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REMAINS OF THE LOWER PLIOCENE BOVIDAE FROM ALTAN TELI, WESTERN MONGOLIA

(Plates XXVI—XXVII)

Abstract. — The present paper contains descriptions of incomplete jaws with teeth of two species of gazelles: *Gazella gaudryi* (SCHLOSSER) and *Gazella paotehensis* TEILHARD DE CHARDIN & YOUNG, as well as of *Palaeoryx* sp. from Altan Teli, Western Mongolia, found by the Polish-Mongolian Palaeontological Expedition in 1965. The occurrence of *Gazella gaudryi* (SCHLOSSER) and *Gazella paotehensis* TEILHARD DE CHARDIN & YOUNG testifies to the Pontian age of the locality of Altan Teli.

INTRODUCTION

A description of the remains of Bovidae from the locality of Altan Teli situated in the Dzereg Valley, Western Mongolia, collected by members of the 1965 Polish-Mongolian Palaeontological Expedition (KIELAN-JAWOROWSKA & DOVCHIN, 1968/69), makes up the subject of the present paper. This material comes from the series of gray-yellow sandstones and gravels (designated by GRADZIŃSKI *et al.*, 1968/69, by the numeral VII).

The locality of Altan Teli was in 1949 discovered by the Palaeontological Expedition of the U.S.S.R.'s Academy of Sciences (ROZHDESTVENSKY, 1954, 1957) and studied later by different Soviet geologists (DEVYATKIN & LISKUN, 1966; ZHEGALLO, 1966), who stated that Altan Teli was unusually rich in the remains of mammals belonging to the *Hipparion* fauna. The Altan Teli assemblage, according to Soviet authors, includes hipparions (large forms with relatively high teeth of the type of *Hipparion richthofeni* KOKEN), rhinoceroses *(Chilotherium)*, giraffes (*Samotherium mongoliense* GODINA, an only studied species from Altan Teli) and others (GODINA, 1954; ROZHDESTVENSKY, 1957; ZHEGALLO, 1966). No representative of Bovidae from this assemblage has ever been mentioned by the Soviet authors.

Of the materials collected by the Polish-Mongolian Palaeontological Expedition of 1965 at the same locality, the following species have already been described: *Geochelone oskar-kuhni* MŁYNARSKI (MŁYNARSKI, 1968/69), *Pararhizomys hipparionum* TEILHARD & YOUNG (KOWALSKI, 1968/69), *Chilotherium wimani mongolicum* BORSUK-BIAŁYNICKA and *Chilotherium* aff. *wimani* RINGSTRÖM (BORSUK-BIAŁYNICKA, 1970).

A fauna similar to that of Altan Teli was also found at Oshih in Western Mongolia. From the last-named locality BELAYEVA (1937) described the remains of *Gazella paotehensis* TEILHARD & YOUNG, occurring together with those of *Chilotherium habereri* RINGSTRÖM, *Iranotherium* sp., *Sinotherium* sp., *Hipparion* cf. *richthofeni* KOKEN and *Samotherium* sp.

On the basis of preliminary observations, Soviet authors believe that the Altan Teli assemblage is similar to the *Hipparion* assemblages that occur in Kazakhstan (Pavlodar, Kal-

makpaye) and Kirghiz Region (Ortok) (ROZHDESTVENSKY, 1957; ZHEGALLO, 1966). At Pavlodar, the presence of such Bovidae has been stated as *Tragocerus* sp. *(amaltheus)* of the subfamily Bovinae and *Gazella deperdita* GAUDRY of the subfamily Antilopinae, the latter species also occurring in Kirghiz Region (BORISSIAK & BELAYEVA, 1948). The Bovidae of this area are, therefore, different from those met with at Altan Teli where there occur *Gazella gaudryi* (SCHLOSSER), *Gazella paotehensis* TEILHARD & YOUNG of the subfamily Antilopinae and *Palaeoryx* sp. of the subfamily Hippotraginae and there are no *Tragocerus*. *Gazella gaudryi* (SCHLOSSER) and *Gazella deperdita* GAUDRY are similar to each other in low crowns of their teeth (probably, they lived under similar ecological conditions).

Gazella gaudryi (SCHLOSSER) is a characteristic component of certain Lower Pliocene faunas. In China, it occurs in the Kansu, Ningshia and Shansi provinces where there are classical localities of the environs of Paoté and Yushé. It is met with together with *Hipparion*, *Chilotherium*, giraffes and other representatives of the *Hipparion* assemblages (HU CHANG-KANG, 1962 and others).

ROZHDESTVENSKY (1957) believes that the Altan Teli assemblage is similar in character to the assemblages of Ungulata which at present inhabit the areas of African savanna. The rightfulness of this view is confirmed by the occurrence, at Altan Teli, of *Gazella gaudryi* (SCHLOSSER), the low crowns of whose teeth indicate living on a more succulent feed such as, for instance, leaves, green shoots, etc. A fodder of such type may be found on the savanna territories.

Terms, used in the present paper, for the description of teeth in substance correspond to SOKOLOV's (1953) terminology applied by him to the dentition of Bovidae The length, width and height of teeth have been measured, all dimensions being given in millimetres and indexes explained in text. The abbreviation *Z. Pal.* stands for the Palaeozoological Institute of the Polish Academy of Sciences in Warsaw. The specimens under study are housed at this Institute.

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I would like to express my hearty gratitude to Prof. Z. KIELAN-JAWOROWSKA, Director of the Palaeozoological Institute, Polish Academy of Sciences, Warsaw, for entrusting me with the elaboration of the materials of Bovidae from Altan Teli, and to Prof. Z. RYZIEWICZ (Department of Palaeozoology of the Wrocław University) for his interest in my work and his valuable critical remarks. I am also indebted to Miss L. ŁUSZCZEWSKA for taking photographs.

DESCRIPTIONS

Family BOVIDAE GRAY, 1821
Subfamily ANTILOPINAE BAIRD, 1857 (= GAZELLINAE COUES, 1889)
Genus GAZELLA LICHTENSTEIN, 1814
Gazella gaudryi (SCHLOSSER, 1903)

(Pl. XXVI, Figs. 1—4)

1903. *Protetraceros gaudryi* n. sp.; M. SCHLOSSER, Die fossile Säugethiere..., p. 136, Pl. 11, Figs. 14, 18-23.
1905. *Gazella gaudryi* SCHLOSSER; M. SCHLOSSER, Die fossile Cavicornia..., p. 66.
1928. *Gazella gaudryi* SCHLOSSER; G. E. PILGRIM & A. T. HOPWOOD, Catalogue..., pp. 1-18.
non 1931. *Gazella* cf. *gaudryi* (SCHLOSSER); P. TEILHARD DE CHARDIN & C. C. YOUNG, Fossil mammals..., p. 35, Pl. 7, Figs. 5-8.

1935. *Gazella gaudryi* (SCHLOSSER); B. BOHLIN, Cavicornier..., p. 73, Pls. 10, 11.
1938. *Gazella ("Protetraceros") gaudryi* (SCHLOSSER); P. TEILHARD DE CHARDIN & M. TRASSAERT, Cavicornia..., p. 3, Figs. 3, 4.
1938. *Gazella gaudryi* (SCHLOSSER), forma *A*; P. TEILHARD DE CHARDIN & M. TRASSAERT, *Ibid.*, p. 8, Fig. 5.
non 1938. *Gazella gaudryi* (SCHLOSSER), forma *B*; P. TEILHARD DE CHARDIN & M. TRASSAERT, *Ibid.*, p. 8.
1939. *Gazella (Protetraceros) gaudryi* (SCHLOSSER); B. BOHLIN, Gazella..., p. 85, Pl. 1, Figs. 2-5, 11; Pl. 2, Fig. 2.

Material. — A fragment of the right mandible with M_3 (Z. Pal. No. MgM-V/6); a fragment of the left maxilla with P^3—M^3 and part of P^2, separate (Z. Pal. No. MgM-V/7); a fragment of the left mandible with M_1 and M_2, of the same individual as the previous specimen (Z. Pal. No. MgM-V/8).

Horizon and locality. — Pontian sandstones from Altan Teli, Western Mongolia.

Description. — Teeth of maxilla and mandible low (length-height ratio of $M^1 = 70.1$ and $M^3 = 95.3$). Basal tubercle between molar lobes lacking, except in M_3 of the specimen Z. Pal. No. MgM-V/6. Labial wall of upper teeth with distinct ribs extending downwards and thin anterior and median styles. External fold on anterior edge of lower molars lacking. Row of upper premolars relatively long which indicates primitive conditions (the length index of the row P^2—M^3 to the row P^2—P^4 in specimen Z. Pal. No. MgM-V/7 = 42.9).

Discussion. — The remains described belong to *Gazella gaudryi* (SCHLOSSER) common in the Chinese deposits of the Lower Pliocene.

Gazella gaudryi from Samos, also described by SCHLOSSER (1905), as well as by PILGRIM & HOPWOOD (1928), has a somewhat longer row of cheek teeth and larger and wider molars than those of the specimens from Altan Teli. According to BOHLIN (1935, 1939), this is a different species which he calls *Gazella pilgrimi*. TEILHARD & TRASSAERT (1938) maintain that *Gazella gaudryi* (SCHLOSSER) from China does not differ from the gazelle from Samos. On account of only small differences in the size of specimens from Altan Teli and from Samos, I am rather inclined to agree with TEILHARD's & TRASSAERT's (1938) standpoint. *Gazella* cf. *gaudryi* (SCHLOSSER) from the Lower Pliocene of Northern China described by TEILHARD & YOUNG (1931), is marked by relatively high crowns of molars and its assignment to this species is, according to BOHLIN (1939), erroneous. Probably, this is *Gazella dorcadoides* SCHLOSSER. As compared with dimensions, given by BOHLIN (1935, 1939) for *Gazella gaudryi* (SCHLOSSER), the teeth from Altan Teli are of a similar length but slightly narrower. This author believes that the gazelles with low teeth such as *Gazella gaudryi* (SCHLOSSER) are met with on the territory of China only in certain definite localities (in which the remains of stags are also found), in which there are no gazelles with high teeth (as *Gazella dorcadoides* SCHLOSSER, *G. altidens* SCHLOSSER). It seems to indicate a different character of an environment peculiar to these gazelles.

The following three forms of *Gazella gaudryi* (SCHLOSSER) from South-eastern Shansi are distinguished by TEILHARD & TRASSAERT (1938):

1) *Gazella ("Protetraceros") gaudryi* (SCHLOSSER), occurring in South-eastern Shansi's zone I and in Pontian red clays of Kansu;

2) *Gazella gaudryi* (SCHLOSSER) forma *A*;

3) *Gazella gaudryi* (SCHLOSSER) forma *B*; the specimens of the latter form are marked by high crowns of teeth and this is precisely the reason why BOHLIN (1939) believes that this is rather *Gazella dorcadoides* SCHLOSSER.

The remains from Altan Teli are to the greatest extent similar to *Gazella ("Protetraceros") gaudryi* (SCHLOSSER), whereas they differ from *Gazella gaudryi* (SCHLOSSER) forma *A* in slightly smaller dimensions. The gazella from Altan Teli conspicuously differs from other Pontian

species from China (*Gazella dorcadoides* SCHLOSSER, *Gazella altidens* SCHLOSSER) in its low crowns of teeth. *Gazella deperdita* GAUDRY is a species characteristic of the Lower Pliocene of Europe. The gazelle from Altan Teli differs from the last-named species in an almost complete lack of basal tubercles on lower molars.

Gazella gaudryi (SCHLOSSER) from Altan Teli is pronouncedly smaller than Recent gazelles living in Mongolia, i.e. *Gazella (Procapra) gutturosa* PALLAS, *G. subgutturosa* GÜLDENSTAEDT and *G. (Procapra) picticaudata* HODGSON, the latter occurring in Southern Mongolia. These gazelles live in desert or steppe areas which, in general, are marked by dry vegetation. Thus, for instance, *Gazella subgutturosa* GÜLDENSTAEDT lives in deserts and, in the northern part of its range, in semi-desert and steppe areas with hard substratum (SOKOLOV *et al.*, 1964). The environment, characteristic of *Gazella gaudryi* (SCHLOSSER) from Altan Teli was probably moister and its vegetation more succulent which is indicated by this animal's brachyodont dentition (for instance, of Recent Antilopinae gerenuk, *Lithocranius* preserved its original low crowns of teeth; like giraffe, it lives on twigs and leaves of trees such as acacia).

Gazella paotehensis TEILHARD & YOUNG, 1931

(Pl. XXVII, Figs. 1—3; Text-figs. 1—2)

1931. *Gazella paotehensis* n. sp., P. TEILHARD DE CHARDIN & C. C. YOUNG, Fossil mammals..., p. 36, Fig. 5.
1935. *?Tragoreas lagrelli* n. sp.; B. BOHLIN, Cavicornier..., p. 110, Pl. 13, Figs. 9-14; Pl. 14, Figs. 2-5, 7.

Material. — A fragment of the right mandible with P_3—M_2, and alveolus of P_2 (Z. Pal. No. MgM-V/1); a fragment of the right maxilla with M^1—M^3 (Z. Pal. No. MgM-V/2); a fragment of the left mandible with M_1, M_2 and an incipient M_3 (Z. Pal. No. MgM-V/3); a fragment of the left mandible with M_1—M_3, dP_2, dP_4, alveolus for dP_3, and P_3, P_4 in the stage of growth (Z. Pal. No. MgM-V/4); a fragment of the left mandible with P_3—M_3, alveolus for P_2, M_3 in the stage of growth (Z. Pal. No. MgM-V/5). The dentition of these specimens is slightly or averagely worn, except for strongly worn up milk teeth. Some teeth are damaged. Horizontal ramus of mandibles is poorly preserved.

Horizon and locality. — Pontian sandstones from Altan Teli, Western Mongolia.

Description (Tables 1, 2 and 3). — The milk dentition of the specimen Z. Pal. No. MgM-V/4 consists of a strongly worn up dP_4, quite loose and just before falling out and dP_2 which is still strongly embedded, but with a worn down posterior surface of the crown. Premolars in the growing up stage are visible on this same specimen, P_4 being much more strongly developed than P_3. P_4 for certain grew up earlier than P_2, but this difference in time was not great. On the basis of this specimen, we may conclude that the change in cheek teeth took place either almost simultaneously, or with a certain delay in growing up of P_2 as compared with P_4; dP_3, 6.4 mm long, 3.4 mm wide and 5.6 mm high, has a very slightly differentiated crown, pointed protoconid and, in the posterior part, a slightly developed hypoconid. Culisses not marked at all. Of the tooth dP_3 only the alveolus is preserved. The length of the tooth amounted probably to about 8.2 mm. On dP_4, between the anterior and median lobe on the outer side, there occurs a ground off basal cusp. The posterior lobe, despite a strong grinding off of the tooth, has a sharp external cusp.

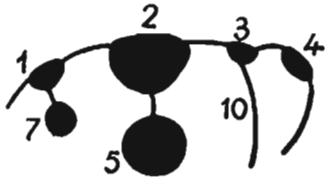
Alveolus for P_2 is preserved on the specimen Z. Pal. No. MgM-V/1. P_3 (Fig. 1) has strongly differentiated culisses, the anterior short and posterior in the form of a transverse lamella, near which there is the posterior wall of the tooth crown. Metaconid, adhering to the internal

Table 1

Measurements of upper dentition (in mm)

Measurements	*Gazella gaudryi* (SCHLOSSER) (Z. Pal. No. MgM-V/7)	*Gazella paotehensis* TEILHARD & YOUNG (Z. Pal. No. MgM-V/2)
P^2 length	ca. 7.0	—
P^3 length	7.8	—
width	6.0	—
height	7.0	—
P^4 length	7.2	—
width	7.0	—
height	8.3	—
M^1 length	9.7	13.8
width	8.6	15.7
height	6.8	12.5
M^2 length	10.2	14.8
width	9.3	13.2
height	8.8	14.9
M^3 length	10.7	16.1
width	8.0	11.8
height	10.2	17.4
P^2—M^3 ant.-post., ext.	48.0	—
P^2—P^4 ant.-post., ext.	21.6	—
M^1—M^3 ant.-post., ext.	28.6	42.9

side of protoconid, is slightly shifted posteriorly and lower than protoconid (on the specimen Z. Pal. No. MgM-V/1, metaconid is 6.8 and protoconid 9.3 mm high). Fossettes of crown open but not very wide. The tooth, despite its being worn off, maintains its pointed shape.



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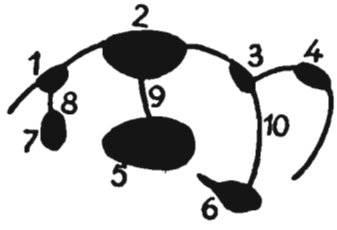

2

Fig. 1

Gazella paotehensis TEILHARD & YOUNG from Altan Teli. Diagram of the structure of P_3 (on the basis of the specimen Z. Pal. No. MgM-V/1); *1—4* cusps of the external wall of tooth, *2* protoconid, *5*, *7* cusps of the internal crown of tooth, *5* metaconid, *7* paraconid, *10* posterior culisse; × 4.

Fig. 2

Gazella paotehensis TEILHARD & YOUNG from Altan Teli. Diagram of the structure of P_4 (on the basis of the specimen Z. Pal. No. MgM-V/1): *1—5*, *7*, *10* as in Fig. 1, *6* entoconid, *8* anterior culisse, *9* median culisse; × 4.

P_4 (Fig. 2) has culisses and cusps more strongly developed than those on P_3. A V-shaped interval occurs between paraconid and metaconid. Metaconid, slightly withdrawn from protoconid, has a tendency to a longitudinal flattening so that the posterior fossette is open only

at the top and towards bottom closes very near, whereas P_4 of the specimen Z. Pal. No. MgM-V/4 grows up and only part of the teeth is visible, a flattened metaconid even forming a full wall on the internal side of the crown. The posterior culisse of P_4 is thin and the fossette between it and the posterior wall of crown is shallow and narrow. Entoconid small.

Table 2

Measurements of the lower teeth and lower jaw (in mm)

Measurements \ Z. Pal. cat. No.	*Gazella gaudryi* (SCHLOSSER)		*Gazella paotehensis* TEILHARD & YOUNG			
	MgM-V/6	MgM-V/8	MgM-V/1	MgM-V/3	MgM-V/4	MgM-V/5
P_2 length	—	—	9.5	—	—	8.6
P_3 length	—	—	11.2	—	—	10.2
width	—	—	7.0	—	—	6.0
height	—	—	9.3	—	—	8.3
P_4 length	—	—	12.7	—	—	12.8
width	—	—	7.8	—	—	6.4
height	—	—	12.5	—	—	10.0
M_1 length	—	10.0	13.6	14.7	14.6	13.6
width	—	8.8	10.0	8.0	9.6	8.3
height	—	8.4	12.0	11.0	13.3	9.7
M_2 length	—	10.8	16.3	17.3	18.0	14.0
width	—	9.4	10.6	8.2	8.8	9.7
height	—	10.4	19.5	17.2	18.6	14.3
M_3 length	13.8	—	—	—	19.0 (16.0)	20.5 (16.7)
width	5.8	—	—	—	8.6	12.0
height	12.2	—	—	—	20.3	17.1
Length of P_2—P_4	—	—	32.0	—	32.3	30.2
Height of lower jaw in front of P_2	—	—	15.5	—	15.8	14.9
Width of lower jaw in front of P_2	—	—	7.3	—	7.8	5.8
Height of lower jaw behind P_4	—	—	20.0	—	20.2	18.9
Width of lower jaw behind P_4	—	—	11.5	—	11.3	9.2
Height of lower jaw in front of M_3	—	—	20.0	23.0	27.4	24.0
Width of lower jaw in front of M_3	—	—	14.2	13.0	14.5	12.5

Lower molars, with wide and not very sharp external cusps, have fossettes lacking spurs inside of them. The external fold on M_1 is very short and slightly outlined. A small basal cusp occurs on this side between lobes of all lower molars. On the internal wall, which in lower molars is less characteristic than in upper ones, ribs are moderately prominent and styles slight and thin. The crown of M_1 is clearly lower than those of M_2 and M_3 (M_1 reaches 13.3, M_2 — 19.5 and M_3 — 20.3 mm in height; the length-height index of the crown of M_2 comes to 119.6 and of M_3 to 126.9).

Upper molars: the length of M^1 is smaller than the width, and in M^2 and M^3 the length exceeds the width. Internal cusps of these teeth are in a way rounded and fossettes have walls

devoid of spurs. At the base of the crowns of M^1 and M^2, small cusps occur between lobes. On the external wall, ribs of anterior lobes have extended bases, while the ribs of posterior lobes are poorly visible. The anterior and median style are thin, rounded and more strongly developed than the barely visible posterior style. A certain sloping of internal walls may be observed.

Discussion. — *Gazella paotehensis* was described from the Pontian red clays of Paoté, Shansi, China (TEILHARD & YOUNG, 1931). This description is not, however, sufficiently accurate as concerns the structure of teeth. According to the authors of this description, the form of premolars is a characteristic feature of this species. These teeth are of the clearly brachyodont type, but the P_4 is of the advanced type, i.e. its metaconid is almost completely connected with the posterior prominence of paraconid. TEILHARD & YOUNG believe that in the structure of their horn-cores and dentition, this species displays a relationship to Recent Asian gazelles of the subgenus *Procapra* (*Procapra picticaudata* HODGSON, a Tibetan gazelle from Southern Mongolia, and *Procapra gutturosa* PALLAS, a Mongolian gazelle called dzeren).

Table 3

Indexes of the lower molars and lower jaw of *Gazella paotehensis* TEILHARD & YOUNG from Altan Teli (in mm)

Measurements \ Z. Pal. cat. No.	MgM-V/1	MgM-V/3	MgM-V/4	MgM-V/5
M_3 length/width ratio of crown	16.3:10.6 65.0	17.3:8.2 47.4	18.0:8.8 48.9	14.0:9.7 69.3
M_3 length/height ratio of crown	16.3:19.5 119.6	17.3:17.2 99.4	18.0:18.6 103.3	14.0:14.3 102.1
M_3 length (without the 3rd lobe) to height ratio of crown	— —	— —	16.0:20.3 126.9	16.7:17.1 102.4
Height/width ratio of lower jaw in front of M_3	20.0:14.2 71.0	23.0:13.0 56.5	27.4:14.5 52.9	24.0:12.5 52.1

BOHLIN (1935) divided the species *Gazella paotehensis* TEILHARD & YOUNG, assigning some of the species to *Gazella* sp. and considering some others to be a new species of the genus *Tragoreas* of the subfamily Hippotraginae, i.e. ?*Tragoreas lagrelli*. BOHLIN (1935) also described ?*Tragoreas palaeosinensis* (SCHLOSSER) which is conspicuously larger than the specimens from Altan Teli and has a primitive structure of its P_4. Specimens of ?*Tragoreas lagrelli* BOHLIN are marked by a variable structure of P_4 from a primitive one with a stalky metaconid (*l. c.*, Pl. 14, Figs. 3, 4) to an advanced one with a closed anterior fossette (*l. c.*, Pl. 13, Figs. 12—14), with a closed posterior fossette (*l. c.*, Pl. 13, Fig. 11) or even with both fossettes closed (*l. c.*, Pl. 14, Fig. 5, the teeth of this specimen are fairly strongly worn). Since the structure of P_4, original for the Bovidae and persisting in all Hippotraginae, even Recent ones (SOKOLOV, 1953), occurs in *Tragoreas* (SCHLOSSER, 1905), the assignment of this form to the genus ?*Tragoreas*, based by BOHLIN on the structure of P_4, seem to be erroneous. In this tribe of the Bovidae, metaconid of P_4 does not display any tendency to flattening. On the other hand, in the genus

Gazella, P_4 may occur with a closed posterior (*Gazella* s. str., *Antidorcas*) or anterior fossette *(Procapra)*. Sometimes, but less frequently, both fossettes are open (SOKOLOV, 1953). This the reason why, in my opinion, the form examined by Bohlin belongs rather — at least on account of the structure of its P_4 — to the genus *Gazella* as it was the view of TEILHARD & YOUNG (1931). Taking into account the low of priority, the species *Gazella paotehensis* TEILHARD & YOUNG should also be maintained. The specimens from Altan Teli differ from *Gazella paotehensis* TEILHARD & YOUNG from China in only slightly larger dimensions of teeth.

In Mongolia, the occurrence of *Gazella paotehensis* TEILHARD & YOUNG was discovered by BELAYEVA (1937) in the locality Oshih whose fauna was similar to that met with at Altan Teli. It was the 1926 finding of an incomplete skull with two small horn-cores but lacking dentition. These horn-cores were, according to BELAYEVA, identical with those observed in gazelles from Pontian red clays of Paoté and Shansi (slight posterior bent, lateraly flattening, cross section of the lower part of horn-core).

The occurrence of *Gazella paotehensis* TEILHARD & YOUNG in Begger Noor, Western Mongolia, is also mentioned by DEVYATKIN & LISKUN (1966).

Subfamily HIPPOTRAGINAE BROOKE, 1876

Genus **PALAEORYX** GAUDRY, 1861

?Palaeoryx sp.

(Pl. XXVII, Fig. 4)

Material. — A fragmentary lower jaw with M_2 and M_3 devoid of the third lobe (Z. Pal. No. MgM-V/9).

Horizon and locality. — Pontian sandstones from Altan Teli, Western Mongolia.

Description (Table 4). — Teeth with low crowns. M_3 with a thin stalk between the anterior and median style. It is not certain whether or not a stalk occurred on M_2. Teeth are considerably worn so that the fossettes of cusps are quite narrow. Ribs of internal wall distinct but not very strongly developed, styles straight and thin. A very small external fold occurs on the anterior wall of M_2.

Table 4

Measurements of dentition and lower jaw of *Palaeoryx* sp. from Altan Teli (in mm)

Measurements	Z. Pal. No. MgM-V/9
M_3 length	20.7
width	13.8
height	16.9
M_2 length	ca. 22.0 (only two anterior lobes)
width	13.2
height	19.0
Height of lower jaw in front of M_3	30.5
Width of lower jaw in front of M_3	18.7

Discussion. — This fragmentary lower jaw from Altan Teli may be assigned to primitive Hippotraginae on the basis of a relatively massive structure of teeth, presence of a basal stalk (and not cusp) and a slight external fold. In its dimensions this specimen is to the greatest extent similar to *Palaeoryx majori* SCHLOSSER from Samos. *Palaeoryx stützeli* SCHLOSSER, also occurring on Samos, is much smaller (SCHLOSSER, 1905, pp. 39, 42).

A few different representatives of Hippotraginae are known from the *Hipparion* fauna of China, among them *Palaeoryx sinensis* (KILLGUS) which in the structure of skull and dimensions of the teeth is almost identical with *Palaeoryx majori* SCHLOSSER from Samos.

Palaeoryx is common in the *Hipparion* assemblages on the territory of South-eastern Europe, i.e.: Pikermi, Samos Island (SCHLOSSER, 1905) and other Greek localities, Moldavia (SIMIONESCU, 1922, 1933), Bessarabia (SIMIONESCU & DOBRESCU, 1941) and environs of Odessa, Southern Ukraine (BORISSIAK & BELAYEVA, 1948). Equally common it is in Asia: Maragha (RODLER & WEITHOFER, 1890; DE MECQUENEM, 1925) and China (BOHLIN, 1935).

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Wrocław, December 1967

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PLATES

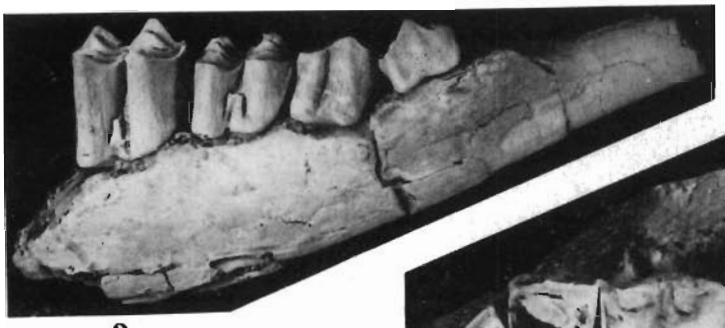
PLATE XXVI

Altan Teli, Western Mongolia; Lower Pliocene

Fig. 1. Fragmentary left upper jaw with P^3—M^3 (Z. Pal. No. MgM-V/7): *a* labial view, *b* occlusal view; × 2.
Fig. 2. Fragmentary right lower jaw with M_3 (Z. Pal No. MgM-V/6): *a* labial view, *b* occlusal view; × 2.
Fig. 3. Fragmentary right lower jaw with P_3—M_3 (Z. Pal. No. MgM-V/1): *a* labial view, *b* occlusal view; × 1.

Photo: L. Łuszczewska

3b



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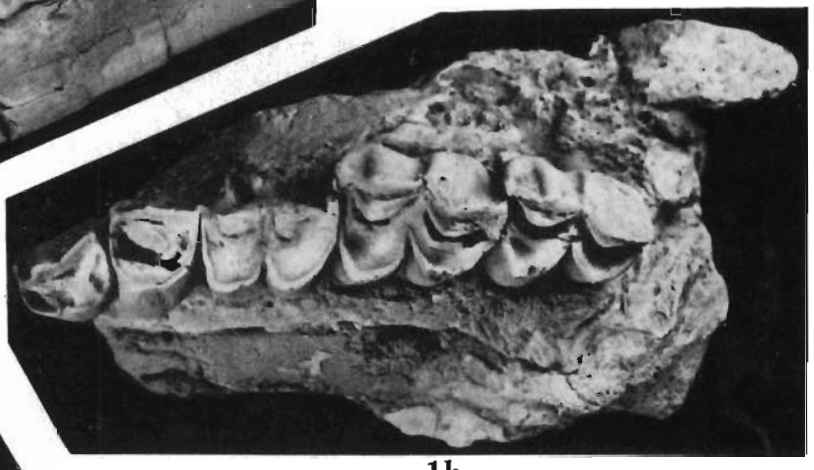

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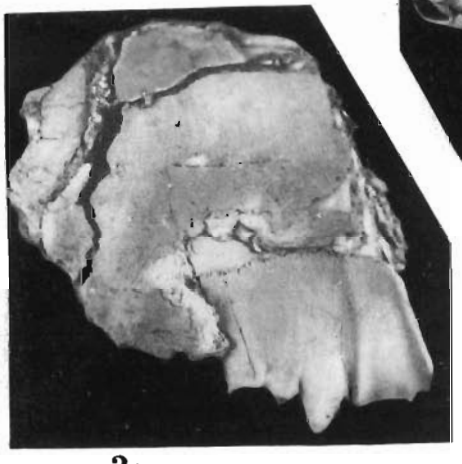

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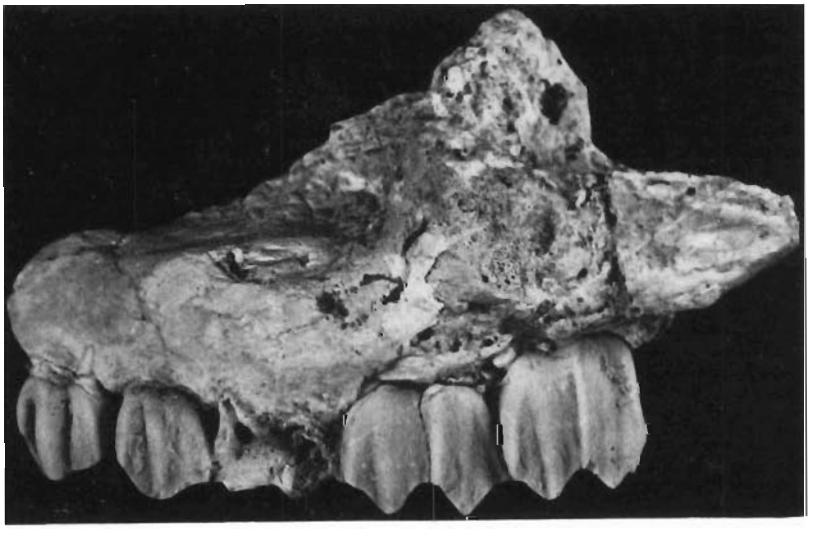
2b



1a

Palaeontologia Polonica, No. 21, 1969

PLATE XXVII

Fig. 1. Fragmentary left lower jaw with dP_2, dP_4, growing P_3, P_4 and M_1—M_3 (Z. Pal. No. MgM-V/4): *a* labial view, *b* lingual view; ×1.

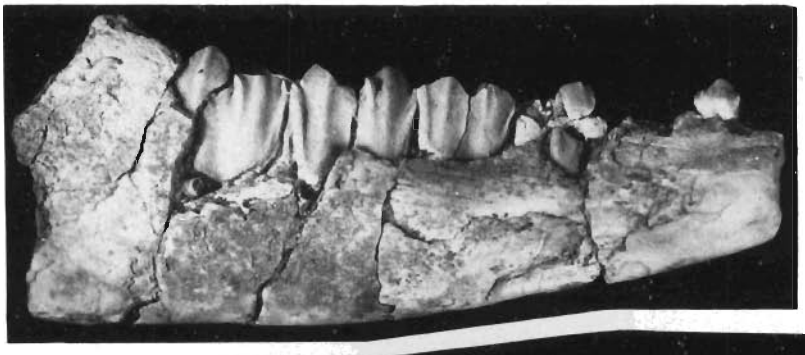
Fig. 2. Fragmentary right lower jaw with P_3—M_2 in lingual view (Z. Pal. No. MgM-V/1); ×1.

Fig. 3. Fragmentary maxilla with M^1—M^3 (Z. Pal. No. MgM-V/2): *a* labial view, *b* occlusal view; ×1.

Fig. 4. Fragmentary left lower jaw with M_2, M_3 in lingual view (Z. Pal. No. MgM-V/9); ×1.

Altan Teli, Western Mongolia; Lower Pliocene

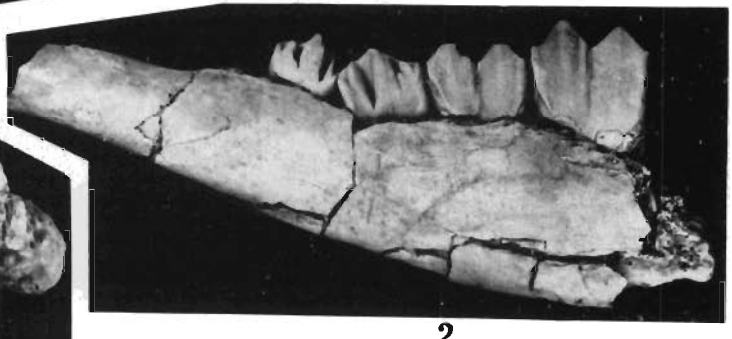
Photo: L. Luszczewska



1a

1b

3a



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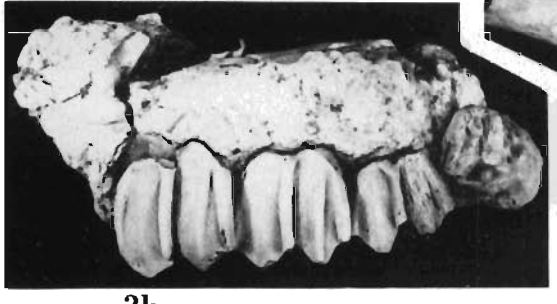

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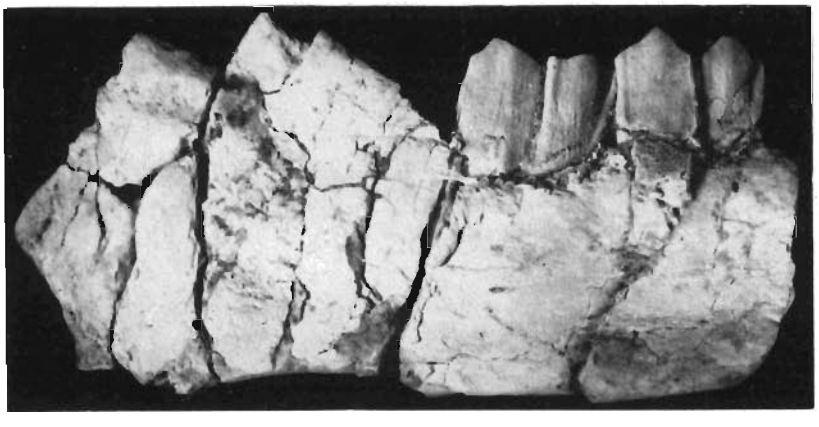

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