

A VERY BRITISH SABRETOOTH: *HOMOTHERIUM* IN THE UK

The sabretooth cats (Felidae, subfamily Machairodontinae) are the extinct cousins of the modern conical-toothed cats (Felidae, subfamily Felinae; Barnett et al. 2005). The stocky New-world *Smilodon fatalis* is probably the most familiar species, known from thousands of specimens recovered from the Pleistocene tarpits of Rancho la Brea in downtown Los Angeles (Merriam/Stock 1932). Sympatric with *Smilodon*, although much rarer in the fossil record is the »scimitar-tooth« cat *Homotherium serum*, typical of the genus, with a more athletic build, clearly adapted for high-speed pursuit of prey, rather than ambush, and with canines that are broad and coarsely serrated (Antón/Galobart 1999; Rawn-Schatzinger 1992; Turner/Antón 1997). The tribe Homotheriini represent a very successful radiation of the sabretooth lineage, with species identified in Africa (Ewer 1954), Europe (Arribas/Garrido 2008; Reumer et al. 2003), Asia (Teilhard de Chardin 1939; von Koenigswald 1934), North America (Jefferson/Tejada-Flores 1993) and, most recently, in South America (Mones/Rinderknecht 2004; Rincón/Prevosti/Parra 2011).

Within Europe, *Homotherium* has generally been subdivided into two chronological grades: *H. crenatidens* from the Early Pleistocene and *H. latidens* from the Middle and Late Pleistocene. Separation between the two has mainly been made on the basis of size and canine shape (Antón/Galobart/Turner 2005; Turner/Antón 1997).

The distinctively serrated triangular canines that we now recognize as belonging to *Homotherium* were first found at the famous Italian site of Val d'Arno (prov. Pisa/I), where they were initially ascribed to a new species of bear: *Ursus cultridens*. It was using this description that the Rev. John MacEnery identified and figured a number of canines from the site of Kent's Cavern (Devon). These British canines then formed the basis for Richard Owen's description of the first sabretooth cat, *Machairodus latidens* (Owen 1846), now recognized as *Homotherium latidens*. Since then, *Homotherium* has been found at the site of Robin Hood Cave, Creswell Crags (Derbyshire); Victory Quarry, Dove Holes, Buxton (Derbyshire); Westbury-sub-Mendip (Somerset); and from the erosional deposits of East Anglia (fig. 1). Particular confusion has arisen over the Kent's Cavern material due to MacEnery's untimely death and the posthumous dispersal of both his writings and his precious fossils. As important as they are, the lack of a cohesive understanding of what material was found has so far hindered a complete understanding of both the site and the species.



Fig. 1 UK map with location of sites mentioned in the text: **1** Kent's Cavern, Devon. – **2** Creswell Crags, Derbyshire. – **3** Dove Holes, Derbyshire. – **4** Westbury-sub-Mendip, Somerset. – **5** Cromer, Sidestrand, West Runton and Bacton, Norfolk. – **6** Kessingland, Pakefield, and Covehithe, Suffolk. – (Map modified from www.d-maps.com).

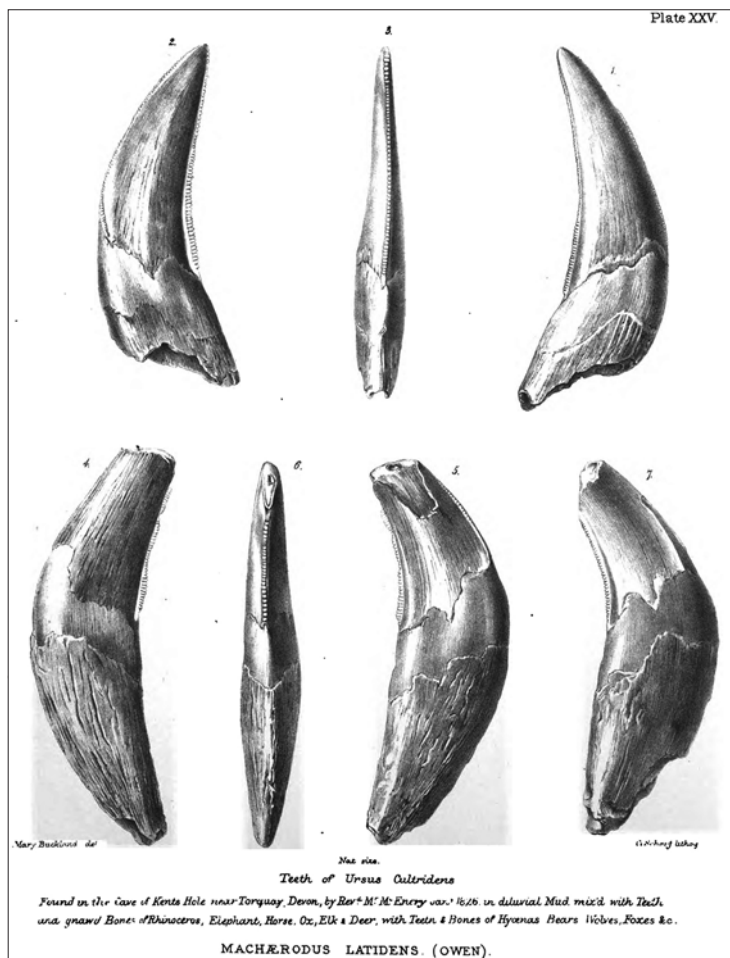


Fig. 2 Plate F of MacEnery, delineated by Mary Buckland and lithographed by George Scharf. – (After Dawkins/Sanford/Reynolds 1878, pl. XXV).

CORPUS OF FINDS IN THE UK

Kent's Cavern, Devonshire

Canines

The Rev. John MacEnery (1796-1841; Clark 1925a) was the private chaplain to the Cary family of Tor Abbey (Clark 1925b). He took a keen amateur interest in the caves of the area and was the first person to attempt any serious excavation of the site now known as Kent's Cavern. In January 1826, while digging in the area known as »the wolf's den« he encountered five canines of a type unknown to him (Pengelly 1868). These were passed to Prof. William Buckland of the University of Oxford, who was also unable to identify them. They were finally recognised by Baron Georges Cuvier as being identical with his »*Ursus cultridens*« from Val d'Arno (Pengelly 1868). Very early in 1826, Mary Buckland (William's wife) drew a number of the unique canines in preparation for a high quality lithograph. The final result was the beautiful Plate F (fig. 2), which MacEnery intended to publish in full with his excavation notes on Kent's Cavern in a book to be called »Cavern Researches« (Pengelly 1868). Unfortunately, MacEnery died before completing the work and his collection and manuscripts were scattered by auction in 1842 (Pengelly 1868). Several attempts at publishing his findings as a single coherent work were made posthumously (MacEnery 1859; Pengelly 1868) but it was not until 1878 that Plate F become widely circulated when it was printed as Plate XXV of Dawkins and Sanford's (1878) classic »British Pleistocene Mammalia«.

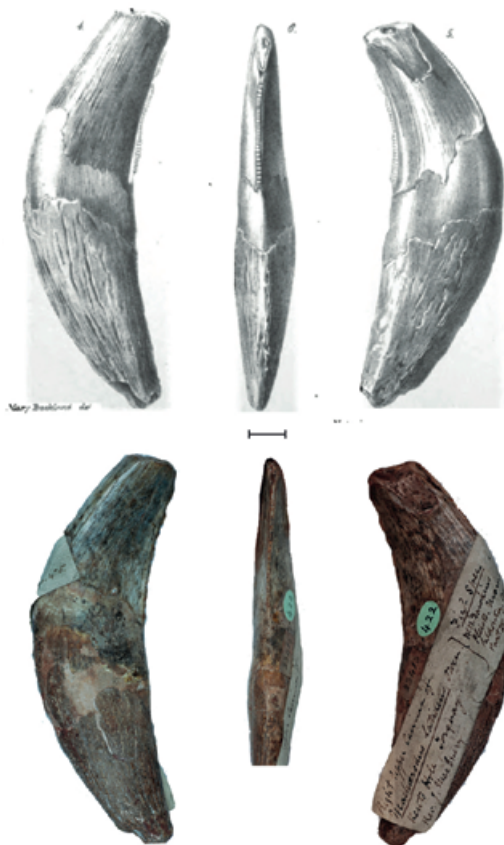


Fig. 3 Comparison of Institute of Geological Science Museum GS422 canine with MacEney's Plate F, figs 4-6. – (Photo British Museum). – Scale Bar 10 mm.

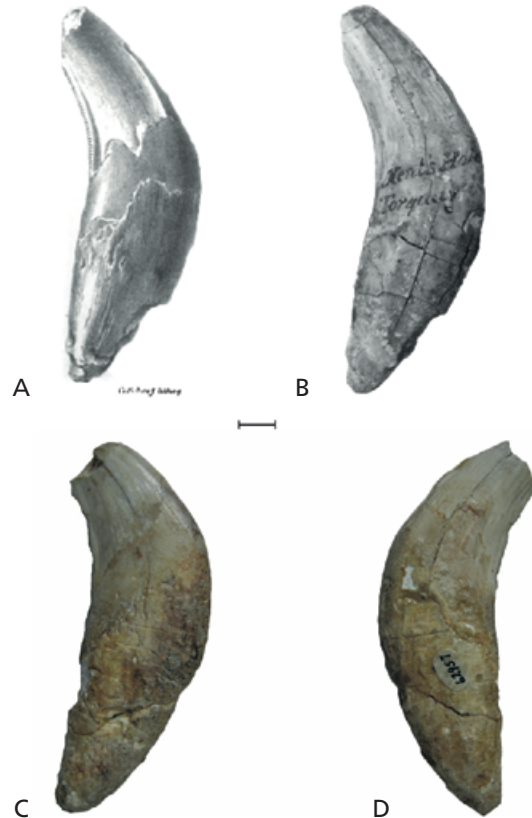


Fig. 4 Comparison of Oxford University Museum of Natural History Q955 canine and Institute of Geological Science Museum IGS62957 canine with MacEney's Plate F fig. 7 – **A** Plate F, fig. 7. – **B** Oxford University Museum of Natural History Q955 canine. – **C-D** Institute of Geological Science Museum IGS62957 canine: **C** lingual view; **D** labial view. – Scale Bar 10 mm.

Since no legend was found with the plate, there has been confusion over how many canines are represented, whether differing views of the teeth represent the same specimen or not, and where the fossils have finally ended up. MacEney's notes (P197, Fasciculus D Pengelly 1868) only refer to »P.F Fig 1.2.3-exhibiting different views of the most perfect tooth«, but the figures 4, 5, 6, and 7 could potentially have represented the remaining four canines from various angles. Over the years, several authors have offered their interpretation of what was represented in Plate F. Dawkins and Sanford (1878) state »[...]the original of pl. F' Figs. 4, 5, found its way into the museum of the geological society; the fourth, figured, pl. F' figs. 1, 2, 3, is in the British museum; and the fifth, (pl. F' fig. 7) is in the collection of Sir Walter Trevelyan, Bart.« This information is elaborated upon by Kennard (1945), who correctly states that figures 4, 5 and 6 are of the same tooth (**fig. 3**) but that figure 7 is the canine now in the Geological Survey Collections after donation by Sir W. C. Trevelyan in 1871. Crucially however, it appears that both Dawkins and Kennard were misled and that figure 7 is actually the canine in the Oxford University Museum of Natural History (**fig. 4**). Presumably, neither had seen the Geological Survey or Oxford specimens for comparison to Plate F. Now, for the first time since MacEney died in 1841 we have the correct identification of all three canines figured in Plate F, and where they are currently curated (**tab. 1**). The fourth canine, now housed at the Institute of Geological Science, London (IGS62957; **tabs 1. 3; fig. 4, C-D**), has never been figured before. Kent's Cavern is the type locality for *Homotherium latidens*, with a holotype described by Owen in 1846. Although he does not explicitly identify the canine in his diagram and description, it is clearly canine 443/103

no.	element	museum	accession	figured	notes	purchase history	references
1	left upper canine	British Museum of Natural History	14954	Dawkins 1878, pl. 25 figs 1-3 Dawkins 1874a, fig.	Kennard A (1945) casts in Paris, Oxford (Q7261)	MacEnergy Auction 1842 → Lovell Phillips (Falconer 1868) → König (Kennard 1945)	Falconer 1868 Dawkins 1874b; 1878 MacEnergy 1859 Pengelly 1869; 1871 Kennard 1945 Lyell 1873
2	right upper canine	Geological Society (now IGS, London)	GS422 (23,413)	Dawkins 1878, pl. 25 figs 4-6 (Kennard 1945)	Kennard B (1945) casts in Oxford (Q7262) and NHM (1868) and Paris (1945)	Mrs Cazalet donated Feb. 16 th , 1826 (Falconer 1868), or Feb. 17 th , 1826 (Kennard 1945)	Dawkins 1878 Kennard 1945 Falconer 1868
3	right upper canine	Museum of Practical Geology (now IGS, London) (1983) Geological Survey	62957	wrongly identified as pl. 25 fig. 7 by Dawkins/Sanford 1878 and Kennard 1945	Kennard C (1945)	Mrs Cazalet (in 1826) → Sir W. C. Trevelyan donated May 15 th 1871 (Kennard 1945)	Dawkins 1878 Cleevely 1983 Kennard 1945
4	right upper canine	Museum of the Royal College of Surgeons	443 or 103 canine destroyed in 1941 (Cleevely 1983)	Owen 1846, P.180 fig. 69 (Lydekker 1885; Owen 1846)	Kennard D (1945) cast: NHM 46842 (Lydekker 1885) 46842a (Lydekker 1885) cast in Albert Museum, Exeter? (Cleevely 1983)	MacEnergy Auction 1842 → Dr. Battersby → Lord Enniskillen (Falconer 1868)	Dawkins 1878 Cleevely 1983 Kennard 1945 Owen 1846 Lydekker 1885 Falconer 1868 Anon. 1865
5	upper canine	Oxford Museum	Q955	Dawkins 1878, pl. 25 fig. 7	Kennard E (1945) cast in York	MacEnergy Auction 1842 → Lovell Phillips → Buckland (Falconer 1868)	Dawkins 1878 Kennard 1945 Falconer 1868
6	3 rd left upper incisor	Albert Museum, Exeter	Fos25 now lost? (Dawkins 1869)	Owen 1846, P.182 fig. 70 Dawkins 1878, P.188 Dawkins 1874a, figs 103-105 Gervais 1848-1852, P.126 Gervais 1867-1869, P.78 fig. 4	Kennard 1, 2, 3, 4 cast: NHM 46767 cast in Paris (1945)	MacEnergy Auction 1842 → W. C. Radley → F. W. L. Ross (in 1853) (Kennard 1945)	Kennard 1945 Dawkins 1874a; 1878 Owen 1846 Pengelly 1875 Gervais 1848-1852
7	3 rd right upper incisor	British Museum of Natural History (NHM)	M582	Pengelly 1897, P.227 Lyell 1873, P.105 fig. 10	Kennard 5 July 29, 1872, found	Pengelly → Lord Haldon → donated in 1883	Pengelly 1883 Lydekker 1885 Pengelly 1897 Kennard 1945

Tab. 1 The Kent's Cavern material.

from the Royal College of Surgeons. Sadly, this identification had to be made through consulting casts 46842 and 46842a in the British Museum of Natural History as the original was destroyed during bombing of the Royal College in 1941. This is the fifth and final canine of the five discovered by MacEnery. Owen (P181, 1846) mentions »Three of these canine teeth [...] were discovered by the Rev. Mr. MacEnery in Kent's hole, Torquay«, although we know that five canines were found during MacEnery's excavations, any of these paratypes could be elevated to the rank of neotype.

Recent research on the canines has suggested that the teeth are not native to the Devon area but were instead transported there by Palaeolithic people for reasons unknown (McFarlane/Lundberg 2013). If the scimitar-cat held cultural significance for Palaeolithic groups then it is likely that the concentration of canines and incisors from this species in Kent's Cavern are from somewhere else. The source site is currently unknown and whether the teeth were taken from a recently dead *Homotherium* or from subfossil material remains a matter of conjecture. With the discovery that the canines have been imported (possibly as fossils from the continent), a crucial piece of evidence for Late Pleistocene survival of *H. latidens* in North-Western Europe is removed. It is now only the equally contentious remains from Creswell Crags that provide support for Late Pleistocene *Homotherium* in Britain.

Incisors

During Pengelly's systematic excavations of Kent's Cavern in the 1860s and 1870s, it was hoped that further remains of *Homotherium* would be discovered, and the earlier findings of MacEnery would be confirmed. Despite eight seasons of digging from 1864 to 1872, no trace of the elusive sabretooth was found. Finally, on 29 July, 1872 »a well-marked incisor of *Machairodus* [*Homotherium*] *latidens*« was found, »with a left ramus of lower jaw of bear, containing one molar, in the first of uppermost foot-level of cave-earth, having over it the granular stalagmitic floor 2.5 feet deep« (fig. 5; Pengelly 1873c). This is the only *Homotherium* tooth from Kent's Cavern for which there is a comprehensive account of the discovery and curation. Pengelly bequeathed the incisor to Lord Haldon (owner of Kent's Cavern) who donated the tooth to the British Museum (Natural History) in 1883 (Lydekker 1885).

In MacEnery's notes (MacEnery 1859) he mentions »I have lately discovered in the same bed a small tooth about an inch long – the internal face of the enamel is fringed with a serrated border-this tooth is distinguished farther by two tubercles or protuberances at the base of the enamel from which the serration springs and describes a pointed arch on the internal surface vid – fig. 8 9«. This description of what is clearly an incisor of *Homotherium*, has been the starting point for a long and confused discussion of how many incisors were actually found by MacEnery in Kent's Cavern. As this is the only mention made of an incisor, and given the number of references to the canines throughout his manuscripts it is logical to think that only one incisor was found by MacEnery. However, several authors have contested this straightforward assessment, with up to four separate incisors claimed to have come from MacEnery's diggings in Kent's Cavern (Kennard 1945). The evidence for multiple incisors found by MacEnery hinges on the interpretation of two images and how they relate to a *Homotherium* incisor in the Royal Albert Memorial Museum (RAMM), Exeter (Kennard 1945; Pengelly 1875).

The RAMM incisor has had a very interesting history (see Pengelly 1875) and is certainly the tooth found by MacEnery, although it has been roughly treated since, and has lost some of the enamel and root it originally retained on discovery. The characteristic serration of the enamel is still obvious and diagnostic.

The first image to introduce confusion is that on P188 of the »British Pleistocene Mammalia« (Dawkins/Sanford/Reynolds 1878). Dawkins/Sanford reproduce a woodcut (based on a photo of a drawing in Indian ink)

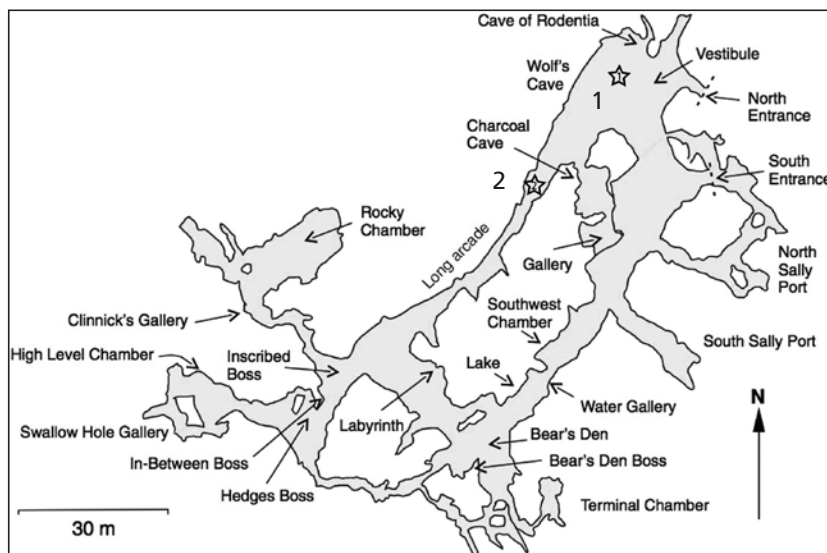


Fig. 5 Plan of Kent's Cavern from Lundberg (Lundberg/McFarlane 2007, 200) with approximate sites (star) of *Homotherium* remains identified. – **1** MacEney's five canines and one incisor from the »wolf's den«. – **2** Pengelly's incisor from the long arcade.

of an image found in the collection of MacEney after his death. The original drawing (currently untraced) contained five images; three of *Homotherium* incisors and two of the upper jaw of a horse, apparently drawn by G. Scharf in 1837 (Pengelly 1873b). **Figure 6, A** has mostly been interpreted as representing two incisors (Kennard 1945; Pengelly 1873a), with »fig. 1« and »fig. 2« representing left and right sides of one specimen and »fig. 3« a separate specimen. Kennard identifies these hypothetical incisors as numbers 3 and 4 in his system (Kennard 1945). However, it is my opinion that despite the rather unusual dimensions portrayed by the separate figures, only one incisor is represented in three views, in an analogous manner to the images of Pengelly's incisor in Lyell (1873) (see **fig. 6, E** for comparison). The proportions appear to correspond in all views (e.g. between cusps and apex in the crown, and between crown and root). The striations present on the root, presumably due to hyaena (*Crocuta crocuta spelaea*) gnawing, and therefore uniquely characteristic, appear to match. Interestingly, Pengelly, who was the first to have access to the Indian ink drawing in his capacity as president of the Torquay Natural History Society, initially states »amongst the plates [...] there is one containing five figures, of which three are without doubt different views of the tooth described by the author [MacEney]« (P198, Pengelly 1868). In subsequent work (Pengelly 1872; 1873a), he appears to defer to the opinion of Dawkins, who discusses the image as containing two incisors (Dawkins 1874a; 1874b; Dawkins/Sanford/Reynolds 1878; Pengelly 1872).

The second and only other image of a claimed *Homotherium* incisor from Kent's Hole is that of Owen's »A history of British fossil mammals and birds« (Owen 1846). Pengelly identifies this figure as identical to the incisor found by MacEney (Pengelly 1873b i.e. the RAMM incisor), which was in private collection at the time of his writing. However, the RAMM incisor is a left I3, whereas Owen's figure is apparently of a right I3. This difference is likely due to accidental mirroring during the process of printing as suggested by Burmeister and Pengelly (Pengelly 1875), and Owen himself believed that his image and the RAMM incisor were the same (P260, Pengelly 1875). Additionally, Pengelly notes that whereas the Dawkins woodcut image shows clear signs of hyaena gnawing, both the RAMM incisor and Owen's figure do not have this feature. Pengelly provides a probable explanation for this discrepancy when he states of the RAMM incisor: »there are no traces of teeth marks on it, but it must be observed that it has lost a portion of the surface on one side of the fang [root], obviously since its exhumation. The aspect of the scar suggests that the specimen had been fastened with strong cement to a tablet, and that it had been roughly detached« (P252, Pengelly 1875). As the Owen figure must have been drawn on or after 1844, and MacEney's specimens,

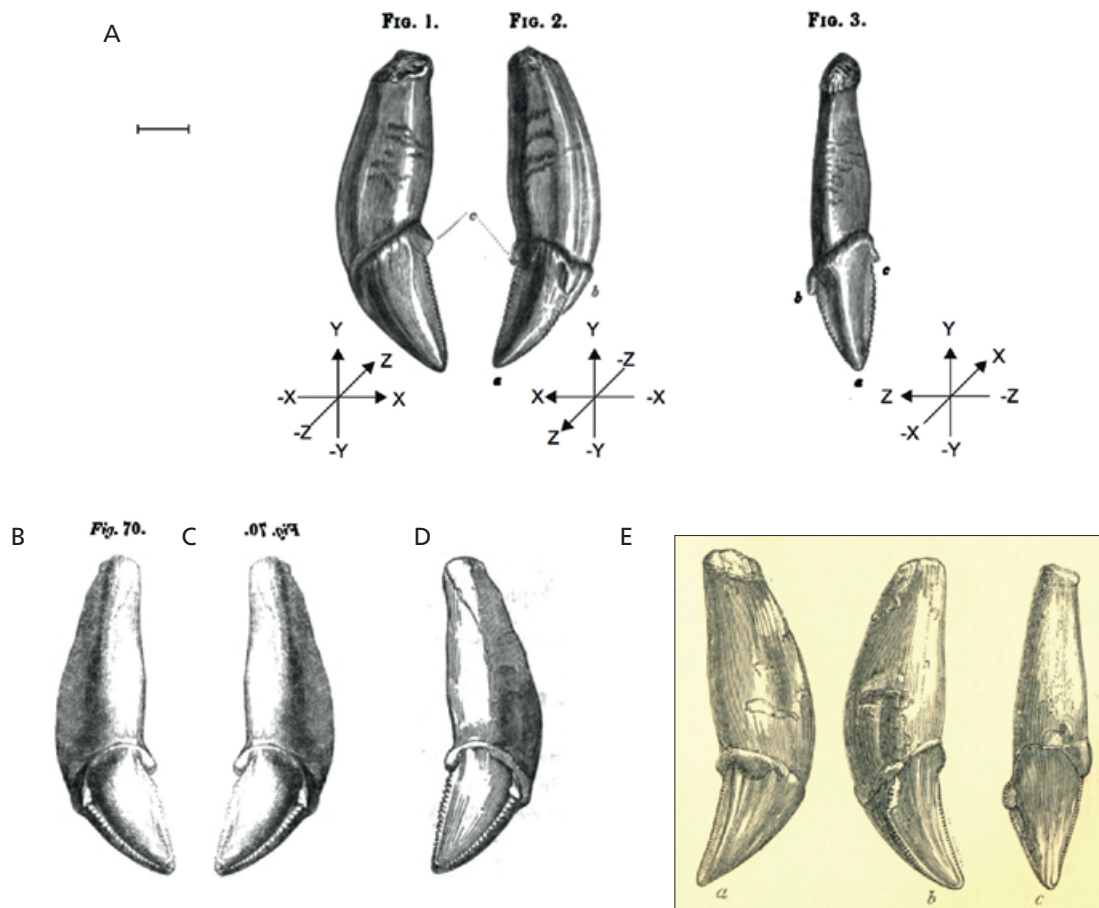


Fig. 6 **A** copy of woodcut figure of incisor in Dawkins and Sanford with apparent orientation axes marked. – **B** incisor from Owen. – **C** Mirrored version of the incisor from Owen. – **D** woodcut of incisor from Gervais, obviously a reflected version of Owen's. – **E** three views of Pengelly's 1872 incisor from Lyell (note similarity in orientations to **A**). – (A after Dawkins/Sanford/Reynolds 1878, fig. 1-3; B-C after Owen 1846, fig. 70; D after Gervais 1848-1852, pl. 32; E after Lyell 1873, fig. 10). – Scale Bar 10 mm.

mostly stuck to cards (P491, Pengelly 1869), were dispersed at auction in 1842, the reason for the difference between the images of Dawkins and Owen, and the RAMM incisor become clear.

In summary, a probable timeline of the RAMM incisor is as follows:

1. Found by MacEnery in Kent's Cavern on or before 1837;
2. MacEnery commissions Scharf to produce some preparatory sketches of the incisor from a number of angles with the idea of introducing two views into Plate F as Figures 8 and 9. This is the origin of the Indian ink sketch published by Dawkins and Sanford.
3. MacEnery dies 1841, before publishing his work on Kent's Cavern and his collection is dispersed at auction in 1842.
4. W. C. Radley of Newton Abbot buys the incisor amongst a lot of MacEnery's fossils. After purchase, the specimen is roughly removed from its auction card and loses some portions of root and the tip of the crown.
5. At some point around 1844, the incisor is brought to William Buckland and figured by Richard Owen.
6. F. W. L. Ross of Topsham buys the incisor from W. C. Radley in 1853 and bequeaths it to the RAMM.
7. The incisor is recognised as belonging to *Homotherium*, by W. S. M. D'Urban and described by Pengelly in 1875.

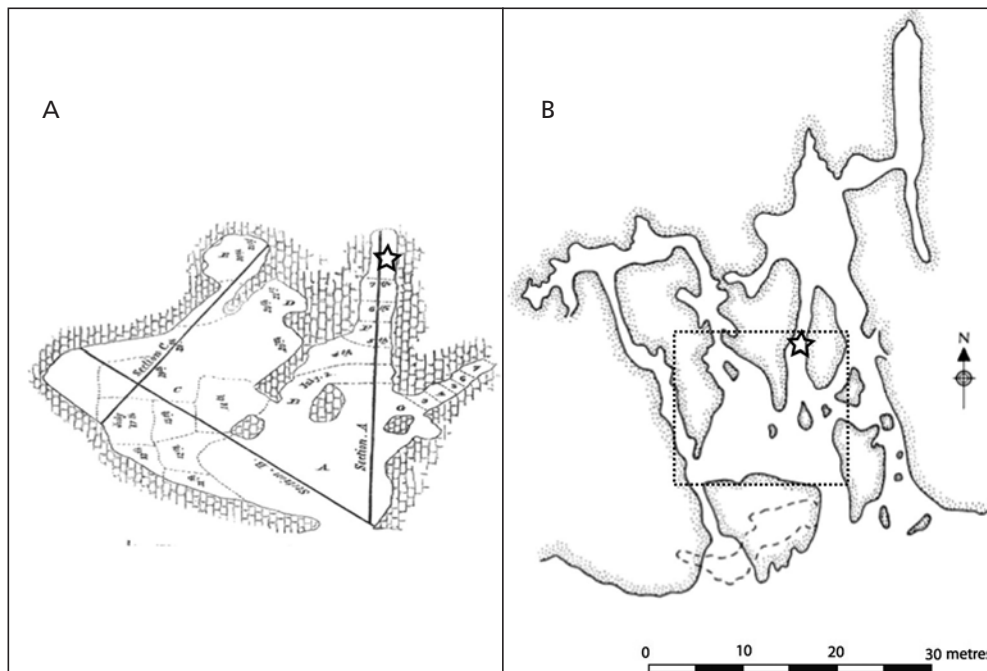


Fig. 7 **A** plan of Robin Hood Cave from Mello with site of *Homotherium* canine identified (star) »at the far end of chamber F«. – **B** plan of modern Robin Hood Cave adapted from Charles/Jacobi with Mello's plan identified by dashed lines. – (A after Mello 1877, fig. 8; B after Charles/Jacobi 1994, fig. 2).

Robin Hood Cave, Creswell Crags, Derbyshire

Second only in controversy to the Kent's Cavern material, the Creswell Crags canine has been the subject of much speculation (Anon. 1879-1880; Charles/Jacobi 1994; Mello 1879-1880; **tab. 2**). Unearthed in the presence of W. Boyd Dawkins, there is a huge literature of claim and counter-claim both for and against the authenticity of the canine (Anon. 1879-1880; Mello 1879-1880). The canine is enigmatic and apparently out-of-place in the Late Pleistocene context of Robin Hood Cave. However, isotopic studies have tentatively confirmed the canine as part of the Creswell assemblage (Oakley 1980) while the recent dating of North Sea material to c. 28 000 BP has removed much, but not all, of the objection to *Homotherium* survival into the Late Pleistocene (Reumer et al. 2003).

The canine itself was found in »chamber F« (**fig. 7**) during excavation in 1876 (Mello 1877). Dawkins (1877) states that »it lay about one foot below the stalagmite in the cave-earth; and in association with it were a fine flint flake and remains of bear, woolly rhinoceros, reindeer, horse, and mammoth«.

Victory Quarry, Dove Holes, Buxton, Derbyshire

Discovered in 1901, the infilled cave from Victory Quarry produced a spectacular assemblage of fossil mammals (**tab. 3**). Remains of *Homotherium* include one right radius, one right tibia, three upper canines, two left upper carnassials, and two humeri. As well as *Homotherium*, remains of hyaena, mastodon, mammoth, rhino, horse and deer were also collected and identified by W. B. Dawkins (1903). Originally described as being Pliocene in age by Dawkins (1903), this age has been revised significantly by later authors and is now thought to be Early Pleistocene (Spencer/Melville 1974; Stuart 1974). This material currently represents the earliest appearance of *Homotherium* in the British Isles and therefore should probably be recognised as *H. crenatidens*.

element	museum	accession	figured	notes	references
upper canine	Manchester, currently Creswell Visitor Centre	P.1787	Dawkins 1877, fig. 3	discovered on 3 rd July 1876, Chamber F	Dawkins 1877 Jenkinson 1984 Mello 1877 Mello 1880

Tab. 2 The Creswell Crags material.

no.	element	museum	accession	figured	notes	references
1	upper canine	Manchester Museum	L6190e			
2	upper canine	Manchester Museum	L6190d	Dawkins 1903, pl. 9 fig. 1		Dawkins 1903 Spencer 1974 Nudds 1992
3	upper canine	Manchester Museum	L6190a	Dawkins 1903, pl. 8 fig. 1 Spencer 1974, pl. 2 fig. 1		Dawkins 1903 Spencer 1974 Nudds 1992
4	left upper carnassial	Manchester Museum	L6190b	Dawkins 1903, pl. 8 fig. 2 Spencer 1974, pl. 2 fig. 3		Dawkins 1903 Spencer 1974 Nudds 1992
5	left upper carnassial	Manchester Museum	L6190c	Dawkins 1903, pl. 8 fig. 3 Spencer 1974, pl. 2 fig. 4		Dawkins 1903 Spencer 1974 Nudds 1992
6	right radius	Manchester Museum	LL.4126			Dawkins 1903 Spencer 1974 Jackson 1952
7	right tibia	Buxton Museum	no accession number	Dawkins 1903, pl. 11 fig. 1 Spencer 1974, pl. 2 fig. 5	cast in NHM M10171 (Anon. 2020) cast in Manchester Museum L.6192	Dawkins 1903 Spencer 1974 Anon. 2020
8	femur	Manchester Museum	L6197	Dawkins 1903, pl. 11 fig. 4	actually a horse metatarsal (1974)	Dawkins 1903 Spencer 1974
9	distal humerus	Manchester Museum	LL4021			Spencer 1974 Jackson 1952
10	humerus	Manchester Museum	L.6221		gnawed by hyaenas	

Tab. 3 The Victory Quarry material.

Westbury-sub-Mendip, Somerset

A filled cave uncovered during quarrying in 1969 and systematically excavated from 1969-1984 (Bishop 1982; Turner 1999; **tab. 4**). *Homotherium* material includes eight canines, two incisors, two molars, and one premolar. The dating of this site has proved problematic with best estimates placing it as of probable Cromerian age (Middle Pleistocene; Bishop 1982; Stuart 1974; Turner 1999).

East Anglia

The East Anglian *Homotherium* material differs from the previously described sites as it comes from an essentially open-air bed rather than a cave assemblage (**tab. 5**). As such, the remains have been collected piecemeal by amateur and professional excavators over the past 140 years with concomitant difficulty in assigning secure contexts (Lankester 1869; Stuart 1974). Several finds have been mentioned only in passing in the early literature and never figured, leading to the possibility that they were misidentifications or were subsequently lost to private ownership. Significant finds include a right mandible from Kessingland/Pakefield (Suffolk; Backhouse 1886) and a third metatarsal and calcaneum from West Runton (Norfolk; Lewis/Pacher/Turner 2010).

CONCLUSION

Although Kent's Cavern is the type locality for *Homotherium latidens*, there is an under-appreciation of how comparatively rich the UK is in this rare felid. The majority of the material has often been neglected in discussions of Pleistocene mammals, probably due to the muddled discussion of 19th-century finds and confusion over what has actually been found. With the reappraisal of the Kent's Cavern material and the inventory presented herein, future researchers can focus more readily on British *Homotherium*.

Note

This paper is an abbreviated version of Barnett 2014.

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SUMMARY / ZUSAMMENFASSUNG

A Very British Sabretooth: *Homotherium* in the UK

The sabretooth genus *Homotherium*, while wide-ranging in Eurasia, has not often been considered a critical component of the British Pleistocene fauna. The Early Pleistocene *Homotherium crenatidens* and the Middle to Late Pleistocene *Homotherium latidens* have, however, held a prominent position in 19th-century discussions of British palaeontology. As many of the UK sites containing *Homotherium* were first investigated over a century ago, the literature is confused on the question of what was found. An attempt has been made to track down all specimens of British *Homotherium* discussed in the literature and to give their current location. For the first time, the correct identity of all the *Homotherium* canines from Kent's Cavern in Devon is given and definitively associated with the famous Plate F of MacEnery. The history of the single *Homotherium* incisor found by MacEnery is deduced from study of his surviving writing and images.

Eine sehr britische Säbelzahnkatze: *Homotherium* im Vereinigten Königreich

Obwohl die Säbelzahngattung *Homotherium* in Eurasien weit verbreitet ist, wurde sie oft nicht als wichtiger Bestandteil der britischen pleistozänen Fauna angesehen. Das *Homotherium crenatidens* aus dem frühen Pleistozän und das *Homotherium latidens* aus dem mittleren bis späten Pleistozän nahmen jedoch in den Diskussionen über die britische Paläontologie des 19. Jahrhunderts eine herausragende Stellung ein. Da viele der britischen Fundorte von *Homotherium* vor mehr als einem Jahrhundert erstmals untersucht wurden, ist die Literatur in der Frage, was gefunden wurde, unübersichtlich. Es wurde versucht, alle in der Literatur besprochenen Exemplare des britischen *Homotherium* aufzuspüren und ihren aktuellen Fundort anzugeben. Zum ersten Mal wird die korrekte Identität aller *Homotherium*-Eckzähne aus der Kent's Cavern in Devon angegeben und definitiv mit der berühmten Platte F von MacEnery in Verbindung gebracht. Die Geschichte des einzelnen *Homotherium*-Schneidezahns, der von MacEnery gefunden wurde, wird aus dem Studium seiner überlieferten Schriften und Bilder abgeleitet.

no.	element	level	museum	accession	figured	notes	references
1	left I/1 or I/2	Westbury Unit 18 (Bed 3)	British Museum Natural History (NHM)	M47488			Turner 1999
2	left M/1	Westbury Unit 19/8	British Museum Natural History (NHM)	ME-50 (2-3 ME50)	Turner 1999, fig. 8.1B		Turner 1999
3	left canine	Westbury Unit 19/14	British Museum Natural History (NHM)	1982-43			Turner 1999
4	right upper canine	Westbury Bed 4a	British Museum Natural History (NHM)	M33983	Turner 1999, fig. 8.1A Bishop 1982, pl. 4 fig. 9		Turner 1999 Bishop 1982
5	lower canine	Westbury unstratified		M33984		same as 6?	Bishop 1982
6	canine	Westbury unstratified	British Museum Natural History (NHM)	F48		same as 5?	Turner 1999
7	M/1	Westbury unstratified	British Museum Natural History (NHM)	M33703	Turner 1999, fig. 8.1C Bishop 1982, pl. 4 fig. 8		Turner 1999 Bishop 1982
8	upper canine fragment	Westbury unstratified	British Museum Natural History (NHM)	M33700a			Bishop 1982
9	upper canine fragment	Westbury unstratified	British Museum Natural History (NHM)	M33700b			Bishop 1982
10	upper incisor	Westbury unstratified	British Museum Natural History (NHM)	M33705			Bishop 1982
11	upper P4 fragment	Westbury unstratified	British Museum Natural History (NHM)	M33702			Bishop 1982
12	lower canine	Westbury unstratified	British Museum Natural History (NHM)	M33701a			Bishop 1982
13	lower canine	Westbury unstratified	British Museum Natural History (NHM)	M33701b			Bishop 1982

Tab. 4 The Westbury-sub-Mendip material.

no.	element	site	museum	accession	figured	notes	references
1	right mandible	Kessingland/ Pakefield	Natural History Division, National Museum of Ire- land, Dublin	NMING : F15001 (NMINH 1907.326)	Backhouse 1886, pl. 10	1907 Backhouse Sale to Dublin Museum (Special Cor- respondence 1907)	Backhouse 1886 Kennard 1945 Stuart 1982
2	?	Kessingland/ Pakefield	British Museum of Natu- ral History (NHM)	?		Mutch, Stewart and Dur- bridge Private Collection 1994-1998	Stuart 2001
3	?	Kessingland/ Pakefield	British Museum of Natu- ral History (NHM)	?		Mutch, Stewart and Dur- bridge Private Collection 1994-1998	Stuart 2001
4	right upper canine	Cromer	?	?	Lankester 1869, pl. 16 Newton 1882, pl. 4 fig. 5. 5a	Mr. Jarvis of Cromer → A.Savin possible same as 8 in possession of E. T. Newton	Lankester 1869 Newton 1882 Backhouse 1886
5	incisor	Cromer	?	?			Backhouse 1886
6	?	Covehithe	?	?			Stuart 1974
7	left upper canine	Bacton	British Museum of Natu- ral History (NHM)	M17926			Stuart 1974 Turner 2009 Turner 1999
8	fragmental right upper canine crown	Sidestrand	British Museum Natural History (NHM)	M6084		possibly same as 4	Stuart 1974 Turner 2009
9	right third meta- tarsal	West Runton, Freshwater Bed	British Museum Natural History (NHM)	M17896			Turner 2009 Turner 1999 Lewis/Pacher/Turner 2010
10	left calcaneum	West Runton Freshwater Bed	British Museum Natural History (NHM)	M17903	Lewis/Pacher/Turner 2010, fig. 8		Lewis/Pacher/Turner 2010
11	carpal M1	Thorpe St. An- drews	Norwich Castle Museum	NWHCM: 1894.76.2006:G	Newton 1891, pl. 1 fig. 2a-b	fitch donated to Norwich Castle Museum 1894	Newton 1891 Cleevly 1983
12	left humerus	Cromer Forest Bed, Norfolk	Norwich Castle Museum	NWHCM: 1898.51.FC373:G		Colman Collection – prob- ably lion (<i>P. fossilis/P. spelaea</i>) (A. Turner pers. comm.)	NIMAS Online 2010

Tab. 5 The East Anglian material.