

DICERORHINUS MEGARHINUS (DE CHRISTOL) IN THE ROMANIAN FAUNA FROM MĂLUȘTENI

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ABSTRACT. — The fossil vertebrate fauna from Mălușteni (Galatzi district) is well-known since the beginning of the century. A large list, including more than 50 species had been drawn. Up to the present, no fossil remain was relevant enough to determine the rhino species occurring in this association. The paper deals with a second metatarsal found in the cross-bedding sands cropping out in the source area of V. Românească, in association with lagomorphs, small carnivores, beavers, cervids, fishes. This metapodial allowed us to establish the presence of *Dicerorhinus megarhinus* in this occurrence. We are dealing with an evolved form of this species. It agrees quite well with the lower romanian age (MN 15 a) of the faunistic association.

Key-words: Pliocene; Perissodactyla; *Dicerorhinus*; Romania.

The fossil vertebrate fauna from Mălușteni (Galatzi county) is quite well-known even since the beginning of this century when it was mentioned for the first time by Athanasiu (1915). The results of those who subsequently studied it, from Simionescu (1922 a, b) to Rădulescu & Samson (1989 a, b) are materialized into an extensive list including more than 50 species, belonging to various taxa.

Concerning the rhinoceros from this faunistic association we have to mention that they were recorded even at the time of the first researches. Thus, Athanasiu (1915) assumed the presence of „*Rhinoceros elruscus*” within this association. Simionescu (1922 a) also mentioned a „*Rhinoceros sp.*” argued by the discovery of a „molar fragment” to which he refers in another paper (1922 b) when he speaks about „teeth of a large *Rhinoceros*”. No other significant pieces were discovered there, consequently the determinations remained at that level up to the present.

However, a metatarsal bone was found recently, within the sands occurring in an outcrop located at the Valea Românească source area, in Dealul Lăcuțului, i.e. from the classical fossiliferous outcrop of vertebrate faunas. The bone was found in association with lagomorphs, small carnivora, beavers, cervidae, fishes, chelonians (Berecz & Cucu, 1979). Owing to the kindness of one of the discoverers, the material is now in the collection of the Transylvanian Basin Museum of the „Babeș-Bolyai” University, inv. V7.

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Dicrorhinus megarhinus (de Christol, 1834)
(Pl. I)

Material: Mt. II sin.

Occurrence: Mălușteni, V. Românească, right slope, from sands with cross-bedded stratification. Sampled by L. Berecz in Sept. 1977.

Geological age: Lower Romanian, MN 15 a.

Description: Metapodial characterized by a robust aspect.

Its proximal articulation has an elongate, reniform shape, the most anterior part being placed very close to the most anterior epiphysial point. Laterally, the two articular facets can be distinguished. The posterior one is damaged but we can notice clearly enough that it was about 5 mm higher than the anterior one. Distally, its lowest point is thus located much lower relative to the equivalent part of the anterior facet. Postero-medially, the articular facet with the first cuneiform is drastically damaged. Even in this state we have to notice that it was separated from the proximal articulation.

The diaphysial perigram points to a near pentagonal form.

Distally, a considerable widening of the bone can be observed, greater than in *Dicrorhinus jeanvireti*.

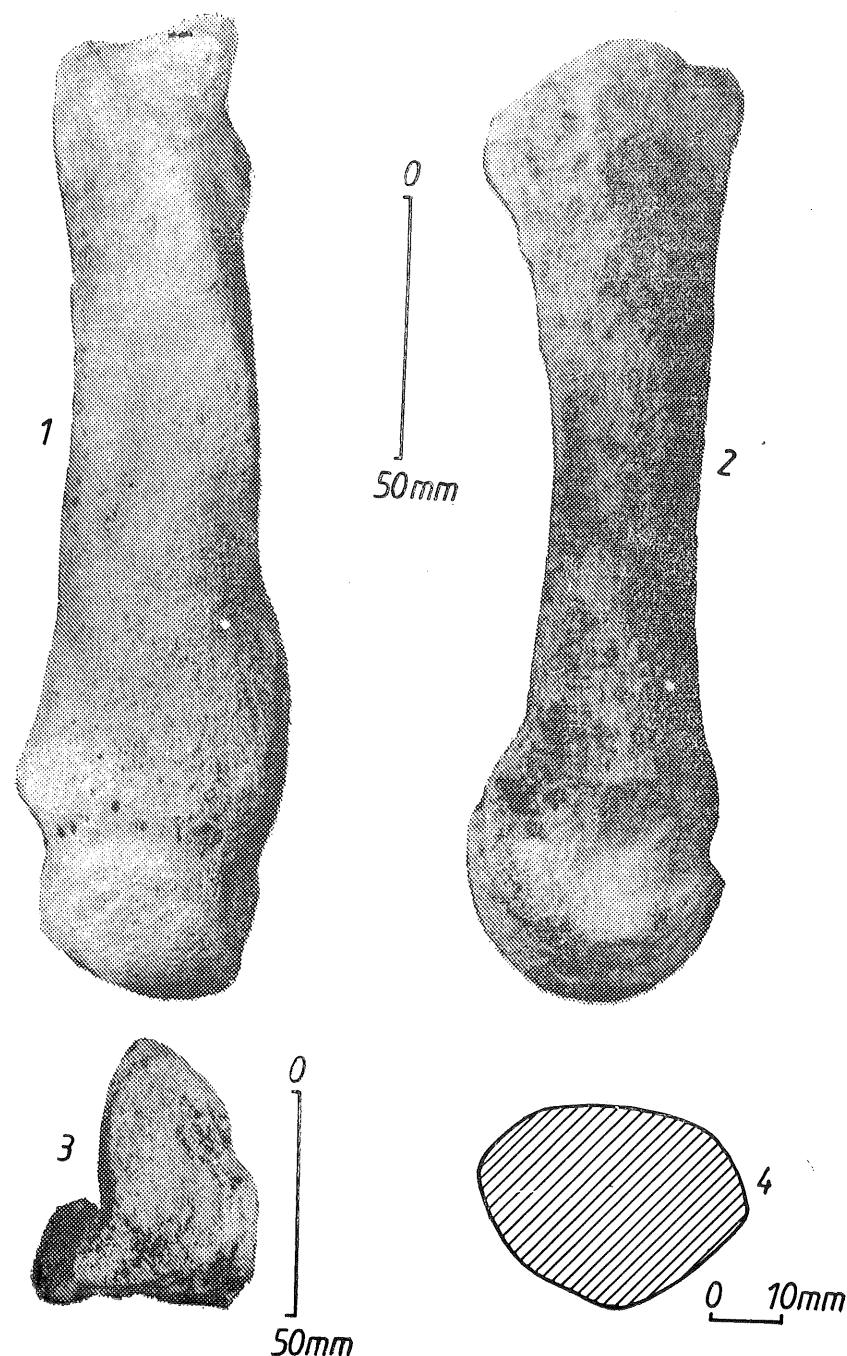
Dimensions (mm):

Length	178.0
Proximal transverse diameter	39.0
Antero-posterior transverse diameter	50.0
Transverse diameter of diaphysis	36.5
Antero-posterior diameter of diaphysis	27.5
Distal supraarticular transverse diameter	48.0
Distal articular transverse diameter	41.0

Comparisons: The only species for which comparisons are worth doing is *D. jeanvireti*. *D. miguelcrusafonti* and *D. etruscus etruscus* clearly differ from our material, having other dimensions.

From the begining we have to notice that the length value places it under the lower limit of the *D. jeanvireti* variation interval (Guérin, 1980). The rations between the four transverse diameters and the length have the values: 21.9; 20.5; 27.0; 23.0; values that are coincident with those of *D. megarhinus*. Moreover, they are larger than those characteristic for *D. jeanvireti*. Finally, the proximal articulation surface configuration, whose edge reaches the anterior margin of the epiphysis provides one more argument which supports the specific assignement we have indicated. In *D. jeanvireti*, this surface is narrower and stops at a considerable distance from the epiphysial margin (Guérin, 1980).

Discussions: In Romania, as well as in the western parts of Europe (Guérin, 1980) the rhinoceros fauna is renewed during the Pliocene and becomes poorer as a consequence of the extinction which affected



Pl. I. *Dicrorhinus megarhinus* (de Christol). Mălușteni, V. Românească; Lower Romanian, MN 15 a.

IInd left metatarsal: 1. anterior view; 2. lateral view; 3. proximal articular surface; 4. perigram of diaphysis.

the aceratherine and „*Dicrorhinus*” *schleiermacheri*. The typical rhinoceros for the MN 14 and 15 is a large-sized one, *D. megarhinus*.

The age of the Mălușteni fauna was much discussed during the researches. Athanasiu (1915) asserted that „the association of *Capreolus caprea* with *Macacus* and probably with *Rhinoceros etruscus* from Mălușteni denotes a mediterranean stage of the Early Quaternary, probably from the first interglacial period”. A little later, Simionescu's intuition (1922 a) concerning the age of the deposits from D. Lacului proves to be more exact: „the Mălușteni sands must have belonged to the Tertiary rather than to the Lower Pleistocene”. Later on, the dating problem was repeatedly discussed. Now it is considered (Rădulescu & Samson, 1989) to belong to the Lower Romanian, somewhere to the Dacian/Romanian boundary, within the MN 15 a.

In our country this species is also known from the following occurrences: Căpeni, Sf. Gheorghe — V. Debren, Virghiș (Covasna county; Rădulescu & Samson, 1985); Ciuperceni (Teleorman county; Terzea, 1981); Frătești (Giurgiu county; Kittl, 1887); Horăști (Gorj county; Apostol & Țnache, 1979); Șipote (Gorj county; Athanasiu, 1908); Vultureni (Galatzi county; Florea & David, 1913). Its existence can be assumed after considering some new materials from Baraolt (in the ostracod-bearing marls formation), Racoș (right above the III lignite bed) as well as a less certain determination from Ceptura Valea (Athanasiu, 1908).

Quite recently the species was also reported in the Berești (Galatzi county) deposits (P. Samson, *personal communication*) situated in the neighbourhood, though their age is somehow an older one, being Dacian (MN 14).

Among the already mentioned occurrences all those with a proper stratigraphical position are of Romanian age (*i.e.* Upper Pliocene). Only that from Ciuperceni could be somewhat older. In certain cases, where we do not have details concerning the discoveries (Frătești, Șipote, Vultureni, Ceptura) and when we couldn't find the materials in collections, we could doubt even the exactness of determinations. However, the problem cannot be solved till some further discoveries from these occurrences.

Both in the Mălușteni occurrence and in some others (Căpeni, Virghiș, possibly Ciuperceni) this species is accompanied by *Tapirus arvernensis*. Therefore we can assume that it was a forested environment, intercalated with open grassy land, in a warm climate.

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DICERORHINUS MEGARHINUS (DE CHRISTOL)
ÎN FAUNA ROMANIANĂ DE LA MĂLUȘTENI
(JUD. GALAȚI)

Rezumat

Fauna de vertebrate fosile de la Mălușteni (jud. Galați) este binecunoscută încă de la începutul secolului, o dată cu prima ei menționare de către Athanasiu (1915). Grație cercetărilor întreprinse până acum, de la Simionescu (1922) până la Rădulescu & Samson (1989) a putut fi întocmită o listă considerabilă de specii. Totuși, până în prezent, nici un material paleontologic nu a fost suficient de edificator pentru a se putea preciza ce specii de rinocer apar în asociația de aici. Lucrarea prezintă un metatarsian II, descoperit în nisipurile cu stratificație încrucișată care apar în obârșia V. Românești, din D. Lacului, adică exact din ocurența clasică din care s-a recoltat fauna de vertebrate. A fost găsit în asociație cu lagomorfe, mici carnivore, castori, cervidee, pești și chelonieni. Acest metapodiu ne-a permis să determinăm existența certă a speciei *Dicerorhinus megarhinus* (de Christol). Aici avem de a face cu o formă destul de evoluată, ce concorda foarte bine cu vârsta ocurenței, care este romanian inferioară (MN 15 a).

STRATIGRAPHICAL SIGNIFICANCE OF CERATOMORPH
PERISSODACTYLS (MAMMALIA) FROM THE TRANSYLVANIAN
PALEOGENE

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ABSTRACT. — The already known rhinocerotoids from the Romanian Paleogene deposits prove to have clear affinities with the forms discovered on the Asian territory. Within the Romanian Paleogene the alternances of regressive and transgressive periods caused the episodic occurrence of several emergent areas where the big mammalian faunas settled in successive waves. The stratigraphical position of these discoveries is discussed in the present paper.

Key-words: Paleogene, Mammalia, Perissodactyls, Romania.

Considered as a whole, the Romanian territory doesn't contain any occurrence which could furnish any assemblage rich in large Paleogene terrestrial mammals. Micromammals from Romanian deposits of this age are still totally unknown: however we should not suppose that they are absent, the lack of information is due to the inexistence of some special investigations focussed on this topic.

If we do not take into consideration the discovery of a small anthracothere in Maramureș (Patrulius, 1954), some anthracotheriidae skeleton pieces in the Valea Jiului Chattian coalbearing formations (Simionescu, 1935) or the discovery of some embrithopods at Crivadia, Hunedoara (Rădulescu & al., 1976; Rădulescu & Sudre, 1985; Rădulescu & Samson, 1987) we can practically restrain the area of interest for the Paleogene terrestrial mammals to the western and north-western border of the Transylvanian Basin.

However, the chronostratigraphical importance of these faunas, especially for the assignement of the continental formations is difficult to equal. This may have been the reason for using some of these groups in certain stratigraphical nomenclatures. For instance „the molasses with big anthracotheres” from Transylvania and the Petroșani Basin (Răileanu & al., 1930) were mentioned at a certain moment, considering that „the *Anthracotherium* remains represent a good correlation element”. Obviously, we subscribe to this opinion, already verified in several parts of the world, but we want to underline the fact that the significance of the anthracotheres was somehow overestimated for our country if we consider the exactness of determinations which, with one exception (Patrulius, 1954) do not go beyond the level of generic assignements (Rădulescu & Samson, 1989). Therefore, we focussed

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