

Anisodon sp. (Mammalia, Perissodactyla, Chalicotheriidae) from the Turolian of Dorn-Dürkheim 1 (Rheinhessen, Germany): description, phylogeny, and paleoecology of the latest chalicothere in Central Europe. *Palaeobiodiversity and Palaeoenvironments*
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Online Resource 2

Character matrix and list of characters (modified after Anquetin et al. 2007)

Taxon \ Character (# in Anquetin et al. 2007)	1 (33)	2 (34)	3 (35)	4 (36)	5 (37)	6 (38)	7 (39)	8 (40)	9 (41)	10 (42)	11 (43)
<i>Eomoropus</i>	0	?	1	1	0	0	0	0	1	0	0
<i>Moropus</i>	0	?	1	0	0	0	0	0	1	0	0
<i>Anisodon macedonicus</i>	1	1	1	1	1	1	1	1	1	1	1
<i>Chalicotherium brevirostris</i>	1	?	1	1	0	1	1	1	1	0	0
<i>Anisodon grande</i> (incl. Neudorf)	0	0	1	1	1	1	1	1	1	0	1
Lgr 1065 (<i>C. ?goldfussi</i>)	0	0	1	?	0	0	1	1	1	0	1
<i>Chalicotherium goldfussi</i>	?	?	?	1	?	0	1	1	1	0	1
Vathylakkos (<i>Anisodon</i> sp.)	1	?	?	?	?	?	1	1	1	1	1
<i>Butleria rusingensis</i>	0	0	1	1	0	1	1	1	1	0	1
<i>Nestoritherium</i> (<i>Anisodon</i>) <i>sivalense</i>	1	0	0	1	1	1	1	1	0	0	1
<i>Nestoritherium linxiaense</i>	0	0	?	1	1	1	?	?	1	0	1
<i>Hesperotherium sinense</i>	1	0	0	0	1	0	?	?	0	0	1
<i>Kalimantsia bulgarica</i>	?	?	?	?	?	?	1	1	1	0	1
<i>Anisodon</i> sp. from Dorn-Dürkheim	1	?	1	?	1	1	1	1	1	0	1

Taxon \ Character (# in Anquetin et al. 2007)	12 (44)	13 (45)	14 (46)	15 (47)	16 (48)	17 (49)	18 (51)
<i>Eomoropus</i>	-	-	1	1	1	1	1
<i>Moropus</i>	1	1	1	?	1	1	1
<i>Anisodon macedonicus</i>	0	0	1	0	1	1	0
<i>Chalicotherium brevirostris</i>	1	1	0	1	1	1	1
<i>Anisodon grande</i> (incl. Neudorf)	0	0	1	1	1	1	0
Lgr 1065 (<i>C. ?goldfussi</i>)	1	1	0	1	1	1	1
<i>Chalicotherium goldfussi</i>	1	1	0	1	?	1	0
Vathylakkos (<i>Anisodon</i> sp.)	0	?	?	?	?	?	0
<i>Butleria rusingensis</i>	?	1	1	?	1	1	1
<i>Nestoritherium</i> (<i>Anisodon</i>) <i>sivalense</i>	-	0	1	0	1	1	?
<i>Nestoritherium linxiaense</i>	1	0	0	0	1	0	0
<i>Hesperotherium sinense</i>	1	0	0	0	1	1	0
<i>Kalimantsia bulgarica</i>	1	1	?	?	?	?	?
<i>Anisodon</i> sp. from Dorn-Dürkheim	1	1	1	0	1	1	0

1 (33). Posterior extent of the symphysis: at the level of p2 (0); at the level of the boundary of p3–p4 (1). This is character 24 of de Bonis et al. (1995).

2 (34). Tuberosity under the symphysis: absent (0); present (1).

3 (35). Lower incisors: absent (0); present (1). This corresponds to character 37 of de Bonis et al. (1995), but coding was reversed.

4 (36). Lower canine: absent (0); present (1).

5 (37). P2: longer than wide (0); wider than long (1). This corresponds to character 27 of de Bonis et al. (1995).

- 6 (38).** P3: protoloph reaching the protocone (0); protoloph stopping at the paraconule (1). This is character 28 of de Bonis et al. (1995).
- 7 (39).** P4: protoloph reaching the protocone (0); protoloph stopping at the paraconule (1). This is character 29 of de Bonis et al. (1995).
- 8 (40).** Paraconule on upper molars: absent (0); present (1). This is a subdivision of character 30 of de Bonis et al. (1995).
- 9 (41).** Position of the protocone on upper molars: slightly posterior to the paracone and paraconule (0); subcentral with respect to the lingual side of the tooth (1).
- 10 (42).** Protoloph on upper molars: reaching the protocone (0); not reaching the protocone or absent (1). This corresponds to character 30 of de Bonis et al. (1995).
- 11 (43).** Anterior cingulum on upper molars: regularly lowered until the lingual border (0); displaying a notch in front of the protocone (1).
- 12 (44).** M2: metacone more buccal than paracone (0); metacone at least as lingual as paracone (1). This character is inapplicable for *Eomoropus* and *Anisodon sivalense* ('*Nestoritherium*')
- 13 (45).** External wall of the metacone and metastyle on M3: subparallel to the anteroposterior lengthening (0); subperpendicular to the anteroposterior lengthening (1). This corresponds to character 32 of de Bonis et al. (1995).
- 14 (46).** Postfossette on M3: more pinched than in other molars (0); as wide as in other molars (1). 'Postfossette' is used sensu Butler (1965).
- 15 (47).** Posterior cingular crest on M3: reaching the hypocone summit (0); stopping at the base of the hypocone (1). This corresponds to character 33 of de Bonis et al. (1995).
- 16 (48).** Lower p2: absent (0); present (1). This corresponds to character 35 of de Bonis et al. (1995).
- 17 (49).** Entoconid of p4: weak (0); conspicuous (1). This corresponds to character 34 of de Bonis et al. (1995).
- 18 (51).** 'Metastylid' of lower molars: weak (0); strong (1). This corresponds to character 36 of de Bonis et al. (1995).