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VIII.—Observations on the “Sea-Cup”

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cutem dorsi incrassatum elevatum, recipienda. ♀. Pinnæ pectorales, falcatae, paulo pone initium pinnæ analis extensæ, 18-radiatæ, muticæ. Pinnæ ventrales muticæ, oblongæ, acutiusculæ, breves, anum non attingentes, ventri arcu adnatæ. Pinnæ anales duæ; anterior spinosa, bi-radiata, radiis brevibus; posterior 25-radiata, uti pinna dorsalis intra cutem elevatam recipiendæ; radius primus simplex, spinosus cæteris brevior, reliqui mutici. Pinna caudalis bifurca, 20-radiata; lobi lanceolati, acuti, æquales. Squamæ parvæ, adhærentes, tenues, læves, integræ.

"*Color* :—Piscis supra medium e cæruleo-opalinus, infra ex opalino-argenteus, totus nitens. Caput ante oculos pellucido-virescens. Macula majuscula atra paulo supra angulum laminae posterioris branchiarum. Pinna dorsalis, et pinna analis pallide olivaceæ. Pinnæ pectorales cinerascens. Pinnæ ventrales albidæ, interdum parum rubentes. Pinna caudalis cinereo-plumbea. Linea dorsalis cyanea. Diameter piscis longitudinalis uncias 18, perpendicularis $5\frac{1}{2}$, transversalis $2\frac{1}{4}$.

"*Radii* :—Br. 7; D. 8|—1|28; A. 2—1|24; V. 1|5; P. 18; C. 20.

"*Habitat* in oceano Australiæ prope Motuaro." (Solander.)

Representatives of the third division of *Caranx*, 'Les Carangues' (Cuv.), also exist in the seas of Australia. The *Caranx Lessonii* (Cuv. and Val. ix. p. 113) was brought from New Holland by MM. Lesson and Garnot, and is considered by Cuvier to be the *gundi-parah* of Russell, p. 144. The *Caranx speciosus* (Cuv. and Val. ix. p. 130), which inhabits the Red Sea, the Indian Ocean, and the Polynesian Archipelago, was brought by Bougainville (le fils) from New Holland. The *Scomber platinoides* of Solander, of which the only memorial is the following brief notice, is probably a member of this division.

"Sæpe pedalis, totus argenteus, nitidissimus, dorsum parum cærulescens. Iris argentea, pupilla nigra. Macula nigra sublunata postice in angulo laminae operculi posticæ. Pinnæ parum lutescunt, præcipue pinna analis. *Habitat* Tolaga." (Pisces Austr.)

A pencil reference to *Sc. hippos*, with a mark of doubt, is appended to the MSS. The *Sc. hippos*? of Forster, of which a figure exists in the Banksian Library, and a description in Schneider (p. 28), was taken at Otaheite, and not in New Zealand, as stated in the 'Histoire des Poissons,' where it is named *Caranx forsteri*.

[To be continued.]

VIII.—Observations on the "Sea-Cup." By CHARLES W. PEACH, Esq.

[With a Plate.]

HAVING read in Ellis's 'Essay on the Corallines' that he considered the "Sea-Cup" to be "the ovary of the periwinkle

shell-fish," and having nowhere, in the few books I have access to, seen that contradicted, I beg to forward to you some observations on the subject, and to show that the "sea-cup" does not belong to the periwinkle, but to the *Purpureus lapillus*. In the early part of January of the present year I found that the *Purpureus lapillus* was very abundant on the rocks in Little Peraver near my residence, and that they got together in clusters. I watched their movements, and found that where they assembled the "sea-cup" was plentiful indeed; in fact I never before saw them so abundant. On taking hold of some of the whelks, I found that they covered three or four of the "cups" with their mantles, and it required a good pull to remove them. I also noticed that there were indentations in the mantle corresponding with the number of "cups" which it had enveloped, and that when the shell was removed a drop of transparent matter stood on the upper end of each cup. After the whelk has formed and filled them, the mouth is securely sealed up. The "cup" is then of a pale yellowish colour; the internal part soon assumes a granular appearance which becomes more and more distinct; after some time, some of them change to a pinkish hue, and the young fry can be better distinguished; the thickened seal of the operculum becomes thin, and after about *four months* opens, and the young prisoners escape into the surrounding medium, and take refuge in crevices of the rocks or amongst mussels, *Balani*, &c. &c. which are attached to them. The young leave the "cups" gradually, and sometimes a fortnight elapses between the exit of the first and the last, and they are of different sizes; they have all the peculiar habits of the adult ones, such as remaining out of the water for long periods: this I observed in many that I reared in a dish in my house; some of them also were of a purple colour. Some which I took out of the "cups"—nay, all—show the distinguishing canal, and are at first semitransparent and horn-coloured: the older before leaving the "cups," the more white and opaque they are, and show the striæ and markings on the pillar, with the canal, and all the characteristic appearances of the old shell, clearly evincing that they belong to the *Purpureus lapillus*, and not the *Turbo littoreus*, which latter shell has *no canal* or markings on the pillar.

I observe also, that in Little Peraver, where the "egg-cups" and *Purpureus lapillus* are abundant, there is scarcely a periwinkle to be found; whilst at Cologne in the same parish, about half a mile distant, where periwinkles are numerous, and the *Purpureus lapillus* very scarce, egg-cups are few and far between.

I have taken as many as thirty-four perfect shells from one cup, showing that they are prolific.

They fix these cups in indentations and crevices and under overhanging parts of the rocks, and *invariably on that side least exposed to the fury of the waves*; and this circumstance shows that even in this animal the Great Author of all has implanted a sense of guarding its young from injury, proving his superintending care over all his creatures.

The accompanying drawings will illustrate the above statement:—

PLATE I. A.

Fig. 1. Nidi taken from under the whelk when in the act of forming it.

— 2. Nidi after the escape of the young.

— 3. Magnified view of the upper part or operculum when left by the whelk.

IX.—Descriptions of Chalcidites discovered near Conception, in South America, by C. Darwin, Esq. By FRANCIS WALKER, F.L.S.

Iamprotatus Alcantar, Mas. *Æneo-viridis cupreo et cyaneo varius, antennæ fulvæ, pedes fulvi, alæ limpidæ.*

Corpus breve, robustum, convexum, æneo-viride, nitens, scitissime squameum, parce hirtum: caput transversum, breve, viride, thorace paullo latius; vertex latus, frons impressa, abrupte declivis: oculi rufi, mediocres, non extantes: antennæ fulvæ, subfiliformes, thorace non longiores; articulus 1^{us} nigro-viridis, longus, gracilis; 2^{us} longicyathiformis; 3^{us} et 4^{us} brevissimi; 5^{us} et sequentes usque ad 10^{um} breves, approximati, subæquales; clava longiconica, compressa, acuminata, articulo 10^o duplo longior: thorax ovatus, cupreo-reneus: prothorax brevissimus: mesothoracis scutum cyaneo-viride, longitudine latius; parapsidum suturæ bene determinatæ, postice approximata; scutellum subrotundum: paraptera et epimera magna: metathorax medioeris, obconicus, declivis: petiolus sat longus: abdomen breviovatum, cupreo-varium, supra planum, basi cyaneo-viride, thorace multo brevius; segmentum 1^{um} magnum, 2^{um} et sequentia breviora: pedes fulvi, simplices, subæquales; coxæ virides; tarsi apice fusci: alæ amplæ, limpidæ; squamulæ fusæ; nervi fulvi; nervus humeralis ulnari fere duplo longior, radialis ulnari non brevior, cubitali multo longior; stigma minutum. (Corp. long. lin. 1; alar. lin. 2.)

Gastrancistrus Cephalon, Fem. *Cupreus, antennæ nigra, pedes lutei, femora basi nigra, alæ limpidæ.*

Corpus cupreum, convexum, nitens, scitissime squameum, parce hirtum: caput transversum, breve, thorace latius; vertex latus; frons impressa, abrupte declivis: oculi rufi, medioeris, non extantes: antennæ subclavatae, nigrae, sat graciles, submoniliformes, thorace non longiores; articulus 1^{us} longus, sublinearis; 2^{us} cyathiformis; 3^{us} et 4^{us} minimi; 5^{us} et sequentes usque ad 10^{um} breves, approximati, subæquales; clava longiconica, acuminata, articulo 10^o plus duplo longior: thorax ovatus: prothorax transversus, medioeris, antice angustus: mesothoracis scutum longitudine latius; parapsidum suturæ bene determinatæ, postice approximata; scutellum subconicum: metathorax brevis, postice angustus: petiolus brevissimus: abdomen ova-