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Decorated Ceramics from Site 41CH161

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Contents

Ceramic Artifacts from Site 41CH161 Melissa May	1
Late Prehistoric Site 41HR745, Harris Co., Texas Leland W. Patterson	14
Trinidad de Salcedo: A Lost Texas Town (continued) Jean L. Epperson	19
The Boundary Between Inland and Coastal Margin Settlement Patterns in Southeast Texas Leland W. Patterson	24

Erratum: Under CONTENTS on page i, the titles of Leland Patterson's two articles are interchanged.

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Ceramic Artifacts from Site 41CH161

Melissa May

Introduction

Approximately 2000 pottery sherds have been recovered from the surface and four pits at Chambers County site 41CH161. In addition to the great abundance, the diversity of ceramic artifacts provides an excellent opportunity to undertake detailed analysis. Classification of the types and utility of ceramic artifacts will help to assess the time of habitation, cultural affinities, and lifestyle of the Indians that inhabited site 41CH161. Analysis of these artifacts is still in progress.

Methodology

The sherds were washed, counted, and weighed. Early guidance in the analysis of ceramic artifacts was provided by the late Marshall Black. Based on his help and the available literature (e.g., Joukowsky 1986), a systematic methodology for describing and classifying pottery sherds was developed. Figure 1 illustrates the analysis procedure followed for site 41CH161. At present, steps 1-3 have been completed, with steps 4-7 to be completed. The general typology or classification scheme of Aten (1983) has been supplemented with the decoration analysis scheme of Black (1989) as well as more detailed artifact descriptions captured on a series of "attribute forms." Examples of the two attribute forms are given in Figures 2 (plain wall sherds) and 3 (all other classes). To facilitate these descriptions, a "key" has been developed to explain possible descriptors and their codes. These data are being captured in an electronic database (Microsoft Excel®) that can be used to analyze stratigraphic and/or geographic patterns. This will facilitate the evaluation of these artifacts to help us better understand the peoples that created them. An example of the data from the electronic database is shown in Figure 4.

Preliminary results

Of the 2000 sherds from site 41CH161, approximately 120 have been found to fit together with at least one other sherd, and several pots have been partially reconstructed. At present, about 110 sherds have been analyzed and captured in the electronic database. Based on these preliminary data, a number of observations can be formulated. As documented in Table 1 and illustrated in Figure 5, there is a general correspondence between the abundances of pottery, shell (primarily *Rangia cuneata*), and bone based on weight, with peak ceramic abundance in both Pits A and E at approximately 30-40 cm depths.

The pottery sherds are strongly dominated by untempered, sandy paste varieties (Figures 6 and 7). According to the classification scheme of Aten (1983), the majority of ceramic artifacts from site 41CH161 belong to Goose Creek type (which is common in the Trinity Delta area and first appears in the archeological record around A.D. 100 - 200). Although tempered sherds are relatively uncommon, grog, bone, and shell temper types appear to be present. The small percentage of sherds tempered with grog (fragments of pottery) apparently represent Aten's San Jacinto and Baytown types. Bone-tempered sherds were found in Pit E (level 5). Aten (1983) suggests that bone-tempered ceramics in the Galveston Bay area do not appear until about A.D. 1100.

Rare "red-filmed" and "cord-marked" sherds are also present, although their significance is uncertain. Several sherds are "Tchefuncte-like" and "Cole's Creek-like" (Harry Schafer, Texas

A&M, personal communication 1993). These are some of the most interesting in that they probably represent trade with Lower Mississippi Valley cultures. Of special interest is an unusual partial flat base from Pit E, shown in Figure 8A. Harry Shafer (personal communication 1993) says he has never seen anything like it before. The base would have been the size and thickness of a dinner plate, but it is unclear whether it was walled or not. It might represent a large shallow bowl or resemble a plate. A radiometric date provided by Dr. A. Long at the University of Arizona from carbon residue on this sherd provided an anomalously old date; this was probably due to the presence of asphaltum, whether intentionally applied or not. A very similarly shaped partial base, of type Baytown Plain, variety unspecified, was found at the Ghost site in northeastern Louisiana (Saunders 1993: Figure 4a); it is shown in Figure 8B.

The Indian group alternatively known as the Akokisa or Orcoquisacs have been documented by Aten as being present in the vicinity of 41CH161 as early as 1650 (Swanton 1952), and continuing through 1756 when the Spanish built the Mission Nuestra Señora de la Luz del Orcoquisac (Fullen 1978), but all reference to their existence ceases after 1830. Aten suggests that the principal period of Akokisa ceramic design innovation occurred between A.D. 800 and 1700. The diversity of ceramics at 41CH161 suggests possible occupation during this period. Radiocarbon dates from nearby sites with stratigraphic and ceramic artifact similarity to 41CH161 range from about A.D. 600 to A.D. 1350 (Aten 1983).

As noted above, the Goose Creek ceramics at this site establish an earliest possible date of A.D. 100 for this period of habitation. However, Late Archaic dart points from the surface collection suggest that preceramic occupation may have occurred between 1500 B.C. and A.D. 100. A single radiometric date of A.D. 290 ± 80 has been obtained from shell material at 45 cm depth in Pit E (Kindall and Patterson 1993). Ceramic artifacts are relatively abundant in this level, suggesting that this site may provide a long record of ceramic evolution for this area.

The pottery found at site 41CH161 was manufactured primarily utilizing the coil method. The range in pot diameters estimated from the sherds is 10-50 cm, with three modes at 18, 30, and 45 cm (Figure 9). The significance of these size classes is unknown, but they probably reflect different functional types (e.g., cooking and storage). Approximately 10% of the sherds have incised decorations. The range of decorative designs is remarkable. Examples are shown in Figure 10, with the designs being recorded on Marshall Black's form. Eight of Black's (1989) 12 Design Families are present, with Design Family #1 (horizontal elements) being most common.

Although our analysis of ceramic artifacts from site 41CH161 is still very preliminary, their abundance and diversity will undoubtedly provide important insight to the Indians who lived on the shores of Cotton Lake some 300-1200 years ago. It is already clear that these artifacts can provide a better indication of the lifestyle and subsistence base of the inhabitants, and of possible trade with other cultures, and will help to refine the dates of occupation. As more detailed analyses are performed, correlation of the materials used in ceramic manufacture to the distribution of local resources (sand, clay, etc.) may provide information on the organization of bands, travel, or trade in the Trinity Delta area. There are many questions that remain, to which only these and additional artifacts can provide answers. It may be possible to refine the chronology of this site to determine if it was a seasonal camp, to pinpoint activity areas, to confirm trade with other cultures, and to provide a more definitive picture of their way of life.

Acknowledgments

Early guidance in ceramic analysis was provided by the late Marshall Black. Joan Few (UH-Clear Lake), Dick Gregg, Robbie Brewington (Texas A&M), Leland Patterson, and Mary Silcox have all contributed to the study of pottery sherds from 41CH161. Many members of the HAS have contributed to the washing, sorting, and weighing of ceramic artifacts from this site.

References cited

Aten, L. E.

1983 Indians of the Upper Texas Coast. Academic Press

Black, W. M.

1989 A Study of Decorative Design on Goose Creek and San Jacinto Pottery of Southeast Texas. Houston Archeological Society Report 8

Fullen, W. L.

1978 El Orcoquisac Archeological District, Wallisville Reservoir, Texas: Past, Present, and Future. Houston Archeological Society Newsletter 59:5-12

Joukowsky, M.

1986 A Complete Manual of Field Archaeology. Prentice Hall

Kindall, S., and L. Patterson

1993 Excavations at 41CH161, Chambers County. Houston Archeological Society Journal 106:1-9

Saunders, J.

1993 Recent Work at the Ghost Site (16TE18). Louisiana Archaeology 20:137-163

Swanton, J. R.

1952 The Indian Tribes of North America. Smithsonian Institution, Bureau of American Ethnology Bulletin 145:199

Table 1. Vertical Distribution of Pottery, Shell, and Bone (all weights in gm)

Pit A				
Level	Pottery cnt.	Pottery wt.	Shell wt.	Bone wt.
1			2	80
2	2	5	0	82
3			353	22
4	5	25	3011	240
5	28	186	1950	214
6	124	803	4730	499
7	154	936	11540	1455
8	131	483	6536	810
9	114	445	5746	568
10	51	126	290	237
11	77	301	6259	73
12	30	37	32692	600
13	30	80	80	191

Pit B				
Level	Pottery cnt.	Pottery wt.	Shell wt.	Bone wt.
1			20	
2				
3				3
4				

Pit C				
Level	Pottery cnt.	Pottery wt.	Shell wt.	Bone wt.
1			0	0
2			10	0
3			44	2
4			22	54
5			205	44

Pit D				
Level	Pottery cnt.	Pottery wt.	Shell wt.	Bone wt.
1			0	1
2			34	0
3			0	0
4			7	7
5	7	75	128	32
6	7	29	22	11

Pit E				
Level	Pottery cnt.	Pottery wt.	Shell wt.	Bone wt.
1			1098	1
2			222	15
3	2	12	252	22
4	9	64	343	56
5	29	257	1620	154
6	87	491	2414	569
7	39	370	1364	791
8	156	240	694	551
9	26	111	187	124

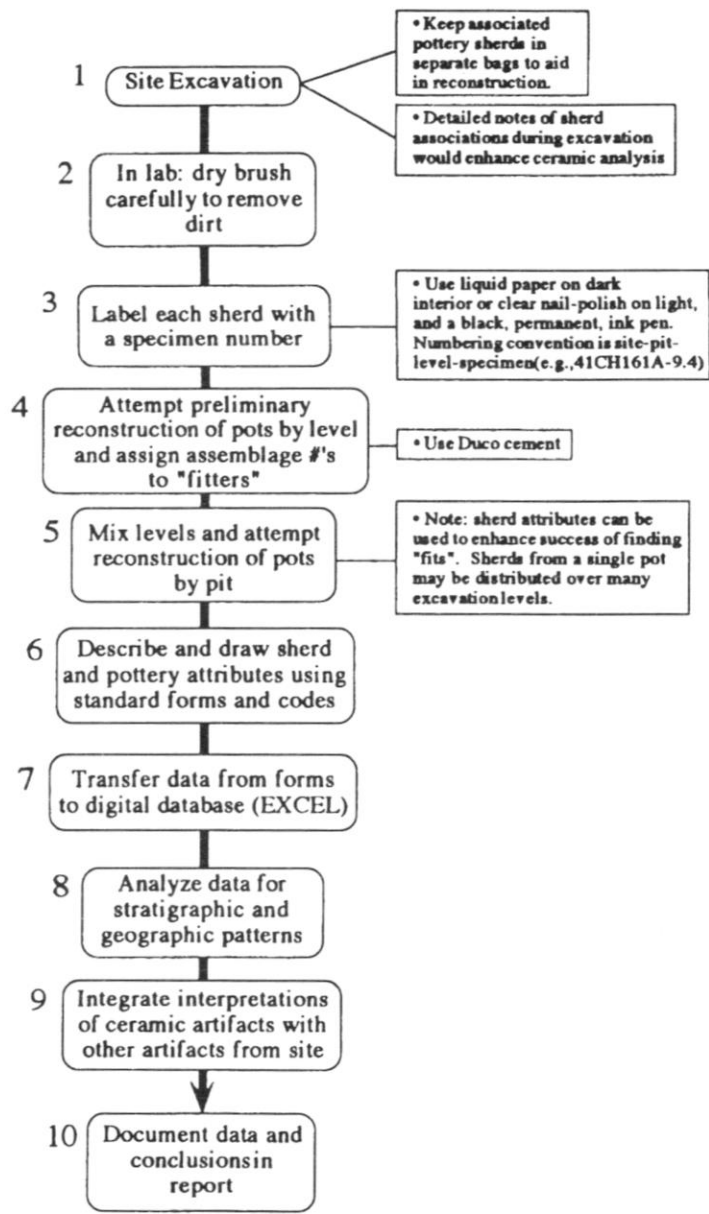


Figure 1. Ceramic analysis procedure

TX Site: _____ Pit _____ Level # _____ Level depth from _____ to _____ Bag _____ of _____
 Sheet _____ of _____ Recorder(s) _____ Date _____

HAS Undecorated Generic Wall Sherd Analysis Form:

Maintain same level per sheet. Note "fitters" and assemblage numbers on "Test" line.

Artifact #	Manuf.	Diameter cm	Sherd Size	Length cm	Height cm	Thick mm	Shape	Moh's	Wall Shape	Fin-Ext	Fin-Int	Paste	Temper	v fs %	fs %	ms %	cs %	Col-Ext	Col-Int	Col-Edge	Col-Core	Fired Core	Char	Utility	Condition
																		/	/	/	/				
Fit to:											Assemblage #							Aten T/V		A&M T/V					

Tests:

Comments:

																		/	/	/	/				
Fit to:											Assemblage #							Aten T/V		A&M T/V					

Tests:

Comments:

																		/	/	/	/				
Fit to:											Assemblage #							Aten T/V		A&M T/V					

Tests:

Comments:

																		/	/	/	/				
Fit to:											Assemblage #							Aten T/V		A&M T/V					

Tests:

Comments:

																		/	/	/	/				
Fit to:											Assemblage #							Aten T/V		A&M T/V					

Tests:

Comments:

Figure 2. Undecorated generic wall sherd analysis form

Houston Archeological Society-TX Ceramic Attributes Form-7/1993

By: _____ Date: _____

Site: _____ Pit: _____ Level# _____ Level Depth _____ to _____

Artifact# _____ Bag# _____ of _____ Page _____ of _____

Class: _____ Fit to: _____ of Assemblage # _____

Drawing:(Ext., Int., Rt or Lft profile, lip curve+ decor and other decoration or direction of burnish etc.)Use back if needed. Record measurements on drawing if applicable.

Manufacture: _____ Diameter: _____ Size: _____ Length: _____ Height: _____

Thick: _____ CrownThick: _____ Shape: _____ Moh's: _____

Base: _____ Wall: _____ Neck: _____ Handle: _____ Attach: _____

RimProfile: _____ Degree/Angle: O(>110) _____ F(100+) _____ E(>96) _____

SO(96-110) _____ V(85-95) _____ SI(70-84) _____ IV(<85) _____

I(<70) _____ H(around 180) _____

LipTreat: _____ ThickLip: _____ ThinLip: _____ Place: _____

DesignMethod _____ / _____ / _____ DesignFamily _____ DecorLip _____ / _____ / _____

PatternSpace:FP(<5mm): _____ CP(>5<10mm): _____ VCP(>1cm): _____

FinTechExt: _____ / _____ / _____ LiqDecor: _____ FinTechInt: _____ / _____ / _____

Paste: _____ Temper: _____ VFS: _____ % FS: _____ % MS: _____ % CS: _____ %

ColExt: _____ / _____ ColInt: _____ / _____ ColEdg: _____ / _____ ColCor: _____ / _____

FiredCore: _____ Post-Fir: _____ Charred:EXT: _____ INT: _____ BOTH: _____

Utility: _____ Cond: _____ Tests: _____

AtenType: _____ A&MType: _____

Comments: _____

Figure 3. Analysis form for all other classes of ceramic artifacts

\$Site#	Pit#	Level #	MinLevel(cm)	MaxLevel(cm)	Artifact#	Class:	Fit To:	Assemblage #	Manuf.	Dia.(cm)	Sherdsize(cm)
41CH161	A	2	5	10	A-2.1	W			C	30	T
41CH161	A	4	15	20	A-4.1	W	A-4.4		C	45	S
41CH161	A	4	15	20	A-4.2	W			C	35	T
41CH161	A	4	15	20	A-4.3	W			C	35	S
41CH161	A	4	15	20	A-4.4	W	A-4.1		C	45	S
41CH161	A	4	15	20	A-4.5	W			C	40	S
41CH161	A	5	20	25	A-5.1	W	A-5.4		C	25	S

Length(cm)	Height(cm)	Thick.(cm)	CrownThick.	Shape	Moh'sH.	Base	Wall	Neck	Handle	Attach.	Rim
2.1	2.3	6.75		0	4		C				
3.45	3.2	6.2		0	4		C				
1.9	2.3	5.4		U	4		U				
2.8	3	5		+	4		S				
3.45	3.2	6.2		0	4		C				
3.3	3.8	5.2		+	5		S				
6.3	3.1	4.8		0	3		C				

RimProfile	Angle	LipTreat	ThickLip	ThinLip	Place:	Des.Method	Des.Family	DecorLip	PatternSpace	Fin.-Ext.	Liq.Decor.
										F	
										W	
										B	
										B,W	
										W	
										W	
										W,D	

Fin.-Int.	Paste	Temper	vfs%	fs%	ms%	cs%	Col. - Ext.	Col.-Int.	Col.-Edge	Col.-Core	FiredCore
F, B	1	S	5				7.5YR5/4	7.5YR3/1	7.5YR6/4	7.5YR4/1	H
W	1	S	5		1		10YR5/2	7.5YR5/5	7.5YR5/2	7.5YR5/2	E
B	1	S	5	1	3		7.5YR4/3	U	5YR4/1	GLEY 2.5/	H
W	1	S/G	3				5YR5/5	7.5YR4/3	5YR4/2	5YR2.5/1	H
W	1	S	5		1		10YR5/2	7.5YR5/5	7.5YR5/2	7.5YR5/2	E
B,W,A?	2	S	3				10YR3/1	5YR2.5/1	GLEY2.5/	GLEY2.5/	E
W, D, A?	1	S/G	10	1			5YR4/2	GLEY3/0	5YR3/1	GLEY2.5	E

Post-Fir.	Char. (E, I, B)	Utility	Condition	Tests	Aten-Type	A&M-Type	Comments
	I	U	O				Fairly clumpy paste, interior may be asphalt coated
		U	O				Globby, but smooth to touch.
		U	O				
			O				
		U	O				Globby, but smooth to touch.
	I	U	O				Interior either charred or asphalt. Unidentified white inclusions in paste.
	CHECK	U	O				

Figure 4. Example hardcopy from electronic database

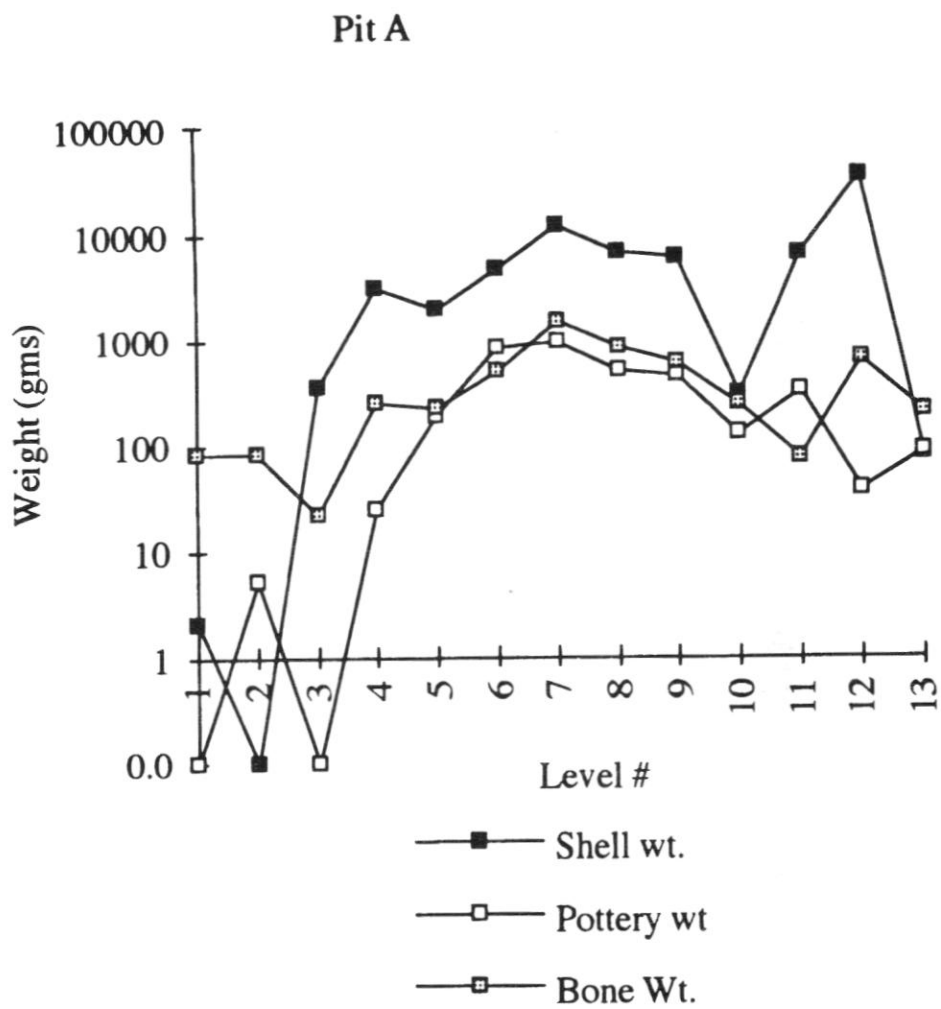


Figure 5. Abundance of shell, pottery, and bone by weight for each 5-cm level excavated in Pit A at site 41CH161

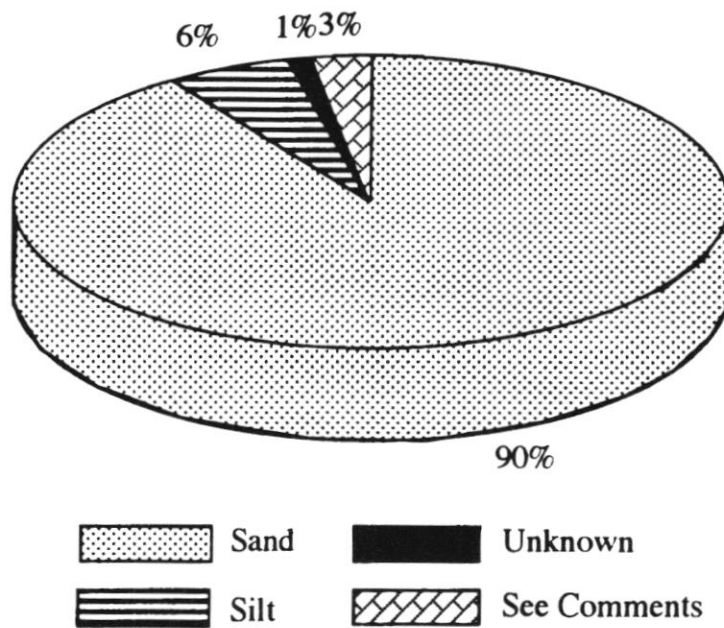


Figure 6. Relative abundance of paste types for sherds analyzed to date

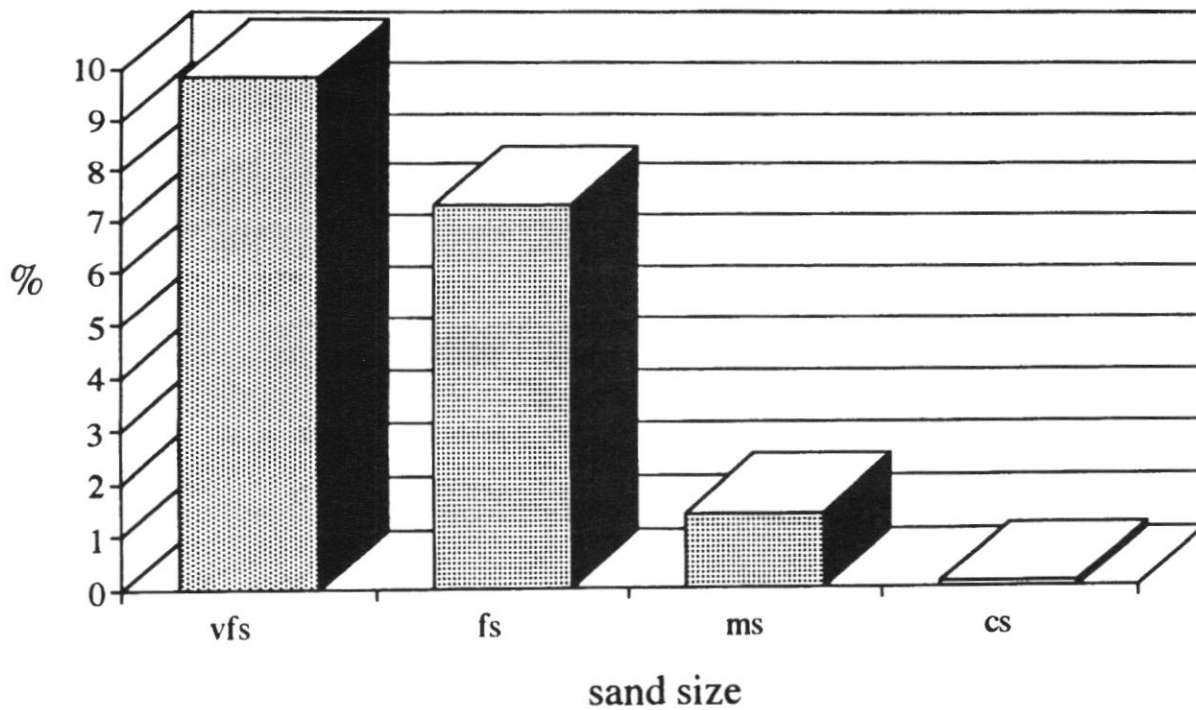
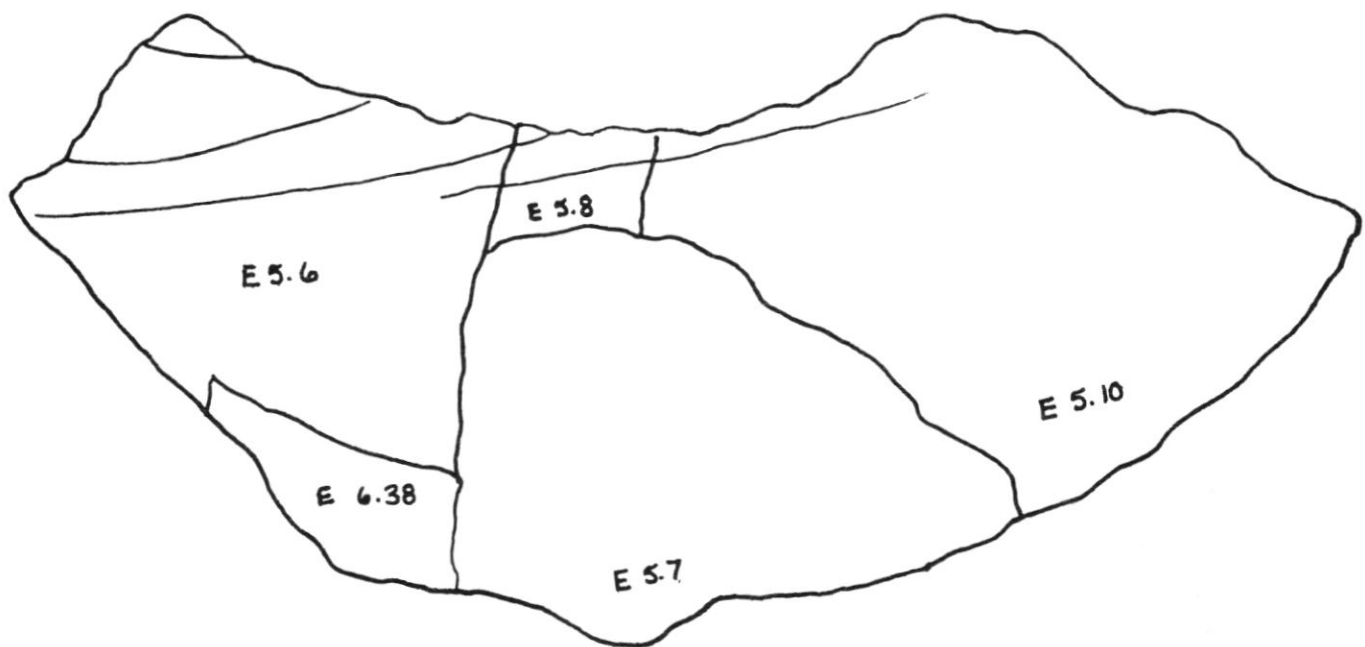
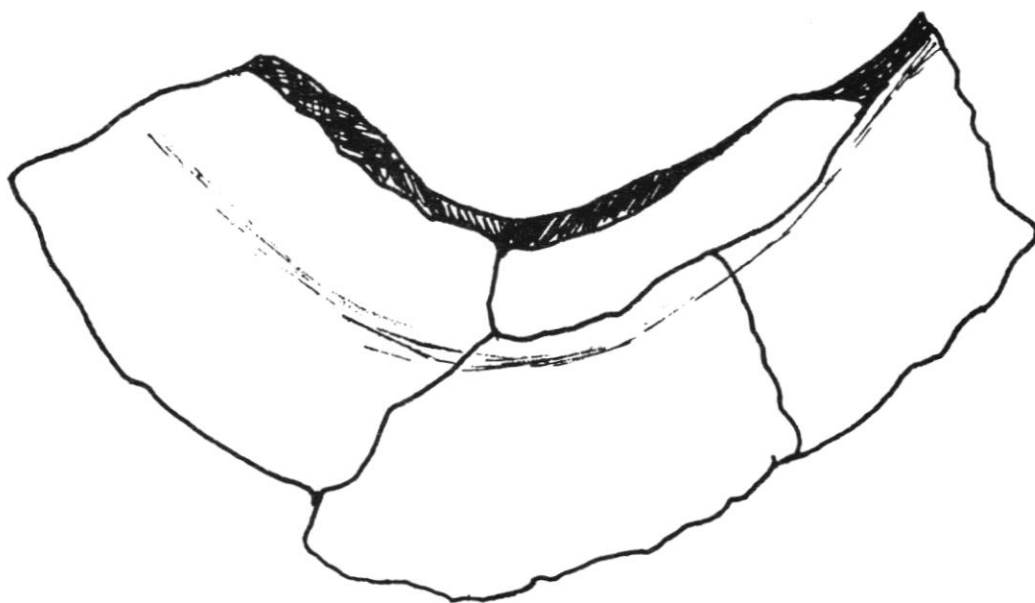


Figure 7. Distribution of average sand sizes for sherds with sandy paste



A. From site 41CH161



B. From the Ghost Site, 16TE18, in northeastern Louisiana

Figure 8. Partial flat bases

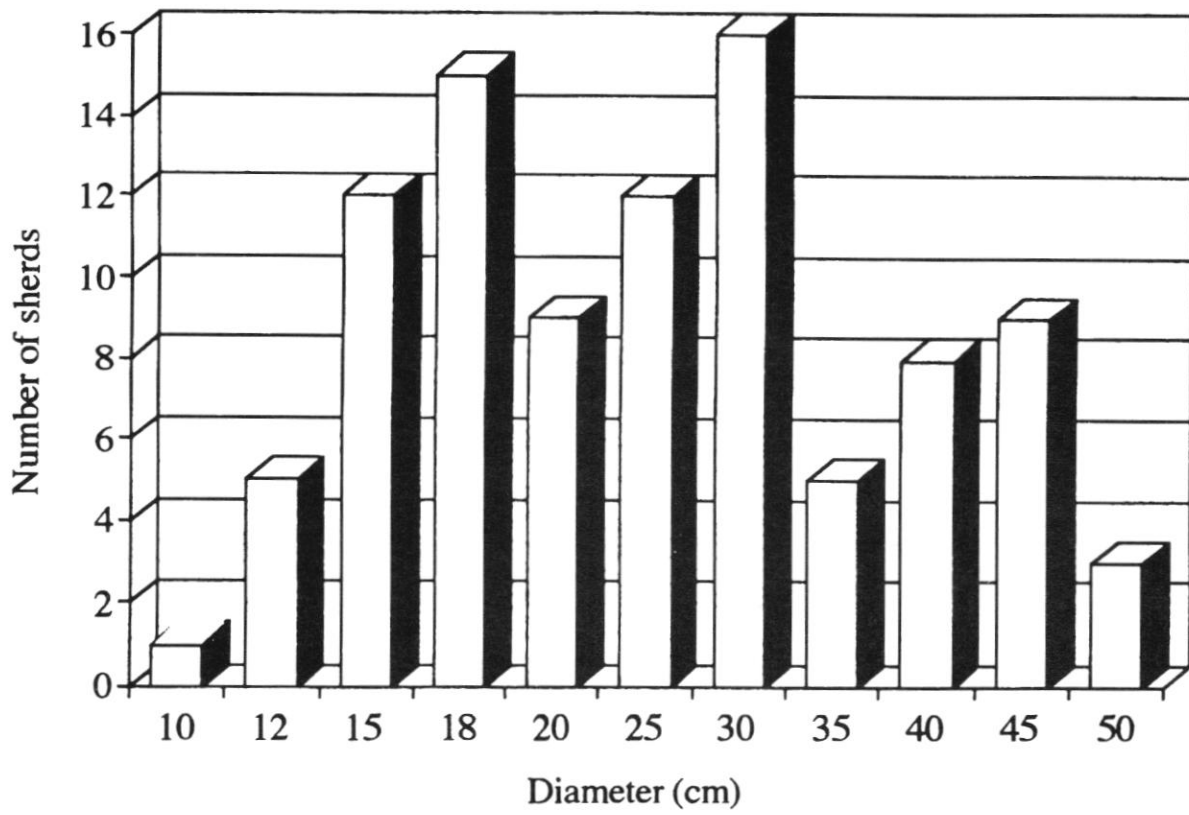


Figure 9. Frequency of estimated ceramic vessel sizes based on sherds

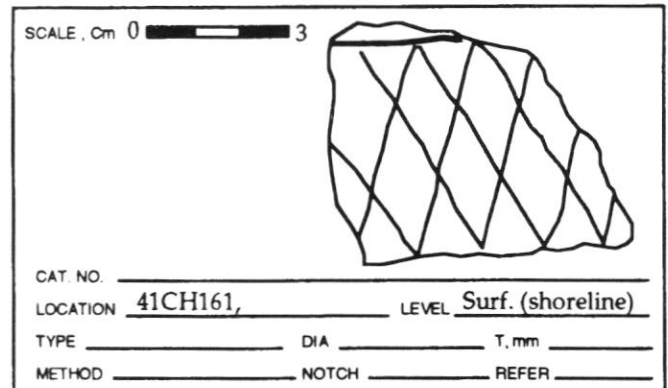
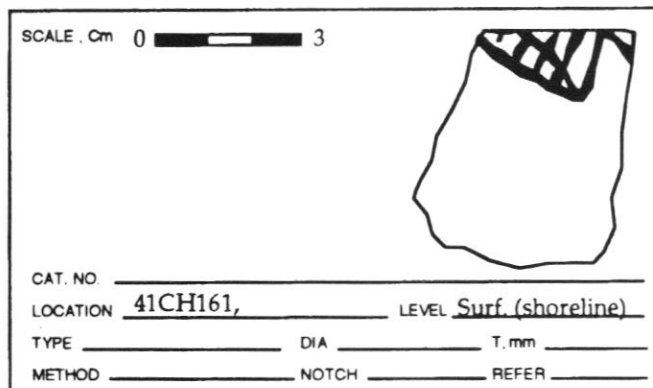
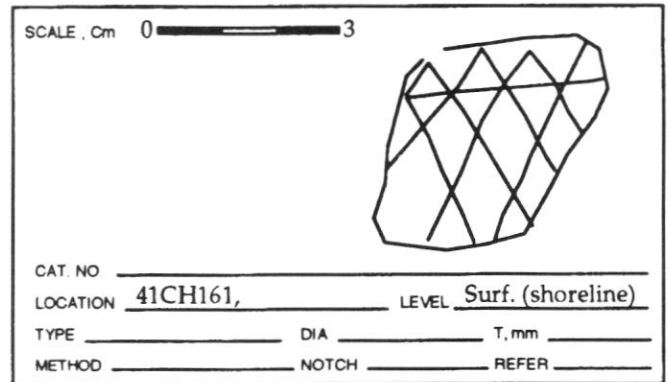
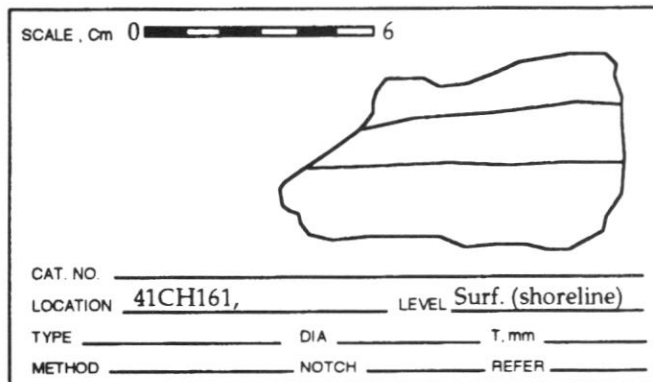
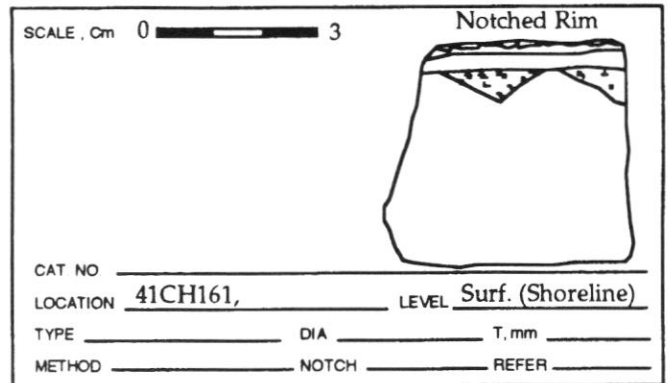
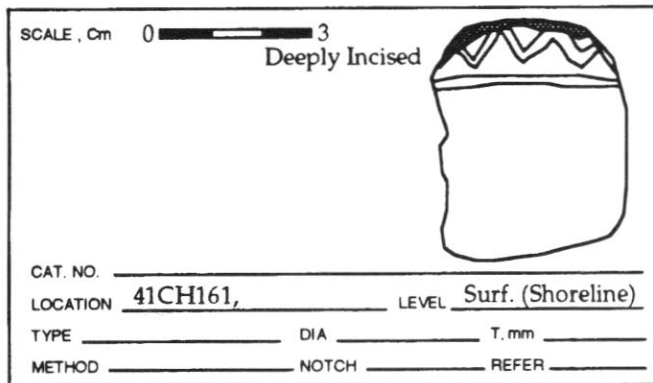
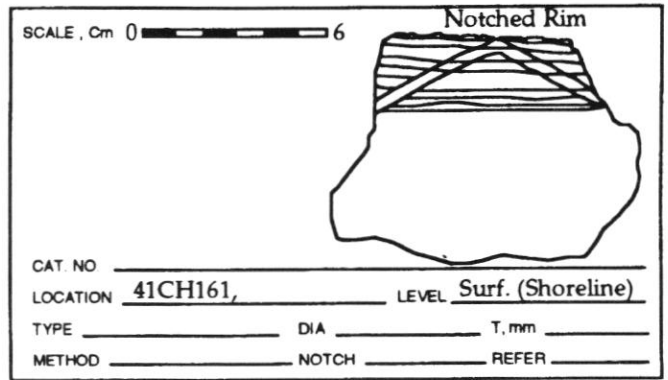
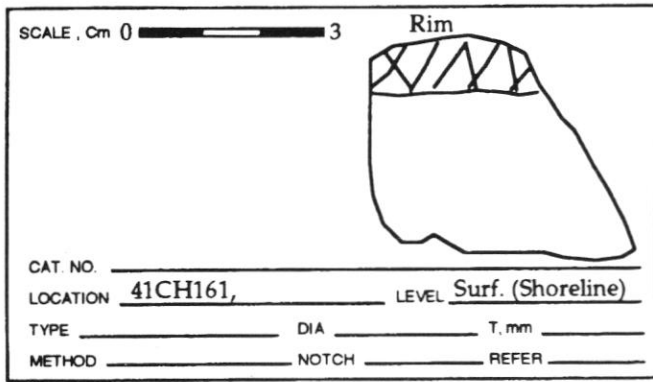


Figure 10. Examples of incised ceramic design patterns from site 41CH161

The Boundary Between Inland and Coastal Margin Settlement Patterns in Southeast Texas

Leland W. Patterson

Introduction

Southeast Texas can be divided on an environmental basis into two major subregions, inland and coastal margin. Settlement-subsistence patterns of prehistoric Indians in this region appear to have distinctive inland and coastal margin manifestations. While Indians of both subregions of Southeast Texas had a nomadic hunter-gatherer lifeway, there are differences in artifact types and settlement-subsistence patterns for the two subregions.

The coastal margin environmental area can be roughly defined by the maximum inland extent of *Rangia cuneata* shellfish. In the Galveston Bay area, *Rangia* occur in tidally affected streams up to about 12 miles from the coastline. *Rangia cuneata* is a brackish water shellfish that is not found in freshwater environments. The coastal margin includes both brackish water and marine environments, including lakes, streams, wetlands, and coastlines. There are wooded and prairie areas mixed with wetlands on the coastal margin, and local areas of the coastal margin can be quite varied environmentally. The mixture of environments provided a variety of terrestrial and aquatic food resources.

The inland settlement-subsistence pattern for prehistoric Indians of Southeast Texas has a time interval of about 11,000 years, from the Paleo-Indian through the Late Prehistoric time periods, continuing for a short period into protohistoric time. The coastal margin settlement-subsistence pattern has a much shorter time interval than the inland pattern, because of rising sea level until the start of the Late Archaic period about 1500 B.C. As Aten (1983:158) has noted, few shell midden archeological sites were present on the coastal margin for a period of about 1000 years after coastline stabilization (1500-500 B.C.). Some shell midden sites were in use during the later part of the Late Archaic period (500 B.C.-A.D. 100), and then there was a dramatic increase in the number of shell midden sites during the Early Ceramic period (A.D. 100-600). Most coastal margin archeological sites in this region are shell middens with occupations in the Early Ceramic and/or Late Prehistoric (A.D. 600-1500) periods, with a few sites having historic components. Some sites on the coastal margin have an inland settlement pattern in pre-ceramic levels, with a freshwater environment, and then change to the coastal margin settlement pattern with *Rangia* middens at later levels, after rising sea level created a brackish water environment at the site locations (Patterson and Marshall 1989).

I have proposed (Patterson 1990c:15) that Indians of the coastal margin, mainly after 500 B.C., had a settlement-subsistence pattern that utilized a zone about 15 to 20 miles wide parallel to the coastline, with occasional incursions farther inland. In this article, identification of the geographic boundary between inland and coastal margin settlement-subsistence patterns is discussed, based on currently available data. Data from a few archeological sites support the concept of a boundary between inland and coastal margin patterns about 15-20 miles from the coastline.

Inland and coastal margin patterns

Interactions between Indians of the inland and coastal margin subregions of Southeast Texas are not well defined. However, it is possible to distinguish between different settlement-subsistence patterns for the two subregions from archeological data, although study of this subject is still in a

Table 1. Summary of Terrestrial Faunal Remains

type	inland sites	coastal margin sites
deer	39	38
land turtle	37	11
snake	9	8
rat	8	8
land bird	11	6
bison	17	8
rabbit	15	11
gopher	11	4
skunk	3	3
mouse	5	3
raccoon	6	6
opossum	10	6
badger	2	0
antelope	4	0
squirrel	3	3
beaver	5	0
bear	1	2
mink	1	0
muskrat	0	3

Table 2. Summary of Aquatic Faunal Remains

type	inland sites	coastal margin sites
mussel	25	0
alligator	10	11
water bird	5	8
water turtle	9	23
gar	15	26
misc. fish	11	22
frog	8	3
catfish	9	16
drum	9	15
bass	4	0
bowfin	7	5
sunfish	4	0
Rangia	0	200+
oyster	0	23
shark	0	1
redfish	0	1
sea trout	0	4
sheepshead	0	5

preliminary stage, with need for additional data. Various types of data for identifying inland and coastal margin patterns are as follows:

Faunal subsistence patterns

Most coastal margin archeological sites are Rangia shell middens, with some oyster shell middens, and some mixed Rangia-oyster shell middens. Preservation of faunal remains is good at shell middens. *Rangia cuneata* shellfish colonies are found up to about 12 miles inland from the coastline on streams with tidal flow, which causes increased salinity. As discussed below, the coastal margin type of settlement pattern does not appear to occur much farther inland than the extent of Rangia occurrence.

As shown in Table 1, there are similar terrestrial fauna utilization patterns for inland and coastal margin sites. As shown in Table 2, however, utilization patterns for aquatic fauna are different for coastal margin and inland subregions, reflecting the availability of marine and brackish water fauna on the coastal margin, and freshwater fish and shellfish in the inland subregion. Data for Tables 1 and 2 are from the 1992 contents of computerized data bases for this region (Patterson 1989a,b).

Lithic artifacts

Inland sites generally have significant amounts of lithic artifacts, including stone tools, projectile points, and by-product flakes. In contrast, coastal margin sites usually have few lithic flakes, and

only a modest number of stone projectile points and tools. Only small amounts of lithic raw materials seem to have been imported to the lithic-poor coastal margin subregion, judged by the small number of flakes on most sites (Aten 1983:257). Bone and shell tools were often used instead of stone tools on the coastal margin.

In the Late Prehistoric period, use of the spear and spearthrower (atlatl) was largely abandoned on the coastal margin (Aten 1983:306), so that Late Prehistoric and protohistoric coastal margin sites typically have arrow points but no dart points. Concurrent use of the spear and bow and arrow occurred, however, in the inland subregion (Aten 1983:306). It is common to find dart points and arrow points in Late Prehistoric context at inland sites in this region.

Ceramic artifacts

The most common pottery type in Southeast Texas is Goose Creek sandy paste ware. This pottery type was used in the Early Ceramic and Late Prehistoric periods in both inland and coastal margin subregions, and cannot be used to identify subregional settlement patterns. Tchefuncte and Mandeville contorted paste pottery types occurred mainly in the coastal margin subregion in the Early Ceramic period (Aten 1983: Figures 14.1,16.1). These two pottery types have limited analytical value, however, because these types are not common.

In the Late Prehistoric period, San Jacinto grog-tempered pottery was used in only limited quantity at inland sites, but in significant quantity at coastal margin sites (Patterson 1990c). Further, Baytown Plain, variety Phoenix Lake, ceramics containing abundant sherd (grog) temper appear to occur only on the coastal margin. Types and amounts of grog-tempered pottery seem to have some value for identifying sites of the coastal margin settlement pattern. At least some of the grog-tempered pottery found at inland sites may be due to acquisition of women from the coastal margin by inland bands. The presence of the San Jacinto variety of grog-tempered pottery at inland sites does not necessarily imply visits by Indians from the coastal margin.

Shell and bone tools

Marine shell tools are common at sites on the coastal margin of Southeast Texas, but do not occur at inland sites (Aten 1983: Figure 16.1). Oyster shell was the preferred material for tools. Oyster shell tools can be found at Rangia shell middens where oyster does not occur. Oyster shells used as tools can be identified by flake scars and worn edges. There is not much evidence for use of Rangia shell for tools. Shell tools were used mainly as knives and scrapers, as an alternate to use of stone tools.

Bone tools are common at sites on the coastal margin, but bone tools can also be found in small quantities at inland sites. The most common forms of bone tools are awls and projectile points. Use of bone arrow points seems to have been largely confined to the coastal margin. Bone dart points are more common at coastal margin sites than at inland sites. There is better preservation of bone tools at coastal margin shell midden sites than at inland sandy midden sites. However, even where good bone preservation occurs at inland sites, such as at freshwater shell middens, relatively few bone tools occur compared to coastal margin sites.

Fired clayballs

Fired clayballs occur only at inland sites in this region. Only a minor proportion of inland sites have fired clayballs (Patterson 1989c). The presence of fired clayballs is an indication that a site is in the inland type settlement pattern.

Boundary site examples

The land area immediately inland from where *Rangia* shellfish occur has not been surveyed well for archeological sites. There are a few sites, however, that indicate that this area is the approximate boundary between inland and coastal margin settlement patterns. This generally agrees with Aten's (1983:Chapter 16) data on the geographic distributions of artifact types.

Site 41HR639 (Patterson 1990a) is a small *Rangia* midden on Cedar Bayou about 12 miles from the coastline of Galveston Bay, near the maximum inland extent of *Rangia* occurrence. This site represents the inland edge of the coastal margin settlement pattern during the Early Ceramic and Late Prehistoric periods. Data from this site that indicate the coastal margin settlement pattern include grog-tempered pottery, Tchefuncte pottery, few lithic flakes, oyster shell tools, few stone tools, no dart points in Late Prehistoric strata, and some bone tools. The grid motif on an incised sherd (Patterson 1990a: Figure 2G) is characteristic of the Galveston Bay area of the coastal margin (Aten 1983:234,242).

There are several inland sites near the coastal margin that indicate that there is a boundary between inland and coastal margin settlement patterns. Sites 41LB54 and 41LB55 (Weinstein et al. 1988; Nash and Rogers 1992) are Early Ceramic/Late Prehistoric sites on the Trinity River, 16 and 19 miles, respectively, from the coastline of Trinity Bay. Data that indicate the inland settlement pattern for these two sites include significant amounts of lithic flakes and projectile points, no *Rangia* present, concurrent use of the spear and bow and arrow, and no shell tools. Site 41LB55 has no grog-tempered pottery, and site 41LB54 has only a small proportion of grog-tempered pottery.

Site 41LB2 (Aten 1967) is about 25 miles from the coastline in the Trinity River floodplain. Traits of the inland settlement pattern found at this site include significant amounts of lithic artifacts, including projectile points, tools, and utilized flakes; concurrent use of the spear and bow and arrow; fired clayballs; no shell tools; and no *Rangia*. Only a small proportion (7.7%) of the pottery is grog tempered.

Sites 41HR641 and 41HR642 (Patterson 1990b) are located on Cedar Bayou about 25 and 21 miles, respectively, from the coastline of Galveston Bay. Both sites have Early Ceramic and Late Prehistoric components. Traits of the inland settlement pattern found at these sites include numerous lithic artifacts, including projectile points, tools, and flakes; no shell tools; and no *Rangia*. Neither site has grog-tempered pottery, but site 41HR641 does have one Tchefuncte sherd, possibly indicating some contact with Indians of the coastal margin.

Conclusions and summary

Data from a few sites support the proposal (Patterson 1990c) that Indians of the coastal margin of Southeast Texas had a settlement pattern that generally utilized a zone about 15 to 20 miles wide from the coastline, and that there may be a fairly sharp boundary between settlement patterns of the inland and coastal margin subregions. This boundary only defines the general geographic limits between these two types of settlement pattern. There were probably some incursions of Indians from one subregion into the other subregion, but perhaps not frequently. Story (1990:269) warns against models of subsistence-settlement patterns that are too rigid, because much of the success of hunter-gatherers rested on their ability to implement a number of different economic responses, to be able to adjust to the good as well as the bad times.

More archeological survey work is needed to better define the inland edge of the settlement-subsistence pattern of coastal margin Indians. The apparently restricted area of the coastal margin settlement pattern may reflect social differences as well, between inland and coastal margin Indians.

Aten (1983: Chapter 16) discusses evidence for limited area group territories of the coastal margin. If some migration to the Texas coast by Indians of the coastal margin of Louisiana occurred, as may be indicated by the introduction of pottery to Southeast Texas, ethnic differences may have been established that reinforced claims to a group territory consisting of the coastal margin zone. Indians from Louisiana would have already had a tradition of utilizing a coastal margin zone. The establishment of territorial claims may have caused hostility between adjacent inland and coastal margin groups, as noted by Cabeza de Vaca (Covey 1961:66) for historic Indians, that restricted settlement patterns of this region. In this general discussion, all Indians of the coastal margin are being considered as a group, because individual small bands of hunter-gatherers cannot be identified in the archeological record.

References cited

Aten, L. E.

- 1967 Excavations at the Jamison Site (41LB2), Liberty Co., Texas. Houston Archeological Society, Report No. 1
- 1983 Indians of the Upper Texas Coast. Academic Press

Covey, C.

- 1961 Adventures in the Unknown Interior of America. Collier Books

Nash, M. A., and R. M. Rogers

- 1992 Data Recovery on Four Archaeological Sites for the Channel to Liberty Project, Chambers and Liberty Counties, Texas. For the Corps of Engineers by Espey, Huston, and Associates

Patterson, L. W.

- 1989a A Data Base for Inland Southeast Texas Archeology. Houston Archeological Society, Report No. 6
- 1989b An Archeological Data Base for the Southeastern Texas Coastal Margin. Houston Archeological Society, Report No. 7
- 1989c Additional Comments on Fired Clayballs. Houston Archeological Society Journal 94:24-26
- 1990a Excavations at the J. D. Wells Site (41HR639), Harris Co., Texas. Houston Archeological Society Journal 97:1-7
- 1990b The Seaberg Collection (41HR641,642), Harris Co., Texas. Houston Archeological Society Journal 98:12-21
- 1990c The Distribution of Coastal Margin Pottery Types in Southeast Texas. Houston Archeological Society Journal 97:14-19

Patterson, L. W., and M. A. Marshall

- 1989 Some Archeological Sites on Upper San Jacinto Bay. Houston Archeological Society Journal 94:1-8

Story, D. A.

- 1990 Cultural History of the Native Americans. In: The Archeology and Bioarcheology of the Gulf Coastal Plain, by D. A. Story et al., Arkansas Archeological Survey, Research Series 38

Weinstein, R. A., C. E. Pearson, J. P. Whalen, and D. B. Kelley

- 1988 Archaeological Investigations Along the Lower Trinity River, Chambers and Liberty Counties, Texas. For the Corps of Engineers by Coastal Environments, Inc.