IX.—*On* Rhinops vitrea, *a new Rotifer*. By C. T. Hudson, LL.D.

[Plate II.]

I found a solitary specimen of this creature in a pond at the back of the mansion in Losely Park, near Guildford, some five years ago, and had only just made a rough sketch of it when I was called away from my microscope, and lost the Rotifer from the drying up of the water. Although I returned several times to the same pond, I never could succeed in finding any more specimens; but last week I captured scores of them in a pond in Garraway's Nursery Gardens, at Bristol.

This is an illoricated Rotifer, with its ciliated wreath divided into several series: it belongs therefore to the Hydatinea; but its two eyes set in a sort of proboscis forbid, I think, its being ranked under any of the genera given in Pritchard. I apprehend, therefore, that it will have to be placed in a new genus, which I venture to name *Rhinops*, as well as to give to this species the title *vitrea*, from its glassy cuticle.

The trochal disk has two parallel lines of cilia running round it from the foot of the proboscis to the buccal funnel, the ventral side of the upper portion of which is formed by a projecting fold of the cuticle, as is shown at Pl. II. fig. B, *a*. The cilia of the inner row are the larger, and are sometimes held erect; from their bases the substance of the disk slopes downwards and inwards, so as to form a hollow inverted truncated cone like the glass in a beetle-trap. The smaller and lower end of this cone is the aperture of a large cavity, whose only other opening is the buccal funnel.

The proboscis (Pl. II. fig. A, *b*) is ciliated all over its ventral surface and its edge, except at the extreme point; it carries also two brilliant-ruby eyes. The buccal funnel and the large wedge-shaped aperture above it are also richly ciliated; but I could not detect any cilia on the truncated cone.

I have frequently seen objects swept into the cavity, and so down the buccal funnel to the mastax, and have noticed how skilfully the ciliated proboscis directs the atoms down the cone.

Rhinops usually swims at a moderate pace, rolling gently round its longer axis as it goes; and every now and then it bends its proboscis over towards its back (thus fully displaying the cilia), and turns somersets, as *Synchæta* does, only in a much more leisurely manner. Occasionally, however, it darts suddenly forward; and at each time that I have watched it doing so, I have fancied that I saw the atom which it wished to secure; certainly the impression produced on my mind was that the animal made a conscious effort to seize prey of whose presence it was aware; and it is the first rotifer whose actions would lead me to credit its red spots with being eyes.

It is curious, too, to see how it presses together the broad flaps of the trochal disk when an unusually large atom has entered the cavity above the buccal funnel.

The pseudopodium is a short, extremely transparent cone, ending in two minute toes, and capable of being drawn up into a fold of the trunk, so as to leave only the tip exposed. It has in it what appears to be a club-shaped gland, from which a prolongation runs upwards in the median line: this latter does not seem to be a muscle, as it simply bends into a sigmoid curve when the foot is drawn up.

The muscular system is shown in Pl. II. fig. 1, which represents *Rhinops* held down by the compressorium. Four longitudinal muscles, *a a*, *b b*, spring from the same points, *f f*, and proceed to the edges of the trochal disk; they are tied to the cuticle at *g g*, and the outer pair again at *e e*. The muscles *c c* also act in drawing down the trochal disk, and send off branches, *d d*, to the proboscis. The pair *h h* draw up the foot, and the five incompletely circular muscles at *k* compress the trunk and force out the retracted trochal disk or foot.

The mastax (fig. 2) contains the usual mallei and incus, the former with five teeth, *b b*, the latter with ridges, *a a*, on the inner edges of the rami.

The proventricular canal is long; and the stomach has thick walls, in which yellow oil-globules are frequently imbedded: it is divided by a constriction into two portions, of which the lower is densely ciliated. The cloaca opens in the usual position, where the trunk meets the foot, and is also ciliated.

The two gastric glands on the upper surface of the stomach are transparent subcones, with their bases on the stomach; oddly enough, they are not generally of the same shape, one being more bent than the other.

There is a moderate-sized contractile vesicle, and tubes or cords passing up from it on either side to the trochal disk, under which they end in numerous convolutions bearing three vibratile tags.

The proboscis appears to contain a nervous mass (fig. 3 *c*), which sends off two processes, *a a*, to its unciliated tip, and one, *b*, to each eye. I have been unable to detect any antennæ or tactile setæ; but I imagine that the tip of the proboscis is an organ of touch.

The ova become so developed before being extruded, that the young animal quits its case and fills up a large portion of the body of its parent. I have seen several specimens in which the young *Rhinops* lay with its head close to the contractile vesicle, and its foot close under the mastax.

My specimens average $\frac{1}{80}$ inch in length, and have been living in captivity for upwards of a week.

X.—*Descriptions of new Genera and Species of* Tenebrionidæ *from Australia and Tasmania.* By Francis P. Pascoe, F.L.S., F.Z.S., &c., Honorary Member of the Natural History Society of Natal.

[Plate X.]

Dr. Howitt, of Melbourne, having recently sent me a large collection of Heteromera from Australasia and New Zealand, I propose to describe in this Magazine such of the new Australian species as belong to the family Tenebrionidæ, adding several more derived from other sources, leaving the remainder and those from New Zealand for a future opportunity.

The Tenebrionidæ* belong preeminently to the hot and dry regions of the earth; the epigeous or more normal forms are found in very small numbers, either in the humid lands of the tropics or in the northern parts of the northern hemisphere. England contains only seventeen (or, with the doubtful and introduced, twenty-seven) species, while the countries surrounding the Mediterranean have, according to M. de Marseul's Catalogue, 1327 species. From Australia and Tasmania we have about 210 described—a number probably far below that contained in the rich collections of Melbourne and Sydney, and which we cannot doubt will be still greatly increased as those countries are more explored. The lists which Dr. Howitt has favoured me with from time to time bear evidence of the narrow limits in which a large number of species are localized.

There is some confusion in regard to the use of the terms for those parts of the elytra known as the "epipleura" and the "epipleural fold"†, which it is necessary to notice: when

* In the sense in which it is constituted by M. Lacordaire (Gen. des Coléopt. t. v.). The great advantage of having a standard which is in everybody's hands appears to me to render it desirable to conform as closely as possible to the classification and to the principles of analysis applied to the characters of the various divisions of the family. Only, for the sake of greater simplicity, I have called his "tribus" and "groupes" (the latter often of equal rank with the former) subfamilies. The "sections" and "cohorts," being merely designations of the primary branches of a dichotomous arrangement, do not themselves form natural divisions.

† "*Repli épipleural*" of M. Lacordaire. "Fold" is a bad rendering of "*repli*," but I know of none better. Dr. Leconte does not appear to notice this part.