VERTEBRATE REMAINS FROM AN HISTORIC ARCHAEOLOGICAL SITE IN ROCK ISLAND COUNTY, ILLINOIS

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ABSTRACT.—An historic Sauk-Fox Indian site in Rock Island County, Illinois yielded over 5,500 bones identified to genus and/or species. A minimum of 13 species of fish, 7 turtles, 28 birds and 21 species of mammals were recorded. Mammals, particularly deer, were the most important food source followed by fish and turtles. Seemingly, birds were used primarily to make bone artifacts and ornaments. Animals from the site, that are now extinct or extirpated in Illinois, include trumpeter swan, wild turkey, passenger pigeon, ivory-billed woodpecker, raven, elk, black bear, bobcat, otter, bison, fisher, mountain lion and gray wolf.

The Crawford Farm Site (Ri 81) located 1½ miles east of Milan, Rock Island County, Illinois, is one of the few historic sites in this state that has been thoroughly investigated by professional archaeologists. This historic Sauk-Fox site, thought to have been occupied from about 1790 to 1810, as evidenced by the types of trade silver, glassware, metal utensils and beads recovered, is situated on the south bank of the Rock River, approximately five miles from the confluence of the Rock and Mississippi rivers. Extensive tracts of flood plain timber, upland forest and brush areas, as well as the rivers, provided ideal habitat for a variety of animals that were used extensively by these Indians.

Initial investigation and periodic excavation began in 1957. Through the combined efforts of Dr. R. W. Slack, Davenport, Iowa, and Mr. Dale F. Holmgrain and Mr. Burton Hansen, East Moline, Illinois, a considerable quantity of faunal material was recovered and made available for study. During the fall of 1958, and summers of 1959 and 1960, archaeological field parties under the directorship of Dr. John C. McGregor and Dr. Elaine Bluhm, Department of Anthropology, University of Illinois, systematically excavated larger sections of the village where a large amount of additional refuse was encountered. Earth-moving equipment uncovered still more bone in the spring of 1961. I would like to express my appreciation to these individuals for permitting me to study and report on these vertebrate remains.

Most of the faunal materials recovered in this village were found in refuse pits; a small quantity occurred in the midden debris, while a few pieces were apparently interred with human burials. Over 15,000 bone remains were examined during this study and of the total, approximately 36% were identifiable to the genus and/or species level. Four classes of vertebrates were represented; included were a minimum of 13 species of fish, 7 species of turtles, 28 species of birds, and 21 species of mammals. The identified species and the number of remains of each are listed in Table 1.

DISCUSSION OF SPECIES

Fishes. Nearly 28% of the identifiable remains from this site were

TABLE 1.—Vertebrates Identified from the Crawford Farm Site, Illinois (1957-1961).

Species	Number of Identified Remains	Percent
FISHES	1,569	27.59
Channel Catfish, *Ictalurus punctatus*, and/or Blue Catfish, *I. furcatus*	509	8.96
Fresh-water Drum, *Aplodinotus grunniens*	354	6.23
Buffalofish and Suckers: Catostomidae	158	2.78
Gar, *Lepisosteus* sp.	138	2.42
Buffalofish, *Ictiobus* spp.	137	2.41
Smallmouth Buffalofish, *Ictiobus bubalus*, and/or Black Buffalofish, *I. niger*	107	1.88
Sturgeon: *Acipenser* sp.	44	.77
Bass, *Micropterus* sp.	28	.49
Sucker, *Catostomus* sp.	22	.38
Redhorse, *Moxostoma*, sp.	18	.32
Flathead Catfish, *Pylodictis olivaris*	16	.28
Longnose Gar, *Lepisosteus osseus*	13	.23
Bass, Sunfish, Crappie group: Centrarchidae	7	.12
Sauger and/or Walleye, *Stizostedion* sp.	6	.11
Northern Pike, *Esox lucius*	6	.11
Shortnose Gar, *Lepisosteus platostomus*	4	.07
Blue Catfish, *Ictalurus furcatus*	2	.03
TURTLES	1,361	23.96
Soft-shelled Turtle, *Trionyx* sp.	768	13.52
Turtle: *Pseudemys, Chrysemys, Graptemys, Emydoidea* group	273	4.81
Turtle spp.	111	1.95
Snapping Turtle, *Chelydra serpentina*	90	1.58
Pond Terrapin, *Pseudemys scripta*	69	1.21
Map Turtle, *Graptemys geographica*	23	.40
Blanding's Turtle, *Emydoidea blandingi*	10	.18
Painted Turtle, *Chrysemys picta*	6	.11
Map Turtles, *Graptemys* sp.	6	.11
False Map Turtle, *Graptemys pseudogeographica*	5	.09
BIRDS	172	3.00
Trumpeter Swan, *Olor buccinator*	28	.49
Swan, *Olor* spp.	25	.44
Meadowlark, *Sturnella* sp.	14	.24
Turkey, *Meleagris gallopavo*	13	.23
Passenger Pigeon, *Ectopistes migratorius*	10	.18
Duck spp.	10	.18
Canada Goose, *Branta canadensis*	10	.18
Teal, *Anas* sp.	7	.12
Passerines	5	.09
Prairie Chicken, *Tympanuchus cupido*	5	.09
Bald Eagle, *Haliaeetus leucocephalus*	5	.09
Sandpiper, Scolopacidae	3	.05

Species	Number of Identified Remains	Percent
Ivory-billed Woodpecker, *Campephilus principalis*	3	.05
Goose spp.	3	.05
Red-shouldered Hawk, *Buteo lineatus*	3	.05
Wood Duck, *Aix sponsa*	3	.05
Mallard, *Anas platyrhynchos* (probably)	2	.03
Blue and/or Snow Goose, *Chen* sp.	2	.03
Long-billed Curlew, *Numenius americanus*	2	.03
Raven, *Corvus corax*	2	.03
Hawk sp.	2	.03
Red-tailed Hawk, *Buteo jamaicensis*	2	.03
Marsh Hawk, *Circus cyaneus*	2	.03
Pigeon Hawk, *Falco columbarius*	2	.03
Duck Hawk, *Falco peregrinus*	1	.02
Sparrow Hawk, *Falco sparverius*	1	.02
Great Blue Heron, *Ardea herodias*	1	.02
Least Bittern, *Ixobrychus exilis*	1	.02
Sandhill Crane, *Grus canadensis* (probably)	1	.02
Lesser Scaup or Ring-necked Duck, *Aythya* sp.	1	.02
Double-crested Cormorant, *Phalacrocorax auritus*	1	.02
American Coot, *Fulica americana*	1	.02
Domestic Chicken, *Gallus gallus*	1	.02
MAMMALS	2,578	45.38
White-tailed Deer, *Odocoileus virginianus*	2,030	35.74
Raccoon, *Procyon lotor*	158	2.78
Beaver, *Castor canadensis*	147	2.58
Elk, *Cervus canadensis*	108	1.89
Canid, *Canis* sp., probably Dog, *C. familiaris*	36*	.63
Black Bear, *Ursus americanus*	28	.49
Horse, *Equus caballus*	16	.28
Gray Squirrel, *Sciurus carolinensis*	12	.21
Squirrel, *Sciurus* sp.	7	.12
Bobcat, *Lynx rufus*	6	.11
Muskrat, *Ondatra zibethica*	6	.11
River Otter, *Lutra canadensis*	6	.11
Striped Skunk, *Mephitis mephitis*	4	.07
Cottontail, *Sylvilagus floridanus*	3	.05
Fox Squirrel, *Sciurus niger*	3	.05
Common Mole, *Scalopus aquaticus*	2	.03
Bison, *Bison bison* (probably)	1	.02
Fisher, *Martes pennanti*	1	.02
Mountain Lion, *Felis concolor*	1	.02
Badger, *Taxidea taxus*	1	.02
White-footed Mouse, *Peromyscus* sp.	1	.02
Gray Wolf, *Canis lupus* (probably)	1	.02
Totals	5,680	99.93

* Plus two additional complete, and one partially complete, dog burials.

fish. The quantity of fish bones recovered, as well as the variety of species represented, attest to the significance of this group as a source of food to these Indians. More than 1,500 of the approximately 6,000 fish bones excavated were identified, and 32% of the bones were those of the catfish (*Ictalurus* spp.). Separation of channel and blue catfish on the basis of osteological remains is often difficult and uncertain; determination of the blue catfish was based on the size of a pectorial fin spine and a section of lower jaw. This jaw came from a fish that probably weighed between 65 and 75 pounds. The majority of *Ictalurus* bones came from fish weighing 4 to 8 pounds; the eating quality of these fish is excellent and the Indian utilized them extensively.

Approximately one-fourth of the identified fish remains were those of the fresh-water drum, a species common in the Mississippi River and its larger tributaries. In comparing the pharyngeal bones and otoliths from this site with reference specimens of known weights, the majority of drum taken by these Indians weighed between 5 and 10 pounds. Most of the fish utilized by these people were, considering the species involved, large; this was especially true in the case of buffalofish and suckers. Like the catfish and drum, the catostomids (particularly the buffalofish) were abundant during this time period and, as a group, comprised nearly 22% of the identifiable fish remains from this site.

Few of the so-called game fish—that is, northern pike, bass (*Micropterus*), walleye—were taken. This may be indicative of the species complex and abundance of fish then inhabiting the Rock and Mississippi rivers and of the fact that the Indians caught fish in direct proportion to their availability and abundance. Judging from present-day population studies (for example, Barnickol and Starrett, 1951), the drum, catfish and catostomids greatly exceed the "game" species numerically (with possible local exceptions of the small centrarchids—sunfishes, crappie, bluegill) in the Mississippi River. However, the factor of selective fishing, based on the predominance of bones of the larger, meaty fish and the paucity of the small fish bones and those of game and other species, should be considered. The absence of bowfin (*Amia calva*) remains is of interest and suggests the possibility that the Indian disdained the use of this common but, by modern standards, unedible species. However, gar were apparently eaten and these fish are also considered less than desirable. In any case, the Indians occupying this site had available to them a variety and an abundance of fish which formed an important part of their diet.

Turtles. At least seven species of turtles were identified from the faunal samples recovered at the Crawford Farm Site and the remains of these are of interest from several points of view. Bones of soft-shelled turtles were the most numerous, constituting over 56% of the turtle remains. Many of these bones were from extremely large specimens and are probably referable to *Trionyx ferox*. A majority of the pond terrapin, map and snapping turtle bones were also those of large individuals. It is apparent that, as a

group, they were especially desirable and sought after as a preferred food.

Of the more than 1,300 turtle bones recovered, none showed evidence of having been worked and/or used for any purpose. Utilization of turtle shells, especially the carapace for bowls, is a well-known trait of the prehistoric Indians of Illinois (Parmalee, 1957) and in some instances it appears that they may have been valued as much for this reason as for food (Fowler, 1959). The total absence of box turtle remains at this site—the carapace of *Terrapene* being especially adaptable for modification as a dish or bowl—and the quantity of unworked shell from numerous large specimens of aquatic forms, leaves little doubt but that turtles served as a valuable food and were hunted solely for that purpose.

Birds. Compared with the quantity of fish, turtle or mammal bones recovered at this site, avian remains were numerically few. Only 3% of the total number of identified bones from the Crawford Farm Site were those of birds. Birds were evidently hunted, but the infrequency of remains in the refuse pits and midden debris suggests that little use was made of them as food. The variety of species represented is noteworthy, but the number of bones of each is small (Table 1), with a total count of less than 120 specifically identifiable remains. Waterfowl (ducks, geese, swans) accounted for 53% of the total (31% swan). Although birds were probably eaten, the variety of "non-edible" species represented (particularly the raptors), and the number of worked bones, suggests that birds were often obtained for uses other than food.

One of the more interesting aspects of the avian materials was the utilization of swan bones for ornaments and/or tools(?) by these Indians. Over 80% of the swan bones recovered, primarily humeri (at least 12 individuals), exhibited evidence of having been cut, scraped, polished and/or engraved. A similar use of swan bones had been made by the prehistoric Middle Mississippi Indians once occupying the Cahokia Site (Parmalee, 1957, 1958), located along the Mississippi River approximately 185 miles south of the Crawford Farm Site. Typically, the ends of the humeri were cut off and the shaft was either sectioned for use as beads or left entire. Most of these whole shaft sections appeared polished and several had been elaborately engraved. In most cases their function is somewhat problematical, although in one instance Mr. Dale Holmgrain recovered a cut swan humerus which had apparently served as a whistle. The only record of the sandhill crane from this site was a section of the humerus that had been cut in a similar fashion as those of the swans.

Another bird bone artifact of special note, fashioned from the ulna of a bald eagle, was found by Mr. Holmgrain in a refuse pit. The proximal one-fourth of the ulna had been cut off and a hole drilled in the distal end. A small triangle had been cut out of the shaft (as was the case in the above mentioned swan humerus whistle) approximately 3½ inches from the distal end; this artifact had almost certainly been used as a whistle.

In addition to the remains of the trumpeter swan, a species now ex-

tirpated in Illinois, those of the passenger pigeon, long-billed curlew, raven, and ivory-billed woodpecker are noteworthy. The passenger pigeon is now extinct and although it migrated through Illinois in tremendous numbers, relatively few bones have been encountered thus far in archaeological sites. The limited number of raven and curlew records have also been recorded (Parmalee, 1958).

At this site, two carpometacarpals (in all probability from the same bird) of the raven were found in a refuse pit by Dr. Slack. This wing bone supports the large primary flight feathers and, at sites where these bones have been found associated with the burial complex (e.g. Banks Site, Arkansas; Parmalee, 1959a), it is apparent that the wings had been of special significance being used as fans, or possibly as arm ornaments or decoration. Although our specimens were found in a refuse pit, they may have originally been used in the same or a similar capacity. Bray (1961) and Wittry (1962) describe the occurrence of raven remains with human burials; heads and wings were apparently used as parts of a headdress and for decoration.

Remains of the ivory-billed woodpecker at this site are of zoological interest if it can be assumed that the birds were taken locally. Parts of one upper and two lower jaw sections were recovered; one of the lower sections was found with the nearly complete upper bill and these were probably from the same bird. The other section of the bill occurred in a different pit. The only other record of this woodpecker in Illinois is a tarsometatarsus found at the Cahokia Site (Parmalee, 1958). If these remains from the Crawford Farm Site were from birds killed locally, their presence would extend the known range of this species approximately 185 miles further north in western Illinois. However, the possibility exists that these remains of bills had been part of a headdress or pipe decoration, or had been used as another type of ornament, in which case the birds could well have been obtained elsewhere.

The bones of at least seven species of raptors, from such a numerically small sample of avian remains, may be of significance and bear out the idea that "Probably numerous species of birds such as hawks, owls, eagles and cranes were taken for their plumage rather than for food" (Parmalee, 1957). Swanton (1946) has discussed the various uses to which the feathers, beak and claws of raptors were put and their importance to the historic Indians of the southeastern United States. The variety of "non-edible" birds represented in this faunal sample and the quantity of worked bones, coupled with the sparse remains of ducks, geese and the turkey—food species occurring most commonly in prehistoric sites—suggests that birds were obtained more for their plumage(?) and bones rather than for food.

Mammals. The kinds of mammals utilized by these historic Indians differs little from those used by prehistoric cultural groups; typically, the white-tailed deer served as the basic meat staple. Eighty percent of the identifiable mammal remains were those of deer (35% of the to-

tal), and of the 5,100 unidentifiable large mammal bone fragments, most were probably referable to *O. virginianus*. Considering the size of the sample, the number of elk remains was high (108) and this large animal was probably killed whenever available. The black bear was taken in limited numbers (probably in relation to its abundance) and, unlike the prehistoric groups to whom the bear was of special significance (Parmalee, 1959b), was sought primarily for food and/or its hide.

Remains of the raccoon and beaver were the second and third most abundant bones, comprising approximately 12% of the total. Both animals were probably eaten and, at least in the case of the beaver, it is reasonable to assume (based on early historic accounts, for example, Thwaites, 1911) that the pelts were bartered to the whites for trade goods. The quantity of beaver remains (28% of the total) found at an historic Fox site (Bell Site) in Wisconsin (Parmalee, 1963) also suggested a beginning of intensified fur trapping activity. It is of interest to note that at least four pelves of the beaver, as shown by the smoothed and worn inner edges of the obturator foramen, had been used as a tool, possibly for the processing of leather (thong strop?) or as a fiber shredder. Also worthy of note were two black bear jaws found in refuse pits; a large, wedge-shaped section had been cut out of the rami and, although its use is questionable, these jaws may have served a similar function.

In addition to the domestic dog, remains of which were found in several refuse pits (including three intentional burials), these Indians also had the horse. However, bones of the horse were few in number, a minimum of one animal being represented, so the value of the horse and the use to which it was put is a matter of speculation. If these Indians had retained numerous animals, they were certainly taken with them when these people departed or were driven from this site. The nearly complete absence of bison at the Crawford Farm Site is noteworthy, since the animal was, by this time, not uncommon in the western sections of the state. Possibly the bison was not present locally and, with the abundance of deer and other food animals close at hand, extended hunting trips for them were unnecessary. Perhaps only the meat of animals killed some distance from the village (Iowa?) was brought back.

A variety of other mammals were taken, but the paucity of remains of each would indicate they were of no major importance in the food economy of these people. A complete ulna of the mountain lion was recovered in addition to part of a scapula of a large canid (probably gray wolf) and several bones of the bobcat; bones of these large predators are of interest in that they indicate the Indian occasionally made use of such carnivores for food(?) and/or for their hides. These remains also serve as indicators of the early historic distribution of such species now extirpated in Illinois. One of the most interesting records to come from this faunal sample was the partially complete fisher skull found with a human burial by Mr. Holmgrain. Quite possibly this skull

was part of a medicine bag, but whether the animal had been taken locally, or brought down from the north by the individual, is a matter of speculation (Parmalee, 1961).

Summary

In evaluating the vertebrate remains from this historic site, it is apparent that numerous native species of fish, turtles, and mammals constituted the major food items and that the white-tailed deer served as the basic meat staple. Hunting was probably done on a selective basis with, for example, the larger catfish, drum, buffalofish, suckers and turtles being preferred. Probably the beaver and possibly other mammals as well were hunted or trapped for their pelts which were exchange for European trade goods. Birds were not a major source of food, but probably were hunted more for the use of their bones and plumage in the manufacture of ornaments and decorations.

Literature Cited

Barnickol, Paul G., and William C. Starrett. 1951. Commercial and sport fishes of the Mississippi river. Bull. Ill. Nat. Hist. Survey, Urbana, 25(5): 267-350.

Bray, Robert T. 1961. The Flynn cemetery: An Orr focus Oneota burial site in Allamakee County. J. Iowa Arch. Soc. 10(4):15-25.

Fowler, Melvin L. 1959. Summary report of Modoc Rock Shelter. Ill. State Mus. Report Invest. No. 8: 72 pp., with Animal remains from the Modoc Rock Shelter site, Randolph County, Illinois. Paul W. Parmalee, Appendix II: 61-65.

Parmalee, Paul W. 1957. Vertebrate remains from the Cahokia Site, Illinois. Trans. Ill. Acad. Sci. 50:235-242.

———. 1958. Remains of rare and extinct birds from Illinois Indian sites. Auk 75(2):169-176.

———. 1959a. Animal remains from the Banks Site, Crittenden County, Arkansas. Tenn. Arch., Misc. Paper No. 5. 8 pp.

———. 1959b. Use of mammalian skulls and mandibles by prehistoric Indians of Illinois. Trans. Ill. Acad. Sci. 52(3 and 4):85-95.

———. 1961. Additional fisher records from Illinois. Trans. Ill. Acad. Sci., 53 (1 and 2): 48-49.

———. 1963. Vertebrate remains from the Bell Site, Winnebago County, Wisconsin. Wis. Arch. 44(1):58-69.

Swanton, John R. 1946. The Indians of the southeastern United States. Bur. Am. Ethnol. Bull. 137. 943 pp.

Thwaites, Reuben G. (Ed.). 1911. The fur-trade in Wisconsin 1812-1825. Coll. State Hist. Soc. Wis. 20: 1-395.

Wittry, Warren L. 1962. A raven headdress from Sauk County, Wisconsin. Wis. Arch. 43:87-94.

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