GEOLOGIE EN MIJNBOUW VOLUME 51 (4), p. 487–490 1972

A NEW FIND OF A CAVE HYAENA FROM THE NETHERLANDS

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ABSTRACT

Description of a mandibular fragment of the right side of a Cave Hyaena, found in 1971 near Deventer as the seventh recorded find of this species in the Netherlands, probably from an Eemian deposit.

Since H o o i j e r (1960) described three fossil fragments referable to the Late Pleistocene Cave Hyaena, *Crocuta crocuta spelaea* (Goldfuss), no more finds of this animal, as far as I am aware, have hitherto been recorded from the Netherlands. The three specimens mentioned, the posterior part of a skull, a fragment of the right mandible, and a left third metatarsal, all were dredged from the West Schelde near Ellewoudsdijk; from the same site a nearly complete left half mandible and part of the left upper jaw of the same species were described by K r u i z i n g a (1957). The first find of a Cave Hyaena in our country, a maxilla of the right side, came from Hatenboer on the Meuse near Roermond and was described by H o o i j e r (1952).

In June 1971 Mr. W. Hekkert from Deventer found part of a right half mandible of a hyaena in fine white sand which had been freshly pumped up from a deposit below groundwater level along the Kneuterstraat at Bremte near Bussloo, a hamlet to the southwest of Deventer (and on the opposite bank of the river IJssel), at a point which can roughly be indicated to lie at 6°07′30″ E. of Greenwich and 52°12′30″ lat. north. The sand is used in the construction of the new E 8 through road which is planned to run south of Apeldoorn and Deventer towards Germany.

Mr. Hekkert gave his find to Mr. A. Flonk at Amersfoort, Havik 13, who possesses an interesting small private collection of fossil vertebrate remains found in our country. My thanks are due to Mr. Flonk for his kind permission to describe this seventh specimen of a Cave Hyaena from a new locality in the Netherlands. The age of the specimen is not known, but in view of the depth from which the surrounding sand is being sucked up it can safely be estimated to be Late Pleistocene, possibly Eemian.

DESCRIPTION

The bone of this 112 mm long fragment has a light chestnut-brown colour in which some greyish areas and spots may be seen, especially on the buccal side of the mandible. The roots of the three dentitional elements of the right side which are still present, P_2, P_3 and P_4, are dark blue or even black in colour and covered in places by a brownish crust. The enamel of the three premolars has a dark blue tint which is seen as an undertone below the light brownish grey surface layer. Both the teeth and the bone of the mandibular fragment show numerous striations which run in every direction; this points to an intensive erosion by transport in a sandy or gravelly medium during and after its fossilization. The anterior and posterior ends of the fragment have been freshly broken, as is attested by the light brown colour along the edges; the canine and the carnassial, M_1, have been lost only recently. A much older plane along which the

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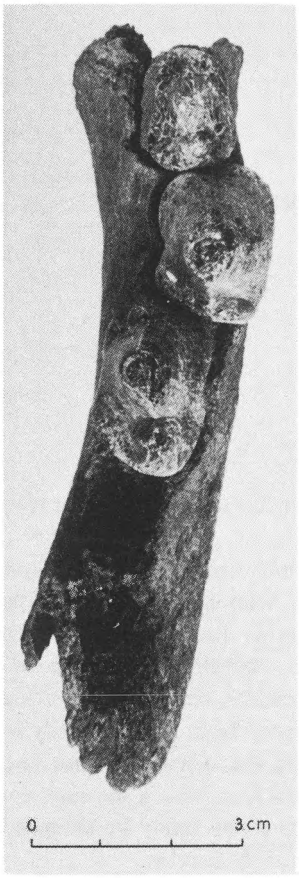

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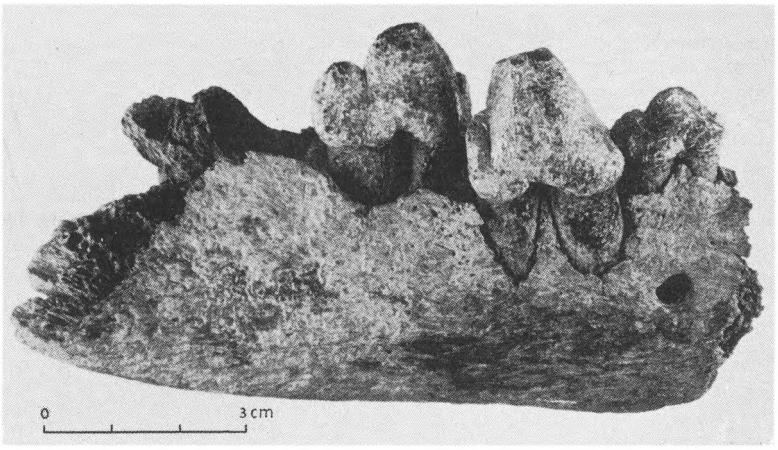

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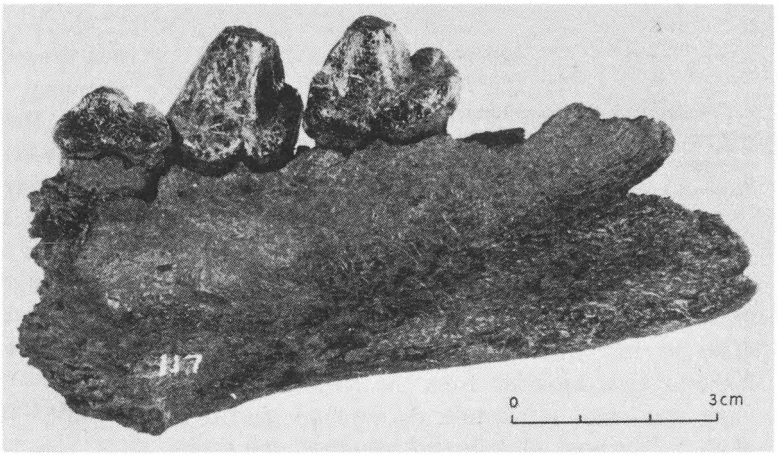

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Fig. 1
Occlusional view of the right mandibular fragment from Bussloo.
Fig. 2
Buccal (lateral) view of same.
Fig. 3
Lingual (lateral) view of same.

mandible has broken is somewhat eroded and lies along the antero-internal side, more or less according to the way in which the mandible would have broken in two along the symphysis. From this one might conclude that the individual did not reach an advanced age at the moment of its death, as is also indicated by the very little amount of wear shown by the teeth. It was clearly adult, however.

A deep foramen mentale, which opens up in a forward and upward direction, is present below the center of the main cuspid of P_2. Seen from above, on the occlusional surface, the typical overlapping position of the three premolars which is so characteristic in hyaenas is a prominent feature. So is the apparent leaning backwards which they exhibit when seen from a buccal direction and aside, caused by the deeply curving down of the mandible in its natural aspect. The three photographs may tend to illustrate this observation.

The fairly heavy amount of fenestration of the roots on the buccal side of P_3 may again argue against the idea that the animal did not reach a very old age. The course of the cingula along the anterior and posterior sides of P_2, P_3 and P_4 does not show anything abnormal, nor can this be said of the fact that one may observe an interruption in this course on the buccal sides (where it is absent over a fairly long distance) as well as on the lingual sides (where it is wanting shortest) of P_3 and P_4. The other premolar, P_2, is much smaller and flatter as a whole and possesses a relatively wider talonid which is especially broadened in a lingual direction. Behind the main

	C.c. spelaea Bussloo	*C.c. spelaea* Ellewoudsdijk Kruizinga '57	*C.c. spelaea* Ellewoudsdijk Hooijer '60	*C. crocuta* Mosbach Kurtén 1962			*C.c. spelaea* Kent's Cavern Kurtén 1962 n = 45-53		*C. crocuta*, recent Balbal Kurtén 1956 n = 91-98	
				1957 *883.4*	*1955* *774*	*1955* *775*	Mean value	Variation	Mean value	Variation
P_2 length	17.1	15.0	–	–	–	–	16.53 ± 0.06	14.4 – 19.0	14.49 ± 0.08	11.8 – 17.2
width(ant.)	10.6	9.1	–	–	–	–	–	–	–	–
width(post.)	13.3	11.2	–	–	–	–	12.38 ± 0.07	10.4 – 14.2	–	–
height of crown	10.2	8.9	–	–	–	–	–	–	–	–
P_3 length	23.2	22.4	–	22.5	–	–	22.56 ± 0.07	19.5 – 25.9	19.86 ± 0.09	17.1 – 22.6
width(ant.)	17.1	15.0	–	–	–	–	–	–	–	–
width(post.)	16.5	15.2	–	–	–	–	16.54 ± 0.05	14.5 – 18.8	–	–
height of crown	±22	20.0	–	–	–	–	–	–	–	–
P_4 length	24.2	23.2	–	25.5	23.7	24.9	24.24 ± 0.07	21.4 – 26.8	21.66 ± 0.09	18.8 – 24.5
width(ant.)	15.5	13.0	–	–	–	–	–	–	–	–
width(post.)	16.1	14.0	–	14.6	14.8	15.2	15.13 ± 0.05	12.8 – 17.1	–	–
height of crown	±19	15.0	–	–	–	–	–	–	–	–
Mandib. height below M_1 (labial)	46.6	–	–							
– behind M_1	–	49.2	53							
symphyseal height	30.0	–	–							
symphyseal length	–	46.0	–							
Mandib. height in front of P_2	41.7	–	–							
Foram. ment. – inf. border of mand.	23.5	18.0	–							
Foram. ment. – sup. border of mand.	17.0	14.5	–							

cuspids of P_2 and P_4 one sees accessory cuspids standing inside the areas enclosed by the cingula and forming part of the crest which follows the longitudinal axis in each of the three premolars. Insignificant prominences in this crest in front of the principal cuspid in P_2, P_3 and P_4 might perhaps also be explained as beginning accessory cusplets, and so might an equally insignificant protuberance behind the main cuspid of P_3.

The specimen is inscribed as number 117 (indicated on the antero-internal side of the fragment) in the private collection of Mr. Flonk. Some measurements, compared with other measurements taken from Hooijer (1960), Kruizinga (1957) and Kurtén (1956, 1962) are given in the following table:

The few measurements given here indicate that the Bussloo specimen was probably somewhat larger than the average Cave Hyaena; furthermore one sees that the maximum values of the lengths of the premolars in recent spotted hyaenas barely overlap those in the subspecies *spelaea,* while the mean values differ. The Bussloo specimen has lost its M_1, so that it is no longer possible to see whether this molar had a metaconid or not; the absence of this feature, according to Kurtén (1956, p. 34), seems to occur quite often in the fossil subspecies. I do, however, not hesitate to ascribe the specimen in Mr. Flonk's collection to *Crocuta crocuta spelaea* (Goldfuss) because of its generally large dimensions and because of its stratigraphical occurrence in Pleistocene sands of the IJssel valley.

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