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Introduction

This report presents the results of paleoethnobotanical analysis of soil samples from 25 different excavation contexts at the Proyecto Arqueologico Chacalapan collected during the 2000 field season, collected by Chantal Esquivias as part of a PhD. dissertation. Four-liter soil samples from selected contexts were processed in the field and their possible botanical contents were sorted in the UCB archaeobotany laboratory. Few taxa present could be identified due to poor preservation conditions of the site. Botanical remains were classified as wood, parenchymous tissue (or undifferentiated storage tissue, referred to as "lumps"), leaves, seeds, cupules and other fragments from *Zea mays*, and unknown seeds or materials. In addition, tentative taxa identifications included *Cactaceae*, *Fabaceae, Solanaceae,* and *Cyperaceae*, although the latter most likely represents a modern inclusion. The plants identified are discussed in this report and suggestions for optimizing field and laboratory procedures are recommended.

Methods

Twenty-five four-liter soil samples were taken from selected excavation contexts at the site (Table 1). Soil samples were processed in the field by laying them on a mosquito netting and seiving into a bucket of water. Items remaining on top of the mosquito netting were dried and potential botanical remains were picked from them and placed in film canisters. The remaining material was placed in a ziplock bag. At the UCB archaeobotany laboratory, the contents of several ziplock bags were scanned for botanical remains, and as none were found, the analysis focused on the contents of the film canisters only. Each sample was assigned a unique flotation number, and its contents were identified, counted, weighed, recorded, and entered into a relational database. Species identification was possible for samples of *Zea mays*, and tentative family identifications were made for other taxa. The majority of items could not be identified; these were sorted by type as wood, lumps, lumps with surface, leaves, seeds, and a possible nutshell. Several unidentified items had possibly diagnostic features that distinguished them from undifferentiated parenchymous tissue. These items were labelled "unknown," and those with more diagnostic features were given a unique letter.

Sorted items were placed in gel caps and labelled with their item type, flot number, excavation number and context. Non-botanical remains found in the film canisters were put in small ziplock bags labelled "dirt/non-botanicals". Faunal remains found in the botanical film canister were placed in their own gel cap and returned to the botanical film canister. The form for each flotation sample notes if bone was found in the botanical canister.

Results

Table 2 shows the botanical remains found in the 25 flotation samples, three of which contained no macrobotanicals. A total of 507 botanical items weighing a total of 2.234 g were found in 25 samples. Figures 1 and 2 show the distribution of botanical remains found in each sample by count and weight. Flotation numbers 7, 16 and 25 clearly contained the highest concentration of macrobotanicals by both count and weight. Flot 7 represents an area with a high concentration of ceramic sherds, Flot 16 is from a burnt area, and Flot 25 comes from a

possible midden deposit. Together these flotation samples contain 338 botanical remains (66.7% of total), weighing 1.531 g (68.5% of total weight.) These flotation samples do not exhibit remarkably more diversity than other flot samples, but they do contain a high proportion of the materials tentatively identified as belonging to members of the bean family (78% by count, 82% by weight,) and roughly half of the samples of *Zea mays* (52% by count, 58% by weight.)

Taxa

The following discussion treats each type of item identified in the flotation samples.

Zea mays

The only taxon able to be identified to species is *Zea mays* cupules. Members of maize were found in 9 out of 25 flotation samples (ubiquity=36%) (Table 3.) 29 items were found (although 2 are tentative identifications,) totaling 0.12 g. Twenty-four out of the twenty-nine (83%) items of *Zea mays* found are cupules. What looks like a part of a corn cob was found in Flot #7. Two kernel fragments were identified in Flot #21 and a third was tentatively identified in Flot #25. Flot #7 is of particular interest because it contained by far the most cupules (n=13) representing at least two distinct varieties of maize.

cf. Fabaceae

73 bean-like items were found, all possibly members of the *Fabaceae* family (Table 4). The items come from 4 different contexts (ubiquity=16%), although the majority (n=56) were found in Flot #25, a sample from a possible midden deposit. This flotation sample contains four different rough groupings. 33 items may be parts of cotlyedons; they have surfaces and appear to have been charred in low-heat conditions. 12 items are not cotlyledons, but appear very parenchymous with a high water content, and 10 items appear to have been even wetter. The fourth group is made up of a single, more complete fragment with a surface. The 14 bean-like items in Flot #14, a small are that seems burnt on top, are in the same condition and so probably represent one burning event. Two possible bean cotlyedons come from Flot #4, a small area of loose soil near the excavation profile, and a single well preserved cotlyedon was found in Flot #7, an area with a high concentration of ceramic sherds.

cf. Cactaceae

One seed tentatively identified as a member of the family *Cactaceae* was found in Flot #24, a sample from a possible posthole.

cf. Solanaceae

A very tentative identification of 2 seeds, possibly of the genus *Nicotiana*, was made from Flot #4.

Cyperaceae sp.

2 seeds from the family *Cyperaceae* were found in Flot #10, but they are uncharred and most likely modern intrusions.

Lumps

Undifferentiated parenchymous tissue, or "lumps" were found in 17 of 25 flotation samples (ubiquity=68%) (Table 5). 227 lumps were found weighing total of 0.696 g,

representing 44.8% of the total macrobotanicals by count and 31.2% by weight. Four of the lumps (3 from Flot #2 and 1 from Flot #4) have surfaces. 10 lumps from Flot #21 appear to have a surface, but they are very burnt and this is possibly an inner surface that is exposed or another surface that has been melded on from the heat.

Wood

Wood was found in 17 of 25 flotation samples (ubiquity=68%) (Table 6). 107 fragments were found weighing 0.457 g, comprising 21.1% of the total botanical remains by count and 20.4% by weight. The greatest amount of wood (n=45, 0.16 g) was found in Flot #16, with the next highest count (n=11) from Flot #10 and the next highest weight (0.077) from Flot #19. Some of the larger wood fragments may be able to be identified by specialists, although most of them are under 2.0mm in size.

Leaf fragments

Eight possible leaf fragments were found in Flot numbers 11 and 12, both samples from inside a complete vessel in a burial. The 7 leaf fragments in Flot #12 were so dirty that they probably were not burned inside the vessel, but may have been present already charred in fill that fell into the vessel after deposition.

Unknown seed fragments

Two seeds too fragmentary to be identified were found in Flot numbers 20 and 24. The seed fragment from Flot #20 has a testa surface visible.

Unknowns

Items that were either not parenchymous material or were parenchyma with potentially diagnostic features were labelled as Unknowns (Table 6). Three types of Unknowns were assigned unique letters because they were felt to be more potentially identifiable. Other Unknowns may not actually be botanical remains.

Unknown K

Nine items of this very burned parenchymous material with a surface were found in both Flotation numbers 11 and 17. They appear to be seed material, although the testa is missing.

Unknown L

One distinctive lump with made up of coarse, concave parenchymous tissue was found in Flot #4. It is possibly a member of the *Fabaceae* family.

Unknown M

38 hard, smooth, nut-like items were found in Flot #16. These may represent nut husks, but they may also be non-botanical.

Tentative Nutshell

One possible nutshell was found in Flot #10.

Special Contexts

Flotation samples were taken from a variety of contexts. The following examines botanical remains found in samples from inside complete vessels and from middens.

Complete vessels

Eight flotation samples were taken from six different vessels (Table 7). Flots #5 and #6 both come from the same vessel and did not yield any botanical remains. Flots #8 and #9 came from the same vessel in a burial context. One piece of wood and eight lumps were found in these samples. Flot #11 also represents a vessel in a burial context. It contained three lumps and 6 wood fragments, as well as six items of Unknown K, a small, dense Unknown, and a leaf fragment. Seven leaf fragments and one piece of wood were found in Flot #12, a sample from the same excavation as Flot #11 but from a different context and lower depth. As noted above, the leaf fragments in Flot #12 were so dirty that they probably were not burned inside the vessel, but may have been present already charred in fill that fell into the vessel after deposition. Flot #21, a sample from a vessel in a burial context, contained ten very burned lumps, along with two maize kernel fragments and one cupule. Finally, three wood fragments, an item that looks like maize, and two different Unknowns were recovered in Flot #23, from inside a complete vessel by a burial.

Possible middens

Three flotation samples were taken from two different contexts identified as possible middens (Table 8). Flots #19 and #20 were taken from the same possible midden deposit. Together they yielded nine lumps, five wood fragments, three cupules, and an unidentified seed fragment. Flot #25 has been discussed above: it contained the highest concentration of bean-like items (n=56 or 77%), as well as 24 lumps, two pieces of wood, and a fragment of a maize kernel. As noted above, the bean-like items in Flot #25 can be divided into four different rough groupings. 33 items may be parts of cotlyedons; they have surfaces and appear to have been charred in low-heat conditions. 12 items are not cotlyledons, but appear very parenchymous with a high water content, and 10 items appear to have been even wetter. The fourth group is made up of a single, more complete fragment with a surface.

Recommendations

The nature of the soil matrix and preservation conditions on the Gulf Coast clearly make obtaining a good sample for paleoethnobotanical analysis a challenge. The following are some suggestions for optimizing procedures for the collection and analysis of macrobotanical remains at the Proyecto Arqueologico Chacalapan.

1) Sample size

Given the relatively low amount of botanical remains recovered from the 4-liter soil samples (an average of 20 items per sample), it is recommended that at least 20-liter soil samples be collected for flotation. This will raise the average number of botanical remains recovered per sample to about 100, increasing the likelihood of finding identifiable remains.

2) Flotation procedure

It appears that the soil at the site was difficult to disperse in water, meaning that recovered remains were often covered in sediment and therefore more difficult to identify. A flotation procedure is recommended in which the soil samples are agitated in water so that the soil disperses and the light fraction floats on or near the surface of the water. The light fraction then can be skimmed off the top with a small-mesh sieve and dried. This will also reduce mechanical contact with delicate, wet botanicals and minimize possible damage to the remains. Recovery can be enhanced by increased agitation time, and by soaking the soil samples in water, perhaps with a deflocculent such as hydrogen peroxide, for a half hour before agitation.

Conclusion

Of the 25 4-liter soil samples collected for paleoethnobotanical analysis, 22 yielded a total of 507 macrobotanical items weighing a total of 2.234 g. Few taxa identifications were possible, but some items were tentatively identified and others categorized according to type. *Zea mays* was found in nine different contexts, and it is even posited that at least two distinct varieties are present. Legumes are most likely present: 73 items from four different contexts were tentatively attributed to the family *Fabaceae*. Very tentative identifications of *Solanaceae* and *Cactaceae* were also made. Undifferentiated parenchymous tissue and wood were found in most contexts. Other items found included seed and leaf fragments and possible nutshells. Several Unknown items may potentially be identified with further investigations and collections at the site.

Table 1: Flotation Samples

Flot #	Exc #	Context	Depth	Comments
1	1	1f	60-70	Nothing relevant from this level.
2	1	1k	1.10-1.20	Area of higher # of ceramic sherds
3	1	2	1.50-1.60	Area with burnt wadle and daub
4	1	3	1.60	Small area by the Exc. profile with loose soil
5	7	3e	40-50	Sample from inside complete vessel
6	7	3e	40-50	Sample from inside complete vessel
7	7	4h	70-80	Area of higher # of ceramic sherds (NW corner)
8	8	5i	80-90	Sample from inside complete vessel (burial)
9	8	5i	80-90	Sample from inside complete vessel (burial)
10	8	2g	60-70	Sample from "white" color deposit, ashes?
11	8	3g	60-70	Sample from inside complete vessel (burial)
12	8	8j	90-1.00	Sample from inside complete vessel (burial)
13	9	2j	90-100	*Not a house mound. Area of loose soil.
14	11	3p	150-160	Area that seemed burnt on top
15	11	3q	160-170	Area underneath 3p. Evidence of burning.
16	11	4r	170-180	Area underneath 3q. Burnt area.
17	11	5s	180-190	Burnt area.
18	12	4i	80-90	Burnt area.
19	12	9n	130-140	Possible midden deposit (SE corner)
20	12	11s	180-190	Same possible midden deposit as Flot #19 (SE corner).
21	13	2i	80-90	Sample from inside a complete vessel (burial)
22	15	4o	140-150	Sample from deposit that looked "ashy"
23	16	3f	50-60	*Not a mound. Sample from inside complete vessel by a buri
24	21	3e	40-50	Sample from possible posthole? (black deposit)
25	24	3o	140-150	Possible midden deposit. "Ashy" looking area (South).

Item	Part	Count	Weight	Comments
Flot # 1				
lump		2	0.006	
wood		3	0.044	
Flot # 2				
lump		1	0.001	very vitrified
lump with surface		3	0.006	
Flot # 3				
Flot # 4				
cf. Fabaceae	cotyledon	2	0.005	lumps, possibly bean cotyledons
cf. Solanaceae	seed	2	0.001	possibly Nicotiana, 0.5-1.0 mm
lump		2	0.001	
lump with surface		1	0.003	
Unknown L		1	0.006	lump w/ surface: coarse, concave parenchymous tissue. Bean-like?
wood		1	0.001	
Flot # 5				
Flot # 6				
Flot # 7				
cf. Fabaceae	cotyledon	1	0.013	very nice!
lump		82	0.217	generally very small
wood		10	0.026	
Zea mays	cob	1	0.005	
Zea mays	cupule	13	0.046	at least 2 distinct varieties
Flot # 8				
wood		1	0.003	probably one piece, very broken in transit
Flot # 9				
lump		8	0.012	

Item	Part	Count	Weight	Comments
Flot # 10				
Cyperaceae sp.	seed	2	0.002	probably MODERN: uncharred but possibly mineralized
lump		5	0.007	
nutshell?		1	0.035	
wood		11	0.041	
Zea mays	cupule	5	0.011	
Flot # 11				
leaf		1		lost
lump		3	0.006	
Unknown		1	0.002	dense, small
Unknown K		6	0.046	parenchymous material w/ surface: testa is missing, probably not starchy tuber, but seem to be seed material
wood		6	0.010	
Flot # 12				
leaf		7	0.021	so dirty that prob not burned in pot--from fill that fell into pot (was vessel sealed, or did this fall in?)
wood		1	0.002	
Flot # 13				
lump		2	0.005	
Zea mays	cupule	1	0.001	
Flot # 14				
cf. Fabaceae		14	0.125	look very leguminous: all burned in the same condition, so probably one burning event. Testa gone.
lump		2	0.009	very burnt--heat deformed, melted
wood		3	0.014	
Flot # 15				
lump		4	0.013	
wood		2	0.004	
Flot # 16				
lump		65	0.284	
Unknown M		38	0.083	hard, smooth lumps: possibly nutty? nut husks? Or possibly non-botanical.
wood		45	0.160	lots of very little pieces

Item	Part	Count	Weight	Comments
Flot # 17				
Unknown K		3	0.021	very burned parenchymous material w/ surface
wood		8	0.017	
Flot # 18				
wood		2	0.005	
Zea mays	cupule	1	0.004	
Flot # 19				
lump		6	0.006	
wood		2	0.077	
Zea mays	cupule	2	0.013	
Flot # 20				
lump		3	0.009	
seed fragment	seed	1	0.002	with testa surface
wood		3	0.003	
Zea mays	cupule	1	0.007	
Flot # 21				
lump		10	0.034	very burned parenchyma w/ surface: probably real surface peeled off and this is inner surface, or it is melded on from heat
Zea mays	cupule	1	0.001	
Zea mays	kernel frag	2	0.009	very burned
Flot # 22				
lump		1	0.002	
Unknown		2	0.001	hard, flat, thin
Flot # 23				
cf. Zea mays		1	0.005	parenchymous material from what looks like maize
Unknown		1	0.002	shell-like
Unknown		1	0.001	shiny, hard to see cell structure, but possibly botanical
wood		3	0.017	
Flot # 24				
cf. Cactaceae	seed	1	0.001	

Table 3: *Zea mays*

Flot #	Exc #	Context	Depth (cm)	Comments on Context	Item	Part	Count	Weight (g)	Comments
7	7	4h	70-80	Area of higher # of ceramic sherds (NW corner)	Zea mays	cupule	13	0.046	at least 2 distinct varieties
7	7	4h	70-80	Area of higher # of ceramic sherds (NW corner)	Zea mays	cob	1	0.005	
10	8	2g	60-70	Sample from "white" color deposit, ashes?	Zea mays	cupule	5	0.011	
13	9	2j	90-100	*Not a house mound. Area of loose soil.	Zea mays	cupule	1	0.001	
18	12	4i	80-90	Burnt area.	Zea mays	cupule	1	0.004	
19	12	9n	130-140	Possible midden deposit (SE corner)	Zea mays	cupule	2	0.013	
20	12	11s	180-190	Same possible midden deposit as Flot #19 (SE corner).	Zea mays	cupule	1	0.007	
21	13	2i	80-90	Sample from inside a complete vessel (burial)	Zea mays	cupule	1	0.001	
21	13	2i	80-90	Sample from inside a complete vessel (burial)	Zea mays	kernel frag	2	0.009	very burned
23	16	3f	50-60	*Not a mound. Sample from inside complete vessel by a burial.	cf. Zea mays		1	0.005	parenchymous material from what looks like maize
25	24	3o	140-150	Possible midden deposit. "Ashy" looking area (South).	cf. Zea mays	kernel frag	1	0.018	
Total							**29**	**0.12**	

Table 4: *cf. Fabaceae*

Flot #	Exc #	Context	Depth (cm)	Comments on Context	Item	Part	Count	Weight (g)	Comments
4	1	3	1.6	Small area by the Exc. profile with loose soil	cf. Fabaceae	cotyledon	2	0.005	lumps, possibly bean cotyledons
7	7	4h	70-80	Area of higher # of ceramic sherds (NW corner)	cf. Fabaceae	cotyledon	1	0.013	very nice!
14	11	3p	150-160	Area that seemed burnt on top	cf. Fabaceae		14	0.125	look very leguminous: all burned in the same condition, so probably one burning event. Testa gone.
25	24	3o	140-150	Possible midden deposit. "Ashy" looking area (South).	cf. Fabaceae		1	0.029	fragment
25	24	3o	140-150	Possible midden deposit. "Ashy" looking area (South).	cf. Fabaceae	cotyledon	33	0.386	low-fired, all with surface
25	24	3o	140-150	Possible midden deposit. "Ashy" looking area (South).	cf. Fabaceae		12	0.155	tuberous, high water content, very parenchymous
25	24	3o	140-150	Possible midden deposit. "Ashy" looking area (South).	cf. Fabaceae		10	0.023	even wetter
Total							**73**	**0.736**	

Table 5: Lumps

Flot #	Exc #	Context	Depth (cm)	Comments on Context	Item	Count	Weight	Comments
1	1	1f	60-70	Nothing relevant from this level.	lump	2	0.006	
2	1	1k	1.10-1.20	Area of higher # of ceramic sherds	lump	1	0.001	very vitrified
2	1	1k	1.10-1.20	Area of higher # of ceramic sherds	lump with surface	3	0.006	
4	1	3	1.6	Small area by the Exc. profile with loose soil	lump	2	0.001	
4	1	3	1.6	Small area by the Exc. profile with loose soil	lump with surface	1	0.003	
7	7	4h	70-80	Area of higher # of ceramic sherds (NW corner)	lump	82	0.217	generally very small
9	8	5i	80-90	Sample from inside complete vessel (burial)	lump	8	0.012	
10	8	2g	60-70	Sample from "white" color deposit, ashes?	lump	5	0.007	
11	8	3g	60-70	Sample from inside complete vessel (burial)	lump	3	0.006	
13	9	2j	90-100	*Not a house mound. Area of loose soil.	lump	2	0.005	
14	11	3p	150-160	Area that seemed burnt on top	lump	2	0.009	very burnt--heat deformed, melted
15	11	3q	160-170	Area underneath 3p. Evidence of burning.	lump	4	0.013	
16	11	4r	170-180	Area underneath 3q. Burnt area.	lump	65	0.284	
19	12	9n	130-140	Possible midden deposit (SE corner)	lump	6	0.006	
20	12	11s	180-190	Same possible midden deposit as Flot #19 (SE corner).	lump	3	0.009	
21	13	2i	80-90	Sample from inside a complete vessel (burial)	lump	10	0.034	very burned parenchyma w/ surface: probably real surface peeled off and this is inner surface, or it is melded on from heat
22	15	4o	140-150	Sample from deposit that looked "ashy"	lump	1	0.002	
24	21	3e	40-50	Sample from possible posthole? (black deposit)	lump	3	0.002	

25	24	3o	140-150	Possible midden deposit. "Ashy" looking area (South).	lump	24	0.073	no surfaces
Total						**227**	**0.696**	

Table 6: Wood

Flot #	Exc #	Context	Depth (cm)	Comments on Context	Item	Count	Weight	Comments
1	1	1f	60-70	Nothing relevant from this level.	wood	3	0.044	
4	1	3	1.6	Small area by the Exc. profile with loose soil	wood	1	0.001	
7	7	4h	70-80	Area of higher # of ceramic sherds (NW corner)	wood	10	0.026	
8	8	5i	80-90	Sample from inside complete vessel (burial)	wood	1	0.003	probably one piece, very broken in transit
10	8	2g	60-70	Sample from "white" color deposit, ashes?	wood	11	0.041	
11	8	3g	60-70	Sample from inside complete vessel (burial)	wood	6	0.01	
12	8	8j	90-1.00	Sample from inside complete vessel (burial)	wood	1	0.002	
14	11	3p	150-160	Area that seemed burnt on top	wood	3	0.014	
15	11	3q	160-170	Area underneath 3p. Evidence of burning.	wood	2	0.004	
16	11	4r	170-180	Area underneath 3q. Burnt area.	wood	45	0.16	lots of very little pieces
17	11	5s	180-190	Burnt area.	wood	8	0.017	
18	12	4i	80-90	Burnt area.	wood	2	0.005	
19	12	9n	130-140	Possible midden deposit (SE corner)	wood	2	0.077	
20	12	11s	180-190	Same possible midden deposit as Flot #19 (SE corner).	wood	3	0.003	
23	16	3f	50-60	*Not a mound. Sample from inside complete vessel by a burial.	wood	3	0.017	
24	21	3e	40-50	Sample from possible posthole? (black deposit)	wood	4	0.02	
25	24	3o	140-150	Possible midden deposit. "Ashy" looking area (South).	wood	2	0.013	
Total						**107**	**0.457**	

Table 7: Samples from inside complete vessels

Flot #	Exc #	Context	Depth (cm)	Comments on Context	Item	Part	Count	Weight	Comments
5	7	3e	40-50	Sample from inside complete vessel					
6	7	3e	40-50	Sample from inside complete vessel					
8	8	5i	80-90	Sample from inside complete vessel (burial)	wood		1	0.003	probably one piece, very broken in transit
9	8	5i	80-90	Sample from inside complete vessel (burial)	lump		8	0.012	
11	8	3g	60-70	Sample from inside complete vessel (burial)	leaf		1		lost
					lump		3	0.006	
					Unknown		1	0.002	dense, small
					Unknown K		6	0.046	parenchymous material w/ surface: testa is missing, probably not starchy tuber, but seem to be seed material
					wood		6	0.01	
12	8	8j	90-1.00	Sample from inside complete vessel (burial)	leaf		7	0.021	so dirty that prob not burned in pot--from fill that fell into pot (was vessel sealed, or did this fall in?)
					wood		1	0.002	
21	13	2i	80-90	Sample from inside a complete vessel (burial)	lump		10	0.034	very burned parenchyma w/ surface: probably real surface peeled off and this is inner surface, or it is melded on from heat
					Zea mays	cupule	1	0.001	
					Zea mays	kernel frag	2	0.009	very burned
23	16	3f	50-60	*Not a mound. Sample from inside complete vessel by a burial.	cf. Zea mays		1	0.005	parenchymous material from what looks like maize
					Unknown		1	0.002	shell-like
					Unknown		1	0.001	shiny, hard to see cell structure but possibly botanical
					wood		3	0.017	

Table 8: Possible midden contexts

Flot #	Exc #	Context	Depth (cm)	Comments on Context	Item	Part	Count	Weight	Comments
19	12	9n	130-140	Possible midden deposit (SE corner)	lump		6	0.006	
					wood		2	0.077	
					Zea mays	cupule	2	0.013	
20	12	11s	180-190	Same possible midden deposit as Flot #19 (SE corner).	lump		3	0.009	
					seed fragment	seed	1	0.002	with testa surface
					wood		3	0.003	
					Zea mays	cupule	1	0.007	
25	24	3o	140-150	Possible midden deposit. "Ashy" looking area (South).	cf. Fabaceae		1	0.029	fragment
					cf. Fabaceae		12	0.155	tuberous, high water content, very parenchymous
					cf. Fabaceae		10	0.023	even wetter
					cf. Fabaceae	cotyledon	33	0.386	low-fired, all with surface
					cf. Zea mays	kernel frag	1	0.018	
					lump		24	0.073	no surfaces
					wood		2	0.013	

Item	Part	Count	Weight	Comments
lump		3	0.002	
seed fragment	seed	1	0.001	
Unknown		1		some sort of surface
Unknown		1		
wood		4	0.020	
Flot # 25				
cf. Fabaceae		1	0.029	fragment
cf. Fabaceae		12	0.155	tuberous, high water content, very parenchymous
cf. Fabaceae		10	0.023	even wetter
cf. Fabaceae	cotyledon	33	0.386	low-fired, all with surface
cf. Zea mays	kernel frag	1	0.018	
lump		24	0.073	no surfaces
wood		2	0.013	

Figure 1: Botanical Remains by Count from each Flotation Sample

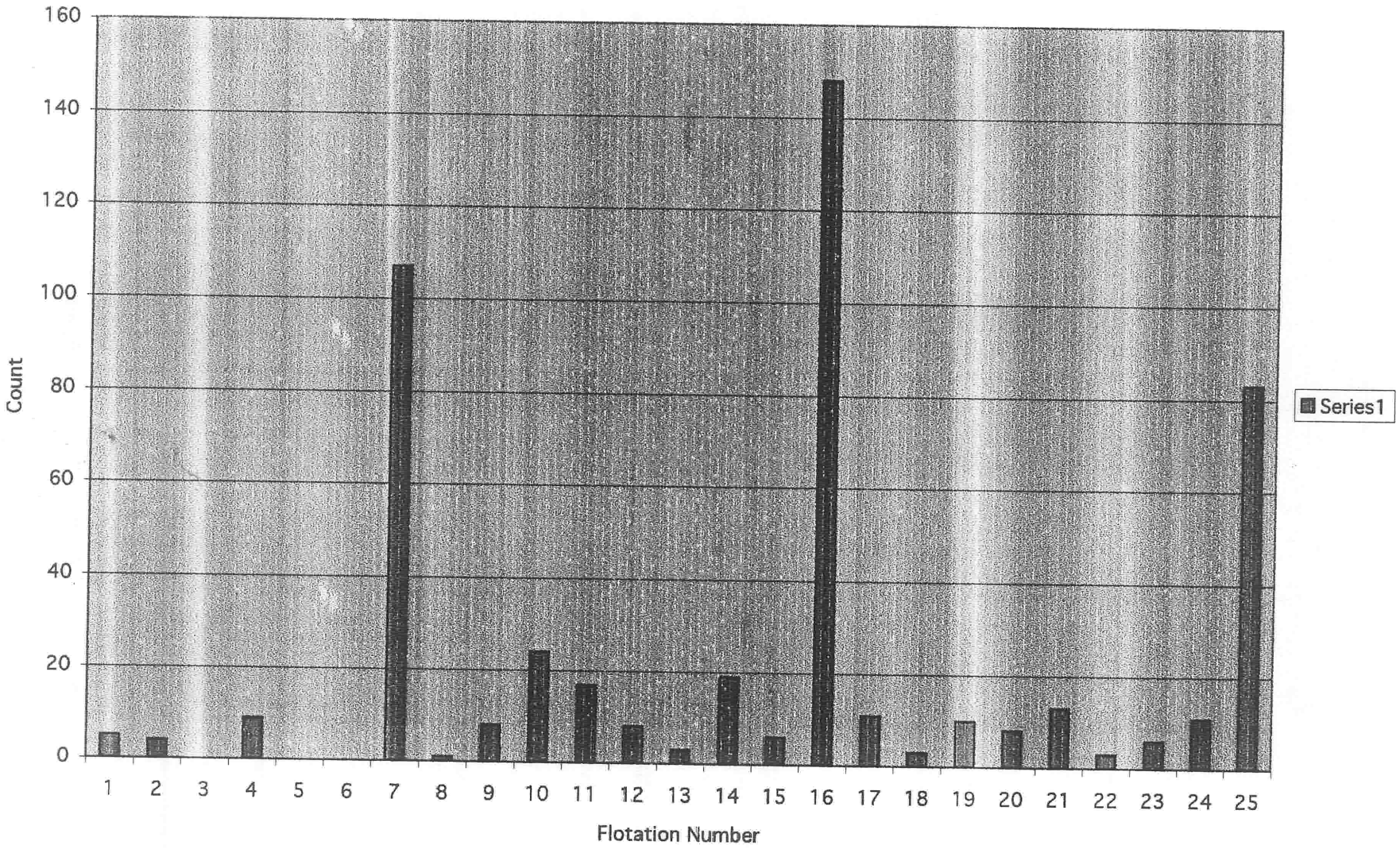

Figure 2: Total Botanical Remains by Weight from Each Flotation Sample