

our view of the nature of the "gonidium" so called therein, and make it an infusorium instead of a zoospore, of which much more might be said in support if this were the place for it; and although one of the facts brought forward in proof of the independent movement of the mucus, was the polymorphism and locomotion of the gonidial cells which it was supposed to have composed, there are sufficient reasons left for my still retaining the opinion, that its contractility is not the effect of any chemical process of nutrition that is going on in the cell, though it may not be uninfluential as a physical agent in this process.

II.—*Descriptions of the Animals of certain Genera of Conchifera.*
By S. P. WOODWARD, Esq., F.G.S.

MY DEAR SIR,

I HEREWITH send you some more figures of the animals of certain genera of Bivalve shells (*Conchifera*), which Mr. Woodward has made for me, and the notes he has appended to them.

These animals have been shortly noticed by me in my paper on the Arrangement of Bivalves in the 'Annals,' vol. xiv. p. 21.

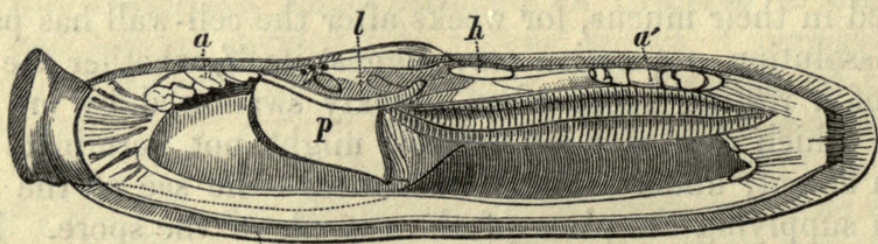
I am, my dear Sir, yours truly,

J. E. GRAY.

Dr. Francis.

Solen (Cultellus?) Javanicus. Singapore.

Mantle-lobes united, covered with wrinkled epidermis; *siphons* very short, fringed; no ventral orifice; *pedal* opening terminal. *Foot* straight, compressed, truncated, attached by small suspen-



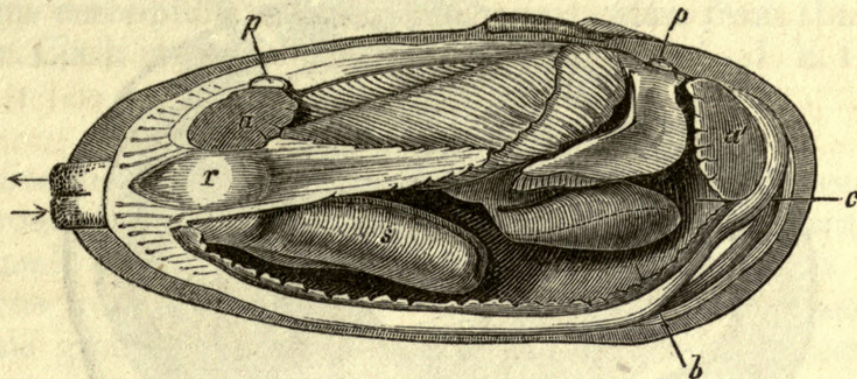
a, a', adductor muscles; *l*, liver; *h*, heart; *p*, palpi.

sors—two beneath the hinge, and two in front of posterior adductor. *Palpi* very large, oblong, pointed, attached lengthwise. *Gills* long, narrow, equal, plaited transversely. A long curved portion of the intestine lies close to the left side, bordering the palpi.

[This is a species of the genus *Pharus*.—J. E. G.]

Glaucanome rugosa. Philippines.

Mantle-margins plain, united; pedal opening anterior, rather large. *Siphons* longer than the shell, moderately thick, united nearly to their ends, retracted, by inversion at half-length, into the branchial cavity, where they project beyond the centre of the



a', a, adductor muscles; *p, p*, pedal muscles; *r*, retractor of siphons; *b, c*, pedal opening.

shell; orifices fringed. *Foot* moderately large, thick, linguiform, heeled; suspensor muscle attached close to, but distinct from, the adductors. *Palpi* very large, broadly falciform. *Gills* two on each side, long and plaited, rounded in front, the outer pair shorter and furnished with a plaited dorsal flap.

In *G. curta* the siphons are much shorter and more deeply divided; the branchial was introverted at its extremity in the specimen examined.

Anomia ephippium.

Animal unsymmetrical; mouth and byssus twisted to the right side. *Mantle* quite open, except for a space of five lines at the hinge; its margin double, slightly fringed (no *ocelli*). *Gills* two on each side, unsymmetrical (the right pair shortest in front), very delicate, flat (destitute of internal partitions or gill-tubes), crescent-shaped, tapering to a point and united posteriorly; suspended by two falciform membranes (*m*) forming three dorsal channels, the lateral incomplete; outermost gill-laminæ free at the dorsal edge, and furnished with a broad reflected margin or supplementary gill (*r, r*); innermost laminæ also unattached, but united to each other throughout their length, the united edges passing to the *left* side of the body in front. *Mouth* on the under side, between the ligament and byssal plug. *Lips* narrow, plain, longest on the right side, confluent with the gills; (*palpi* obsolete). *Foot* small, cylindrical, expanded at the end and grooved, supported by two muscles from the left valve. *Byssus* large, laminar, passing through a nearly complete foramen in the right mantle-lobe, and attached by a powerful muscle

to the centre of the left valve. *Adductor* moderate, indistinctly composed of two elements; pallial line continuous. *Sexes* di-

Fig. 1.

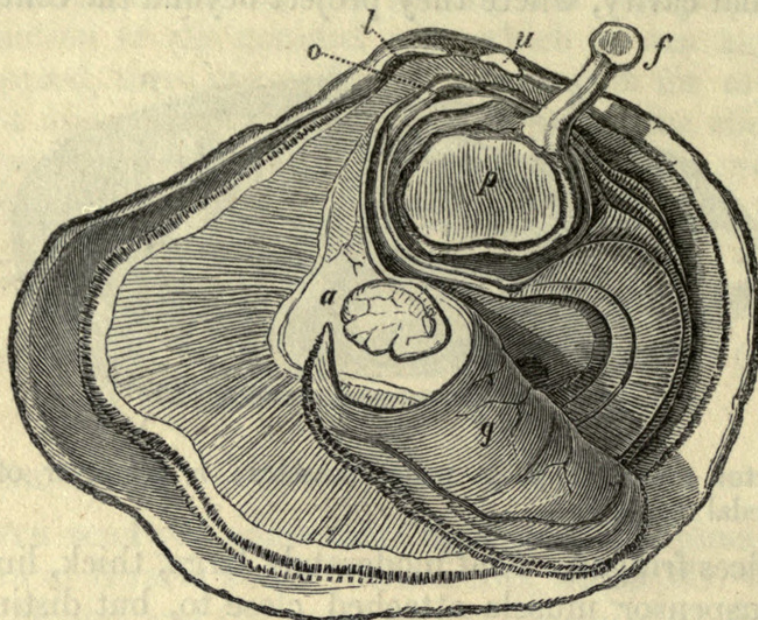


Fig. 2.

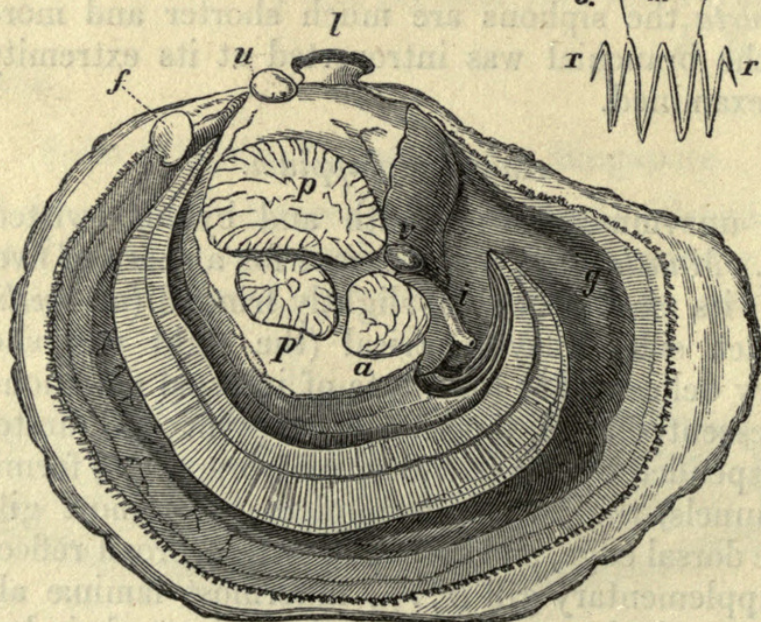


Fig. 3.

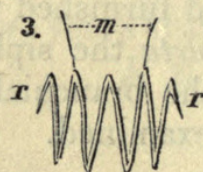


Fig. 1. Animal lying in its upper (*left*) valve; right mantle-lobe turned back in front.

Fig. 2. Animal in right valve, with left mantle-lobe removed.

Fig. 3. Section of gills.

l, ligament; *o*, mouth; *f*, foot; *u*, anterior; *p'*, posterior pedal muscles; *p, p*, byssus and byssal muscle; *a*, adductor; *v*, ventricle; *i*, rectum; *g*, generative organ; *m*, gill-suspensors; *r, r*, reflected gill-margins.

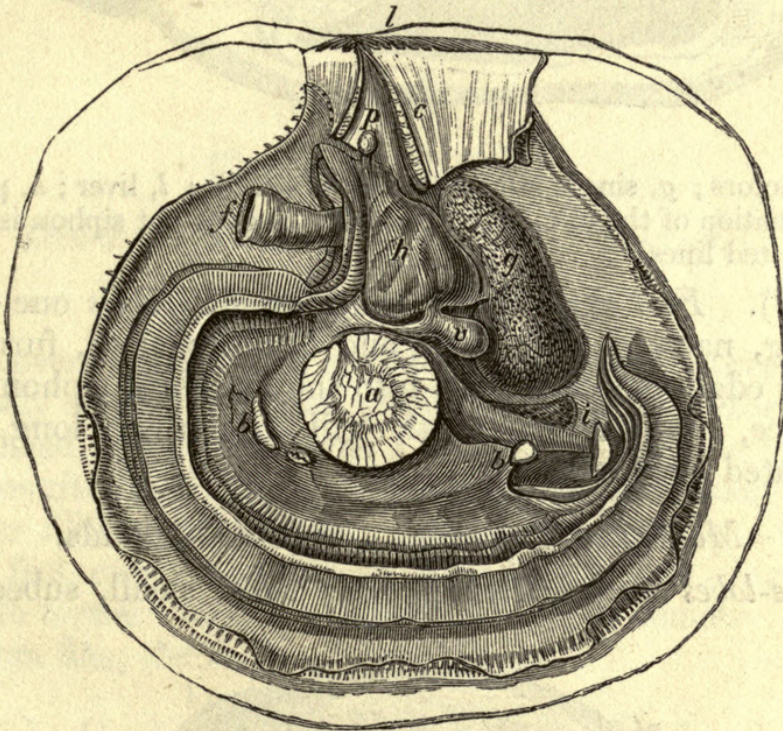
stinct ; generative organs combined with the right mantle-lobe. *Ventricle* exposed, not perforated by the rectum.

There is an admirable memoir on the structure of *Anomia* by Dr. Lacaze-Duthiers, in the Ann. Sc. Nat. 1854, t. ii. p. 1, with figures. These and some drawings by Mr. Albany Hancock have been compared with the example here represented.

[This description differs in many particulars from that given by Mr. Clark in the 'British Marine Mollusca.'—J. E. G.]

Placuna placenta. Singapore.

Animal nearly symmetrical, free (or attached by a byssus when very young). *Mantle* quite open, its margin fringed with large and small cirri, and furnished with an inner pendent border. *Adductor* round, subcentral. *Gills* as in *Anomia*, their outer margins grooved. *Pallial* muscle reduced to two fasciculi in



Right valve with the animal, as seen on removing the left mantle-lobe.

l, ligament ; *c*, cartilage ; *p*, pedal muscle ; *f*, foot ; *h*, liver ; *g*, generative gland ; *v*, ventricle ; *a*, adductor ; *i*, rectum ; *b, b*, branchiopallial muscles.

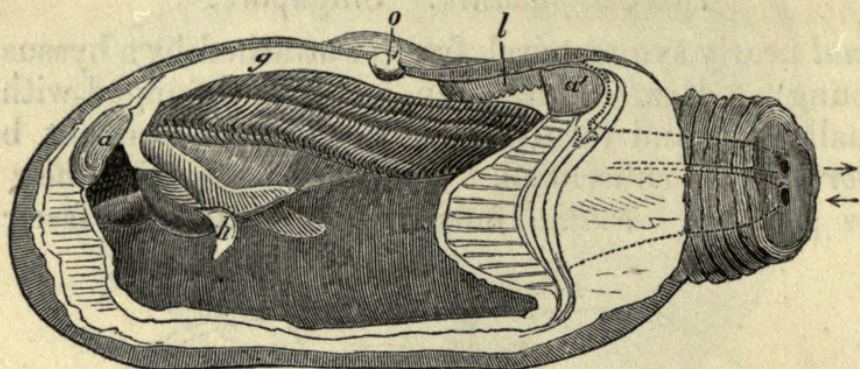
front of, and one behind, the adductor. *Pedal* muscle minute, anterior, attached to the upper (left) valve. *Foot* small, cylindrical, tubular (very extensile ?). *Lips* short and wide, becoming striated inside near the gills. *Generative* organ and rectum attached to the right mantle-lobe. *Ventricle* exposed, not perforated.

It will be seen by the figures that *Placuna* is essentially like *Anomia* ; both are very different from *Ostrea*, and more like the

Scallops. *Carolia* (*Hemiplacuna*) is a *Placuna* with the hinge and byssus of *Anomia*; *Placunomia* has no pedal muscle, like *Placuna sella*; whilst *Anomia pernoides* has an anterior pedal sac in each valve, as pointed out by Dr. Gray.

Anatina subrostrata. Philippines.

Mantle-margins united; no ventral orifice; pedal opening quite anterior, minute. *Siphons* united, thick, not entirely retractile into the shell, covered with rugose epidermis; orifices small

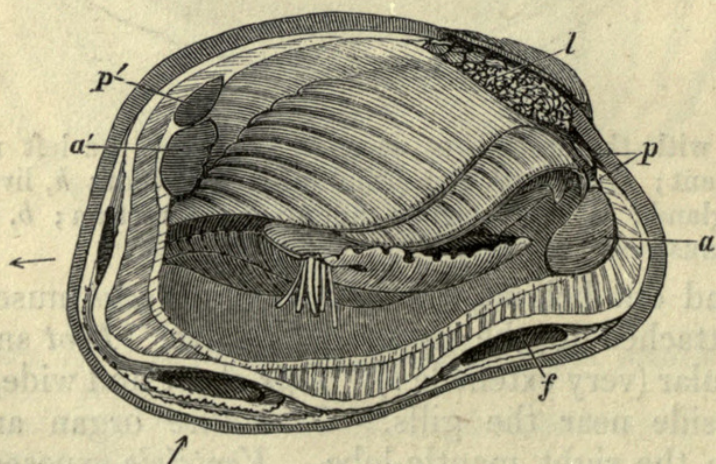


a, a', adductors; *g*, single gill; *o*, cavity of ossicle; *l*, liver; *h*, palpi: the termination of the alimentary canal in the exhalent siphon is indicated by dotted lines.

(fringed?). *Foot* very small, compressed. *Gills* one on each side, long, narrow, very thick and deeply plaited, furrowed at the lower edge, not continued into the branchial siphon; dorsal border free, nearly as wide as the gill. *Palpi* very long, narrow, free, striated inside.

Modiolarca trapezina. Falkland Islands.

Mantle-lobes united, leaving only three small, subequal ori-



a, a', adductors; *p, p'*, pedal muscles; *f*, pedal opening; *l*, liver; the gill-tubes are distended with spawn.

fices, the interspaces with two rows of cirri; branchial opening

with a fringed border, the others plain. Anterior *adductor* muscle larger than the posterior. *Foot* with a small flat sole, crenulated at the edge, deeply grooved behind and byssiferous; pedal muscles small in front, large behind, close to the adductors. *Palpi* very small. *Gills* oblong, finely striated; the outer ones not quite so deep, furnished with a dorsal border, their free edge grooved only in the middle.

This remarkable shell, which resembles the Palæozoic *Modiolopsis* in the large size of the anterior adductor, is found attached by its byssus to floating weed in many parts of the Southern Ocean.

III.—Notes on some new or little-known Marine Animals.

By PHILIP HENRY GOSSE, A.L.S.

[With two Plates.]

(Fascis II.*)

Class ARACHNIDA.

Order ACARINA.

Fam. ORIBATADÆ.

Genus HALACARUS (mihi).

Body covered above with a well-defined shield, either entire or transversely sulcated; under surface divided across the middle: rostrum head-like, consisting of a bulbous lip tapering to a point, divided longitudinally beneath, allowing the protrusion of a pair of slender filiform mandibles; palpi terminated by a fang-like unguis: feet cursorious, tipped with two falcate unguis; directed two forward and two backward; thighs remote. Marine. Name from ἅλς, the sea, and ἄκαρι, a mite.

Sp. 1. *H. rhodostigma* (mihi). Plate III. figs. 1-5.

Body divided above and below; claw of palpus slender, little curved; legs nearly equal; thighs of first pair ventricose; claws of all simple; whole surface minutely punctured.

Description.—Length $\frac{1}{72}$ nd of an inch from anus to tip of rostrum; colour pellucid whitish, stained with pale red on the anterior half; above and below studded with punctures, which, under a high power, take the form of rosettes (whence the specific name, from ῥόδον, a rose, and στιγμα, a point), or the spots on a panther's coat (fig. 4); the punctures are conspicuous on the first thighs, but are scarcely visible on the other limbs. The

* Fasc. I. appeared in the 'Annals' for August 1853.



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