	14	58
Feature 159				2				2	2	5	82
Feature 160									5	11	73
Feature 165				4				4	2	7	41
Feature 179				2				2	1	50	296
Feature 183										14	14
Feature 191				4			1	5	3	6	19
Feature 193		3									260
Feature 198		3		21		1		25	16	93	842
Sums		36		249		12		297	19	11.05	100
Percentage											
House 9											
Feature 170										13	47
Sums										27.66	100
Percentage											
House 10											
Feature 210				2				2		1	10
Feature 228										8	27
Feature 236									1	9	22
Feature 237											21
Sums				2				2	1	18	77
Percentage				2.6				2.6	1.3	23.38	100
Exterior Features											
Feature 20	1			9				12	1	21	80
Feature 185	1			6		1		8	5	25	407
Feature 199				3				4	1	25	346
Feature 201				2				2		12	12
Feature 207				1				1	1	20	178
Feature 209	7			7				14		7	42
Feature 216									3		5
Sums	9	1		27		1		41	11	98	1070
Percentage	.84	.09		2.52		.09		3.83	1.03	9.16	100
Midden 4											
Feature 244				4				4		8	31
Sums				12.9				12.9		25.81	100
Percentage											
Site Total	10	4		76		2	1	95	67	278	2289
Percentage	.44	.17		3.32		.09	.04	4.15	2.93	12.15	100

cultigen in the assemblage. This species is also quite common in assemblages from other Late Iroquoian sites (Crawford 1985; Fecteau 1978; King and Crawford 1979; McAndrews et al. 1981; Monckton 1992). Sunflower was greatly valued for its oil (Biggar 1922-1936; 3:50), and would have been an important source of all dietary

factors (Adams 1975). The strong representation of sunflower may be attributable, in part, to the distinctive structure of the achenes, which enhances the recognition of even the smallest fragments.

On the other hand, bean and cucurbit are frequently cited by the Jesuits and others as

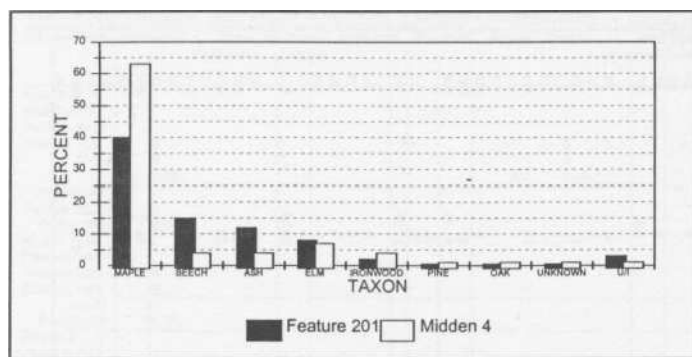


Figure 36. Wood Charcoal Composition of Midden 4 and Feature 201.

having been important subsistence items to the Huron (for bean see Thwaites [1896-1901; 2:21; 2:165, 207, 298; 5:282; 10:103; 13:41, 75, 189; 15:153; 17:17; 21:195; 38:245], for cucurbit see Thwaites [1896-1901; 10:103; 55:251]), and it is likely that these taxa are underestimated in the archaeological record. Gasser (1982) suggests that preparation of these foods prior to cooking would have an important influence on the frequency with which these seed taxa were accidentally charred. Bean has an homogeneous and dense cell structure, which can only be recognized if there is sufficient material to suggest its shape. Furthermore, bean was probably soaked in water prior to cooking, lowering the likelihood of accidental charring. Nevertheless, the Auger site, a contact period Huron village in Simcoe County, clearly demonstrates the importance of this cultigen, as an unusual abundance of charred bean was preserved, most probably as a result of a major conflagration (Latta 1985; Monckton 1992:69).

Similarly, cucurbit is likely under represented as a result of both its seed structure, and the fact that the preparation of this food did not necessarily entail direct exposure of the seeds to fire (Monckton 1992:81). Cucurbit was frequently cooked whole in ashes or cut into strips (Thwaites 1896-1901; 15:163; 42:85). In the former case, the soft moist tissue could have provided the seeds with protection from charring. The latter situation suggests that seeds were excluded.

The poor representation of bean and cucurbit at Parsons, therefore, need not indicate that these species were unimportant to village inhabitants but that their contributions to their diet are difficult to evaluate.

Tobacco was recovered from four features in Houses 4 and 8. It should be noted, however,

that the remains of this taxon are extremely delicate and may not be preserved under most circumstances of charring. Considering this, it is possible that tobacco was much more widespread at Parsons than we are led to believe by the plant remains record, thus eliminating this "pattern" of deposition. Other assemblages, such as the Early to Middle Iroquoian Myer Road site, provide much stronger evidence for patterning of deposition, where over a thousand seeds were recovered from one feature and in much lower frequencies from other features (Monckton 1998:113-114).

#### Non-Cultigens

The most abundant remains were those of the fleshy fruits. Bramble (*Rubus* sp.) contributes almost 50 percent of the overall seed assemblage and 90 percent of the fleshy fruits. Strawberry (*Fragaria* sp.) and elderberry (*Sambucus* sp.) are also prominent in the samples. Champlain (Biggar 1922-1936; 3:51), Sagard (Wrong 1939:237), and the Jesuits (Thwaites 1896-1901; 10:103) comment on the wealth of wild fruits available in historic Huronia. A recent dietary reconstruction for the historic Huron Indians indicates that fleshy fruit comprised almost 25 percent of their daily calories, and significant proportions of other dietary factors, not the least of which was ascorbic acid (Monckton 1992). The high frequencies of fruit seeds in the present assemblage suggest that they were of comparable importance.

Other taxa in the deposits are less easily interpreted as food sources. Chenopod (*Chenopodium* sp.), for example, can be used as either a green or grain. It may, however, also represent a contemporary weed which was accidentally included in the hearths. Erect knotweed (*Polygonum erectum*), on the other hand, is believed to have been of economic importance in light of more substantial archaeological evidence in the Mississippi and Illinois valleys (Asch and Asch 1985; Johannessen 1984).

Although purslane (*Portulaca oleracea*) appears in only one exterior feature (Exterior



Area 3, Feature 20) at Parsons, there is both ethnohistoric (Wrong 1939:239) and archaeological evidence attesting to its frequent use by Iroquoians as early as the thirteenth century (Byrne and McAndrews 1974; Fecteau 1978; Lennox et al. 1986; Monckton 1992; 1998). The poor representation of this species among the analyzed material is unusual since it is usually fairly common in most Middle and Late Iroquoian assemblages.

Cat-tail (*Typha latifolia*) has the smallest seeds of any taxon recovered from an Iroquoian site (0.4-1.0 mm in length and <0.4 mm in width) and, consequently, does not tend to be systematically recovered (Monckton 1992). Nevertheless, large quantities of cat-tail seeds are almost always present in assemblages, probably as a result of rootlets reducing the aperture size of the screens during the flotation process. Cat-tail may be referred to in the Jesuit Relations indirectly through references to mats made of rushes ('mattes faites de Joncs'), which were placed on longhouse floors and roofs (Thwaites 1896-1901; 42:205; 58:209; 59:129, 133, 155).

Wild rice (*Zizania aquatica*) is rarely preserved archaeologically, but may be represented by a single possible grain from Feature 170, House 9. This species has been recovered from at least two other Iroquoian sites in the Toronto area: the early fourteenth century Wilcox Lake site, in Richmond Hill (Monckton 1991; Austin 1995), and the early sixteenth century Seed-Barker site, near Woodbridge (Crawford 1985). The degree of economic importance attributed to rice and other small grasses was probably low, considering the predominance of maize as a starchy plant food. As will be discussed below, however, it appears that travel food frequently included non-staples, obtained through exchange or collected en route. Thus, it is likely that the rice recovered from House 9 was imported to the village, as the site lies approximately 25 km from the mouth of the Humber River, which in all probability, was the closest local environment capable of supporting extensive stands of this plant.

In the course of the analysis, a number of specimens of unknown identity were encountered, including what appear to be the remains of a tuber from Feature 113 in House 3, a possible bulb from Feature 236 in House 10, and bud structures from Feature 20 in Exterior Area 3. Identification of these remains must await

establishment of a comparative collection of tubers, bulbs, roots and other plant parts.

#### Spatial Distribution of Plant Remains

Interpretation of the economic significance of plant taxa depends not only on their contributions to individual samples, but also on their distribution throughout the site. In the following discussion, the spatial distributions of the analyzed material are examined through comparison of the contents of the samples derived from longhouse interiors, exterior activity areas, and Midden 4.

Overall, interior and exterior features have closely comparable densities of plant material per litre of soil. Accordingly, there is no clear spatial patterning in the rate of plant remains deposition between the various provenience types.

On examination of the distribution of plant remains composition, however, it is evident that the samples with the highest proportions of fleshy fruits are located outside of the residential structures. Over 80 percent of the seeds in exterior longhouse features are fleshy fruit species. On the other hand, features within longhouses show either more cultigens, or approximately equal proportions of cultigens and fleshy fruits. Similarly, members of the greens/grains category are also more abundant in the exterior features than in the houses, while the midden lacks any of these taxa. Longhouse features contain mainly chenopod and/or small grass. The few seeds representing the other members of this seed category are found in exterior longhouse features.

In general, exterior features also exhibit a greater diversity of plant taxa than do interior longhouse features. It should be noted that the midden sample compared most closely with the longhouse features in this respect.

The overall distribution of taxa is very similar to that found at the thirteenth to fourteenth century Myers Road site, in Cambridge, Ontario (Monckton 1998) and at the mid- to late-fifteenth century Dunsmore site in Barrie, Ontario (Monckton 1996), both of which exhibit a considerable level of exterior activity. The broad range of taxa from these exterior features lends credence to the suggestion that they were formed during the warm months of the year (Monckton 1998:131; Ramsden et al. 1998:45). Similarly, the fact that the plant re

mains compositions of the interior longhouse features and the midden are similar to one another may be a consequence of winter refuse disposal patterns, in that waste generated inside the houses was routinely redeposited in fewer outdoor locations. Large winter midden accumulations may also suggest that more people were present in the village at that time and the rate of refuse production was accordingly greater. Conversely, warm season refuse appears to have accumulated more slowly and is consistent with the possibility that there were fewer people in the village during the warmer months. This supports the generally accepted historical observation that people tended to congregate in the village in winter and to disperse for hunting and horticultural pursuits in the summer (e.g., Trigger 1969:29-31). It should be noted that this statement concerning seasonality of groups of features depends on the spatial distribution of plant remains composition, rather than on the seasonal availability of certain plant taxa. The distribution of greens/grains is interesting in that it does not exhibit the same pattern as the cultigens and fleshy fruits. The distribution of chenopod is almost mutually exclusive with those of the other greens/grains taxa. It is noteworthy that chenopod was recovered from the longhouse features but not from either the exterior features or the midden. While one could argue that the number of seeds from the midden sample is too small to provide a basis for any conclusive statements, the exterior longhouse features are among the largest from

the site. The majority of the other taxa, however, were recovered from the exterior features, and are virtually absent from both the longhouses and the midden.

Cat-tail is the most widely distributed of the other taxa category, despite the recovery biases noted above for the seeds of this taxon. Despite the potential problems of quantifying these unsystematically collected seeds, some general patterns are nevertheless evident. Cat-tail contributes roughly the same proportion (approximately three percent) of seeds in the exterior features as in the longhouse features. In other studies, exterior features have yielded a much smaller proportion of cat-tail seeds. In the analysis of 22 exterior features, 44 longhouse features, and 21 midden samples at the historic Huron Bidmead site, for example, it was discovered that cat-tail made a cumulative contribution of 2.8 percent (range 0-9 percent) of the seeds found in interior longhouse features whereas they made a cumulative contribution of only 1.2 percent to exterior longhouse features (Monckton 1992: Appendix 2). This differential distribution lends some support to the suggestion that cat-tail was used in the manufacture of mats furnishing the longhouses. There also remains, however, the possibility that cat-tail was consumed as a food. Cat-tail roots are a good source of starch, however, there do not appear to be any direct seventeenth century ethnographic observations concerning such a practice.