

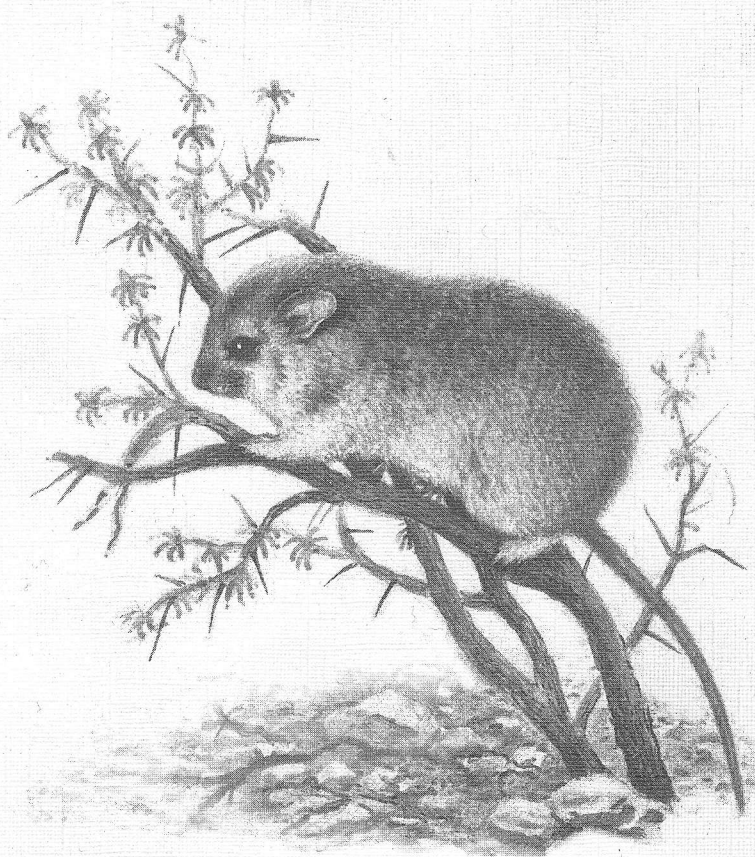
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Краткие сообщения

The giant rhinoceros *Urtinotherium* from the upper Eocene of the Zaysan Basin, Kazakhstan

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Abstract

We document isolated teeth of the indricothere rhinoceros *Urtinotherium* from the Aksyir svita in the Zaysan basin. This is the first record of *Urtinotherium* in Kazakhstan and supports earlier assignments of an Ergilian (late Eocene) age to the Aksyir svita.

Introduction

The largest land mammals of all time were the indricotheres, giant rhinoceroses found in lower-middle Cenozoic strata in Eurasia. Indricothere evolution began during the middle Eocene with pony-sized *Forstercooperia* and culminated during the Oligocene-early Miocene with *Paraceratherium*, a rhinoceros that stood more than five meters at the shoulder, the largest land mammal of all time (Granger, Gregory, 1936; Lucas, Sobus, 1989). Kazakhstan is one of the most important collecting areas for indricothere fossils. Remains of *Forstercooperia* have been documented from middle Eocene strata of the Zaysan basin (Gabuniya, 1977), and fossils of *Paraceratherium* are found at many Kazakh localities (Громова, 1959; Кудерина, Байшашов, Раюшкина, 1988; Байшашов, 1990; Lucas and Bayshashov, 1996). Earlier the single remains which approximately attributed to '*Pristinotherium*' were mentioned in Zaysan basin (Лавров, Бажанов, 1959). Our investigations of the giant rhinoceros remains from this region show they are belonged to *Urtinotherium* (Байшашов, 1999). Here, we document the first Kazakh record of the late Eocene indricothere *Urtinotherium*.



Fig. 1. Map of Kazakhstan showing location of Zaysan Basin.

Systematic Paleontology
Family Hyracodontidae Cope, 1879
Subfamily Indricotheriinae Borissiak, 1923
Genus *Urtinotherium* Chow & Chiu 1963
Urtinotherium sp.

Referred specimens. Zoological Institute, Academy of Sciences, Almaty Kazakhstan. 3к-58-1-N/123, I2 (Fig. 2. A,C); /124, i1 (Fig. 2. B,D); /125, M1 or M2 (Fig. 2. E); /126, M1 or M2 (Fig. 2. F).

Horizon and locality. Aksyir svita, 1.5 km north of Chekelmes Mountain, Zaysan basin, Kazakhstan. (Fig. 1.).

Description. The incisors are long teeth with conical crowns and long, thick roots that have rounded to ellipsoidal cross sections. Their relatively small crowns are curved and terminate in small, rounded tips. The I2 (Fig. 2. A,C) root has a diameter of 26 mm, and an enamel crown 35 mm long with a crown base diameter of 23 mm and a tip diameter of 6 mm. The i1 (Fig. 2. B,D) has a root diameter of 27 mm and a crown base diameter of 18 mm. There is a flat wear facet on the antero-lingual edge of the i2.

Both molars are so worn that we cannot determine whether they are M1 or M2. The more complete molar (Fig. 2. E) is 70 mm long, 67 mm wide across the protoloph, 52 mm wide across the metaloph and has an ectoloph height of 27 mm. The ectoloph forms a 20 degree angle with the transverse axis of the tooth. The parastyle appears to be weak, and there is no trace of a parastylar fold. The talon basin is very narrow between the heavily worn cross lophs. A low labial cingulum is present on the anterior and posterior ends of the ectoloph. The less complete molar (Fig. 2. F) is similar in size and morphology, but it does have a well defined parastylar fold.

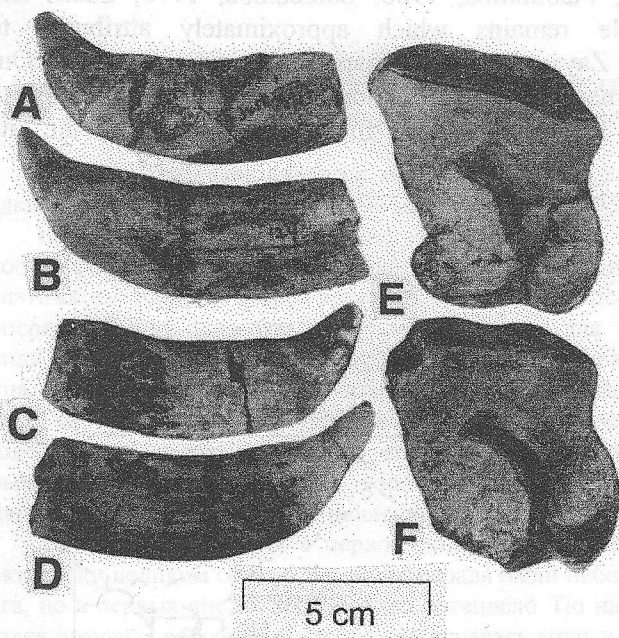


Fig. 2. *Urtinotherium* sp. from the Aksyir svita in the Zaysan basin, Kazakhstan. A,C, 3к-58/123, I2. B,D, /124, i1. E, /125, M1 or M2. F, /126, M1 or M2.

and morphology of the Kazakh specimens illustrated here to the Chinese fossils of *Urtinotherium* (cf. Chow, 1958, pl. 1, figs. 3-4; Chow, Chiu, 1963, fig. 1, pls. 1-2; Tang, 1978, pl. 9, fig. 1). Therefore, we assign the teeth from the Zaysan basin to *Urtinotherium* sp.

Identification. Chow and Chiu (1963) named *Urtinotherium incisivum* for a lower jaw found in the Urtyn Obo Formation of Nei Mongol, China. This intermediate-sized indricothere is distinguished by its procumbent i1, which is much larger than the i2-3, possession of a small canine and p1 and its submolariform premolars. Lucas and Sobus (1989) assigned *Indricotherium parvum* Chow and *I. qujingensis* Tang, both from the upper Eocene of Yunnan, China, to *Urtinotherium*. The Yunnan species were based on upper cheek teeth that are of the correct morphology and size to correspond to the holotype lower cheek teeth of *U. incisivum*.

We accept this synonymy and note the close similarity in size

Discussion

Urtinotherium was previously reported from Nei Monggol and Yunnan, China (Chow, 1958; Chow, Chiu, 1963; Tang, 1978) and from Khoer-Dzan, Mongolia (Dashzeveg, 1991) in strata of late Eocene (Ergilian) age. Emry et al. (1998) reviewed the fossil mammal evidence of the age of the Aksyr svita in the Zaysan basin and concluded that it is of Ergilian age. The *Urtinotherium* fossils from the Aksyr svita documented here support this Ergilian age assignment, and they are the first record of the genus from Kazakhstan.

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