ENGLISH HYPSILOPHODONTID DINOSAURS (REPTILIA: ORNITHISCHIA)

by PETER M. GALTON

ABSTRACT. A premaxillary tooth from the Stonesfield Basin (Bathonian) of Stonesfield may represent the oldest hypsilophodontid described to date. However, small bones from the Lias (Jurassic) of Charmouth are not hypsilophodontid and were correctly referred to the primitive ankylosaur *Scelidosaurus harrisoni*. A femur from the Oxford Clay (Callovian) of Peterborough is regarded as an iguanodontid (*Camptosaurus* (?) *leedsi* Lydekker). A dentary tooth from the Kimmeridge Clays of Weymouth represents the oldest undoubted hypsilophodontid described to date from England. In addition to the well-known *Hypsilophodon foxii* Huxley, a new Wealden species is tentatively referred to the genus *Dryosaurus*. Some Wealden specimens previously referred to *Iguanodon* are hypsilophodontid and represent individuals with a length of up to 4·2 m.

THE Hypsilophodontidae are a family of conservative bipedal ornithischian dinosaurs (ornithopods) with inset cheek teeth, and neither a rostral bone nor any marked thickening of the skull roof. They were herbivorous and fast-running or cursorial with an elongate hind limb with the tibia longer than the femur (Galton 1972, 1973, 1974*a*, *b*). My concept of the family Hypsilophodontidae is more restricted than that of Thulborn (1970, 1971, 1972): I refer only the following to this family: *Nanosaurus*(?) *rex*, specimens referred to *Laosaurus*, *Dryosaurus altus* (all upper Jurassic, North America; Galton and Jensen 1973*a*, *b*; Gilmore 1925; Marsh 1896; *Dysalotosaurus lettow-vorbecki* (upper Jurassic, Tanzania; Janensch 1955); *Hypsilophodon foxii* (lower Cretaceous, England; see Galton 1974*a*); and '*Laosaurus*' *minimus*, *Parksosaurus warreni* (upper Cretaceous, North America; see Galton 1973; Gilmore 1924*a*; Parks 1926). *Dryosaurus* Marsh, 1894 and *Dysalotosaurus* Pompeckj, 1920 are extremely similar and, as will be detailed elsewhere, these two genera are probably synonymous. Consequently, the reported record of hypsilophodontids is very limited with the English records representing the whole of Eurasia. Previously described and new hypsilophodontid material from England is reviewed in stratigraphical sequence starting with the oldest record. The abbreviations used for measurements are explained in the caption to Table 1 and institution names have been abbreviated as follows: AM, American Museum of Natural History, New York; BM, British Museum (Natural History), London; CM, Carnegie Museum, Pittsburgh, Penn., U.S.A.; UCMP, University of California Museum of Paleontology, Berkeley, U.S.A.; US, United States National Museum, Washington D.C.; YPM, Peabody Museum, Yale University, New Haven, Conn., U.S.A.

JURASSIC

Sinemurian. Owen (1861) described several specimens of the ornithischian dinosaur *Scelidosaurus harrisoni* Owen from the Lower Lias of Charmouth, Dorset. Amongst this material are the bones which Owen (1861) regarded as representing a juvenile of *Scelidosaurus harrisoni* (dorsal centrum, phalanges, partial right hind limb, text-fig. 1A–D, casts as BM 5909, originals in Charmouth Museum; see Owen 1861, pl. 2,

[Palaeontology, Vol. 18, Part 4, 1975, pp. 741–752.]

TABLE 1. Measurements of femora in millimeters. FT, minimum distance from proximal end to distal edge of fourth trochanter; L, maximum length; LA, estimated total length of body, for hypsilophodontids calculated on a proportional basis from BM R196. *Camptosaurus* based on Gilmore (1909); Wd, greatest width of distal end; Wm, minimum width of shaft; Wp, greatest width of proximal end.

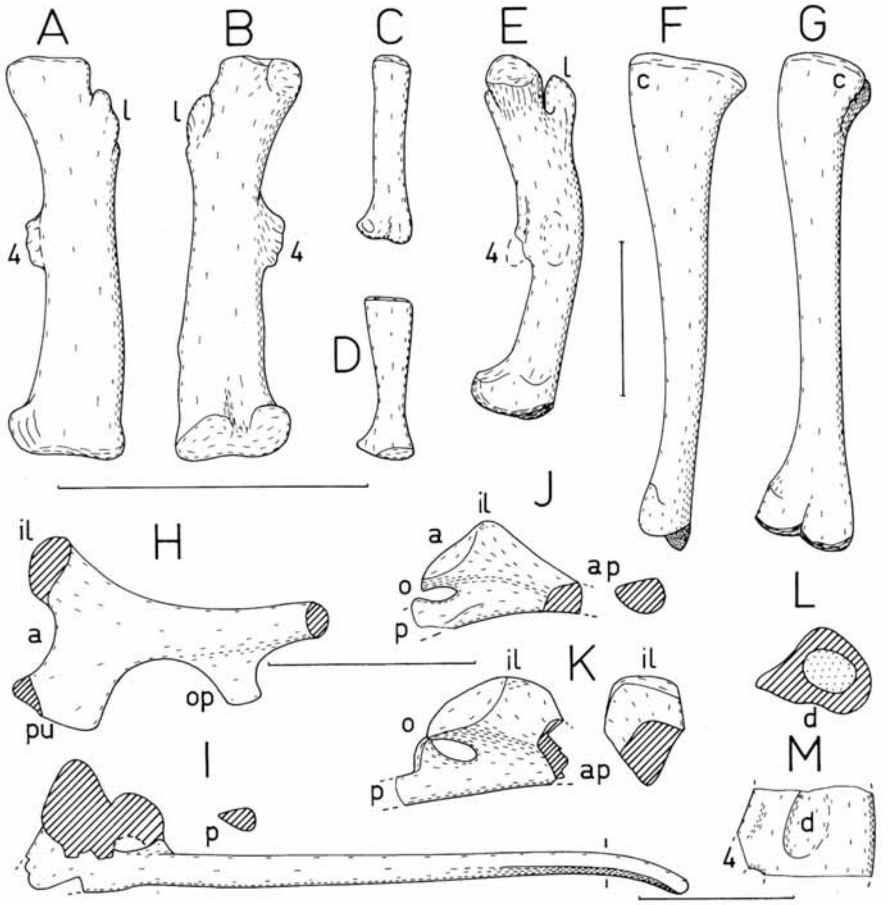
								LA	
		L	Wp	Wd	Wm	FT	FT/L	m	ft
Hypsilophodon foxii	BM R5830	101	27	25	11	43	0·43	0·91	3·0
	BM R196	150	—	—	—	65	0·43	1·36	4·5
	BM R5829	202	52	26	—	87	0·43	1·82	6·0
Dryosaurus (?) *canaliculatus*[1]		140	3	33	14	58	0·41	1·27	4·2
Dryosaurus altus	AM 834	222	59	55	22	96	0·43	2·03	6·7
	YPM 1876	362	84	98	39	168[3]	0·44	3·30	10·9
	CM 1949	470	131	—	—	212	0·45	4·27	14·1
Camptosaurus (?) *leedsi*[2]		280	65	73	—	122[3]	0·48	3·33	11·0
Camptosaurus amplus	US 2210	258	72	71	—	137	0·53	3·03	10·0
	YPM 1877	585	208	192	77	300	0·51	5·15	17·0

[1] BM R185. [2] BM R1993. [3] Estimated.

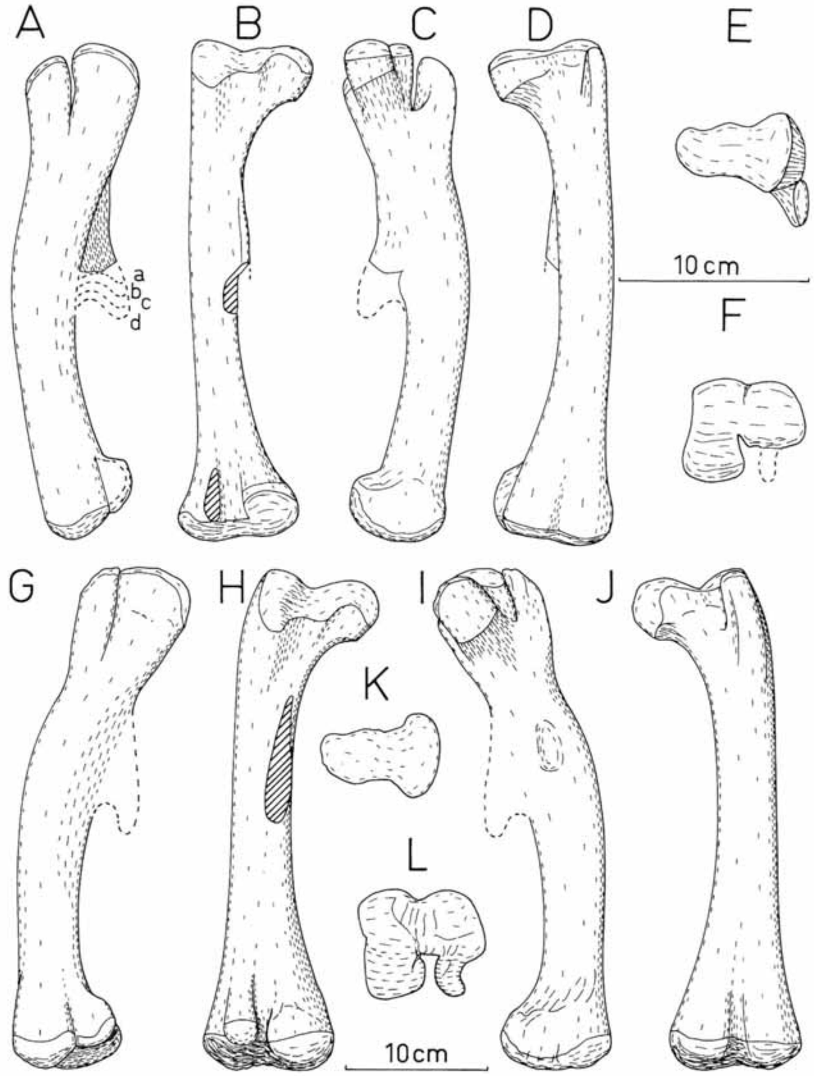
distal half of humerus figured as proximal part of tibia, metatarsal 3 figured as a partial fibula). Recently, Newman (1968) considered that these bones probably belong to the genus *Hypsilophodon* or some allied form. However, the femur (text-fig. 1A, B) differs from those of hypsilophodontids (text-figs. 2G–L, 3) in several respects; the shaft is straight rather than bowed antero-posteriorly, the apex of the lesser trochanter is well below that of the greater trochanter rather than at the same level, and the non-pendant fourth trochanter is at mid-length as against a pendant fourth trochanter more proximally placed. In these features the femur (text-fig. 1A, B) appears to agree with that of the complete skeleton of *S. harrisoni* (BM R1111). The femur of the juvenile is almost identical to the femur (Charig 1972, pl. 6A) of the partial skeleton (BM R6704, see Rixon 1968, fig. 103) of a small individual that is referred to as Cf. '*Scelidosaurus harrisoni* Owen' by Charig (1972, p. 138). The length of the femur (text-fig. 1A) is about 133 mm and that of metatarsal 3 about 60 mm to give a femur to metatarsal 3 ratio of about 0·45. In *Hypsilophodon foxii* this ratio is 0·62 in BM R5830 (femoral length 101 mm) and 0·56 in BM R196 (femoral length 151 mm). On the basis of this ratio the bones from Charmouth should not be referred to the family Hypsilophodontidae which, as noted by Galton (1972, 1974*a*, *b*), is restricted to genera which were cursorial. The value of 0·45 is about correct if the remains are regarded as a juvenile individual of *S. harrisoni* because the corresponding value for BM R1111 is about 0·34 (from Owen 1863, pl. 10).

Comparisons of BM R5909 and R6704 with the much larger BM R1111 (size ratio about 1:4) show that corresponding bones are almost identical, so all specimens are referable to *Scelidosaurus harrisoni* Owen rather than to two separate ornithopod families (BM R5909, R6704 to Fabrosauridae; BM R1111 to Scelidosauridae) as suggested by Thulborn (1974). The combined lengths of the femur, tibia, and metatarsal 3 of BM R1111 is short relative to the trunk (combined length of centre of dorsal vertebrae) so the hind limb to trunk ratio at 0·85 is comparable to that of fully quadrupedal ornithischians (stegosaurs, 0·86–0·90; Cretaceous ankylosaurs, 0·69; ceratopsians, 0·90–1·08; see Galton 1970, table 2) but much less than that of the facultitively or fully bipedal ornithopods (hadrosaurs, 122–144, see Galton, 1970, table 1; iguanodontids 1·08–1·24; hypsilophodontids, 1·44–1·53; psittacosaurids 1·3; see Galton, 1971*b*, table 1). I disagree with the referral of *Scelidosaurus*, an obligatory quadruped while it walked or ran, to the Ornithopoda, an order whose members were characterized by bipedality. *Scelidosaurus* is probably a very primitive ankylosaur but any discussion of its affinities must await the detailed anatomical study of *Scelidosaurus* being prepared by Dr. A. J. Charig.

Bathonian. The tooth YPM 7367 (text-fig. 4A–C) was collected prior to 1870 by G. J. Chesler from the Stonesfield Slate (*Oracilisphinctes progracilis* Zone) of the Great Oolite Series at Stonesfield, Oxfordshire. The form of the tooth is similar to that of the premaxillary teeth of *Hypsilophodon* (Galton 1974*a*) but it differs in the absence of small denticles on the anterior and posterior edges of the crown (text-fig. 4A, B) and the presence of a large concave wear surface (text-fig. 4B, C). However, isolated premaxillary teeth of the late Cretaceous iguanodontid *Thescelosaurus* (Galton 1974*b*, pl. 1, figs. 7–11) are almost identical to



TEXT-FIG. 1. A–D, *Scelidosaurus harrisoni*, juvenile after Owen (1861), bones of right hind limb, ×0·5: A, femur in anterior view; B, femur in posterior view; C, metatarsal 3 in anterior view; D, metatarsal 4 in anterior view; E–M, *Camptosaurus nanus*, left femur, ×0·25, after Gilmore (1909); F, G, hypsilophodontid right tibia, BM 36506 in F, medial view, G, anterior view; H, hypsilophodontid left ischium, BM 2183, lateral view of proximal end, ×0·33; I, hypsilophodontid left pubis, BM R720, lateral view with cross-section of postpubic rod, ×0·25; J, K, hypsilophodontid right pubes in lateral view with cross-section of anterior process, ×0·33; J, BM R169, K, BM 36538; L, M, hypsilophodontid left femoral shaft, BM R8669, ×0·25 with L, proximal cross-section, M, medial view. a, acetabulum; ap, anterior or prepubic process; c, cnemial crest; d, depression, area of insertion of M. caudi-femoralis longus; il, surface for ilium; l, lesser trochanter; o, obturator foramen; op, obturator process; p, posterior process or postpubic rod; pu, surface for pubis; 4, fourth trochanter. Scale line represents 10 cm.



TEXT-FIG. 2. Upper Jurassic ornithopod femora. A–F, *Camptosaurus*(?) *leedsi* Lydekker, holotype left femur, BM R1993, ×0·3; G–L, *Dryosaurus altus* (Marsh), left femur of holotype, YPM 1876, ×0·23. Views: A, G, lateral; B, H, posterior; C, I, medial; D, J, anterior; E, K, proximal; F, L, distal. Fourth trochanter indices (minimum distance from proximal surface of head to distal edge of fourth trochanter) in A: *a*, 0·44; *b*, 0·46; *c*, 0·48; *d*, 0·50; for identification of structures see text-fig. 3.

YPM 7367. Wear facets are also reported on the medial surface of teeth preserved *in situ* in a premaxilla of the Triassic ornithopod described as *Lycorhinus* by Thulborn 1970, fig. 2. The wear on these ornithopod premaxillary teeth was presumably caused by contact with the horny predentary sheath. YPM 7367 (text-fig. 4A–C) is tentatively identified as a left premaxillary tooth of an ornithopod dinosaur and it may represent the oldest hypsilophodontid yet described.

Oxfordian. Lydekker (1889) described a left femur (BM R1993, text-fig. 2A–F) from the Oxford Clay near Peterborough, Northamptonshire, as a new species of *Camptosaurus*, *C. leedsi*. Gilmore (1909) pointed out that the fourth trochanter extends on to the distal half of the shaft in all described species of *Camptosaurus* and noted that, if *C. leedsi* is referable to an American genus, then its closest affinities are with *Dryosaurus*. '*Camptosaurus*' *leedsi* is shown as being closely related to the hypsilophodontids *Dryosaurus* and *Dysalotosaurus* in the phyletic charts given by Galton (1972, 1973, 1974*a*, *b*).

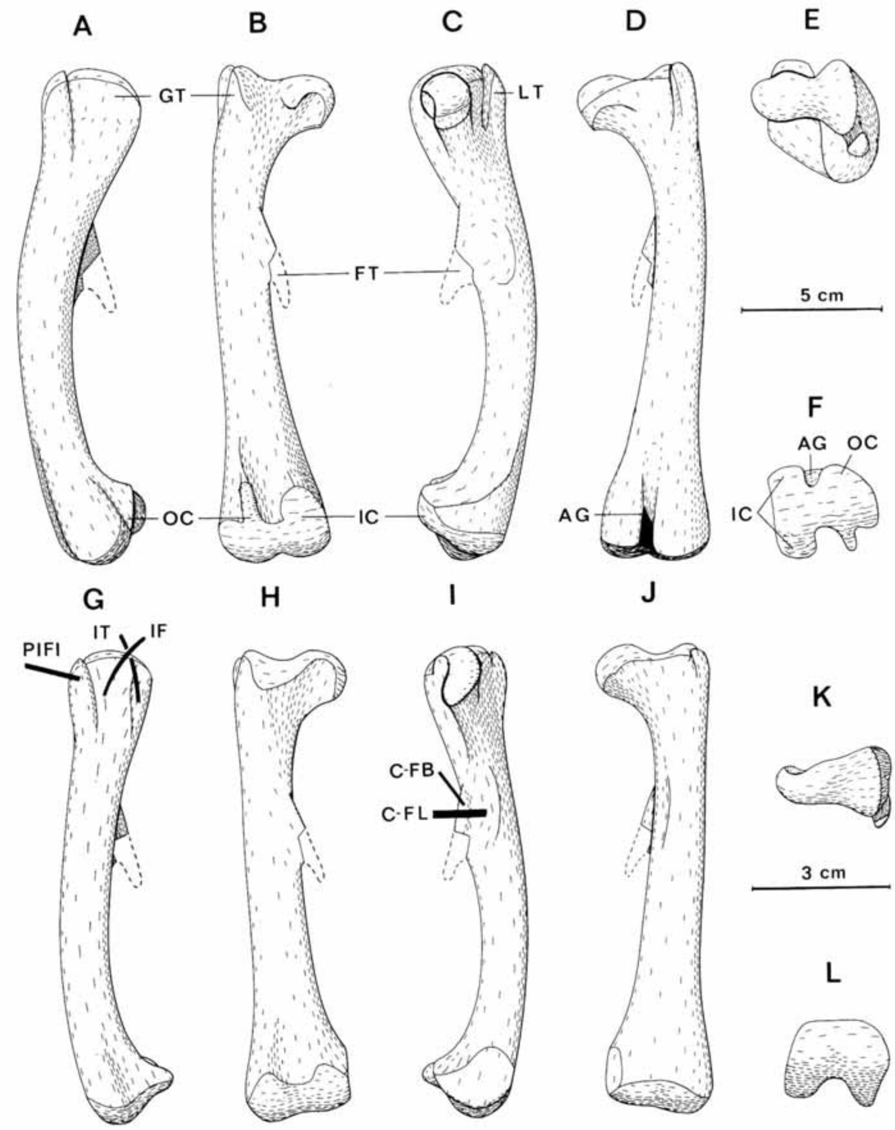
The lesser trochanter of all hypsilophodontids is relatively slender (text-figs. 2G, I, 3A, C, G, I) and it is not expanded antero-posteriorly as it is in *Camptosaurus* (text-fig. 1E) and BM R1993 (text-fig. 2A, C, E). On the basis of the figures given by Lydekker (1889, 1890), the fourth trochanter index of BM R1993 is about 0·45 (text-fig. 2A), a value comparable to that of hypsilophodontids (Table 1; *Dysalotosaurus* 0·45, *Nanosaurus* (?) *rex* 0·43, Galton and Jensen 1973*b*). However, the distal surface of the fourth trochanter as given by Lydekker (1889, 1890) is based on a broken surface (text-fig. 2A, C). The exact value of the fourth trochanter index is not known but it was probably close to 0·48 (see text-fig. 2A). In *Camptosaurus* (text-fig. 1E) the fourth trochanter index is 0·51–0·53 (Table 1). In *Camptosaurus* (text-fig. 1E) and BM R1993 (text-fig. 2C) the depression for the M. caudi-femoralis longus (Galton 1969) is shallow and close to the fourth trochanter. In *Dryosaurus* (text-fig. 2I) and *Dysalotosaurus* (Janensch 1955, pl. 14, figs. 1b, 2) it is deep and situated more anteriorly on the shaft but this position is unique for hypsilophodontids. The difference in depth is probably not significant because in *Hypsilophodon foxii* this depression is shallow in some femora and deep in others (Galton 1969, 1974*a*). The distal ends of the femora of *Camptosaurus* (Gilmore 1909, YPM 1877) and *Dryosaurus* (text-fig. 2G–J, L) are very similar with a well-developed anterior intercondylar groove (text-fig. 2L) where as that of BM R1993 is quite shallow (text-fig. 2F).

The femur BM R1993 differs from those of *Camptosaurus* in only a couple of respects: the fourth trochanter is more proximally placed (text-figs. 1E, 2A) and the anterior intercondylar groove is more shallow (text-fig. 2F). On the basis of the femur, BM R1993 from the Oxfordian is an ideal ancestor for the American species of *Camptosaurus* which are of Kimmeridgian or possibly Portlandian age. Unfortunately no other parts of the anatomy of the English form are known. I now consider that BM R1993 is best assigned to the family Iguanodontidae as *Camptosaurus* (?) *leedsi* Lydekker rather than as a hypsilophodontid related to *Dryosaurus* as suggested by Gilmore (1909) and Galton (1972, 1973, 1974*a*, *b*).

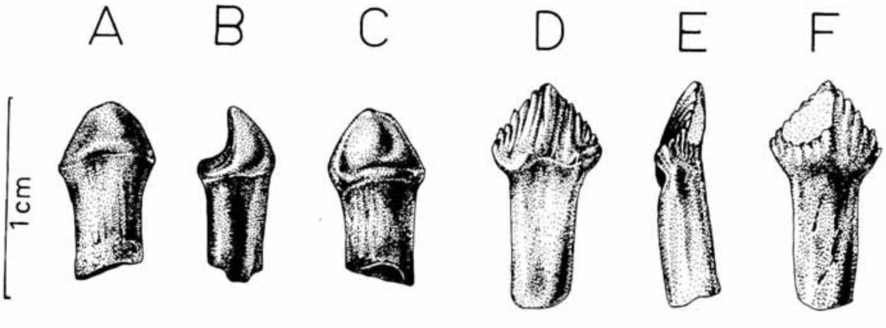
Kimmeridgian. The history of the dentary tooth UCMP 49611 (text-fig. 4D–F) is unknown but it came from the Kimmeridge Clays of Weymouth, Dorset. It was collected along with three theropod teeth (UCMP 49612; two complete crowns, height 15 mm, one tip from a larger tooth) tentatively identified as *Megalosaurus* sp. The more thickly enamelled surface of the crown (text-fig. 4D) has a strong central ridge, the size of which is not obvious because of the other longitudinal ridges on either side (text-fig. 4D, E). The longitudinal ridges on both sides of the crown (text-fig. 4D, F) are more numerous and more prominent than those on the teeth of *Hypsilophodon* (Galton 1974*a*), *Laosaurus* (Marsh 1896, pl. 55, fig. 1), *Dryosaurus* (Marsh 1878 as *Laosaurus*, Galton and Jensen 1973*a*), and *Dysalotosaurus* (Janensch 1955). The longitudinal ridges are even more prominent on the teeth of *Thescelosaurus* with those of the thickly enamelled surface forming two converging cresentic patterns (Galton 1974*b*; Sternberg 1940). Undescribed teeth (YPM, unnumbered) from the upper Jurassic of North America are very similar to UCMP 49611. UCMP 49611 undoubtedly represents a hypsilophodontid dinosaur but discussion of its affinities must await revision of the American Jurassic hypsilophodontids.

CRETACEOUS

Hypsilophodon foxii. The holotype of *H. foxii* Huxley, 1869 is a skull and the centrum of a dorsal vertebra (BM R197, Huxley 1870) from the Wealden Beds (pre-Aptian and probably Barremian) exposed near



TEXT-FIG. 3. Lower Cretaceous hypsilophodontid femora. A–F, *Dryosaurus* (?) *canaliculatus* n. sp., left femur, BM R185 (with some details from right femur, BM R184), ×0·45; G–L, *Hypsilophodon foxii* Huxley, left femur, BM R5830, ×0·75 with indication of lines of actions of muscles associated with trochanters, modified from Galton (1969). Views as in text-fig. 2. AG, anterior intercondylar groove; C-FB, M. caudi-femoralis brevis; C-FL, M. caudi-femoralis longus; FT, fourth trochanter; GT, greater trochanter; IC, inner condyle; IF, M. ilio-femoralis; IT, M. ilio-trochantericus; LT, lesser trochanter; OC, outer condyle; PIFI, pubo-ischio-femoralis internus, dorsal part.



TEXT-FIG. 4. Jurassic hypsilophodontid teeth, ×3. A–C, left premaxillary tooth YPM 7367 in A, lateral (labial); B, posterior and C, medial (lingual) views; D–F, right dentary tooth UCMP 49611 in D, medial (lingual); E, posterior and F, lateral (labial) views.

Cowleaze Chine on the south-western shore of the Isle of Wight. *H. foxii* (text-fig. 5) is the best-represented hypsilophodontid from England. Its diagnosis (Galton 1974*a*) is as follows:

Five premaxillary teeth separated by step from maxillary row with 10 or 11 teeth, 13 or 14 on dentary; enamelled medial surface of a dentary tooth has a strong central ridge that is absent on the lateral surface of a maxillary tooth. Narial openings completely separated by anterior process of premaxillae; large antorbital recess or depression plus row of large foramina in maxilla; jugal does not contact quadrate; large fenestrated quadratojugal borders lower temporal opening. Five or six sacral ribs, the additional one borne on the anterior part of the first sacral vertebra. Scapula same length as humerus; obturator process on middle of ischium. Femur with following combination of characters: fourth trochanter on proximal half, lesser trochanter triangular in cross-section with a shallow cleft separating it from the greater trochanter, practically no anterior condylar groove and posteriorly outer condyle almost as large as inner.

The holotype of *Camptosaurus valdensis* Lydekker, 1889, a large left femur (BM R167), represents a large individual (body length about 2·27 m or 7·5 ft) of *H. foxii* (see Galton 1974*a*, pp. 102–103, pl. 2, fig. 4). *Hypsilophodon* is usually considered to have been arboreal but, as discussed by Galton (1971*a*, *b*, 1974*a*), *Hypsilophodon* was a ground-living and cursorial dinosaur.

Dryosaurus? *canaliculatus* sp. nov.

Derivation of name. From Latin *caniculatus*, a channel or conduit, with reference to the deep anterior intercondylar groove.

Diagnosis. Femur with pendant fourth trochanter well on proximal half of shaft, rod-like lesser trochanter separated by deep cleft from greater trochanter, distally a deep anterior intercondylar groove.

Lydekker (1888) listed under *Hypsilophodon foxii* the associated right and left femora (BM R184, R185) from the Wealden of the Isle of Wight. He noted that a small tibia (BM R186) was apparently associated with these femora but subsequently (1891) he referred the tibia to the coelurosaur *Calamosaurus*. BM R185 (text-fig. 3A–F) resembles the femur of *H. foxii* (text-fig. 3G–L) in the proximal position of the fourth trochanter. In both femora the lesser trochanter is triangular in cross-section (text-fig. 3E, K) but the cleft separating it from the greater trochanter is deep in BM R185 (text-fig. 3C, D) and shallow in *Hypsilophodon* (text-fig. 3I, J). At the distal end the anterior intercondylar groove is deep in BM R185 (text-fig. 3D, F) and practically non-existent in *Hypsilophodon* (text-fig. 3J, L). Posteriorly the outer condyle of BM R185 (text-fig. 3B, F) is sheet-like while that of *Hypsilophodon* (text-fig. 3H, L) is more massive so that it is almost as large as the inner condyle. The inner condyle of BM R185 (text-fig. 3C, F) is much squarer than that of *Hypsilophodon* (text-fig. 3I, L) and the rugose area of origin of the medial head of the M. gastrocnemius is much larger in R185 (text-fig. 3C), extending on to the shaft and delimited anteriorly by a sharp edge. The form of the ends of BM R185 (text-fig. 3A–F) differs from those of *Hypsilophodon* (text-fig. 3G–L) in several other minor respects as can be seen by comparing equivalent views.

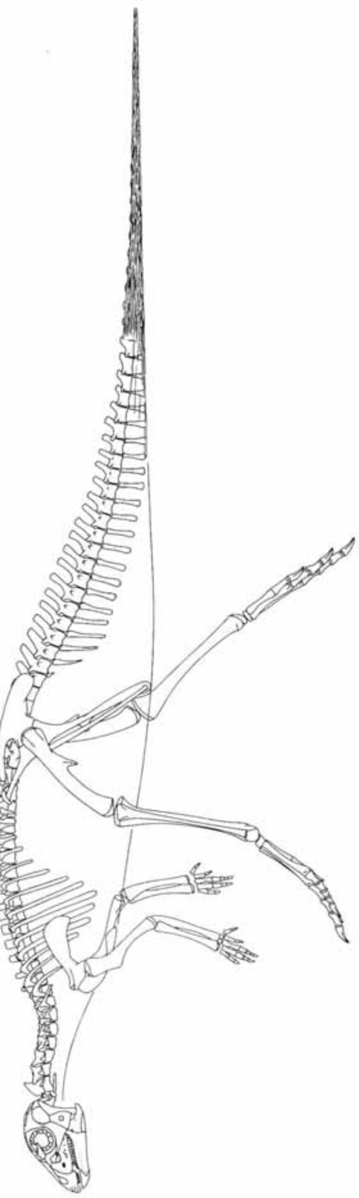
These differences between BM R185 and *Hypsilophodon* are too great to make it likely that BM R185 belongs to that genus. (Even though there is individual variation in some features of *Hypsilophodon foxii* (Galton 1974*a*), this does not affect the femur.) Another possibility is that BM R185 might belong to another Wealden ornithopod. Two others are known: *Vectisaurus* and *Yavelandia*. *Vectisaurus valdensis* Hulke, 1879 is based on an ilium and a few vertebrae but, from an examination of the holotype (BM R2494) and of another specimen (BM R5849) that I refer to this genus, I conclude that *Vectisaurus* is an iguanodontid (Galton in press). It is very unlikely that BM R185 is referable to *Vectisaurus* because in iguanodontids the fourth trochanter is on the distal half of the femur. The primitive pachycephalosaurid *Yaverlandia bitholus* Galton (1971*c*) is based on a partial skull cap. The fourth trochanter is on the proximal half of the femur of the pachycephalosaurids *Stegoceras* (Gilmore 1924*b*, pers. obs.), *Homalocephale*, and *Prenocephale* (Maryańska and Osmólska 1974) but the lesser trochanter is separated by a shallow cleft from the greater trochanter (*Stegoceras*, *Prenocephale*) and the anterior intercondylar groove is shallow (*Stegoceras*, *Homalocephale*). BM R185 might be a femur of *Y. bitholus* but this is considered very unlikely.

The closest approach to the femur BM R185 (text-fig. 3A–F) are those of *Dryosaurus altus* (text-fig. 2G–L) and *Dysalotosaurus lettow-vorbecki* (Janensch 1955, fig. 40; pl. 14, figs. 1, 2). BM R185 can be distinguished from femora of both taxa by the relative slenderness of the lesser trochanter (text-fig. 3A, C), the more proximal position of the fourth trochanter (text-fig. 3A), and distally by the greater depth of the anterior intercondylar groove (text-fig. 3D, F). The apparent slenderness of BM R185 in comparison with that of *Dryosaurus* (text-fig. 2G–J) is size related because smaller femora of *Dryosaurus* (AM 834) are comparably slender to BM R185. The femora of *Nanosaurus*(?) *rex* are similar to BM R185 except that distally there is practically no anterior intercondylar groove (Galton and Jensen 1973*b*).

The femora (BM R184, R185) may represent a new genus but, because of the limited nature of the available material, these specimens are made the holotype of a new species of hypsilophodontid tentatively referred to *Dryosaurus* Marsh. *Dryosaurus* (?) *canaliculatus* is shown on the phyletic charts in Galton (1972, 1973, 1974*a*, *b*) as the Wealden hypsilophodontid.

Additional material. BM 2459. Proximal parts of a large pair of femora (Wm 46 mm, FT 152 mm, LA about 3 m or 9·84 ft), Wealden (Blue Clay), Heathfield, Sussex.

BM 28697. Distal end left femur (Wd 45 mm), Isle of Wight.



TEXT-FIG. 5. *Hypsilophodon foxii*, skeletal reconstruction, based mainly on BM R196, an animal with a total length of about 1·46 m or 4·5 ft (BM R167 represents an animal of about 2·27 m or 7·5 ft).

BM 36509. Distal end of small right femur (Wd 27 mm) catalogued by Lydekker (1888) as *Hypsilophodon foxii*; Cuckfield, Sussex. The fossil record of *H. foxii* is now restricted to the Isle of Wight because this was the only specimen from elsewhere that was referred to *H. foxii* (Lydekker 1888; Swinton 1936).

BM R8420, R8421. Distal ends of two femora (Wd 40 mm, 34 mm) previously catalogued by Lydekker (1888) under BM R170 as *Iguanodon*, Isle of Wight.

BM R8670. Distal end of right femur (Wd 50 mm), Bone Bed between high and low water, Clinton Chine, Isle of Wight. The partial left ischium (BM 2183, text-fig. 1H) from the Wealden of Cuckfield, Sussex is similar to those of *Dryosaurus* and *Dysalotosaurus* (Janensch 1955). This ischium is probably also referable to *Dryosaurus* (?) *canaliculatus* rather than to *Iguanodon* as listed by Lydekker (1888, p. 235).

Larger Wealden hypsilophodontid material. A search through the Wealden *Iguanodon* material resulted in the identification of several hypsilophodontid specimens representing larger individuals. The anterior or prepubic process of the pubis of hypsilophodontids is bar-shaped where as that of iguanodontids is a deep and laterally flattened plate. The following pubes are identified as hypsilophodontid:

BM 36538. Fragmentary right pubis (text-fig. 1K), Cuckfield, Sussex; figured by Mantell (1827, pl. 16, fig. 3) as part of a scapula, listed by Lydekker (1888, p. 235) as *Iguanodon* pubis. The lips of the obturator process are separated by an obliquely inclined gap of 1 mm which in life was probably filled with cartilage.

BM R169. Fragmentary right pubis (text-fig. 1J), Isle of Wight, listed by Lydekker (1888, p. 235) as *Iguanodon*.

BM R720. Left pubis incomplete anteriorly (text-fig. 1I), Horsham, Sussex; listed by Lydekker (1888, p. 223) as *I. mantelli*. The range of variation of these pubes is comparable to that within *Hypsilophodon foxii* (Galton 1974*a*, figs. 46, 48, 49) and all may be referable to this taxon. The length of the postpubic rod of BM 720 at 340 mm is almost twice that of BM R196 so BM 720 is from an animal with a total length of about 2·74 m or 9 ft. The section of femoral shaft (BM R8669, text-fig. 1L, M) from Compton Bay, Isle of Wight has a maximum width of 57 mm immediately below the fourth trochanter (originally pendant). On the basis of comparisons with the femora of *Camptosaurus* and *Dryosaurus* the original length of this femur was about 470 mm so LA about 4·2 m or 14 ft. Three tibiae listed by Lydekker (1888, p. 237) as *Iguanodon* are much too slender to be iguanodontid and are regarded as hypsilophodontid.

BM 36506. Right tibia (text-fig. 1F, G), Cuckfield, Sussex, L 332 mm, Wp 72 mm, Wd 65 mm, LA about 2·51 m or 8·3 ft.

BM 36508. Left tibia, Isle of Wight, L 168 mm.

BM R124. Right tibia, Isle of Wight, L 280 mm, Wp 67 mm, Wd 58 mm, LA about 2·12 m or 7·0 ft.

It should be noted that the following specimens cited in the literature as *H. foxii* should be regarded as hypsilophodontid, generically and specifically indeterminate: BM Nos. R170, R183, R186, R199, R200, R202a, R752, R2481, R8422 (for details of specimens and citations see Galton 1974*a*, pp. 7–12) as are the following uncited specimens as *H. foxii*: BM Nos. R198, R201, R2479, R2480, R2482–2486, R2489–2493, R5191, R6373.

Acknowledgements. I thank the following for access to collections, A. J. Charig and C. A. Walker, British Museum (Natural History); J. H. Ostrom, Peabody Museum, Yale University; and S. P. Welles and R. Long of the University of California Museum of Paleontology at Berkeley. R. C. Fox kindly provided a cast of *Stegoceros*. P. Olsen drew the teeth and Miss P. Rubino typed the manuscript. I acknowledge a N.E.E.C. grant while at the Department of Zoology, King's College, London University, and a Faculty Research Grant from the University of Bridgeport.

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Original typescript received 18 October 1974
Revised typescript received 16 January 1975