THE COMPOSITION AND CHARACTERISTICS OF THE MOLLUSCAN FAUNA ASSOCIATED WITH THE PERRY MASTODON OF GLEN ELLYN, ILLINOIS

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ABSTRACT

The molluscan fauna associated with the Perry Mastodon is identified and quantitatively recorded. The environment of deposition was a late Pleistocene, cool-temperate, flood plain lake. Two extinct species were present, the remainder being modern forms.

The Perry Mastodon was found in 1963 in Glen Ellyn, Illinois during the excavation of some artificial lakes (Figures 1 and 2). The site is on the boundary of the flood plain of the DuPage River adjacent to the eastern slope of the Roselle Moraine of the Valparaiso Morainic System (Late Pleistocene). According to D. A. Block (1964) 120 bones from a single mastodon were recovered (distribution of large bones is shown in Figure 1). Picea tissue associated with the bones was dated at 10,980 BP ± 350 years. This approximately corresponds to the 11,000 BP boundary between the Valderan and Twocreekan Substages of the Late Pleistocene (Frye and Willman, 1960).

Willman (1971) mapped the site as Grayslake Peat (Formation). This unit characteristically is the result of lake filling processes in kettles, lake basins, and flood plain abandoned channels (Willman and Frye, 1970). The bedding at this site was gently dipping toward the northeast, apparently due to onlapping and probable compaction of the lake sediments upon the border of the Roselle Moraine. This would also account for an inclination of several feet across the dispersion area of the disarticulated bones. Slope wash would explain the presence of large dolomite pebbles in the silty muck. Irregularly distributed concentrations of marl were

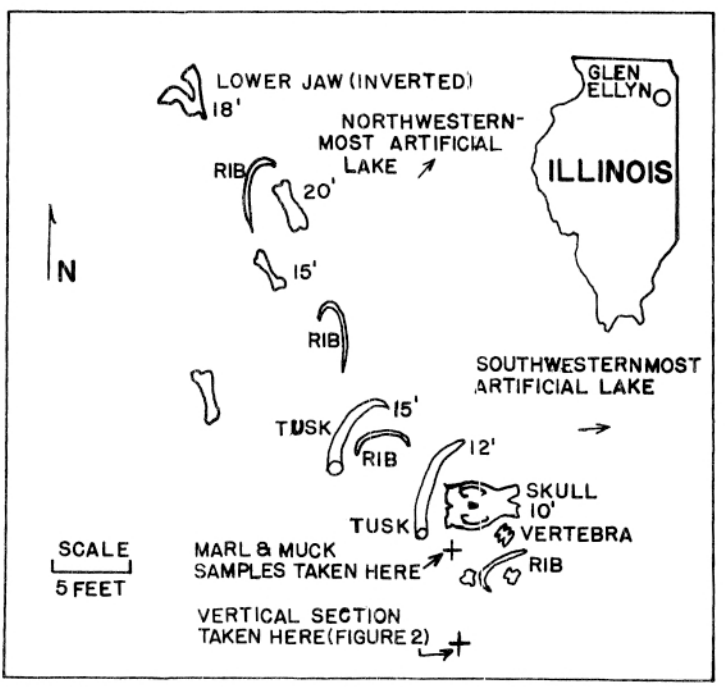

FIGURE 1. Sketch of Perry Mastodon excavation site showing the distribution of larger bones. Numbers indicate depth in feet.

found in the lower silty, organic muck. The marl consists of calcareous masses of Chara and gastropods.

Complete counts of mollusca retained by a #20 screen (0.84 mm.) were made for two samples taken adjacent to the mastodon skull (see Figure 2). One sample was marl. The other was a silty, organic muck. The most numerous species, Gyraulus altissimus, is restricted to "Wabash" assemblages by Baker (1920). Leonard and Frye (1960) give a range of Farmdalian and Woodfordian for this species. The only other extinct species found was Amnicola leightoni which is a common component of Pleistocene marls in the Midwest (Baker, 1928). Leonard and Frye restrict this species to Farmdalian Substage in the Illinois Valley.

Most species of mollusca identified are restricted to, or common in, lacustrine environments. Only one poorly-preserved specimen of a terrestrial form, Euconus (?), was found. Armiger crista and Stagnicola reflexa are restricted to small, shallow lakes (La Rocque, 1968). Some doubt exists as to whether or not Pisidium compressum is a lake species or is frequently washed into lake sediments (La Rocque, 1968). Little, if any, abrasion is present on the shells. Fragmentation of delicate forms is insignificant. Both of these characteristics would indicate no or limited transportation for the entire faunal assemblage.

Some species are currently found in the region, but others now have a more northerly distribution (La Rocque, 1968; Baker, 1928) (see Faunal List). Some species particularly of Amnicola appear to be somewhat stunted, which is common to mollusca in thermally depressed assemblages (Parmalee, 1968 in Bergstone).

The nature of the molluscan fauna plus the presence of Chara and Picea suggest a Late Pleistocene temperate climate somewhat cooler than the present local climate. The composition of the sediments and the fauna imply deposition in a flood plain lake.

FIGURE 2

Exposed Section Lombard Quad., Ill., T39N, R10E, NE1/4, Sec. 11 (for exact location see Figure 1).

Black humus	4'6"
Yellow clay	7"
Peat	3"
Light gray, non-fossiliferous, even-textured silt.	3"
Peat	1"
Gray-brown organic silt ("muck") with gastropods, Sphaerium, twigs, and dolomite pebbles.	3'8"
Light gray non-fossiliferous even-textured silt.	2"
Gray-brown organic silt ("muck"), with spruce wood, twigs, and cones, some charred wood and twigs, dolomite pebbles, large clumps of marl, small concretionary lumps of $CaCO_3$ and marcasite, H_2SO_4 gas, Chara, fish scales, ostracods, turtle scales. This unit is below the local water table.	6'0"

FAUNAL LIST

	PTI MUCK	PTI MARL
Acella haldemani Binney	0.05	----
Amnicola leightoni F. C. Baker	16.68	4.03
Amnicola lustrica Pilsbry	28.16	8.22
Armiger crista Linnaeus	0.29	0.70
Euconus (?)	0.05	----
Ferrissia parallela Haldeman	0.20	0.08
Fossaria dalli F. C. Baker	1.38	0.23
Gyraulus altissimus F. C. Baker*	27.53	44.18
Helisoma anceps striatum F. C. Baker	2.06	0.54
Mentus species	0.15	0.47
Pisidium casertanum Poli	0.34	----
Pisidium compressum Prime	1.03	1.32
Stagnicola reflexa Say	0.05	0.23
Valvata sincera Say	1.43	0.93
Valvata tricarinata Say	20.61	39.05
TOTAL	100.00	100.00

*Has more northerly distribution now.

"Muck" sample percentages based upon 2,038 individuals. Marl sample percentages based upon 1,288 individuals.

Additional species not occurring in quantitative samples but occurring in the section:

Anodonta species

Helisoma campanulatum Say

Helisoma trivolvis Say

Lymnaea stagnalis juglaris Say

Physa heterostropha Say

Sphaerium sulcatum Lamarck

All molluscan specimens will be kept by the Southern Illinois University Museum, Carbondale, Illinois.

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