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 inflections 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, abbreviato-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.

It differs materially from any of the vast numbers of *Helices* now known to conchologists, especially in the different character of the upper and lower parts of the shell. The upper portion of the whorls has a rough rusty surface encircled by numerous finely beaded lines and keels; the lower surface is smooth and shining, jet-black, encircled by a distinct yellow band.—*Proc. Zool. Soc.* Feb. 24, 1852.

On the Colours of Plants. By M. Martens.

At the close of a long memoir on this subject, the author gives the following summary of his results:—

1. The only two fundamental or primitive colours in plants are blue and yellow, or in other words *anthocyane* and *anthoxanthine*.

2. These primitive colouring matters are formed under the vital influence, not only in the petaloid, but also in the herbaceous portions; in the latter they are most frequently associated together and with other organic matters, thus forming the insoluble green *chlorophylle*.

3. Chlorophylle always has a tendency to become yellow in plants in consequence of the great alterability of the blue colouring principle, unless the latter has been rendered more stable by union with an acid which reddens it. In this case the leaf, instead of acquiring a yellow colour by the alteration of the chlorophylle, becomes red.

4. The red colour of leaves is not always the result of the presence of an acid, whether by the action of this upon the blue or upon the yellow colouring principle of the leaves. The red matter of the leaves, the so-called *erythrophylle*, may also arise from the oxygenation of the yellow principle or *xanthophylle*.

5. The blue and yellow colouring matters, especially the former, being often, when isolated, in a liquid state, must be carried in this case by aqueous transpiration towards the surface of the plant, by which means they must become deeper in colour, or more concentrated, in the cells which lie immediately under the epidermis, where they are constantly met with, and where they may also be subjected to the action of oxygen.

6. Although the coloured juices usually exist in the most superficial layers of cells, in which the chlorophylle is scanty, they may nevertheless arrive there from more internal cells by the action of endosmose and exosmose.

7. In proportion as the blue, yellow or red colouring juices appear in the cells of the herbaceous parts, the quantity of chlorophylle diminishes; it may even disappear entirely when the petaloid coloration becomes very intense, as in the red cabbage.

8. Chlorophylle, being capable by its decomposition of giving rise to blue and yellow matters, may assist indirectly in the formation of the colours of flowers as well as of coloured leaves.

9. The colours of flowers can only change according to the variations of which the blue and yellow are capable. Now blue is able to pass to red by means of acids, and also to present all the colours