

The type; figured by Owen in his 'Mesozoic Reptilia,' pt. iii. pl. xxiii. and pl. xxiv. figs. 1-3.

Cunnington Collection. Purchased, 1875.

46321. Transverse section from the upper extremity of the preceding specimen. Figured by Owen, *op. cit.* pl. xxiv. fig. 4. *Same history.*

46322. A similar dermal spine belonging to the same individual as the preceding; from Wootton-Basset. *Same history.*

Omosaurus (?), sp.

Hab. Europe (England).

R. 584. A dermal spine, wanting the summit; from the Oxford Clay (Middle Jurassic) of Bedford. Very similar in general type to No. 46320. *Presented by W. B. Graham, Esq., 1886.*

40517. The distal portion of a fibula not improbably belonging to this or an allied form; from the Oxford Clay of Weymouth, Dorsetshire. This bone is solid throughout. *Purchased, 1867.*

Family SCOLIDOSAURIDÆ.

Typically the cranium tapering anteriorly, with circular orbits which are not prominent superiorly, and the infratemporal fossæ (and probably the nares) small; mandibular rami slender and tapering to a point, which may have had a prementary; teeth (fig. 33) in a single row, with compressed, sharp-edged, triangular crowns, of which the borders usually bear oblique serrations. Vertebrae amphicœlous; dorsals with slight depressions on the sides of the centrum, narrow neural canal, and no deep pits on the arches in front of the postzygapophyses; sacral arches supported by two centra; anterior caudals with transverse diameter of centrum longer than vertical; rib-facets of middle dorsal vertebrae typically forming a "step" on the transverse process, but in the later forms placed on the arch. Limb-bones solid. Scapula with large glenoid expansion, forming an obtuse angle with anterior border of shaft; coracoid with descending process; humerus short, with much expanded head, and shaft without angulation. Ilium with long pre- and postacetabular processes, the latter being broad and with an inner horizontal plate; pubis and ischium comparatively short; femur with distinct inner trochanter, and slightly

longer than tibia, the latter being nearly the length of the humerus; astragalus distinct from tibia; metatarsals short and not interlocking; four functional digits in pes, which was probably plantigrade. A dermal armour in the form of scutes and spines.

Genus **SCOLIDOSAURUS**, Owen¹.

The type genus. The teeth (fig. 33) strongly serrated; tibia rather shorter than the humerus; posterior chevrons not antero-posteriorly elongated; dermal spines forming short subsymmetrical cones, slightly compressed, with convex sides and fore-and-aft ridges. Preacetabular process of ilium vertically compressed.

Fig. 33.



Scolidosaurus harrisoni.—An upper tooth; from the Lower Lias of Dorsetshire. ♀.

Scolidosaurus harrisoni, Owen².

The type species. The larger specimens indicate an animal of considerable size. There are four sacral vertebrae.

Hab. Europe (England).

All the following specimens are from the Lower Lias of Dorsetshire.

R. 1111. The skeleton, almost entire except the extremity of the (Fig.) skull; from Charmouth. The skull is figured by Owen in his 'Liassic Reptilia,' pt. i. pls. iv.-vi., and the remainder of the skeleton in pt. ii. pls. i.-xi. This specimen indicates an individual much smaller than the type, its total length being about 11 feet 3 inches. *Purchased, 1865.*

39517. An imperfect anterior caudal vertebra; from Lyme-Regis. *Purchased, 1866.*

¹ 'Encyclopædia Britannica,' 8th ed. vol. xvii. p. 150 (1859).

² Liassic Reptilia (Mon. Pal. Soc.), pt. i. p. 1 (1861).

39517 a. Two posterior caudal vertebræ (one imperfect); from Lyme-Regis. *Purchased, 1866.*

41327. Two posterior caudal vertebræ; from Lyme-Regis. *Purchased, 1869.*

39518. A chevron-bone; from Lyme-Regis. *Purchased, 1866.*

41324. The imperfect glenoidal half of the right scapula; from Lyme-Regis. *Purchased, 1869.*

41325. The shaft of the right humerus; from Lyme-Regis. *Same history.*

39496. The adjacent extremities of the right femur, tibia, and fibula, (*Fig.*) cemented together by matrix, of a large individual; from Charmouth. The type; figured by Owen, *op. cit.* pt. i, pl. ii. figs. 1-3. *Purchased, 1865.*

41322. The left femur; from Lyme-Regis. Smaller than the corresponding bone of the entire skeleton; closely resembles the smaller specimen figured by Owen, *op. cit.* pt. i. pl. iii. figs. 5, 6. *Purchased, 1867.*

42069. The distal portion of the right femur of a small individual; from Lyme-Regis. *Purchased, 1870.*

40503. The imperfect proximal half of a small left tibia; from Lyme-Regis. *Purchased, 1867.*

41328. Three metatarsals; from Lyme-Regis. *Purchased, 1869.*

42070. A phalangeal; from Lyme-Regis. *Purchased, 1870.*

39519. Two phalangeals (one imperfect); from Lyme-Regis. *Purchased, 1866.*

39520. A terminal phalangeal; from Lyme-Regis. *Same history.*

39516. Numerous imperfect dermal spines; from Lyme-Regis. *Purchased, 1866.*

41329. Several dermal spines; from Lyme-Regis. *Purchased, 1869.*

42068. Numerous dermal spines; from Lyme-Regis. *Purchased, 1870.*

39497. An undetermined long-bone, wanting the extremities; from Lyme-Regis. *Purchased, 1865.*

41323. An undetermined bone; from Lyme-Regis. *Purchased, 1869.*

42074. An undetermined bone; from Lyme-Regis. *Purchased, 1870.*

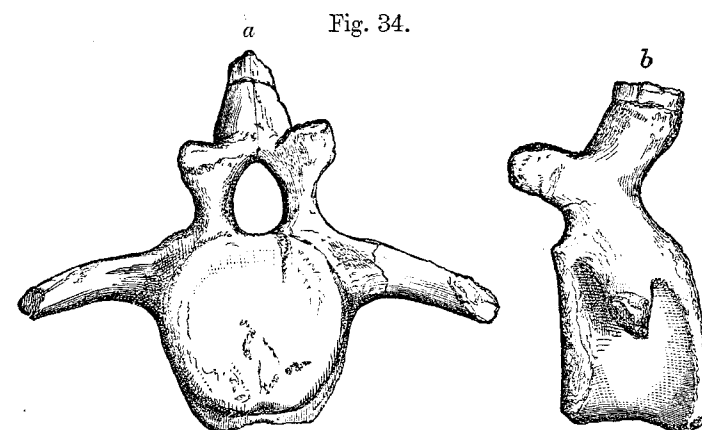
Genus **ACANTHOPHOLIS**, Huxley¹.

The serrations of the teeth more complex than in *Scelidosaurus*, and descending nearer to the base of the crown, which is lancet-shaped. The dermal spines unsymmetrical, compressed, convex on one side and concave on the other, with a sinuous convex anterior and concave posterior edge. The vertebræ approximate to those of *Scelidosaurus*, but the posterior dorsals are less compressed, and the anterior caudals are shorter and less oblique, with the neural spine more inclined backwards.

Acanthopholis horridus, Huxley².

The type species. The type specimen indicates an individual approximately equal in size to the skeleton No. R. 1111 of *Scelidosaurus harrisoni*.

Hab. Europe (England).



Acanthopholis horridus.—Anterior (*a*) and left lateral (*b*) views of an anterior caudal vertebra; from the Chalk-Marl of Folkestone. $\frac{1}{2}$. (From the 'Quart. Journ. Geol. Soc.')

44581. An anterior caudal vertebra, wanting the extremities of the (*Fig.*) transverse processes and of the neural spine and the post-

¹ Geol. Mag. dec. 1, vol. iv. p. 65 (1867).

² *Loc. cit.*

zygapophyses; from the Lower Chalk of Folkestone, Kent. Figured by Seeley in the 'Quart. Journ. Geol. Soc.' vol. xxxv. p. 597, fig. 2, the figures being reproduced in the accompanying woodcut. *Purchased*, 1873.

47234. The centra of two trunk vertebræ with two associated dermal scutes; from Folkestone. The less imperfect scute is of the type of the one figured by Huxley in the 'Geol. Mag.' 1867, pl. v. fig. 2. *Purchased*, 1876.

47234 a. Five dermal scutes; from Folkestone. *Same history*.

49917. A dermal scute; from Folkestone. This specimen is of a broad and expanded type. *Purchased*, 1879.

35280-2. Five imperfect centra of posterior caudal vertebræ, provisionally referred to this species; from the Cambridge Greensand. *Purchased*, 1859.

Genus **REGNOSAURUS**, Mantell¹.

Founded upon a mandible regarded by Owen as belonging to *Hylæosaurus*. The roots of the teeth in that specimen are, however, much smaller than those of the teeth referred by the same writer to that genus; and it may be that *Vectisaurus*², which appears to belong to this family, is identical with the present genus. (See 'Quart. Journ. Geol. Soc.' vol. xlv. p. 52.)

Regnosaurus northamptoni, Mantell³.

The type species. Probably about the size of *Acanthopholis horridus*.

Hab. Europe (England).

2422. Part of a right ramus of the mandible, showing dental alveoli and the bases of the teeth; from the Wealden of Cuckfield, Sussex. Figured by Mantell in the 'Phil. Trans.' 1841, pl. v., as *Iguanodon*, and made the type of the present genus in the 'Phil. Trans.' 1848, p. 198; figured by Owen in his 'Wealden and Purbeck Reptilia' (Mon. Pal. Soc.), pt. iv. pl. viii. figs. 1-5, as (?) *Hylæosaurus*. In general contour, and especially in the strong median external ridge

¹ Phil. Trans. 1848, p. 198.

² Hulke, Quart. Journ. Geol. Soc. vol. xxxv. p. 421 (1879).

³ Loc. cit.

and the lozenge-shaped section anteriorly, it approximates to the mandible of *Scelidosaurus*.

Mantell Collection. Purchased, 1838.

Genus **HYLÆOSAURUS**, Mantell¹.

The teeth provisionally referred to this genus have no serrations². The anterior dorsal vertebræ have broad centra, with a thick hæmal ridge, while the later ones are compressed and show a distinct lateral hollow; posterior chevrons antero-posteriorly elongated inferiorly. Dermal spines much compressed, convex anteriorly and concave posteriorly, and sometimes comparatively narrow; probably placed in the anterior part of the trunk. Preacetabular process of ilium (provisional) laterally compressed. Feet unknown.

Hylæosaurus oweni, Mantell³.

The type species. The type specimen indicates an animal considerably smaller than the type of *Scelidosaurus harrisoni*, but other specimens provisionally referred to the same species are of larger size, and may be distinct.

Hab. Europe (England).

All the following specimens are from the Wealden.

2310, 3326. Several teeth, resembling those figured by Owen in his 'Wealden and Purbeck Reptilia' (Mon. Pal. Soc.), pt. iv. pl. viii., and provisionally referred to this form; from Cuckfield, Sussex. *Mantell Collection. Purchased*, 1838.

26034, 36488. Two similar teeth; from Cuckfield.

Mantell Collection. Purchased, 1853.

43172. A similar tooth; from Cuckfield.

Wetherell Collection. Purchased, 1871.

R. 739. A similar tooth; from the Wadhurst Clay (Lower Wealden) of Silver Hill, near Hastings, Sussex.

Dawson Collection. Purchased, 1886.

R. 647. two similar teeth; from Battle, near Hastings.

Presented by J. E. Lee, Esq., 1885.

¹ Proc. Geol. Soc. vol. i. p. 411 (1834).

² Teeth of similar type are provisionally referred to *Cratæomus* (Quart. Journ. Geol. Soc. vol. xxxvii. pl. xxvii. figs. 13, 14), another member of this family.

³ 'Medals of Creation,' 1st ed. p. 734 (1844).

R. 647 a. A similar tooth; from St. Leonards, Sussex.

Presented by J. E. Lee, Esq., 1885.

3775. A slab containing a large portion of the skeleton; from Cuckfield. The type specimen; discovered in 1832, and figured by Mantell in his 'Geology of the South-east of England,' pl. v. (1833), and also in his 'Wonders of Geology,' pl. iv., and 'Petrifactions and their Teachings,' p. 316, fig. 66; and by Owen in his 'Wealden and Purbeck Reptilia' (Mon. Pal. Soc.), pt. iv. pl. iv. (1858). This specimen shows a large series of dorsal vertebrae, with their ribs, the scapula, coracoid, dermal bones, and a fragment of the cranium.

Mantell Collection. Purchased, 1838.

2123. The centrum and part of the arch of a (? posterior) dorsal vertebra, provisionally referred to this species; from Cuckfield. Figured by Mantell in his 'Fossils of Tilgate Forest,' pl. ix. fig. 11; and noticed by Owen in the 'Rep. Brit. Assoc.' for 1841, p. 69, where it is referred to *Suchosaurus*. In its narrow neural canal, the form of the centrum, and the depression on the side of the latter, this specimen apparently resembles the later dorsals of the type.

Same history.

2585. An imperfect trunk (? lumbar) vertebra, referred by Owen to this species; from Cuckfield. Figured by Owen in his 'Wealden and Purbeck Reptilia,' pt. iv. pl. viii. figs. 10, 11. The centrum is rounded, but has the depression on its lateral surface.

Same history.

2484. An imperfect sacrum, referred by Owen to this form; from Cuckfield. The reference of this and the next specimen is very problematical, and is doubted by Hulke in the 'Phil. Trans.' 1881, p. 660.

Same history.

36487. The centra of four ankylosed sacral vertebrae, agreeing in structure with the preceding specimen; from Cuckfield. Figured by Mantell in the 'Phil. Trans.' 1849, pl. xxvii., where they are provisionally referred to this genus, and by Owen, *op. cit.* pl. v.

Mantell Collection. Purchased, 1853.

28936. The middle of a sacrum, referred by Owen to the present genus; from the Isle of Wight. Figured by Owen, *op. cit.* pl. vi. figs. 3, 4.

Same history.

2511. An imperfect anterior caudal vertebra; from Cuckfield. In general structure this specimen approximates to the caudals of *Acanthopholis* (fig. 34).

Mantell Collection. Purchased, 1838.

3789. A slab containing the greater number of the caudal vertebrae, with their chevrons; from Sussex. Figured by Mantell in the 'Phil. Trans.' 1849, pl. xxxii. fig. 22, and by Owen, *op. cit.* pl. x. The vertebrae accord so closely in size and general characters with the dorsals of the type specimen that there seems no doubt of the specific identity of the two. The chevrons are in several instances attached to the caudals.

Same history.

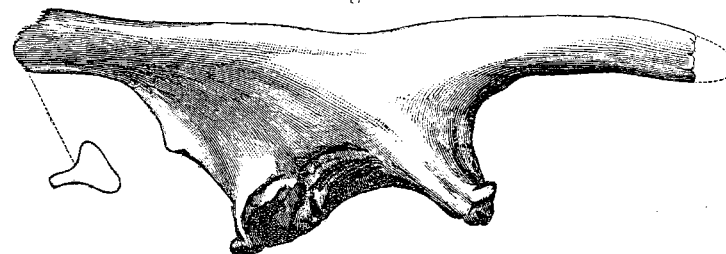
2584. A left scapula, provisionally referred to this species; from Bolney, Sussex. Figured by Mantell in the 'Phil. Trans.' 1841, pl. x. fig. 10, and described by Owen, *op. cit.* figs. 16, 17; of larger size than the scapula of the type, but of similar contour.

Same history.

R. 1106. Cast of the left humerus. The original was obtained from Brixton, Isle of Wight, and was formerly in the collection of the late Dr. Wilkins, of Newport; it is figured by Hulke in the 'Quart. Journ. Geol. Soc.' vol. xxx. pl. xxxi. figs. 3, 4, and provisionally referred to the present genus. The resemblance of this specimen to the humerus of *Scelidosaurus*, coupled with its association with the tibia No. R. 1107, renders it probable that this reference is correct; and in any case the specimen belongs to a member of the present family.

Made in the Museum.

Fig. 35.



(?) *Hylaeosaurus oweni*.—Outer view of the right ilium, with transverse section or the postacetabular process; from the Wealden of Sussex. †.

2150. A right ilium, provisionally referred to this form; from Cuckfield. This specimen (fig. 35), which wants the

extremities of the two dorsal processes, has been already figured by the writer in the 'Quart. Journ. Geol. Soc.' vol. xlv. p. 53, woodcut fig. 3. It has a considerable resemblance to the ilium of *Scelidosaurus*, and also approximates to that of *Vectisaurus*¹; the latter resemblance indicating that that genus may belong to the present family. *Mantell Collection. Purchased, 1838.*

2132. The middle portion of a similar but smaller ilium; from Cuckfield. *Same history.*

2615. The right tibia; from Bolney. Associated with the scapula (Fig.) No. 2584; figured by Mantell in the 'Phil. Trans.' 1841, pl. x. fig. 11 (as a humerus), by Owen, *op. cit.* pl. vii., and the distal extremity by Hulke in the 'Quart. Journ. Geol. Soc.' vol. xxxv. pl. xii. fig. 7. *Same history.*

R. 1107. Cast of the left tibia. The original was associated with that of the humerus No. R. 1106, and is figured by Hulke, *op. cit.* figs. 1, 2; it presents slight differences from No. 2615, which may be either of sexual or specific value. *Made in the Museum.*

2188. A bone which is apparently an imperfect tibia; from Cuckfield. *Mantell Collection. Purchased, 1838.*

28681. A dermal spine; from Cuckfield. Figured by Owen, *op. cit.* (Fig.) pl. ix. *Mantell Collection. Purchased, 1853.*

36490-94. Several dermal scutes; from Cuckfield. *Same history.*

3782. Fragment of a small subcylindrical dermal spine, perhaps belonging to this form; from Cuckfield. *Mantell Collection. Purchased, 1838.*

2417. Fragment of a dermal spine of similar type; from Cuckfield. *Same history.*

R. 695. A small compressed dermal spine, not improbably belonging to this form; from Sussex. *Dawson Collection.*

2193. A bone which appears to be a small dermal spine of this or an allied form; from Cuckfield. Figured by Mantell in his 'Fossils of Tilgate Forest,' pl. xx. fig. 7, as an undetermined bone. *Mantell Collection. Purchased, 1838.*

¹ Hulke, Quart. Journ. Geol. Soc. vol. xxxv. pl. xxi.

2583, 2587. Two undetermined bones, perhaps referable to this genus; from Cuckfield.

Mantell Collection. Purchased, 1838.

Genus **POLACANTHUS**, Hulke¹ (*ex* Owen, MS.).

The characteristic feature of this genus is the enormous dermal buckler in the lumbar region, consisting of firmly united bony scutes, some of which are tuberculated and others keeled; large detached spines were probably placed in the anterior region of the trunk. The lumbar as well as the sacral vertebræ were united together, and, with the ilia, were ankylosed to the lumbar buckler.

Polacanthus foxi, Hulke (*ex* Owen, MS.).

The type species. Agreeing approximately in size with the skeleton of *Scelidosaurus harrisoni*, No. R. 1111.

Hab. Europe (England).

The following specimens, which include the types, belong to a single individual, and were obtained from the Wealden near Barne's Chine, Brixton, Isle of Wight. They belong to the Fox Collection. Purchased, 1882.

R. 175. An imperfect cervical vertebra.

R. 175 a. An anterior dorsal vertebra. Figured by Hulke in the (Fig.) 'Phil. Trans.' 1881, pl. lxx. figs. 1, 2.

R. 175 b. Four imperfect trunk vertebræ.

R. 175 c. An anterior caudal vertebra. Figured, *op. cit.* pl. lxxii. (Fig.) figs. 1, 2.

R. 175 d. Seven anterior caudal vertebræ.

R. 175 e. A posterior caudal vertebra. Figured, *op. cit.* pl. lxxv. figs. 3, 4.

R. 175 f. Three separate and two united posterior caudal vertebræ.

R. 175 g. The extremity of the tail, showing dermal scutes and (Fig.) ossified tendons. Figured, *op. cit.* pl. lxxiii. figs. 1-3.

R. 175 h. A chevron, with another attached bone.

¹ Phil. Trans. 1881, p. 653.

- R. 175 i. Proximal portion of a rib. Figured, *op. cit.* pl. lxxvi. (Fig.) fig. 2.
- R. 175 j. Four specimens of the proximal portions of ribs.
- R. 175 k. The sacrum and lumbar dermal buckler, together with a (Fig.) cast of the upper surface of the latter. The sacrum is figured, *op. cit.* pl. lxxi. fig. 1, and the entire specimen in the 'Phil. Trans.' 1887, pls. viii., ix.
- R. 175 l. The right femur. Figured in the 'Phil. Trans.' 1881, (Fig.) pl. lxxiv.
- R. 175 m. The left femur.
- R. 175 n. The left tibia. Figured, *op. cit.* pl. lxxv. figs. 1, 2. (Fig.)
- R. 175 o. Two metatarsals. Figured, *op. cit.* pl. lxxii. fig. 3. (Fig.)
- R. 175 p. A series of flat, irregular dermal scutes.
- R. 175 q. A pair of angulated symmetrical scutes.
- R. 175 r. A larger pair of similar scutes.
- R. 175 s. A dermal scute bearing a short spine.
- R. 175 t. Three short dermal spines.
- R. 175 u. A somewhat similar spine. Figured, *op. cit.* pl. lxxi. (Fig.) fig. 7.
- R. 175 v. A tall dermal spine. Figured, *op. cit.* pl. lxxi. figs. 4, 5. (Fig.) The summit has been attached since it was figured.
- R. 175 w. A tall spine. Figured, *op. cit.* pl. lxxi. fig. 6, and (Fig.) pl. lxxvi. fig. 1; the summit having been subsequently attached.
- R. 175 x. Four similar spines.

The following specimen apparently belonged to a different individual.

- R. 175 y. An imperfect posterior caudal and another vertebra; from the Isle of Wight. *Fox Collection.*
- R 203. A tall spine. *Same history.*

GENERALLY UNDETERMINED SPECIMENS.

The following are from the Wealden of the Isle of Wight.

39533. A dermal spine. This specimen has not the compressed form characteristic of *Polacanthus* and *Hylæosaurus*.
Presented by E. Backhouse, Esq., 1866.
- R. 202. A shorter dermal spine. *Fox Collection. Purchased, 1882.*
- R. 202 a. A somewhat shorter dermal spine. *Same history.*
- 36515-17. Three still shorter dermal spines; from Sandown.
Mantell Collection. Purchased, 1853.
- R. 133. Two dermal spines of somewhat similar type.
Fox Collection.
- R. 133 a. Two smaller dermal spines. *Same history.*
- R. 202. Two dermal scutes. *Same history.*
- 37713-14. Two dermal scutes. *Saul Collection. Purchased, 1863.*
- R. 643. A dermal scute; from Brook.
Presented by J. E. Lee, Esq., 1885.

The following is from the Lower Wealden (Wadhurst Clay), near Hastings.

- R. 604 a. A tall dermal spine. *Dawson Collection. Purchased, 1885.*
- The following is from the Neocomian Bone-bed of Potton, Bedfordshire, but is probably derived.*
40458. A water-worn dermal scute. *Purchased, 1867.*

Family IGUANODONTIDÆ.

Cranium (fig. 41) typically somewhat short, elevated, and broad anteriorly, with small and somewhat prominent orbits, tall infra-temporal fossæ, and large terminal nares; mandibular rami deep, and uniting in a broad and channelled symphysis, terminated by a prementary bone. Teeth (fig. 37) in a single row, with obtuse subtriangular crowns, having (at least usually) serrations on the borders and vertical ridges on the outer surface, and being worn more or less horizontally by use. Cervical vertebræ usually opistho- and dorsals amphicelous; anterior and middle dorsals with either tall or low arches, wide neural canal, and deep pits in front of post-zygapophyses; their centra more or less compressed laterally, and