

Among some soundings obtained by the Rev. R. Boog Watson from Madeira, are several specimens of young shells in which the larval shell or pullus is still complete. These larval shells are what were considered to be *Sinusigera*.

Thanks to this gentleman's courtesy, I am enabled to figure one of these specimens, showing the pullus and the continued growth of the shell. In this species the pullus is a *Sinusigera*, intermediate between *S. Huxleyi*, Forbes, and *S. microscopica*, Gray; and in the figure the claw-like lobes from which the shell has continued its growth are easily recognizable. The adult shell of this species is in all probability a *Purpura*, and very likely *P. hæmastoma*, Lamk.

Among these soundings there are also several specimens of another species, the pullus of which is closely allied to *S. cancellata*, d'Orbigny; but with regard to the adult state of this shell there is more uncertainty; it may perhaps prove to be a *Pisania*.

Sinusigera perversa, Craven, is the young of a *Triforis*, or of some allied genus in the Cerithiidae.

Further observations will no doubt show the shells of the *Sinusigera* to be the pulli of many and varied genera. Perhaps also these pulli, when driven far away from shore by currents or storms, pass their existence in this larval state, and never increase or reach maturity, and only those more fortunate in being in shallow waters near shore sink to the bottom and there continue their growth and development. I believe this fact to have been ascertained with regard to some other oceanic forms.

Should this be the case, it would account for the vast numbers of these shells, constant in their dimensions in each species, which are found both on the surface of the open ocean and in a dead state at great depths.

At any rate, the genus *Sinusigera* must now cease to exist, and time only will show the species of Gasteropods of which the various so-called species of *Sinusigera* are the young.

BIBLIOGRAPHICAL NOTICE.

Anatomical Technology as applied to the Domestic Cat: an Introduction to Human, Veterinary, and Comparative Anatomy. By B. G. WILDER and S. H. GAGE. 8vo. Pp. 575, 130 woodcuts, and 4 plates. New York and Chicago, 1882.

EVER since the publication of the beautiful and classical work of Straus-Durckheim the anatomy of the cat has attracted the atten-

tion of various naturalists, although Mr. Mivart and Mr. E. T. Newton are, in later times, the only teachers who have selected this easily acquired form as the text for an account of the characteristics of the Mammalia. The present writers give, in their introductory remarks, some very excellent reasons for the selection that they have made, pointing out the abundance, the suitable size, the comparative absence of variation, the accessibility to anæsthetics, and the quietness which appear to be points in favour of the object of their choice. Parts only of the body are here treated of, the viscera and the "arm" being perhaps particularly the objects of investigation; as Professor Wilder is one of the authors, the brain, as might be expected, is especially fully dealt with.

As a handbook of the *technique* of anatomy the book is more complete and useful than any treatise in English with which we are acquainted; the manual of Mojsisovics has, of course, a wider scope. Especial attention may be directed to the notes on the preparation of bones, and the uses and dangers of alcohol; some of the hints to dissectors are excellent; and the remarks on "Pecking" are worth quoting:—

"*Pecking.*—We use this homely word to designate one of the most common and pernicious faults of anatomical beginners—the habit of *aimlessly poking and pinching the parts*, especially while showing them to the teacher or demonstrator. It reminds the observer of nothing so much as the dabbing and pecking which hens inflict upon a piece of meat. The student should bear in mind that a single false cut, and even a pinch in the wrong place, may mar his work beyond repair; he should exercise constant self-control, and *never touch the specimen excepting for a definite and sufficient reason.*"

We may best give an idea of the work by selecting a special chapter; taking that which deals with the brain, we find it to commence by a few general considerations. *Methods of studying the brain* are next discussed; and here we see a first rule which we are glad to be able to indorse: the authors state that, so far as they know, it, among others, has never "been distinctly enunciated heretofore;" but it must of a surety have been forced upon the minds of many teachers. "The arrangements of the solid parts of the brain are more readily perceived and more easily remembered after the relations of the cavities are fully understood." Dealing with an Amphibian brain, which "should be examined first," we have given us a "partial vocabulary" of the separate parts; an "ideal simple brain" is figured and described; and then follow suggestions for the dissection—American students, more fortunate than English, being easily able to compare *Menobranchus* with the frog. Directions are then given for the study of the cat's brain—its removal, weighing, hardening, and injection; after an account of its characters, with illustrative woodcuts, we have four plates from Prof. Wilder's essay in the 'Proceedings of the American Philosophical Society' for 1881; then comes a section headed "Synonyms and References;" and the whole concludes with some interesting remarks on the characters and homologies of the cerebral fissures.

From this very brief sketch it will be seen that the work is hardly for beginners; at any rate, many advanced students will find in it much of value and interest. And, indeed, from what we know of English students, we doubt whether (with all respect for our authors) the younger, at any rate, would not be repelled by it from the study of comparative anatomy. The following sentence (p. 301) is no unfair example of their style:—

“DUCTUS STENONIANUS.—Stenon’s duct, duct of the parotid gland (fig. 87). It extends cephalad from the cephalic edge of the gland along the ectal surface of the masseter muscle, nearly directly toward the angle of the mouth. When near the edge of the lip it penetrates the cheek, passing entad of the facial vein (fig. 87, V. facialis). It opens on the mucous surface of the cheek opposite the most prominent cusp of the last præmolar (fig. 57).”

We are far from saying that we look with any thing like dissatisfaction on the use of technical terms, that we do not recognize their value, or the weight of the arguments brought by the present authors in defence of their treatment of the subject; nor do we fail to recognize the important services rendered to morphological and descriptive anatomy by Barclay and Owen, and those who have followed these masters; nor do we say that we do not sympathize with the remarks made in the volume before us rather than with those of quite an opposite tendency which have been made by Mr. Lyman in his Introduction to the Ophiurids of the ‘Challenger’ expedition; but we recognize just as much that strong meat is not for babes, that the commencing zoologist, who should also be being introduced to the elements of botany, has of necessity quite enough technical terms to learn, and that it is the business of the teacher to relieve him wherever and whenever he can. In other words, the investigation and the discussion of morphological and zoological problems is aided by the appropriate use of technical and substantive terms, in place of periphrases and adaptations; but early study, and a knowledge of the elementary characters of natural objects are most successful when the objects themselves are veiled as little as may be in terms which distract the attention and load the memory.

To those who can bear with them, we are glad to be able to introduce this work.

MISCELLANEOUS.

The Migrations of the Aphis of the Red Galls of Ulmus campestris (Tetraneura rubra, Lichtenstein). By M. LICHTENSTEIN.

THE new theories upon the biological evolution of the Aphides, to which I have been led by my long-continued investigations of those insects, although strongly contested at Paris, have made way in



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