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Henry A Pilsbry

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C. funebris, Austen, and the two specimens referred by Van der Wulp ('*Biologia Centrali-Americana*,' Diptera, vol. ii. p. 1) to *C. emasculator*, Fitch, but which appear to me undoubtedly to belong to *C. analis*, Meq. (? is *C. emasculator*, Fitch, merely a synonym of *C. analis*, Meq. ?), besides Fitch's description ('Third Report on the Noxious, Beneficial, and other Insects of the State of New York,' p. 162, 1859) of the larvæ of his species, prove beyond doubt that the external covering of the larva of *Cutiterebra* consists, not of spines or thorns, but of imbricated scales.

XX.—A new Pupoid Type of Helicidæ.

By HENRY A PILSBRY.

IN the '*Archiv für Naturgeschichte*' for the present year, at p. 103, the distinguished malacologist of Berlin, Dr. Eduard von Martens, has given a *résumé* of previous knowledge of the geographic distribution and systematic position of the curious Austrian land-mollusk known as *Pupa obtusa*, Drap., *Bulimus obtusus* of authors. To this he adds several new localities, and, best of all, an account of the soft anatomy of the creature, hitherto quite unknown. Figures of the genitalia, jaw, and dentition are given, from dissections by Mr. A. Protz.

The species under consideration has a cylindrical shell, of equal diameter at the two ends, which are blunt and rounded; and it is of rather chalky texture. In placing it in the genus *Pupa* Draparnaud approximated as nearly to the true position of the animal as was possible to a naturalist of his time. In 1833 Fitzinger, who was, it is well known, a terrible splitter of genera, made a new one—*Cylindrus*—for this species, but without characterizing it. Albers, in '*Die Heliceen*,' places *Cylindrus* in the genus *Bulimus*, between the group of *Buliminus montanus* and that of *B. detritus*. This would be thought an excellent estimate from shell-characters alone. *Cylindrus* is rather less happily grouped in the second edition of Albers's work by Dr. E. von Martens, where it is placed in *Pupa* between the subgenera *Leucochila* and *Faula*.

In the paper now before us Dr. von Martens considers *Cylindrus* of generic rank; but he expresses no opinion upon the family position of the genus or upon its relationships with other genera of land-snails. It remains for me, therefore, to indicate the systematic position and affinities of this interesting form.

Mr. Protz's figure and description of the genitalia show the penis to be short, suddenly narrowing above; this narrow portion is not, as he supposed, part of the penis, but is an epiphallus, the penis being only the large lower portion, which at its apex undoubtedly contains a fleshy wall, and probably a papilla perforated for the passage downward of the contents of the epiphallus. The latter bears at its middle the retractor muscle, and terminates in the vas deferens and a flagellum. The vagina bears above two blind sacs, one containing a curved "dart" with short blades at apex, the other empty. Both of these I take to be dart-sacs, and in this case the mucous glands are atrophied. The globular spermatheca is borne upon a long duct, which branches at about its lower third in a short diverticulum.

This combination of characters occurs in but one group of mollusks, viz. that group or subfamily of Helicidæ which the writer has called *Belogona*. Nothing of the sort is known in Pupidæ or among the *Bulimi*. And since *Cylindrus* lacks lobed or flattened mucous glands inserted upon the dart-sacs themselves, which are characteristic of the *Belogona Euadenia*, it evidently belongs to the division *Belogona Siphonadenia*, in which the mucous glands are tubular and inserted upon the vagina above the dart-sac or sacs, but are occasionally atrophied in part or entirely.

Among the genera of *Belogona Siphonadenia*, *Cylindrus* resembles *Helicella* (*Xerophila*, Held.) in the conspicuously earthy texture and blunt unexpanded lip of the shell; also in the doubling of the dart-sac, of frequent occurrence in *Helicella*. It may be added that *Helicella* has given rise to some forms with the spire high and conical, the umbilicus reduced or absent, such as *H. (Cochlicella) ventricosa*, Drap., and *acuta*, Müll. On the other hand, *Cylindrus* differs from all known forms of *Helicella* in the compactly cylindrical contour of the shell, the small globular spermatheca on a very long duct, and the branching of that duct to form a diverticulum; species of the other genus having a spermatheca of irregular elongated form on a duct which is invariably branchless and of moderate length or short. The most remarkable feature of *Helicella*, however, remains to be noticed. The right eye-stalk is *retracted to the left of the genital system*, not between the male and female branches, as in ordinary Helices. It is much to be regretted that Mr. Protz neglected to state the position of this retractor muscle in *Cylindrus*, for an important clue is thus lost to us. Should this detail of musculature prove to be as in *Helicella*, it is clear that the position of *Cylindrus* in the system will be between *Leucochroa*, an

ancient genus preserving most of the essential features of *Belogona Euadenia*, and *Helicella*, an early branch of the *Belogona Siphonadenia*, but decidedly nearer to the latter genus. Should the myologic character mentioned prove to be as in ordinary Helices, *Cylindrus* will stand near *Helicella* and the genus *Hygromia* (*Fruticicola* of authors).

In either event, I contend that *Cylindrus* is a genus of Helicidæ belonging to the division *Belogona Siphonadenia*; that it has no affinity with the *Pupa* or *Buliminus* groups beyond the bond uniting all Pulmonata Geophila; and that it is only another instance of that parallelism or homoplasy which has in many times and places moulded creatures of widely diverse structure into a deceptive external similarity.

XXI.—*Descriptions of new Coleoptera in the British Museum.* By CHARLES O. WATERHOUSE, F.E.S.

Lucanidæ.

DIGONOPHORUS, gen. nov.

General form parallel, depressed. Mentum transverse, obliquely narrowed in front, with the front margin emarginate. Antennæ not very long, flattened, and, when at rest, lying in a distinct but shallow impression at the side of the submentum; the seventh joint about as broad as long, shining; the eighth, ninth, and tenth forming a rather small club, the joints pilose, except the base of the eighth. Prosternal process horizontal, convex, nearly parallel, narrow, only very slightly narrowed towards the apex, vertical posteriorly. Mesosternum swollen and convex between the coxæ, only slightly sloping, almost vertical anteriorly. Anterior tibiæ formed much as in *Cladognathus bison* ♂, four posterior tibiæ without spines. Tarsi densely pilose below.

I think this curious insect must be placed next to *Cladognathus*, from which it differs in the small antennal club, short transverse mentum, narrow subparallel prosternal process, and convex rather prominent mesosternum, &c.

The female is unknown to me.

Digonophorus Atkinsoni, sp. n.

♂. *Elongatus*, parallelus, depressus, piceo-rufus, nitidus; mandibulis capite duplo longioribus, depressis, parallelis, ante apicem intus processu valido antrorsum oblique directo instructo; capite