
PLEISTOCENE *EQUUS* SP. FROM SANDUSKY CO., OHIO¹

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A collection of mammalian bones was made by Charles Innis and Thornton Hole, U. S. Soil Conservation Service, from a sand deposit about five miles west of Fremont, SW $\frac{1}{4}$ sec. 27, T. 5 N., R. 14 E., Washington Township, Sandusky County, Ohio (fig. 10). This collection was submitted to the Department of Geology at Bowling Green State University for identification and reconstruction. Part of a jawbone and several milk teeth of a Pleistocene *Equus* were uncovered along with parts of at least four individual peccaries. Reconstruction of a mature female peccary was possible. The remains of the peccaries for the most part, are in an excellent state of preservation, and were partially articulated.

STRATIGRAPHY

The specimens were found at a depth of about 15 ft below the top of a sand hill. The sand here forms a high, narrow ridge, the crest of which is at an altitude of approximately 680 ft. On the basis of both altitude and location the sand accumulation is considered to be a part of the Lake Warren beach ridge (Hoare et al., 1964). According to Forsyth (1959: 3) the age of the ridge, based on radio-carbon dates, is greater than 9,640 years. In this area, the Warren beach consists of a number of isolated hills or ridges, and does not present the strong linear ridge known elsewhere. The ridge at this point is considered to be at least in part a dune deposit (Hoare et al., 1964).

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DESCRIPTION

The collection of horse remains consists of part of the inner side of the right lower jaw and several milk teeth including the right second incisor (dI_2), a superior molar, four inferior molars and other teeth fragments. The teeth are all of the milk dentition shown by the short crowns of the teeth. The color is a dull ivory or yellowish white. Most of the cement and dentine is missing from the specimens and identification was made on the basis of the remaining enamel of the teeth (table 1).

TABLE I
Measurement of greatest dimensions of Equus sp. teeth (in millimeters)

Upper left premolar	
Height of internal face of crown.....	26.6 plus root..... 5.7=32.3
Height of external face of crown.....	31.6 plus root..... 8.4=40.0
Width of crown.....	24.1
Anterior-posterior length of crown.....	33.4
Right second incisor (dI_2)	
Height of internal face of crown.....	9.4 plus root..... 4.5=13.9
Height of external face of crown.....	11.8 plus root..... 9.5=21.3
Width of crown.....	7.8
Anterior-posterior length of crown.....	22.8
Lower molar	
Height of internal face of crown.....	35.0 plus root..... 2.9=37.9
Height of external face of crown.....	30.4 plus root..... 5.8=36.2
Width of crown.....	11.8
Anterior-posterior length of crown.....	35.6
Lower molar	
Height of internal face of crown.....	28.5 plus root..... 7.9=36.4
Height of external face of crown.....	33.8 plus root..... 6.3=40.1
Width of crown.....	12.0
Inferior molar	
Height of external face of crown.....	40.0
Inferior molar	
Height of internal face of crown.....	28.0
Height of external face of crown.....	26.9 plus root..... 6.6=33.5
Width of crown.....	11.1

RECORDED OCCURRENCES OF PLEISTOCENE *Equus*

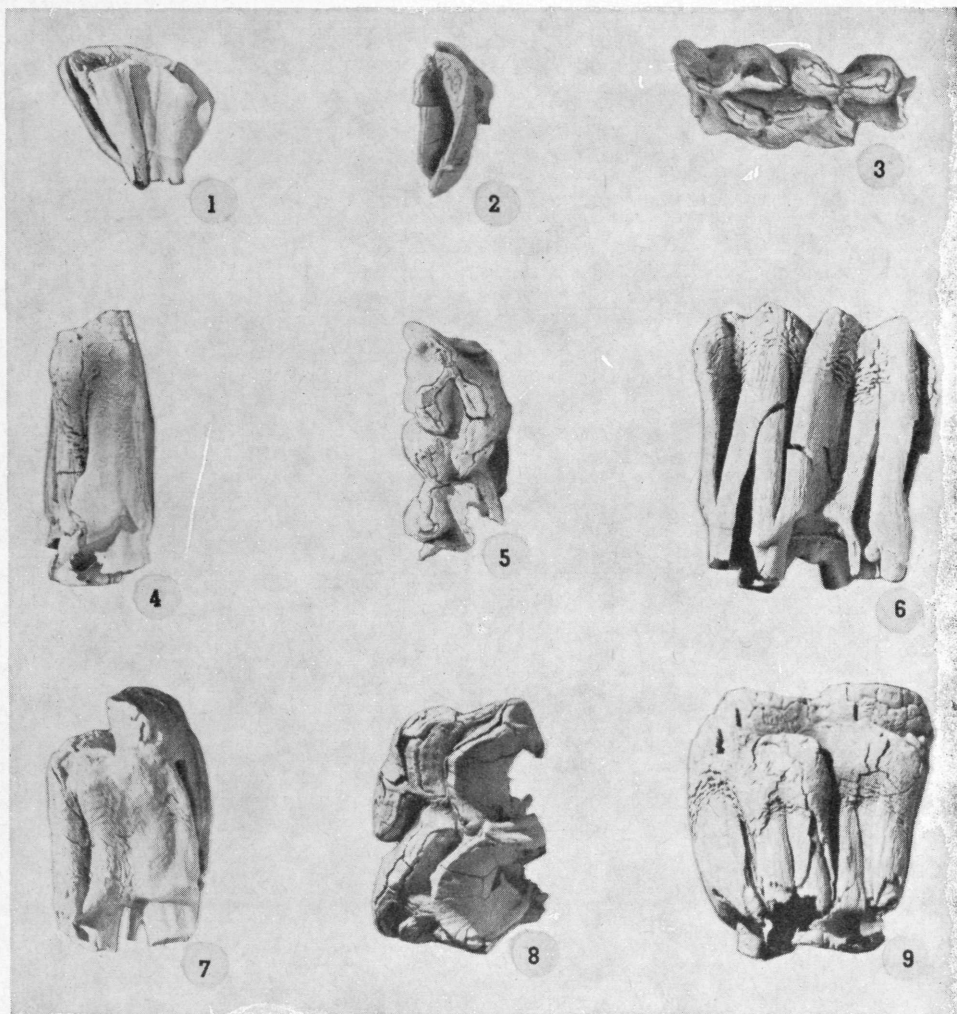
Eight occurrences of fossil horse remains besides the Sandusky specimen have been reported to the Ohio Geological Survey according to J. L. Forsyth (personal communication). The first five occurrences were previously described by Hay (1923: 185).

1. Cincinnati, Hamilton County. In 1895 in the *Journal of the Cincinnati Society of Natural History*, 1895(17): 217, Mr. Seth Hayes recorded the discovery of a molar tooth and a vertebra of a horse, identified as *Equus fraternus*. It was found with the remains of the Shaw mastodon in Hyde Park in the northeastern part of Cincinnati. The fossils were found in coarse gravel, which lay only 15 ft below the surface and was overlain by old till and loess. These remains date from about the Sangamon stage according to Hay. Hay also stated that he had not been able to examine the horse remains referred to but they probably belonged to *Equus complicatus*.

2. Columbus, Franklin County. In 1848 in the *American Journal of Science*, Ser. 1, 1848(5): 215, Charles Whittlesey stated that bones and teeth of a horse were found in fissures or "clay seams" of the Cliff limestone at Columbus. In 1866 in the *Smithsonian Contributions of Knowledge*, 1866(15): 16, Whittlesey reported that Joseph Sullivant of Columbus had, many years before, obtained from the crevices of the Cliff lime rock on the west side of Scioto River a number of bones embedded in red clay. Among these was the tooth of a horse. The crevice had not been open since the date of the white settlement of the country and it was wholly filled by the red clay which results from the decomposition of the

limestone. Also mentioned is the fact that all the remains found by Whittlesey have probably been lost.

3. Columbus, Franklin County. In 1875 in the *Cincinnati Quarterly Journal of Natural History*, 1875(2): 154, Klippart wrote that in excavating for the exterior wall at the Ohio penitentiary the warden, Mr. Burr, found the fossil jaw of a horse with the molars in good condition. He stated the horse must have been one-third



All figures are of *Equus* sp. and are natural size.

FIGURES 1, 2 Internal face and occlusal views of right second incisor (dI₂).

FIGURE 3. Occlusal view of right lower molar.

FIGURES 4-6. Posterior, top and external views of left lower molar.

FIGURES 7-9. Posterior, top and internal views of left upper premolar.

larger than the ordinary horse of today. Hay considers this to be a specimen of the Pleistocene horse *Equus complicatus*.

4. Columbus, Franklin County. Hay identified a tooth from an excavation in a peat bed made October 30, 1873, for a gas holder in the penitentiary grounds. The tooth was classified as *Equus complicatus* and considered to be of Sangamon age.

Forsyth (personal communication) points out that this tooth and the jaw

mentioned above are not from the same horse, but represent different individuals.

5. Salt Creek, Columbiana County. In 1866 in the *Smithsonian Contributions to Knowledge*, 1866(5): 16, Whittlesey reported a tooth of a horse found about 20 years before during construction of the Sandy and Beaver Canal. The tooth was discovered along Sandy Creek in Columbiana County at a depth not exceeding 12 to 15 ft. Probably the locality was in the southwestern corner of the county.

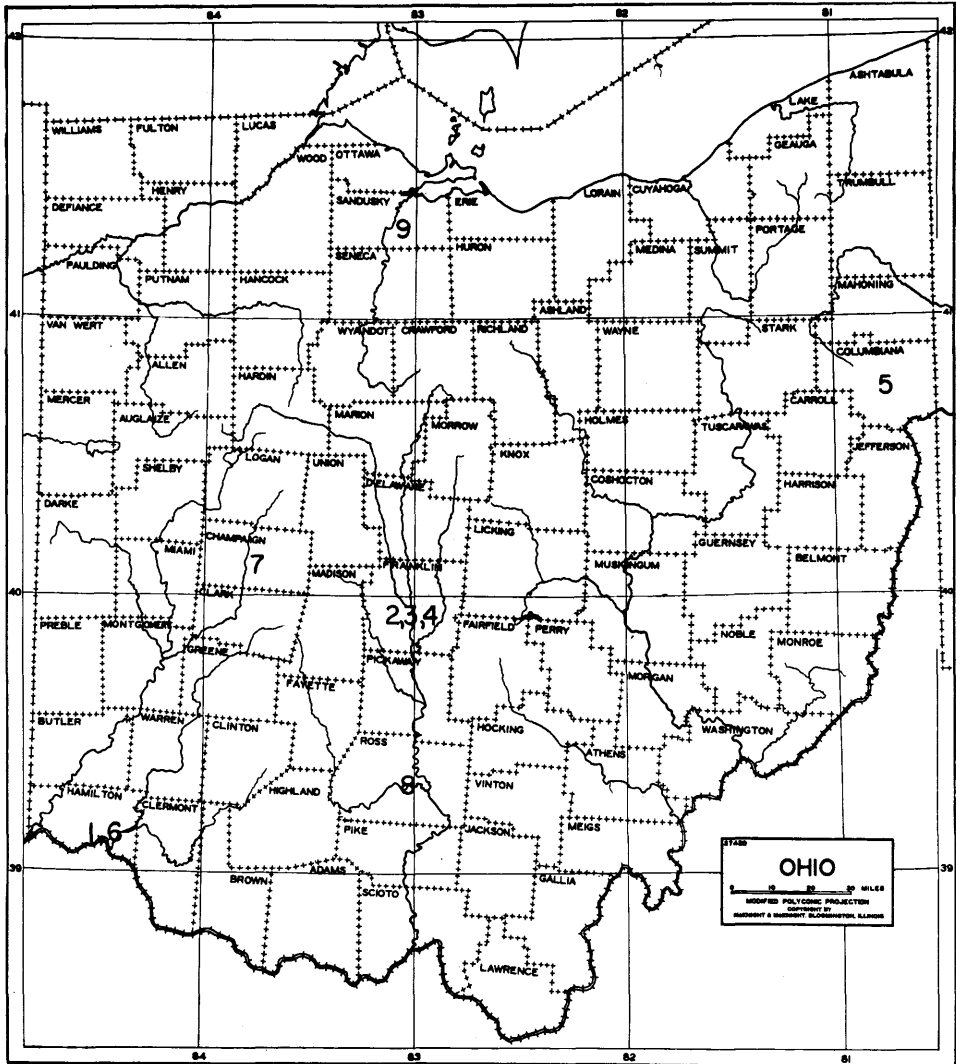


FIGURE 10. Reported occurrences of Pleistocene *Equus* in Ohio.

This county lies within the Illinoian drift region and Hay believed that the horse probably lived during the Sangamon stage or earlier.

Forsyth (personal communication) cites three additional possible Pleistocene occurrences of *Equus* in Ohio.

6. Hamilton County. In 1963, K. E. Caster of the University of Cincinnati reported that a horse jaw of Pleistocene age was found in excellent condition in the excavation for the approach to the new Ohio River bridge in Cincinnati.

7. Champaign County. Five teeth from a jaw which crumbled away were recovered in 1929 from a shallow depth in a marsh near Mingo. The teeth are now in The Ohio State University Museum. According to Forsyth the age is questionable.

8. Ross County. A complete skeleton of a horse was found in 1953 near Chillicothe in the southeast corner of Union Township. This controversial skeleton is now considered modern.

9. Sandusky County. In 1962, Mr. Charles Innis uncovered the horse remains described in the first part of this report. On the assumption that the *Equus* sp. teeth are of the same age as the specimens of *Platygonus compressus* found in the Lake Warren beach ridge, this find marks the most northerly occurrence thus far reported of horse remains from Ohio Pleistocene deposits. The earlier occurrences were located in central and southern Ohio (fig. 10).

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