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A GIANT OXYAENID FROM THE UPPER EOCENE OF MONGOLIA

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Mongolia has already produced gigantic members of two families of Tertiary mammals, *Baluchitherium* of the Rhinocerotidae and *Andrewsarchus* of the Mesonychidae. Now there appears a third relatively colossal form, a member of the Creodont family Oxyaenidae, briefly described below.

The type of this new form was discovered by Dr. A. Z. Garber, Surgeon of the Central Asiatic Expedition of 1930. Dr. Garber and the two surgeons on previous expeditions to the Gobi, having but little professional work to do, became ardent prospectors and many of the choicest palaeontological and archaeological finds are credited to them. The drawings are by John and Louise Germann.

SARKASTODON,[1] NEW GENUS

TYPE.—*Sarkastodon mongoliensis*, new species.

DIAGNOSIS.—Dentition; $\frac{2,1,3,1.}{1\ 1\ 3\ 2}$ Outer pair of upper incisors much enlarged and with the crowns meeting at the median line; inner pair vestigial and forced into a posterior position. Lower incisors very small and also forced into a posterior position by the massive and forward-placed canines. Upper and lower canines short but unusually robust. Upper premolars large, P^2 apparently two-rooted and crowded into a diagonal position in the tooth row. Lower premolars very robust and with small anterior basal cusps. M^1 developed into a great shearing tooth with a small protocone. Skull extremely short, broad, and massive. Jaw with heavy deep symphysis.

Sarkastodon mongoliensis, new species

TYPE.—Amer. Mus. No. 26641, front of skull with right ramus and anterior part of left ramus of lower jaws.

HORIZON AND LOCALITY.—Irdin Manha formation (Upper Eocene), about 25 miles southwest of Iren Dabasu, Inner Mongolia, collected by Central Asiatic Expedition, 1930.

PARATYPE.—Amer. Mus. 26302, right lower jaw with P_2–M_1, from the Ulan Shireh beds (= Irdin Manha) at Chimney Butte, Shara Murun region, Inner Mongolia. Collected by Central Asiatic Expedition, 1928.

[1] σαρκάζω, to tear flesh, ὀδούς, tooth. A name suggested by Prof. W. B. Scott.

DIAGNOSIS.—The only known species of the genus. Measurements given below.

As is the case with many other Upper Eocene forms from Mongolia the closest comparisons of *Sarkastodon* are with North American rather than with European relatives. Here the nearest approach to this new form, both in size and structure, is found in the Middle Eocene genus

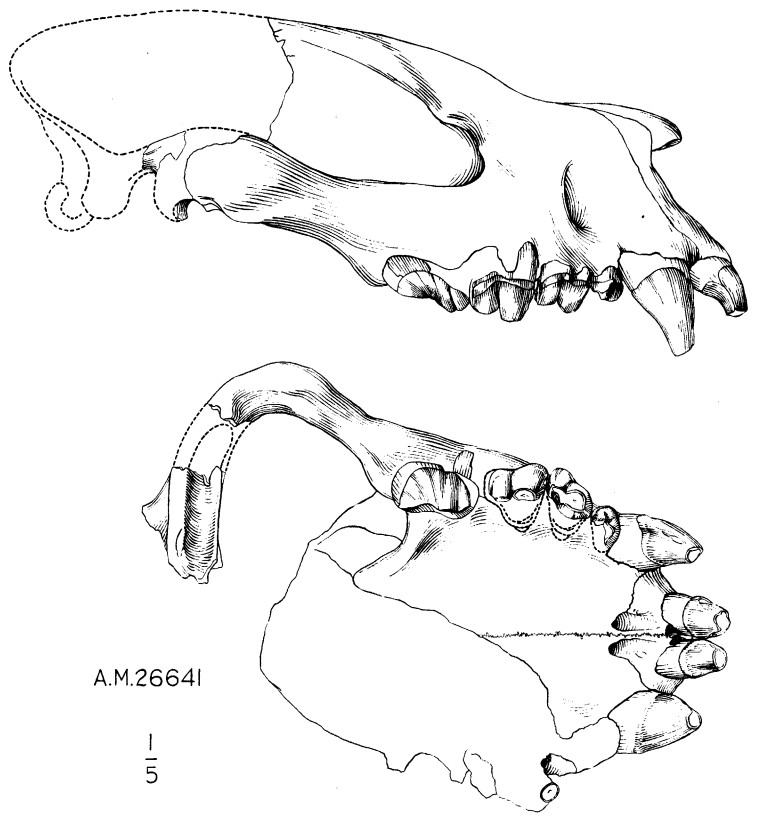

Fig. 1. *Sarkastodon mongoliensis.* Type, Amer. Mus. No. 26641. Right side and palatal views of the skull. × 1/5

Patriofelis which is exceeded in dimensions by at least 50 per cent. The generic distinctions from *Patriofelis* are found in the further reduction of the lower incisors, there being at least two in *Patriofelis*, in the enlarged swollen lower premolars, especially P_2, and P_3, in the elongation of M_2, and in the extraordinary simple shearing development

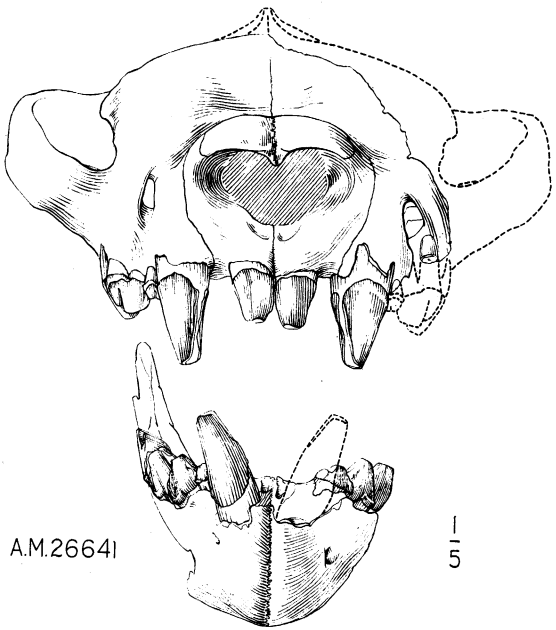

Fig. 2. *Sarkastodon mongoliensis.* Type, Amer. Mus. No. 26641. Front view of skull and lower jaws. × 1/5

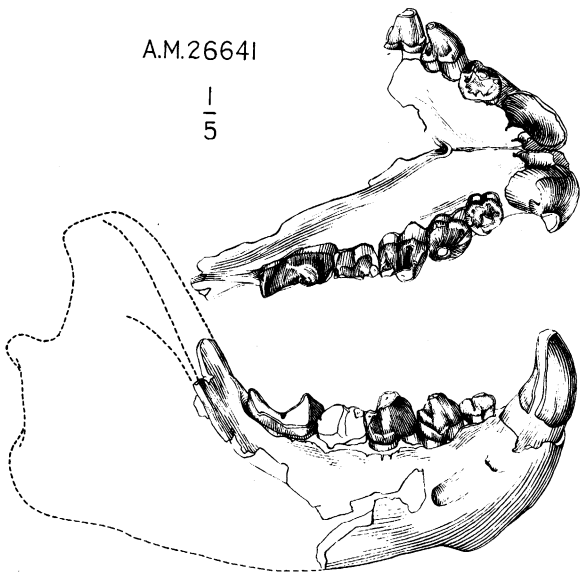

Fig. 3. *Sarkastodon mongoliensis.* Type, Amer. Mus. No. 26641. Right outer and superior views of lower jaws. × 1/5

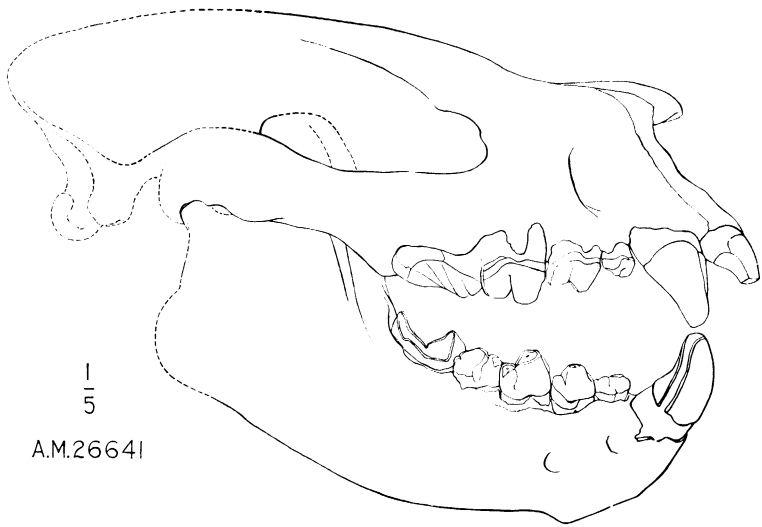

Fig. 4. *Sarkastodon mongoliensis.* Outline drawing of skull and jaws of type specimen supplemented by paratype lower jaw. Dotted lines indicate parts not known. × 1/5

of M^1. In *Sarkastodon* there is a short diastema in the lower tooth row between the canine and P_2; in the upper jaw there is a considerable gap between the enlarged incisor and the canine but none back of the canine. The skull-shortening process has resulted in the loss of P^1 and in the crowding of P^2 against the root of the canine and even forcing it into a position out of alignment with the posterior teeth. This extreme shortening and broadening of the skull together with the reduction of the lower incisors is foreshadowed in *Patriofelis.*

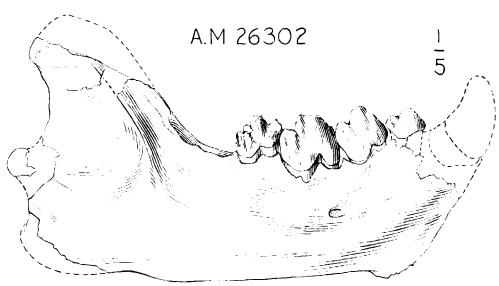

Fig. 5. *Sarkastodon mongoliensis.* Paratype, Amer. Mus. No. 23602. External view of right lower jaw. × 1/5

The paratype jaw, No. 26302, adds character in the back of the ramus and in the form of the M_1 which is seen to have a large anterior basal cusp and two smaller posterior ones. All four cusps are on a line and there is no tendency toward basining, this also being a distinctly shearing tooth. The paratype was found about 100 miles away from the type specimen in beds to which the local name of Ulan Shireh was given but which, since the fauna has been studied, are known to be the exact equivalent of the earlier-named Irdin Manha beds to the northward.

MEASUREMENTS OF TYPE SPECIMEN

Pmx. to posterior border glenoid cavity	350.0 mm.
Width across zygomatic arches	380.0 est.
Width across nasals at tip	100.0
C–M^1	205.0
P^2–M^1	157.0
P^2–P^4	100.0 approx.
I. tr. diameter at base	27.0
C. a-p., at base of enamel	39.0
M^1 a-p. diameter	64.0 approx.
M^1 tr. diameter	32.0 approx.
C.–M_2	215.0
Pm_2–M_2	161.0
C. at base of enamel, a-p.	36.5
P_2–P_4	89.0
P_2–tr. diameter	22.5
P_3–tr. diameter	26.3
P_4–tr. diameter	24.0
M_2–a-p. diameter	48.5
M_2–tr. diameter	19.5
Depth of ramus below P_4	82.0+
Depth of symphysis	111.0+

Further comparisons between *Sarkastodon* and *Patriofelis* as well as between other members of the Oxyaenidae will be found in a forthcoming review of the family by Mr. Robert Denison to whom I am indebted for several observations.