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Snake Consumption among Early Inhabitants of the *River of Grass*, South Florida, USA

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ABSTRACT: The Everglades, or *River of Grass*, a vast open expanse of grassy marsh, was home to indigenous populations for several thousand years. In this paper, I examine zooarchaeological assemblages from two pre-Columbian sites within this ecosystem in subtropical south Florida. Both sites are black dirt middens located on tree islands in the eastern half of the Everglades. A flotation device with fine-gauge screens was used, resulting in a greater representation of smaller animal remains and, in turn, more complete and representative samples of the archaeological deposits. Of particular significance was the relatively large number of snake remains recovered at both sites. Snake vertebrae as well as cranial elements were identified, of which the latter would not have been recovered had coarser recovery techniques been used. Snakes constituted a significant portion of the faunal assemblages, contributing an estimated 20% to 25% of the edible meat weight represented. That substantial numbers of snake bones were recovered in midden contexts in association with other subsistence remains strongly indicates that such animals were intentionally procured, presumably for food, and were part of the diet of pre-Columbian Everglades people.

KEYWORDS: SNAKES, FLOTATION, TREE ISLAND MIDDENS, EVERGLADES, FLORIDA

RESUMEN: Durante miles de años los Everglades (*río de hierba*), una vasta extensión pantanosa con matorral constituyó el hogar de las poblaciones indígenas de la Florida. En este trabajo se examinan los registros zooarqueológicos de dos yacimientos precolombinos en este ecosistema subtropical de la Florida meridional. Ambos sitios son basureros de limos negros localizados en arboledas al este de dichos Everglades. Un instrumento de flotación equipado con mallas de luz muy reducida generó una mayor presencia de pequeños restos de animales y, con ello, muestras más representativas de los depósitos arqueológicos. De particular importancia ha sido el relativamente alto número de restos de serpientes recuperados en ambos yacimientos. Estos restos incluían vértebras y elementos craneales, los cuales normalmente no hubiesen sido recuperados de haberse empleado técnicas menos minuciosas de flotación. Las serpientes constituían una porción significativa de las muestras faunísticas y se estima que representaban entre el 20% y el 25% del total de carne consumible en las muestras. El hecho de que tal cantidad de restos de serpientes hayan sido recuperados en contextos de desechos alimentarios y asociados con otros restos derivados del consumo sugiere que estos reptiles fueron capturados intencionalmente, presumiblemente como alimento, y que constituían una parte clave de la dieta de las poblaciones precolombinas de los Everglades.

PALABRAS CLAVE: SERPIENTES, FLOTACIÓN, BASUREROS EN ARBOLEDAS, EVERGLADES, FLORIDA

INTRODUCTION

Commonly called the *River of Grass* (Douglas, 1947), the Everglades is one of the largest freshwater marshes in North America (Craighead, 1971: 163) and was the home of indigenous populations for several thousand years. This vast wetland lies in an elongated basin in the southern part of the State of Florida. Prior to extensive flood control operations during the 1900s, the Everglades encompassed a wider area and sustained an abundance of wildlife. And, according to zooarchaeological evidence from a number of pre-Columbian sites, this region provided a wealth of animal resources for its human inhabitants in the distant past as well.

This study examines faunal assemblages recovered from two pre-Columbian archaeological sites located in an area that was formerly part of the eastern Everglades in south Florida. The use of fine recovery techniques resulted in the collection and greater representation of smaller animal remains. Of particular significance was the recovery of a substantial number of snake bones at both sites. In this paper, I focus on the presence of these snake remains and the evidence for the use of such animals as a dietary resource among pre-Columbian Everglades people.

Unlike the rest of the southeastern United States, which lies within the temperate zone, south Florida is distinct in having a near-tropical climate, with relatively uniform warm temperatures throughout the annual cycle (Thomas, 1974). Whereas many snake species tend to hibernate in the cooler months elsewhere, they are active year-round in south Florida, and therefore would have been a readily available resource for the region's early human inhabitants.

That snakes have not been frequently reported or even mentioned as a potential food source in many earlier zooarchaeological studies of the southeastern United States or tropical America is possibly due to several factors. Snake remains may have been absent from or minimally represented in faunal assemblages because coarser recovery techniques had been used, thus losing such remains during excavation. Even when large numbers of snake bones were recovered, these were often dismissed as intrusive incidentals and/or irrelevant. Indeed, archaeologists generally did not consider the possibility of snakes being consumed. Such interpretations may be attributed to cultural biases of the archaeologists, since snakes are not part of the typical American diet.

The presence of a relatively large quantity of snake remains at the two sites examined here necessitates a more serious consideration of the role of such animals in the overall subsistence pattern. In this paper, I first give a brief description of the Florida Everglades. Then, I describe the archaeological sites examined, the recovery methods used, and the faunal assemblages analyzed. Next, I examine the relative representation of snake remains and describe the taxa of snakes identified. Finally, I present several ethnohistorical sources documenting the consumption of snakes among Florida's indigenous peoples.

THE ECOLOGICAL SETTING: THE EVERGLADES

The Everglades covers an area of approximately 10,000 square km (3,900 square miles) and forms the lower segment of a huge, naturally integrated drainage system in the southern half of the Florida peninsula (Harper, 1927: 167; Parker, 1984: 28; Kushlan, 1990: 329-330) (Figure 1). From the northernmost part of the Kissimmee River basin, near Orlando, waters flow southeast into Lake Okeechobee and, as lake water levels rise, subsequently overflow south into the Everglades. Within the Everglades, this vast body of water moves slowly south through a flat open expanse of grassy marsh, ultimately discharging into the estuaries of Florida Bay and the Gulf of Mexico. This extensive freshwater wetland originally covered the entire central portion of south Florida and was saturated or inundated with surface water during most of the year. A fragile and complex ecosystem, the Everglades is characterized by wet and dry seasons, fluctuating water levels, recurring fires, and periodic droughts (Cohen, 1984; Parker, 1984; Kushlan, 1990).

The natural vegetation of the Everglades is dominated by sawgrass (*Cladium jamaicense*), which typically occurs in tall, dense stands growing in rich organic soils of peat and muck (Harper, 1927: 167-168; Steward, 1984: 157). The sawgrass marsh serves as a filtering system, removing and locking away nutrients and thereby cleansing the waters as they percolate south (Florida Chapter Soil & Water Conservation Society, 1989). The nearly total dominance of sawgrass over such a

FIGURE 1
Map of Florida showing location of the Everglades and archaeological sites described in this study (indicated by asterisk).

large area is one of the distinguishing features of the Everglades (Kushlan, 1990: 340).

The Everglades marsh is rich in wildlife. Characteristic animals include river otters, raccoons, opossums, panthers, deer, grebes, herons, ducks, freshwater turtles, water snakes, and alligators, as well as a variety of amphibians, freshwater fish, insects, and other invertebrates (Duellman & Schwartz, 1958; Dineen, 1984; Fogarty, 1984; Layne, 1984; Robertson & Kushlan, 1984; Loftus & Kushlan, 1987; Florida Chapter Soil & Water Conservation Society, 1989; Kushlan, 1990).

Scattered throughout the Everglades marsh landscape are tree islands. These are small elevated clusters of trees, or tropical hardwood hammocks, that stand out as islands in isolation from the surrounding lower vegetation (Craighead, 1984: 191). Lying parallel to the direction of water flow, these raised islands of dry ground were ideal for settlements in the past and contain numerous archaeological sites (Milanich, 1994: 298).

During the past century, with the modern settlement of the region, the Everglades system has been greatly altered. Its waters are now controlled by extensive flood control and water management operations. Considerable marshland has been destroyed with the development of farms, cities, highways, and homes in south Florida (Kushlan, 1990: 360-362). Currently, an ambitious restoration project is underway to help revive, protect, and preserve the Everglades and to restore this *River of Grass* to at least a semblance of its former state.

THE ARCHAEOLOGICAL SITES

The two archaeological sites are located in southeastern peninsular Florida in an area that was formerly part of the eastern Everglades (Johnson *et al*., 1996: 4) (see Figure 1). Today, this area is relatively dry and is carpeted by native and introduced grasses (Carr *et al*., 1994: 4-5).

MacArthur #2 (8BD2591) is a black earth midden located on the remnant of a small tree island. Cultural material remains indicate a Middle Archaic or pre-ceramic Late Archaic occupation, dating to approximately 5,000 to 2,000 BC situated about 1.6 Km (1 mile) to the west, Sheridan Hammock (8BD191) is also a black earth midden on a former small tree island rise. The archaeological remains at this site are much later in time, dating to AD 1200-1513, or the Glades III period (Johnson *et al*., 1996). Black earth middens are the most typical kind of archaeological site found on tree islands in the Everglades and generally consist of artifacts and faunal remains mixed in a matrix of very dark, organically stained soil. Although the two sites date to different time periods, they are quite comparable. The archaeological evidence indicates that the same general hunting-gathering-fishing subsistence pattern persisted throughout the Archaic and Glades cultural periods in the Everglades region, and these populations remained essentially non-agricultural (Griffin, 2002).

The nature of the cultural materials recovered from both sites indicates that these were campsites, used primarily for subsistence resource procurement. The density of remains in the middens suggests that the sites were probably reoccupied over a period of years. Small groups of people may have used these locations as short-term stopover points while traveling through the glades or may have occupied the sites for more extended periods, possibly on a seasonal basis, alternating with occupation of the coast (Johnson *et al*., 1996). Indeed, in pre-Columbian times, the tree islands were the only dry land within the inundated sawgrass marsh and therefore the most suitable location for campsites.

MATERIALS AND METHODS

The faunal assemblages were recovered from excavations conducted in 1995 and 1996 (Johnson *et al*., 1996). Excavation units were dug in 10 cm arbitrary levels within natural strata. At each site, the archaeologists removed a column soil sample from a test unit excavated within the most concentrated portion of the midden deposit; a 50 cm by 50 cm area was dug in 10 cm levels in the corner of the test unit. There were a total of nine 10 cm levels in the column sample at MacArthur, and six 10 cm levels in the Sheridan Hammock sample. Each 10 cm level was bagged and subsequently subject to flotation (Johnson *et al*., 1996).

Flotation recovery was divided into three fractions – 6 mm (1/4 inch), 3 mm (1/8 inch), and 1.5 mm (1/16 inch) – corresponding to three different sized nested screens in the flotation barrel (Johnson *et al*., 1996). Because of the enormous amount of materials recovered in the floated soil samples, I analyzed the faunal remains from one level of the column sample taken at each site. This sampling strategy can be justified because each site is a single-component site. At MacArthur, Level 2 (10-20 cm below surface) and, for Sheridan Hammock, Level 3 (20-30 cm below surface) were selected for analysis; at both sites, the levels were within Zone A, a stratum consisting of black earth midden. The two samples examined were large enough to support statistically valid comparisons because both contained over 15,000 identifiable specimens.

Analysis of the faunal remains followed standard zooarchaeological procedures (Reitz & Wing, 1999: 142-238). Specimens were identified to the lowest taxon possible using the extensive comparative reference collections housed in the Environmental Archaeology laboratory at the Florida Museum of Natural History. In the case of snake remains, identification below the family taxonomic level was somewhat challenging. Vertebrae, which were the predominant bone elements among the remains, may differ only very slightly among different species of snakes. The vertebrae of the middle precaudal series, or thoracic region, are the most constant in structure and therefore the most reliable for purposes of identification (Auffenberg, 1963: 154; Walker, 2003). Furthermore, incomplete vertebral specimens often precluded more precise identification. On the other hand, cranial elements, which were recovered in the finer flotation fractions, could be more readily identified to genus, and sometimes even to species.

Quantification of the faunal remains included a count of the total number of identified specimens of each taxon (NISP); calculated estimates of the minimum number of individual animals represent-

General Equation: $\log_{10} y = \log_{10} a + b(\log_{10} x)$

x = bone weight (grams)
y = meat weight (grams)
a = y-intercept
b = slope

Formula values from Quitmyer 1985:39; Environmental Archaeology Files, Florida Museum of Natural History

Taxon	log a	b	Taxon	log a	b
Osteichthyes (Bony Fish)	1.38	0.89	Serpentes (Snakes)	1.06	0.94
Caudata (Salamanders)	2.07	0.56	*Alligator mississippiensis* (Alligator)	not available	not available
Anura (Toads/Frogs)	1.40	0.86	Aves (Birds)	1.24	0.84
Testudines (Turtles)	1.65	0.53	Mammalia (Mammals)	1.41	0.81
Lacertilia (Lizards)	not available	not available			

TABLE 1

Allometric Formula Values Used in Meat Weight Estimations.

ed (MNI); the weights of all identified osteological specimens; and estimates of the minimum amount of usable meat provided by identified specimens. The MNI determinations were based on the concept of paired elements and individual size. For snakes, the MNI figures were determined primarily from cranial elements rather than vertebrae. The weights of identified specimens were converted into estimates of edible meat by using skeletal mass allometric formulas generated from weights taken on a series of modern comparative specimens housed at the Florida Museum (Table 1).

RESULTS

The faunal assemblages at MacArthur and Sheridan Hammock were very similar in the taxa and quantities of animals identified. A comparison between the two sites in terms of taxa represented is shown in Table 2. Quantification of each assemblage, comparing total NISP, MNI, and meat weight calculations by vertebrate class, appears in Table 3 (MacArthur) and Table 4 (Sheridan Hammock).

A total of 16,833 bone remains, representing 48 vertebrate taxa, were identified in the faunal assemblage at MacArthur; and 15,585 bone specimens, representing 48 vertebrate taxa, were recovered at Sheridan Hammock.

At both sites, aquatic species, mostly freshwater, dominated the faunal remains. Fish and reptiles were the two most abundant classes represented in terms of MNI and usable meat weight estimations. Fish constituted 82% of the total MNI and 40% of the edible meat weight at MacArthur, and 50% MNI and 44% usable meat weight at Sheridan Hammock. Reptiles represented 9% of the total MNI and 46% of the edible meat weight at MacArthur, and 36% MNI and 46% usable meat weight at Sheridan Hammock. Amphibians, mammals, and birds were far less important, each representing less than 7% of the total MNI and less than 10% of the edible meath in the two assemblages (Fradkin, 1996) (see Tables 3 and 4).

Of particular significance was the relatively large quantity of snake remains recovered at each site. Snakes constituted 28% of the NISP and 25% of the estimated meat contribution at MacArthur (see Table 3) and 39% of the NISP and 23% meat weight at Sheridan Hammock (see Table 4). A description of the snakes represented follows.

Scientific Name	**Common Name**	**MacArthur #2**	**Sheridan Hammock**
Lepisosteus spp.	gar	x	x
Amia calva	bowfin	x	x
Anguilliformes	eel		x
Ameiurus spp.	bullhead catfish	x	x
Ictaluridae	bullhead catfish	x	x
Lepomis microlophus	redear sunfish	x	x
Lepomis spp.	sunfish	x	x
Micropterus salmoides	largemouth bass	x	x
Centrarchidae	sunfish	x	x
Carangidae	jack		x
Mugil sp.	mullet		x
Osteichthyes	bony fish	x	x
Amphiuma means	two-toed amphiuma	x	x
Siren lacertina	greater siren	x	x
Caudata	salamander	x	x
Rana spp.	true frog	x	x
Anura	toad/frog	x	x
Chelydra serpentina	snapping turtle	x	x
Sternotherus spp.	musk turtle	x	x
Kinosternon spp.	mud turtle	x	x
Kinosternidae	musk/mud turtle	x	x
Pseudemys spp.	cooter	x	x
Emydidae	water turtle	x	x
Apalone ferox	Florida softshell	x	x
Testudines	turtle	x	x
Lacertilia	lizard	x	x
Farancia abacura	mud snake	x	x
Nerodia spp.	water snake	x	x
Lampropeltis getula	common kingsnake	x	
Colubridae	colubrid	x	x
Agkistrodon piscivorus conanti	Florida cottonmouth	x	x
Viperidae	pit viper		x
Serpentes	snake	x	x

Scientific Name	Common Name	MacArthur #2	Sheridan Hammock
Alligator mississppiensis	American alligator	x	x
Reptilia	reptile	x	x
Podilymbus podiceps	pied-billed grebe	x	x
Ardea herodias	great blue heron	x	x
Anas spp.	marsh duck		x
Anatinae	duck	x	
Cathartidae	American vulture	x	
Small Aves	small bird	x	
Aves	bird	x	x
Didelphis virginiana	opossum	x	
Sylvilagus spp.	rabbit	x	x
Oryzomys palustris	rice rat	x	
Sigmodon hispidus	hispid cotton rat	x	
Neofiber alleni	round-tailed muskrat	x	x
Small Rodentia	small rodent	x	
Rodentia	rodent	x	x
Procyon lotor	raccoon		x
Mustela vison	mink		x
Lutra canadensis	river otter	x	x
Odocoileus virginianus	white-tailed deer		x
Small Mammalia	small mammal	x	x
Medium Mammalia	medium mammal	x	x
Mammalia	mammal	x	x

TABLE 2

Presence of Vertebrate Taxa at MacArthur #2 and Sheridan Hammock Sites, South Florida.

CLASS	NISP (%)	MNI (%)	MEAT g (%)
Fish	8,750 (52.0)	299 (82.4)	3,860.44 (40.0)
Amphibians	707 (4.2)	17 (4.7)	966.98 (10.0)
Reptiles	7,156 (42.5)	31 (8.5)	4,413.54 (45.8)
SNAKES	**4,650 (27.6)**	**13 (3.6)**	**2,384.84 (24.7)**
Other Reptiles	2,506 (14.9)	18 (5.0)	2,028.70 (21.0)
Birds	27 (0.2)	6 (1.7)	64.09 (0.7)
Mammals	193 (1.1)	10 (2.8)	340.11 (3.5)
TOTALS	16,833	363	9,645.16

TABLE 3
MacArthur #2: Totals by Vertebrate Class, with Snakes Highlighted.

CLASS	NISP (%)	MNI (%)	MEAT g (%)
Fish	5,315 (34.1)	90 (50.3)	5,203.18 (44.1)
Amphibians	156 (1.0)	12 (6.7)	751.91 (6.4)
Reptiles	10,030 (64.4)	65 (36.3)	5,469.72 (46.3)
SNAKES	**6,066 (38.9)**	**45 (25.1)**	**2,715.13 (23.0)**
Other Reptiles	3,964 (25.4)	20 (11.2)	2,754.59 (23.3)
Birds	51 (0.3)	6 (3.4)	151.02 (1.3)
Mammals	33 (0.2)	6 (3.4)	228.45 (1.9)
TOTALS	15,585	179	11,804.28

TABLE 4
Sheridan Hammock: Totals by Vertebrate Class, with Snakes Highlighted.

DESCRIPTIONS OF SNAKES

The most common snakes represented at both sites were water snakes (*Nerodia* spp.) (Figure 2). Locally called "water moccasins," these relatively large and thick-bodied snakes are non-poisonous and harmless creatures, though they will strike and bite hard in self-defense if cornered. Water snakes are the most common snakes found in the Everglades. Semiaquatic in habit, these predators are adept swimmers and typically occur in freshwater lakes, ponds, rivers, streams, and marshes. They often bask in the sun but will immediately take to the water for protection when disturbed (Haast & Anderson, 1981: 65; Conant & Collins, 1998: 286). Three species of water snakes occur in the Everglades – the Florida (banded) water snake (*Nerodia fasciata pictiventris*), the Florida green water snake (*Nerodia floridana*), and the brown water snake (*Nerodia taxispilota*) (Duellman & Schwartz, 1958: 307-309; Behler & King, 1979: 632-639; Haast & Anderson, 1981; Conant & Collins, 1998: 286-297) – though identification of the archaeological remains was possible only to the genus taxonomic level.

Another non-poisonous snake represented in both faunal assemblages was the mud snake (*Farancia abacura*) (Figure 3). A large predatory serpent, this species is semiaquatic, inhabiting swampy, weedy lake margins and slow-moving mud-bottomed streams, and is also a burrower (Behler & King, 1979: 609-610; Haast & Anderson, 1981: 79-81; Conant & Collins, 1998: 335-336).

One other non-poisonous snake was represented, though by only a single cranial bone at MacArthur. The common kingsnake (*Lampropeltis getula*) (Figure 4), a large, powerful constrictor, is found in a variety of terrestrial habitats, though in close proximity to water or moist areas. Its common name is derived from its habit of killing and eating other snakes, non-poisonous as well as poisonous, since it is immune to the venom of the latter (Behler & King, 1979: 618-619; Haast & Anderson, 1981: 103,105; Conant & Collins, 1998: 366-368).

One poisonous snake was represented in both faunal assemblages: the Florida cottonmouth (*Agkistrodon piscivorus conanti*) (Figure 5) is a pit viper without rattles and is typically found wherever there are freshwater rivers, lakes, ponds, and marshes. This snake is thick-bodied and has facial pits located between the eye and nostril on each side of the head. When disturbed, the cottonmouth draws into a loose coil, cocks its head upwards and back, and opens its mouth wide, displaying the cottony-white interior lining, hence the name cottonmouth. From this loose-coiled stance, it lunges out, striking viciously and embedding its poison-carrying fangs into its intruder in self-defense. Its poisonous bite can be fatal to humans (Behler & King, 1979: 684-685; Haast & Anderson, 1981: 32-33; Florida Game & Fresh Water Fish Commission, 1987: 5; Conant & Collins, 1998: 402).

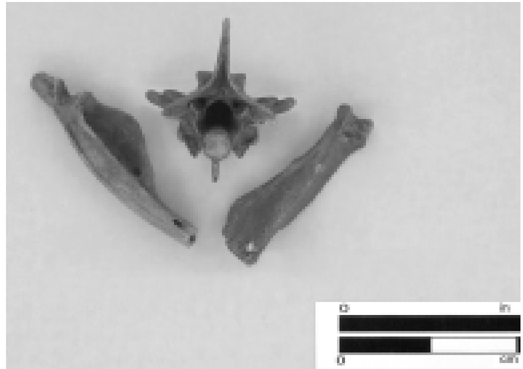

FIGURE 2

Remains of water snakes (*Nerodia* spp.) left to right: right articular, vertebra, right quadrate.

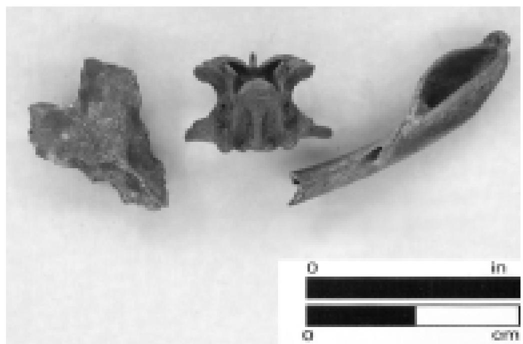

FIGURE 3

Remains of mud snake (*Farancia abacura*) left to right: parietal, vertebra, left articular.

SNAKES AS A DIETARY RESOURCE

The substantial representation of snakes at MacArthur and Sheridan Hammock is characteristic of faunal assemblages from Everglades tree island sites. One additional example is the Guy Bailey site (8DA4752), located approximately 16 Km (10 miles) farther south, in northern Dade County. Excavated in 1989, this site is a small, black earth midden situated on a tree island in the eastern Everglades. On the basis of the ceramic assemblage, the site dates to the Glades IIa-IIb cultural periods (AD 750-1100) and also represents a short-term camp or resource procurement locus (Carr & Zamanillo, 1990). Faunal materials recovered from a single test unit were screened through 6 mm (1/4 inch) and 3 mm (1/8 inch) mesh and were identified and analyzed by Frank Johnson Keel, Jr., as part of his MA thesis (Keel, 1990). As at MacArthur and Sheridan Hammock, freshwater fish and reptiles predominated in the zooarchaeological assemblage, and similar species were being exploited. Fish constituted 62% of the MNI and 36% of the biomass, and reptiles contributed 22% MNI and 56% of the biomass. Again, snakes accounted for 28% of the total estimated biomass represented in the faunal assemblage (Keel, 1990: 53-56, 99).

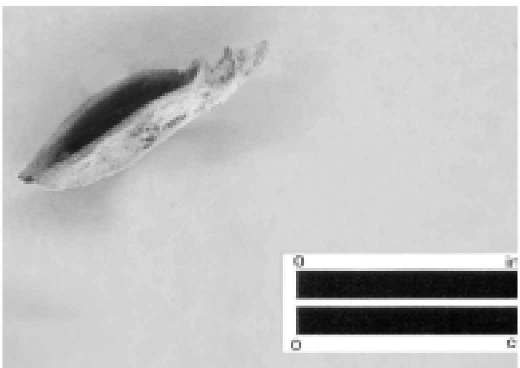

FIGURE 4

Remains of common kingsnake (*Lampropeltis getula*) left articular.

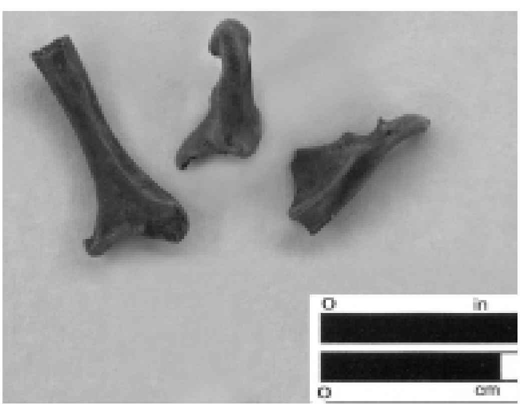

FIGURE 5

Remains of Florida cottonmouth (*Agkistrodon piscivorus conanti*) left to right: right ectopterygoid, right maxilla, left articular.

Of course, snakes are common intrusives, and their presence in zooarchaeological assemblages is therefore often attributed to incidental inclusion. Snakes may have been attracted to human habitation sites and died there naturally. Evidence for snakes as incidentals rather than as discarded food refuse may include the occurrence of complete skeletons or of only a few remains, representing one or two individuals. An additional marker would be the predominance of juveniles or smaller-sized species because they would provide little meat and therefore would probably not have been targeted for food (Walker, 2003). Finally, the archaeological context may also indicate whether such remains are incidental. Snakes are not scavengers and therefore, if intrusive, would typically be found in contexts other than midden, or refuse, deposits.

That snakes were intentionally procured, presumably for food, and were part of the diet of early Everglades people is strongly indicated by the contextual nature as well as the relative abundance of such remains in archaeological sites (Fradkin, 1978). Snake bones were recovered within midden deposits and were found in association with the remains of other animals, such as deer, fish, and turtles, that were primarily exploited for purposes of consumption. Furthermore, snake bones were present in relatively large quantities at these sites. It has been suggested that snakes were captured in fishing nets and/or clubbed with sticks (Hale, 1989: 184).

Additional evidence supporting the use of snakes as a dietary resource comes from several ethnohistorical sources, that is, observations recorded by Europeans who had firsthand contact with Florida's indigenous populations during the 16th century. Le Challeux, a French Huguenot colonist, stated that snakes were consumed by native peoples in north Florida. This is corroborated by an illustration done by Jacques Le Moyne, an artist who accompanied a French expedition to north Florida in the early 1560s. An engraving of one of his paintings of the Timucua Indians shows snakes and other meats being dried over a fire (Gaffarel in Swanton, 1946: 281; Le Moyne in Swanton, 1946: 281).

For south Florida, descriptive accounts refer to those native populations living around Lake Okeechobee. Fontenada, a Spaniard shipwrecked in south Florida in the mid-1500s, wrote, “The Indians also eat lizards, and *snakes*, and animals like rats, which live in the lake” (Fontenada, 1944:27). This account supports the archaeological evidence as exemplified by the recently excavated Whitebelt 1 Circle-Ditch site (8PB220), located approximately 16 Km (10 miles) east of Lake Okeechobee (Wheeler, 2000), which contained an abundance of snake remains (Fradkin, 2002).

CONCLUSIONS

Fine recovery techniques are essential for attaining a more complete reconstruction of the overall subsistence pattern of a site’s inhabitants. In this study, the use of flotation with fine-gauge screens resulted in the collection of a substantial number of snake remains at the two archaeological sites examined. Snakes contributed an estimated 20% to 25% of the edible meat weight represented in both faunal assemblages. Their relative abundance as well as their presence within midden deposits strongly indicates that snakes were intentionally captured and consumed by pre-Columbian Everglades people. Ethnohistorical accounts mentioning the consumption of snakes provide further corroboration. Indeed, snakes were locally available year-round in south Florida because of the relative lack of seasonal fluctuations in temperature and were therefore a readily accessible resource.

Of course, caution is still warranted when drawing these conclusions from the archaeological record because some snake remains may be incidental at a site, though such determination can be difficult. Nevertheless, the snake bones examined in this study were all recovered from midden contexts in association with the remains of other animals that were most likely consumed. Thus, on the basis of the zooarchaeological analysis presented here, snake meat served as an important, though not dominant, part of the diet of the early inhabitants of the *River of Grass*.

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