

Alliance among Polypetalæ, and Phytolaccaceæ, Petiveriaceæ, and Proteaceæ among Apetalæ, are the more remarkable exceptions; but this apparent inconsistency might be obviated by extending the Leguminous Alliance along the vacant space so as nearly to approach Rosaceæ, and by placing Phytolaccaceæ, Petiveriaceæ and Proteaceæ opposite Nyctagineæ and Daphnaceæ; but as this would obscure the design of the Table, it is thought better to leave them so far misplaced.

It should be observed also, that this Table partially differs from Table II. in the distribution of the families of the Proterocarpous section of Monopetalæ, as the true station of Sapotaceæ, from a more recent analysis, appears rather to be between Ebenaceæ and Salvadoraceæ, and nearer the latter; and Convolvulaceæ are placed in the Phytolaccal Subdivision. The Lauro-Elæagnal and Daphnal subdivisions are also folded over the Polygonal, by which separations between some near allies are avoided.

XVIII.—*Note on the Gryphæa of the Bed called Gryphite Grit in the Cotteswolds.* By JOHN LYCETT, Esq.

THE lower bed of the upper ragstones in the Cotteswold Inferior Oolite exhibits an immense profusion of a well-known *Gryphæa*, and this circumstance, together with the very limited stratigraphical range of the shell, combines to render it of much importance to the geologist, as it affords a certain guide to that portion of the Inferior Oolite. This *Gryphæa* has been universally accepted as the *G. cymbium* of Lamarek, but the position of that species upon the continent is known to be the Middle Lias, of which it is considered to be one of the characteristic forms, and a reference to the figures and descriptions of Lamarek's shell proves that it is perfectly distinct from the Cotteswold species. In the first edition of the 'Geology of Cheltenham,' by Sir R. Murchison, the *Gryphæa* is tabulated *G. cymbium*, and this name was copied into the second edition, in which however, fortunately, an illustration was given of it at pl. 7. fig. 3. Subsequent lists of Inferior Oolite fossils have included *Gryphæa cymbium*. It does not appear that Lamarek's species has been recognised in the lias of England; it possesses a general resemblance to *G. incurva* and *G. obliquata*, except that the larger valve has much less convexity, the beak is much less incurved, and has a small area by which it was attached to other bodies; the upper valve is also much larger; the margins of the valves are regular and not sinuous; the height of the shell always much exceeds the lateral diameter, sometimes in the proportion of 6 inches by 3; it is nearly, and in some instances perhaps alto-

gether, destitute of the deep sulcation and large lateral lobe which distinguish the dorsal surface of the convex valve in the Cotteswold species. *G. cymbium*, Lam., is well exemplified in the figures of Goldfuss\* and Buvignier†, the larger figure of Goldfuss representing the shell in an advanced stage of growth, in which it acquired a greater degree of elongation, the general outline constituting a tolerable resemblance to the object which the name indicates.

Another *Gryphæa*, associated in the same beds with *G. cymbium*, and of which it may possibly be only a variety, presents a more near approximation to the Cotteswold species; it has a great degree of flatness and some irregularity which reminds us somewhat of the true oysters; it has also a lateral lobe and sulcus, but much less prominent than in the Cotteswold shell, the general elongated form resembling *G. cymbium*. M. Buvignier considers it to be distinct from *G. cymbium*, and has named it *G. Broliensis*‡.

The conspicuous sulcation and lobe which serves prominently to distinguish the Cotteswold shell, is a feature which in a more modified form is present in nearly the whole of the species of this subgenus, of which it constitutes one of the characteristic attributes; for although the species of *Gryphæa* are more easily distinguished than those of the true oysters, there exists nevertheless a large amount of variation. The adherent species will be found to exhibit greater variability than the others; it may consequently be inferred, that the variation of form is connected with the position which was accidentally retained by the attached shell. The Cotteswold *Gryphæa*, which exhibits a considerable difference of aspect, was frequently attached to another of the same species, the shells being clustered together in masses.

In conformity with precedents in similar instances, I dedicate our Cotteswold *Gryphæa* to the author who first figured it in the 'Geology of Cheltenham,' and whose labours have contributed so much to enlarge our knowledge of the fauna of the Oolite.

#### GYPHÆA BUCKMANNI.

Syn. *Gryphæa cymbium*, Murch. Geol. Chelt. 1834, p. 10.

——— *columba*, Lonsdale, in Geol. Proceedings, 1835.

——— *cymbium*, Morris, Catal. Brit. Foss. p. 109, 1843.

——— *cymbium*, Geol. Chelt. 2nd edit. 1845, p. 75, pl. 7. fig. 3.

*Sp. char.* Shell transversely ovate, very convex, irregularly and

\* Petref. Germaniæ, tab. 7. fig. 3; tab. 85. fig. 1.

† Géol. et Paléont. Dép. de la Meuse, Atlas, pl. 5. figs. 5, 6, 7.

‡ Ibid. pl. 5. figs. 7, 8, 9.

concentrically laminated; beak acute, incurved, with a small adherent area; larger valve extended laterally, inflated and bilobed, having a wide and deep sulcation which extends from the beak to the lower border; upper valve concave; margins of the valves sinuated.

The deep sulcation in the dorsal surface separates a posterior lateral lobe, which in the mature form has a diameter equal to a third part of the entire valve: in the young state the posterior lobe is but slightly developed, and the valves at that part are thin, but the groove is always conspicuous.

The species which most nearly approach *G. Buckmanni* are *G. dilatata*, Sow., and *G. controversa*, Roemer; but these latter are much larger species, they are less inflated, and have the dorsal sulcation much more superficial.

XIX.—On two new Subgenera of Calanidæ.

By JOHN LUBBOCK, Esq., F.Z.S.

[With a Plate.]

AMONG Mr. Darwin's Crustacea, I discovered a few specimens of a remarkable Entomostracan nearly allied to *Labidocera Darwinii*, but differing considerably from it in the structure of the right antenna of the male, of the fifth pair of legs, and of the abdomen of the female; and lately, in the collection of the College of Surgeons, through the kindness of Prof. Owen and Prof. Quekett, I found a single male specimen of a third very distinct species belonging to the same group, in which the right antenna of the male is more anomalous than in any form yet described. These two new species will, I believe, eventually form the type of two new genera; for the present, however, it will perhaps be more convenient to consider them subgenera of *Labidocera*. For this purpose it will be necessary slightly to alter its generic character, which will stand as follows:—

LABIDOCERA.

*Rostrum furcatum*; *antenna antica* maris dextra geniculans tumida, lamellis lobulise dentatis instructa. *Oculi superiores* duo. *Oculi inferiores* nulli? *Cephalothorax* 7-articulatus. *Pes posticus* maris dexter, prehensilis. *Abdomen* maris 4-articulatum, fœminæ 2-articulatum.

And will contain three subgenera:—