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Generic Identification of the Pleistocene
Antelope from Rancho La Brea

E. L. FURLONG

With three plates

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INTRODUCTION

When the diminutive antelope from the Pleistocene asphalt of Rancho La Brea was originally described by Taylor (1911), comparison with Matthew's genus *Capromeryx* was of necessity limited in scope. Jaw and skeletal remains of the former were available, but only an incomplete ramus with full cheek-tooth dentition comprised the Nebraskan type. Indeed, no adequate comparison between the lower cheek teeth of these forms could be made, for whereas only milk teeth are present in the one form, permanent teeth occur in the other.

Assignment of the Rancho La Brea species to *Capromeryx* was therefore tentatively made by Taylor, and was in part based upon the fact that the Californian form and *Capromeryx* showed a similar size relation to the modern pronghorn antelope. At the time of Taylor's description, *Capromeryx* was regarded as coming from Pleistocene beds in Nebraska.

Subsequent authors, following Chandler (1916), definitely regarded the extinct asphalt species as belonging to the genus *Capromeryx*. The correctness of this determination was first questioned by Hesse (1935). Later, Stirton (1938) discussed more fully the reasons why the Californian and Mexican species could not be assigned to *Capromeryx*.

A restudy of the material of the small antelope from Rancho La Brea has convinced the writer of the soundness of the views presented by Hesse and Stirton. The species *minor* is therefore placed in a new genus.

Breameryx, n. gen.

Type specimen. No. 12523, Univ. Calif. Vert. Pale. Coll., a left ramus with milk teeth, originally described as *Capromeryx* (?) *minor* Taylor.

Plesiotype. No. 1126, L. A. County Mus. Vert. Pale. Coll., a mounted skeleton.

Locality and age. Rancho La Brea Pleistocene.

Generic characters. Premolars more hypsodont than in *Capromeryx*; P_3 with single enamel indentation on lingual side of crown. Alveolar measurement of cheek teeth (P_2 - M_3 inclusive) shorter than in the Nebraskan antelope. Third or posterior lobe in M_3 relatively longer; ramus of mandible not so elongated as in *Capromeryx fuscifer*. Skull relatively broad in comparison with length; orbits large and tubular; bullae strongly expanded. Horn cores consisting of a short spurlike front prong and a distinctly taller hind prong, which is rounded in cross section. The two prongs are closely situated, end in points, and arise from a common base or pedestal. The latter outgrowth of the frontal is above the laterally expanded supraorbital rim. Limb

elements slender and elongated. Five species have been described and are here referred to *Breameryx*. These are:

- B. minor* (Taylor); Rancho La Brea, California.
- B. mexicana* (Furlong); Tequixquiac, Mexico.
- B. arizonensis* (Skinner); NW. of Papago Cave, Arizona.
- B. gidleyi* (Frick); Curtis Flat, Arizona.
- B. minimus* (Meade); West Texas.

Only future studies of larger collections will decide whether or not all these forms are valid species. In view of the wide range of the modern *Antilocapra americana*, it seems at least possible that the specific divergencies within the genus *Breameryx* have been overemphasized.

No. Z8511, L. A. County Mus. Vert. Pale. Coll. (pl. 2, figs. 3, 3a), is a right ramus of the mandible, almost identical in size with a specimen of *B. mexicana*, no. 3243, Calif. Inst. Tech. Vert. Pale. Coll., from Tequixquiac, Mexico. The teeth are strongly hypsodont in both. In the jaw from Rancho La Brea the ascending ramus arches rather abruptly in an upper posterior direction from the level of M_3 . The coronoid process extends over the buccal side of the condyle and terminates on a line with the posterior margin of the broadly expanded angle. The posterior part of the jaw below the condyle is somewhat constricted and measures 28.2 mm. in depth. From this region the lower margin extends forward to the anterior end of the diastema, where the jaw is only 9 mm. deep.

In the type of *B. minor*, no. 12523 U.C. (pl. 2, figs. 1, 1a), the milk teeth are hypsodont. In an older fawn, represented by specimen no. 19933 U.C., the mental foramen is elongate and the diastema is relatively short, two characters that were previously noted in *B. mexicana*. In *B. minor* the lingual faces of the lower premolars lack the pronounced styles seen in *Capromeryx*. In P_4 the transverse diameter of the posterior part of the tooth is not so great as in *Capromeryx*, and conforms to the narrower width of the molars in *Breameryx*. In the premolars the re-entrant folds on the lingual side are shallow. In contrast, P_4 in *Capromeryx* has a deep lingual inflection which aids in demarcating an anterior lobe from shallower inflections on the buccal face of the tooth in the posterior third of the crown. The crown pattern of P_4 in *Merycodus hookwayi* is much like that in *Capromeryx*, but smaller, with lingual infolds much deeper and dividing the crown into three rather than two parts. In comparison with *Breameryx*, the premolar teeth seen in ramus no. 713 C.I.T. of *M. hookwayi* and in ramus no. 1298 C.I.T. of *M. loxocerus* are almost brachyodont, yet they occupy a space which closely approximates that of the alveoli in the former. Since the teeth have shallow roots, the ramus is slender. The diastema is relatively longer, and the ascending ramus rises less abruptly than in *Breameryx*. Morphological comparison between specimens of *Capromeryx* and *Breameryx* gives small evidence of close relationship other than in those generalized characters common to the antilocaprid group.

In view of the variability caused by difference in age of individuals and condition of crown wear in dentitions, certain allowances must be made in the

correlation of size and pattern of teeth. It is apparent, however, that antilocaprid genera differ decidedly in length of the cheek-tooth series, and in length of diastema. In the type ramus of *Capromeryx furcifer* the premolar-molar length is 55 mm.; *Breameryx mexicana* and *B. minor* show equal lengths of 47.0 mm. Nine individuals of *Merycodus loxocerus* average 44.9 mm. in length. The rami of 10 mature individuals of *Stoekoceros* have an average measurement of 66.9 mm. Each genus apparently has a fairly constant anteroposterior length of the lower cheek-tooth series. The length of diastema also varies between one genus and another, with other concomitant changes in the morphology of the jaws.

No *Breameryx* horn cores associated with dentitions have so far been recorded from undoubted Pliocene strata. There probably is a transitional stratigraphic zone between the Pliocene and Pleistocene, in which evidence may be found linking the early antilocaprids in closer relationship. The kinds of horn cores seen in skulls of *Cosoryx* and *Merycodus* from the Miocene and Lower Pliocene may have given rise to some of the distinctive horn-core structures of the later Cenozoic. With the passing of Quaternary time in North America came the extinction of all the Antilocapridae except *Antilocapra americana*, with simplified type of horn core.

Horn cores of Recent *A. americana* show diversity in their shape. Some cores are modified to an extreme degree from the norm, and if found fossil unassociated with skeletal parts might be considered as presenting structural evidence of specific or even generic value.

As in the case of *A. americana* with its former wide geographical range, *Breameryx*, on the basis of remains so far discovered, had an extensive distribution during Pleistocene time. *Breameryx*, like *A. americana*, probably lived in a plains environment, but was not confined to the high plains. In the region about Rancho La Brea it occupied a habitat in which grasslands were interspersed with clumps of brush and trees.

CONCLUSIONS

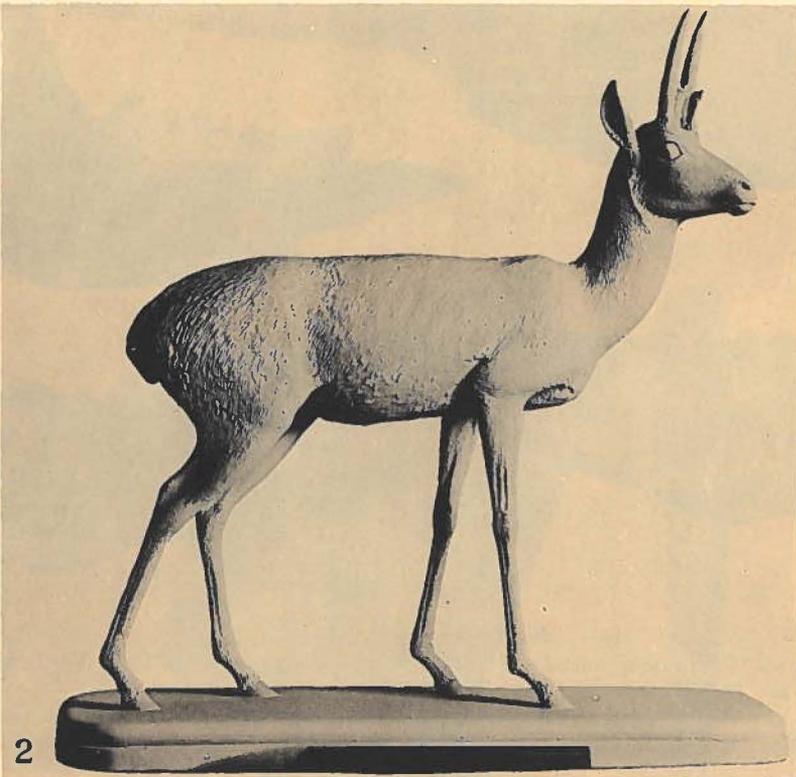
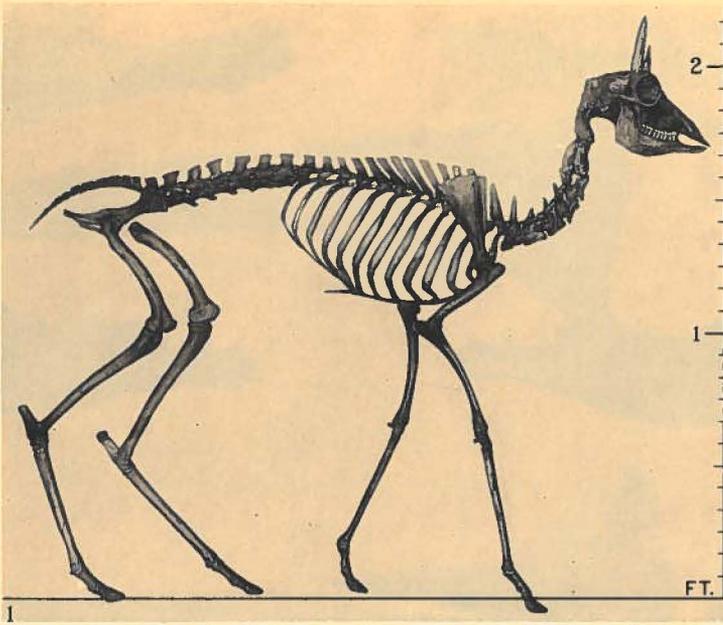
A review of available specimens of *Capromeryx* (?) *minor* and of the literature describing this antilocaprid makes it necessary to distinguish the asphalt form generically from *Capromeryx*. The name *Breameryx* is therefore proposed. Five species referred by authors to *Capromeryx* may belong to *Breameryx*. Matthew's type species *Capromeryx furcifer* is apparently from the Pliocene, as are also the species *C. altidens* and *C. texanus*. The stratigraphic range of *Breameryx* lies within the Pleistocene.

BIBLIOGRAPHY

- CHANDLER, A. C. 1916. Notes on *Capromeryx* material from the Pleistocene of Rancho La Brea. Univ. Calif. Publ., Bull. Dept. Geol., vol. 9, no. 10, pp. 111-120.
- FRICK, CHILDS. 1937. Horned ruminants of North America. Bull. Amer. Mus. Nat. Hist. 669 pp.

- FURLONG, E. L. 1925. Notes on the occurrence of mammalian remains in the Pleistocene of Mexico, with a description of a new species *Capromeryx mexicana*. Univ. Calif. Publ., Bull. Dept. Geol. Sci., vol. 15, no. 5, pp. 137-152.
- 1943. The Pleistocene antelope, *Stockoceros conklingi*, from San Josecito Cave, Mexico. Carnegie Inst. Wash. Pub. 551, I, pp. 1-7.
- GAZIN, C. LEWIS. 1942. The late Cenozoic vertebrate faunas from the San Pedro Valley, Arizona. Proc. U. S. Nat. Mus., vol. 92, no. 3155, pp. 475-518.
- HESSE, C. J. 1935. New evidence on the ancestry of *Antilocapra americana*. Jour. Mammal., vol. 16, pp. 307-315.
- 1936. A Pliocene vertebrate fauna from Optima, Oklahoma. Univ. Calif. Publ., Bull. Dept. Geol. Sci., vol. 24, no. 3, pp. 57-70.
- MATTHEW, W. D. 1904. Complete skeleton of *Merycodus*. Bull. Amer. Mus. Nat. Hist., vol. 20, art. 7, pp. 101-129.
- MEADE, GRAYSON E. 1942. A new species of *Capromeryx* from the Pleistocene of west Texas. Bull. Texas Archeol. and Paleontol. Soc., vol. 14, 8 pp.
- SKINNER, MORRIS F. 1942. The fauna of Papago Springs Cave, Arizona, and a study of *Stockoceros*; with three new antilocaprine from Nebraska and Arizona. Bull. Amer. Mus. Nat. Hist., vol. 80, pp. 143-220.
- STIRTON, R. A. 1938. Notes on some late Tertiary and Pleistocene antilocaprids. Jour. Mammal., vol. 19, pp. 366-370.
- STOCK, CHESTER. 1932. A further study of the Quaternary antelopes of Shelter Cave, New Mexico. Los Angeles Mus. Publ. No. 3, pp. 1-45.
- TAYLOR, W. P. 1911. A new antelope from the Pleistocene of Rancho La Brea. Univ. Calif. Publ., Bull. Dept. Geol., vol. 6, no. 10, pp. 191-197.

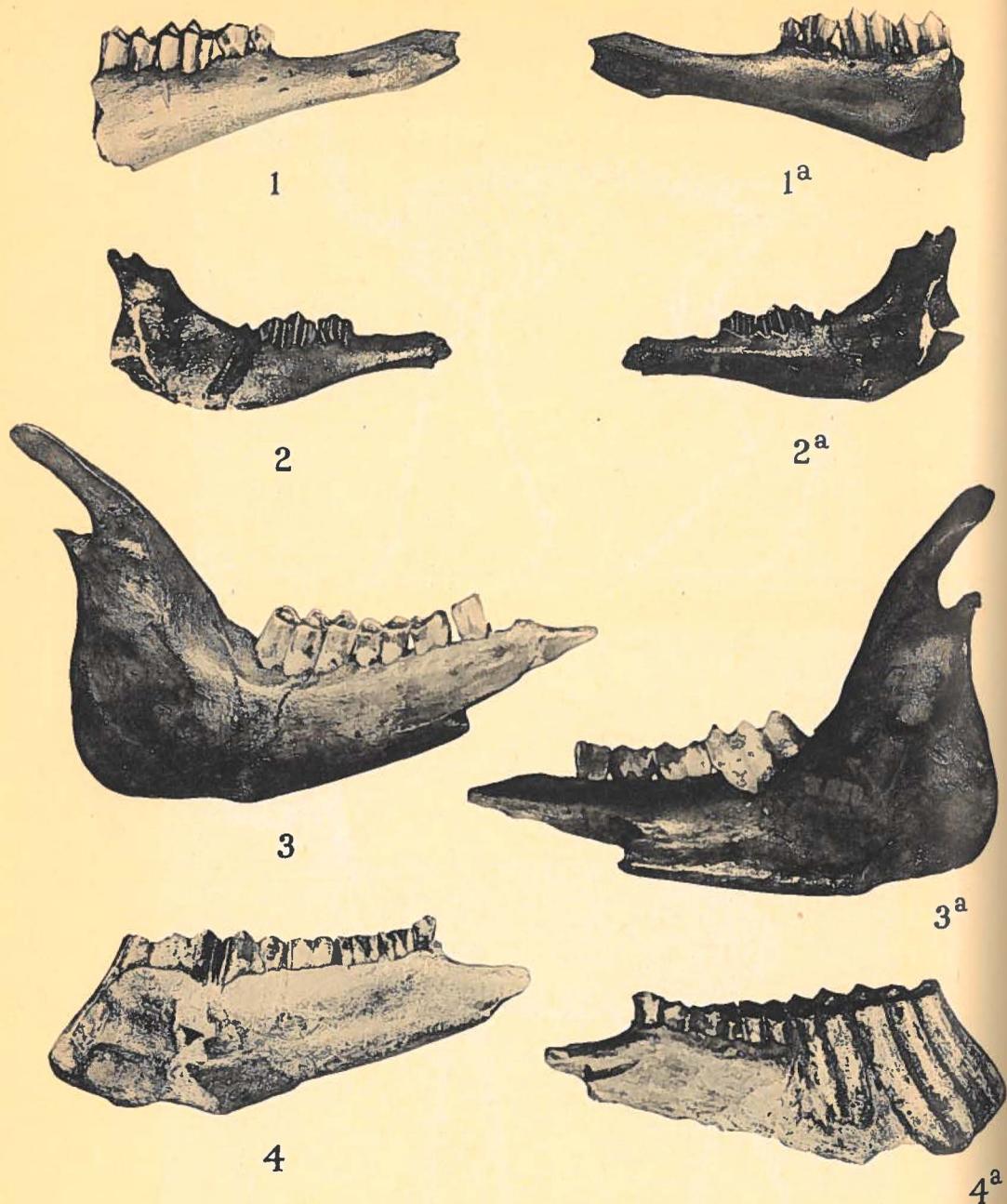
PLATES



Breameryx minor (Taylor)

FIG. 1. Plesiotype skeleton. No. 1126, L. A. County Mus. Vert. Pale. Coll. Rancho La Brea Pleistocene.

FIG. 2. Restoration of animal by William Otto.
Figures greatly reduced

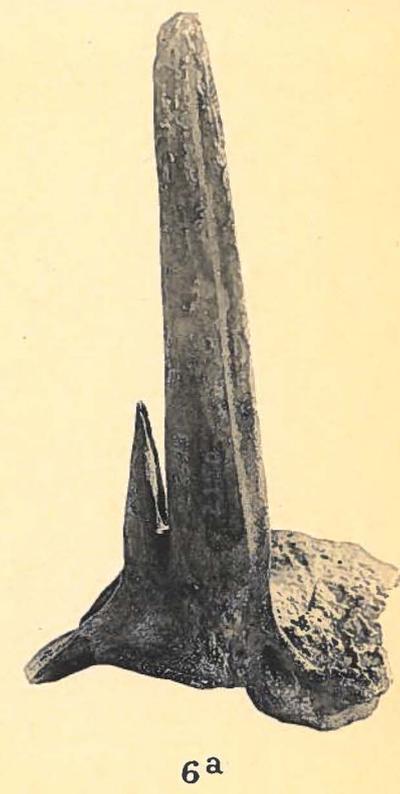
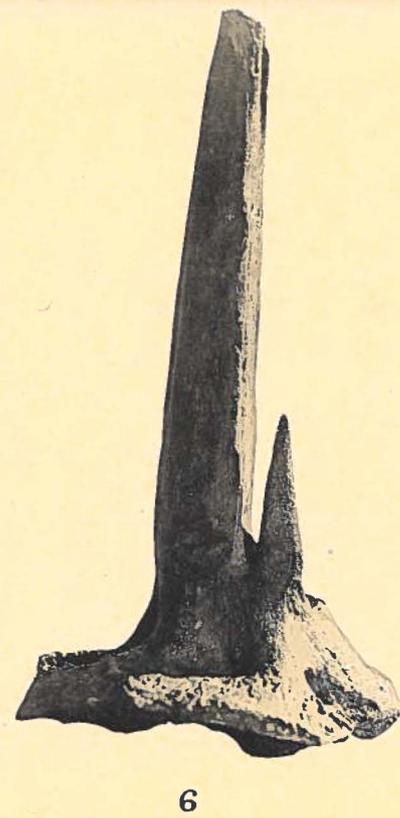
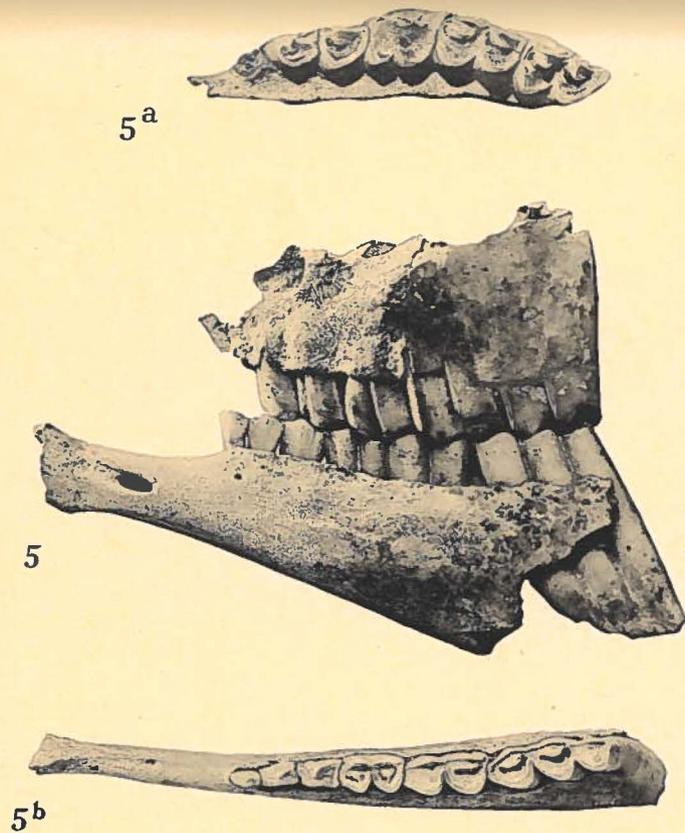


Breameryx minor (Taylor)

- FIGS. 1, 1a. Type ramus, buccal and lingual views. No. 12523, Univ. Calif. Vert. Pale. Coll.
 FIGS. 2, 2a. Part of ramus of fawn. No. 19977, Univ. Calif. Vert. Pale. Coll.
 FIGS. 3, 3a. Part of adult ramus, showing hypsodont dentition, ascending ramus, and angle of jaw. No. Z8511, L. A. County Mus. Vert. Pale. Coll. Rancho La Brea Pleistocene.

Capromeryx furcifer Matthew

- FIGS. 4, 4a. Cast of type ramus, buccal and lingual views, showing character of the teeth.
 Figures approximately natural size



Breameryx mexicana (Furlong)

FIGS. 5, 5a, 5b. Parts of left maxillary and ramus, showing side and crown views of teeth. No. 3243, Calif. Inst. Tech. Vert. Pale. Coll. Pleistocene, Tequixquiatic, Mexico.

Breameryx minor (Taylor)

FIGS. 6, 6a. Right horn core, orbital and sagittal views. No. 8523, L. A. County Mus. Vert. Pale. Coll. Rancho La Brea Pleistocene. Figures approximately natural size