Tate R. Contributions to the Jurassic palaeontology. 1. Cryptaulax, a new genus of Cerithiidae.// Annals and magazine of natural history, including zoology, botany and geology, 1869.– Ser. 4, vol. 4, №24.– p. 417-419. <12.1869>

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Otiorhynchus sulcatus, Schönh., Gen. et Spec. Curc. ii. 620 (1834).
—— ——, Stierl., Rev. der Otiorh. 225 (1861).

A single example of the common European *O. sulcatus*, which seems to me to differ in no respect from the ordinary type, is amongst the Coleoptera which were collected at St. Helena by Mr. Melliss; but, if truly established in the island, as the species appears to have become at the Azores, there can be little doubt that it has been naturalized accidentally from more northern latitudes.

[To be continued.]

L.—*Contributions to Jurassic Palæontology.*

By Ralph Tate, Assoc. Linn. Soc., F.G.S., &c.

1. Cryptaulax, *a new Genus of* Cerithiadæ.

Cerithium, in the numerical strength of its recent and fossil species, ranks among the largest of the generic groups of Gasteropods. The number in the Jurassic rocks referred to the genus is very great, their alliance is not in all cases certain, and any steps that tend to reduce the number of species will be fraught with convenience to the working palæontologist.

Of late a few genera have been constituted out of species previously referred to *Cerithium*: Piette (1861) established the genus *Exelissa* for the reception of the somewhat pupæform *Cerithia* with an entire aperture and the last whorl cylindrical and contracted at the base. The typical species is *C. strangulatum*, D'Archiac; and fourteen species, ranging from the Middle Lias to the Kimmeridge Clay, should be referred to the genus. Lycett, in the 'Supplement to the Mollusca of the Great Oolite,' p. 93 (1863), applied to the same group the generic title of *Kilvertia*, referring to it the type species previously used by Piette: *Kilvertia* is therefore a synonym of *Exelissa*.

The British species are:—*E. constricta*, *E. pulchra*, *E. formosa*, and *E. spicula*, Lycett, sp., from the Great Oolite; *E. strangulata*, D'Archiac, sp., from the Great Oolite and Inferior Oolite; and *E. numismalis*, n. sp., from the Middle Lias.

Exelissa numismalis, n. sp.

Shell small, cylindrical, turreted, acute; whorls subrotund, longitudinally ribbed; ribs three in number, large, and coarsely nodulated, interstitial spaces very narrow; the last whorl slightly contracted at the base, the two lower ribs of the upper half often without nodules, and with a small flat rib between;

base rounded, with about three encircling ribs; suture deep and narrow; aperture orbicular; canal indistinct.

Total length ¼ inch.

Locality. Zone of *Ammonites Jamesoni*: Leckhampton Road, clay-pits, Cheltenham! (*R. T.*); Aston Magna! (*J. Slatter*); Campden! (*P. B. Brodie*).

Eustoma is another genus of Cerithiadæ founded also by Piette (1855), and in the young state resembles a *Cerithium*; but in the adult the margins of the aperture are much expanded and posteriorly united by an indistinct canal; the anterior canal is elongated. It includes *E. tuberculosa*, Piette, and *E. rostellaria*, (*Cerithium*) Buvignier, both from the Great Oolite of Ardennes.

Fibula, a third genus of the family, founded by Piette (1857), is typically represented by *Turritella Roissyi*, D'Archiac, and presents characters intermediate and approximating it to *Turritella* and to *Cerithium*. The shell is elongated, with a straight columella and a rudimentary groove near the base; outer lip arched and slightly notched at the suture. Twenty-one species, ranging from the Trias to the Cretaceous, belong here; the British forms are *F. variata* and *F. eulimoides*, Lycett, from the Great Oolite of Gloucestershire.

There remains at the least another well-marked group of Cerithioid shells, which appear to differ much from *Cerithium*, and have been referred to that genus and to *Turritella*; they present a characteristic ornamentation, have the aperture rather of *Chemnitzia*, and the posterior canal of *Cerithium*. These I propose to arrange under a new generic title.

Cryptaulax, nov. gen.

(*Cryptos*, hidden; and *aulax*, a furrow, in allusion to the posterior canal more or less concealed by the outer lip.)

Type, *Cerithium tortile*, Hébert & Deslongchamps, Bull. Soc. Linn. de Normandie, vol. v. (1860) t. 6. f. 1.

Shell turriculated, pointed, with a polygonal spire, ornamented with transverse costæ; angles of whorls disposed in a more or less marked spiral series; imperforate; columella straight, thin; aperture ovate, not produced into a distinct canal in front; peristome entire, broadly reflexed upon the left lip; a shallow oblique posterior canal in the angle formed by the body-whorl and outer lip.

Messrs. Hébert and Deslongchamps state that the canal of this species is so little pronounced that it might be referred to

Turritella, and that these small shells are not correctly referable either to *Cerithium* or to *Turritella*. The same characters are exhibited by *C. undulatum*, Quenstedt, which is referred by the same authors, with some doubt, to *Turritella*; they remark, further, that many allied species occur in several formations, such as the Inferior Oolite, Great Oolite, and Oxford Clay. Three of these allied species have been described by E. Eudes-Deslongchamps (1842) under *Cerithium*, but grouped together with the common characters: "*Anfractibus concavis, ad suturas elatis, testa muricata, canali subnullo.*"

The species which I refer to the genus agree in the following characters:—Test turriculate or subulate, ornamentation as described in *C. tortilis*; no anterior canal; peristome entire and broadly reflected on the columella; the posterior canal has been noticed in *C. tortilis* and *C. contorta*, but its presence in the other species is not known, they not having been examined, excepting a specimen of *C. scobina*, in which the aperture is not exposed. In *C. tortilis* the shell is porcellaneous, smooth, and shining.

Species of *Cryptaulax*:—

1. *C. tortilis**, Hébert & Deslongchamps (*Cerithium*), *loc. cit.* Oxford Clay, inferior: Montreuil Bellay (Maine-et-Loire) (*Hébert & Deslong.*); Hutka, Poland (*Zeuschner*, Coll. Geol. Soc.).
2. *C. undulata**, Quenstedt, sp. (*Cerithium*), Der Jura, t. 65. f. 24, p. 488 (1858). *Turritella undulata*, Héb. & Deslong. *loc. cit.* t. 7. f. 13. Oxford Clay, inferior: Montreuil Bellay (*H. & D.*); Würtemberg (*Quenstedt*).
3. *C. contorta*, Deslongchamps (*Cerithium*), Mém. Soc. Linn. de Normandie, vol. vii. p. 194, t. 10. f. 44–46 (1844). Inferior Oolite: Les Moutiers; Sully, Bayeux (*Deslong.*, *Tesson*, *Tate*).
4. *C. hystrix*, Deslong. (*Cerithium*) *loc. cit.* (1844) t. 10. f. 47, 48, p. 195. Inferior Oolite: Les Moutiers (*Deslong.*).
5. *C. scobina*, Deslong. (*Cerithium*) *loc. cit.* (1844) t. 10. f. 49, 50, p. 196. *Cerithium varicosum*, Moore, Upper and Middle Lias, West of England (1867), t. 4. f. 15, p. 83. Upper Lias: Fontaine Etoupefour (*Deslong.*); Ilminster (*Moore*). Upper Lias Sands, upper zone: Nailsworth! (*Lycett*).

* The removal of these two species from *Cerithium* will obviate a change in the nomenclature, as the specific names are already preoccupied for species of that genus.