

cephalic veil of other true *Volutes*. A very fine specimen of *Voluta papillosa* having lately passed under my examination, I was struck with the fact that it also showed, from the peculiar enamel coat on the whorls and outer edges of the outer lip, that its mantle must also have been similarly expanded; though this character had hitherto escaped notice from the shells having been cleaned,—this peculiar coat, the great beauty and character of the shell, having been destroyed. This led me to examine carefully the other species of the family, and it is now clear that several species of the *Volutes* have the same character. They may be divided thus:—

* Mantle lobes largely expanded and entirely covering the spire, which is often entirely hidden by a shell-deposit.

1. *Volutella angulata*.

** Mantle lobes moderately expanded, covering the lower side of the spire, and leaving a callous band on the suture of the other part.

2. *Volutella Scapha*. 3. *Volutella imperialis*. 4. *Volutella cymbiola*. 5. *Volutella Sophia*. 6. *Volutella volvacea*; and perhaps 7. *Voluta tuberculata*, Swainson.

*** The mantle lobes moderately expanded, not covering the spire, the suture of the spire simple.

8. *Volutella papillosa*. 9. *Volutella fulgetrum*. 10. *Volutella ancilla*. 11. *Volutella fusiformis*.

The genus *Cymbiola*, which differs from *Voluta* in having simple conical teeth, as described in a former number of this Journal, is peculiar for having a narrow callous band round the suture, showing that the hinder part of the mantle is expanded, as may be observed in *Cymbiola undulata*, *C. reticulata*, *C. maculata*, *C. pallida*, *C. Turneri*, *C. zebra*, and *C. lineata*: the two latter have been referred to the genus *Marginella*, but they are perfectly distinct from it.

J. E. GRAY.

Observations on Notamia bursaria. By G. H. KINGSLEY, M.D.

To the Editors of the Annals of Natural History.

August 4, 1852.

GENTLEMEN,—I found several tiny specimens of *Notamia bursaria* today, about low-water mark, off Harriet Lodge, West Cowes, attached to pieces of seaweed and decaying wood.

The water was as usual very foul and the specimens exceedingly dirty, so much so, that they might easily have been overlooked without the aid of the microscope. Under a good $\frac{1}{2}$ -inch glass, however, the beautiful pearly lustre of the general polypidom, the exquisitely graceful shape of the individual cells, and the activity of the polypes in the few cells occupied by living tenants, soon gave interest to the minute and exceedingly dirty zoophyte.

The polypes resembled in general features the others of their

class: the tentacles, now grasping and ciliated—the alimentary canal, curved on itself, packing so closely and cleverly into its cell—the well-defined stomach, with its contents whirling swiftly round and round, possibly by the agency of cilia—the distinct muscular apparatus for the retraction of the polype—the delicate membrane continuous between it and its protecting envelope—and moreover the *very liver-like* appendages to the stomach, presented no especial peculiarities differing from other Bryozoa.

But whilst watching the polypes gently and cautiously emerging from their cells, like the lady from the gold vase in Hoffmann's 'Goldenen Topf,' and suddenly and swiftly retreating when the currents formed by their ciliated tentacula brought morsels, grateful or otherwise, within their lips, or when their expanding arms touched those of a neighbour (for, as is unfortunately the case with other beings when forced into close companionship with others having the same personal interests, they seemed to fear and dislike each other most cordially),—the eye was startled by an occasional sudden *snap*, as sharp and decisive as the descent of the hammer when the trigger is touched,—a little out of focus, and proceeding from the bulbous termination of a slender tube which arose from the central stem just above the vase-like cell in which the polype lived.

On examining more closely (with a good $\frac{1}{4}$ -inch object-glass), one saw that this bulbous termination—this bowl of the tobacco-pipe—possessed a pair of jaws—no, not jaws, but a bill, an inverted parrot's-bill; the lower mandible sharp, hooked, and firmly fitted onto the edge of the bowl, with a process running down its external convex border, and the upper slender, curved, moveable, fitting accurately into the lower one, attached to the bowl by an exquisitely formed flexible membranous hinge, acted on by a distinct fan-shaped muscle, whose expanded origin was attached to the greater part of the inner surface of the bowl, and whose tendon was inserted into the slightly inflated base of the mandible.

The action of this muscle was seen very distinctly at each opening or shutting of the beak.

Both mandibles were of a distinct, bluish, *steely* gray, sharp and keen, looking fit for their business (whatever it was).

The only thing I have ever seen at all like it is the 'parrot-beak' of a Mediterranean Cephalopod which resembles it very strikingly.

The upper beak may be often seen to move up and down two or three times before it closes entirely, which it generally does sharply and with a sort of *snap*, so decisive that one almost fancies that one can *hear it*. At the same time the globular contents of the bowl are jerked sharply upwards.

Within the bowl and behind the fan-shaped muscle, or perhaps *between the two fan-shaped muscles*, was seen indistinctly an irregularly globular mass, which was thrown into active motion whenever the jaw closed.

I never could trace any communication between the tobacco-pipe apparatus and the lower larger polype-cell, or the central stem. Indeed the '*bowl*' seemed to be distinctly separated from the '*shank*'

by a *septum*. I could never trace fluid or globules passing down the shank to the common stem of the polypidom.

The polype and the tobacco-pipe seemed perfectly independent of each other. I found active polypes without accompanying tobacco-pipes, and very often tobacco-pipes in full snap, with the inhabitants of the capacious drawing-room floors beneath dead and gone, their cells swept and garnished, tenanted only by some vagabond Solifer, and possessing no signs of their former inhabitants, beyond a few of the brown liver-like spots adhering to their transparent walls.

I never could make out *why* the tobacco-pipe opened his mouth, or why he shut it, although the jerking movement of the globular *stomach* (?) would make one believe that he did so to some purpose. I once saw a small *Navicula* evidently pinched tightly by the beak of a tobacco-pipe, which in a few seconds opened and let him escape, whereupon having been saved from this *Scylla* he plunged incontinently into the *Charybdis* of the polype below, and in a short time was whirling round and round on his long axis in its stomach. I watched it for some time, and it certainly appeared to me as if he (or it) was being ground down or *sucked* out in some manner, as he went in of a strong burnt sienna colour, and gradually became nearly transparent. I was unfortunately prevented from seeing his exit.

These tobacco-pipe appendages *bud* out from the central stem at its free extremity at the same time with the larger polype-cells, but appear to arrive at maturity later than these, remaining as mere inflexions of the tube, without jaws, for some time after the cell below is tenanted by an active polype.

The large polype seems to bud out from the central stem into the cell prepared for it, and at first has a very simple and hydroid appearance, but rapidly gains all the functions of its elder brethren.

I never found any appearance of egg-capsules on any of my specimens.

[We have inserted the above as a clever piece of Natural History description,—but the “tobacco-pipes” have long since been fully described by Van Beneden, Busk, &c. as ‘*Avicularia*.’—ED.]

Description of a new species of Helix from Van Diemen's Land.

By LOVELL REEVE, F.L.S. &c.

HELIX LAUNCESTONENSIS. *Hel. testâ umbilicatâ, abbreviatâ, conoideâ, trochiformi, supernè rugosâ et ferrugineâ, quasi epidermide indutâ, infra lævigatâ, nitente, intensè nigrâ; fasciâ distinctâ luteâ cingulatâ; spirâ obtusâ; anfractibus sex, supernè convexis, medio concavis, carinis lineisque gemmulatis undique cingulatis, peripheriâ acutè carinatâ, basi convexâ; umbilico mediocri, pervio, subprofundo; aperturâ obliquè lunari, peristomate tenui, vix reflexo, margine columellari breviter dilatato.*

Hab. Launceston, Van Diemen's Land.

This very characteristic new species of *Helix* has just been received from Van Diemen's Land, where it was collected last summer by Mr. Ronald Gunn in a dense beech forest, north-east of Launceston.



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