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XXXVII.—*On a new Genus of Palæozoic Shells.* By WILLIAM KING, Curator of the Museum of the Natural History Society of Northumberland, Durham and Newcastle-upon-Tyne.

*To the Editors of the Annals of Natural History.*

GENTLEMEN,

IN a 'Monograph of the Invertebrate Fossils of the Magnesian Limestone of the County of Durham' which I am preparing for publication, I have been compelled to institute six new genera, namely, *Allorisma* for species represented by *Sanguinolaria sulcata*, Ph., *Strophalosia* for a Productus-like shell with an area, and possessing a condyloid hinge as in the Terebratulas, and not a simple one as in the true Productuses; *Camerophoria* for a Brachiopod approximating to *Pentamerus* in some points of its internal structure; *Pleurophorus* for *Arca costata* of Capt. Brown; *Schizodus* for the Permian and carboniferous Axinuses, to distinguish them from the London clay *Axinus angulatus*, and *Anthracosia* for a group of *Unionidæ* characteristic of the coal-measures.

In the following paper I have given the generic character, &c. of *Allorisma*.

I may add that the monograph will contain figures of the dental and other characters of all the new genera.

I have the honour to be, Gentlemen,

Your very obedient servant,

Newcastle, Museum, Oct. 4, 1844.

WM. KING.

In the carboniferous system of some districts, certain shells abound which are elongated in the direction of their cardinal line, and often marked with deep broad wrinkles running parallel with their free margins. Following J. de C. Sowerby, they have in general been placed in the genus *Sanguinolaria*, which cannot be continued, since the existing species bearing this name are furnished with teeth which are absent in the carboniferous shells.

An examination of several of these fossils has convinced me  
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that each valve is provided with a cartilage fulcrum which varies considerably in different species. In some it resembles that of *Pholadomya* and *Panopæa*, being more or less folded upon itself, and somewhat horizontal with the dorsal plane of the shell, and having the appearance of a callosity; in others its free margin sinks a little below the hinge line; while in the remainder it becomes unfolded and lamelliform, and is directed so much downwards as to hang vertically in the dorsal cavity of the shell. The cartilage consequently passes from an external to an internal position.

It will be seen from this description that the cartilage fulcra *gradually* change from one extreme to the other,—a fact which, viewed in connexion with the uniformity of their external characters, completely prevents these shells being grouped into more genera than one.

In rocks of the Devonian and the Permian system similar fossils have been discovered; and the Triassic deposits of continental Europe, especially the muschelkalk, yield somewhat analogous forms (*Myacites*). Through the Permian and Triassic shells a passage is opened into the genera *Panopæa* (*Lutraria gibbosa*, Sow.), *Lysianassa* (*Mya v-scripta*, Sow.), and *Cercomya* (*Sanguinolaria undulata*, Sow.\*) of the Jurassic system. Associated with the latter occurs the genus *Pholadomya*, which though it agrees with the shells just mentioned in its cartilage fulcra, differs, perhaps with the exception of *Cercomya*, in being unprovided with teeth: in this respect the genus *Pholadomya* corresponds with the so-called *Sanguinolarias* of the carboniferous rocks, but in general it may be readily distinguished from them by the presence of ribs proceeding from the umbones.

Many of the Jurassic *Panopæas* differ from those at present existing, not only in their being slightly gaping, but in their teeth being expanded and in being concave on the upper side: in some species (*Panopæa* (*Lutraria*) *gibbosa*, Sow.) the teeth appear to be but rudimentary, or mere folds of the cardinal margins beneath the umbones; in this respect they offer an approximation to the carboniferous fossils. It will thus be obvious how difficult it is to draw the line of demarcation between the genus about to be proposed and the Jurassic *Panopæas*, and how perplexing it is to decide as to the genus in which certain intermediate forms ought to be placed. This last remark applies to the fossils termed *Myacites*, which until it is known whether or not they are furnished with teeth, their identity with *Panopæa* or with the carboniferous

\* Mr. Morris, in placing this shell in *Anatina* (vide Cat. Brit. Fossils, p. 77), has overlooked the fact of this genus having the cartilage placed on internal spoon-shaped fulcra. Sowerby's figure of the fossil (Min. Con. tab. 548. fig. 1.) shows that the fulcra are external.



fossils will remain uncertain : from their geological age and their resemblance to a magnesian limestone species which certainly does not possess any appearance of teeth, they may for the present be grouped with the latter. Whether any of these edentulous shells characterise the lias and the oolite is a question on which it is difficult to decide : the valve which Goldfuss has figured under the name of *Lutraria decurtata* (Petrefacten, tab. 153. fig. 3c), appears to be unprovided with a tooth, but it must be observed, that in the corresponding valve of *Panopæa gibbosa* and some other species this part is scarcely developed ; it is the opposite one which possesses the largest tooth.

If the genus *Panopæa* be allowed to comprise species with conical (*P. norvegica*) or expanded teeth (*P. gentilis*, *P. gibbosa*), whether gaping little or much posteriorly, their being dentigerous will form a good distinguishing character by which to separate them from the edentulous *Panopæa*-like shells of the carboniferous rocks : add to this, the disparity between their cartilage fulcra, which in the former are constant in form and direction, while in the latter they are extremely variable in these respects. On a consideration of these differences it is proposed to group the carboniferous shells under the following genus :—

*Allorisma*\*, nobis.

SYN.—? *Myacites*, Schlotheim ; *Hiatella (sulcata)*, Fleming ; *Sanguinolaria (gibbosa)* in the Min. Conch.), J. de C. Sowerby and others ; *Unio (Uriei)* in Prestwich's Memoir), J. de C. Sow. ; *Lutraria (prisca)*, Goldfuss ; *Pholadomya (elongata)* in Silliman's Journal, vol. xxix.), Dr. S. G. Morton ; ? *Mya (rotundata)* in Murchison's 'Silurian System', J. de C. Sow. ; ? *Posidonomya (transversa)*, Portlock.

Order LAMELLIBRANCHIATA, Blainville.

Suborder DIMYARIA, Rang.

Family PHOLADOMYIDÆ†, nobis.

*Gen. Char.*—Both valves furnished with a cartilage fulcrum elongated in the direction of the cardinal line, and which varies breadthwise in different species, from being horizontal with the

\* From ἀλλοῖος, variable, and ῥεῖσμα, support—expressive of the variable nature of the cartilage support or fulcrum.

† Blainville's family *Pyloridæ* is so heterogeneous that I have taken the liberty to propose that of *Pholadomyidæ* for the genera *Pholadomya*, *Allorisma*, *Panopæa*, *Lysianassa* (Munster), and *Cercomya* (Agassiz). In doing this, I am aware of the anatomical differences between *Panopæa* and *Pholadomya*, so ably worked out by Valenciennes and Owen ; but they do not appear to be of such importance as to warrant the placing of these two genera in distinct families.



dorsal plane of the shell to an internal and vertical position. Neither of the valves furnished with teeth.

*General Summary.*—The various species at present known of this genus are elliptical, equivalved, and more or less inequilateral (extremely so in *Allorisma* (*Sanguinolaria*) *undata*, Portl.): their umbones are large in *A.* (*Pholadomya*) *Munsteri* (D'Archiac and De Verneuil), but small in others; often they are strongly wrinkled parallel with their free margins, as in the genus *Posidonomya*: some appear to be closed at both ends (*A. elongata*, Mort.), while others gape anteriorly and posteriorly (*A. constricta*, nob.).

*Allorisma* in one essential point differs from every other genus of *Pholadomyidæ*: in the latter the cartilage fulcra are constantly horizontal with the dorsal plane of the shell,—consequently they support an external cartilage, whereas in the former they are variable; being horizontal in *Allorisma elongata*, vertical in *A. sulcata*\*, and intermediate in *A. constricta*.

The situation of the adductor and other muscular impressions relatively to each other is nearly the same as in *Thracia pubescens*: the anterior muscular impressions are so strongly marked in some species (*A. sulcata* and *A. undata*) as to give rise to a well-defined ridge which separates them from the umbonial cavity; in most of the species that have passed under my notice the pallial line is rather indistinct: in *Allorisma elongata* the inflexion of the siphonal muscular impression is deep, and runs parallel with the ventral and the dorsal line of the shell somewhat as in *Mya arenaria*.

The surface of the shell is marked with minute pimples, which in some species (*A. elongata* and *A. elegans*, nobis) run in lines from the umbones, but in others (*A. constricta*) they are irregularly arranged, as in *Anatina subrostrata*.

#### *Supplementary Notes.*

Schlotheim's name *Myacites* implies that the shells so called are fossil Myas; as this is not the case the name cannot stand.

*Allorisma elegans* is a new species from the magnesian limestone of Durham.

*Allorisma constricta* is an undescribed carboniferous species from Northumberland.

The species called *Allorisma sulcata* (*Hiatella*, Flem., *Sanguinolaria*, Ph.) is the one figured by Professor Phillips in his 'Geology

\* A figure of this species, representing one of its cartilage fulcra, will be given in the Monograph. I may just observe, that in a specimen of this shell three inches long, the fulcra are nearly a quarter of an inch in breadth a little behind the umbone, and about an inch in length.



of Yorkshire,' vol. ii. pl. 5. fig. 5: externally it closely resembles another species which I consider the same as Dr. Morton's fossil represented in Silliman's Journal, vol. xxix. pl. 26. fig. 37, and which is from the carboniferous rocks of Northumberland; but the direction of the cartilage fulcra, as already noticed, is very different in each.

I have little doubt of the fossil to which Mr. J. de C. Sowerby has applied Fleming's name *Unio Urii* (Brit. Animals, p. 417) being quite distinct from the shell so called, and a true *Allorisma*. In this case the specific name which Mr. Sowerby has given to the former may be retained, unless this fossil should hereafter be considered as a variety of *Allorisma elongata*.

XXXVIII.—*Catalogue of Irish Entozoa, with observations.* By O'BRYEN BELLINGHAM, M.D., Fellow of and Professor of Botany to the Royal College of Surgeons in Ireland, Member of the Royal Zoological, Geological and Natural History Societies of Dublin, &c.

[Continued from p. 256.]

#### Genus 18. TÆNIA.

(Derived from *ταῖνία*, *vitta*.)

*Gen. Char.*—Body long, flat, soft, and composed of a great number of distinct articulations. Head in general larger than the neck, furnished with two pairs of oscula, suckers or discs, and often with a rostellum or prominence in front, which is surrounded or not by one or two circles of recurved hooks;—what Rudolphi terms 'armed.'

THE species of this genus have been hitherto found in the bodies of vertebral animals alone, and the alimentary canal is the only part which they are found to inhabit; they usually occur in the small intestines. They are most abundant in birds, next in mammalia, then in fish, and lastly in reptiles. Rudolphi enumerates 146 species in his 'Synopsis,' of which 53 are doubtful.

The term *Tænia* was employed by the ancients, but they necessarily confounded the genus *Bothriocephalus* with the *Tænia*. The digestive apparatus of these animals consists of two straight lateral canals of the same diameter throughout, which commence at the oscula of the head, run backwards parallel to one another, close to the margins of the articulations, and communicate with one another by a transverse branch at the posterior edge of each articulation.

The organs of reproduction are more complicated; we find male and female organs not only in every individual, but in all the larger articulations of the same individual. A small papillary projection is seen near the centre of the margin of each articu-





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