

*EUPHAUSIA SUPERBA*.—Carapax brevissimè acutè rostratus. Segmenta abdominis margines laterales arcuata, integra, sexto non longiore. Articulus antennarum 1marum primus apicem productus et obtusus. Lamina antennarum 2ndarum basalis basi vix brevior. Articulus pedum ultimus pertenuis, penultimo multo brevior. Branchiæ posticæ instar rotæ paulo involutæ, ramis subradiatis, arcuiformibus, ramulis seriatis setiformibus. Segmentum caudale laminâ caudali proximâ paululo brevius.—Long. 2". Rubra.

*Hab.* in mari Antarctica, prope long. orient. 150° et lat. aust. 60°.

3. *Eyes of Sapphirina, Corycæus, etc.*; by J. D. DANA.—In a brief description of these genera in the Proceedings of the Academy of Arts and Sciences of Boston, and in this Journal,\* a peculiar kind of eye is mentioned, upon which an additional remark is here added. These eyes are simple, and of extremely large size for the animals. The lens is a prolate spheroid, situated internally within the thorax, far remote from the cornea; the cornea is a broad oblate lens, perfectly pellucid and colorless, and connected with the exterior shell. The diameter of each of the latter in many Corycæi is nearly half the breadth of the thorax, and the two stand in the front like a pair of spectacles, huge for the minute animals so provided. In the same animal the prolate lens may be situated as far back nearly, as the middle of the thorax, so that a long space intervenes between it and the cornea. The oblate form of the spectacle-like cornea, (we have called them in Latin, *conspicilla*,) is fitted to compensate for the too great convexity or prolate ellipticity of the lens, and it serves the same purpose as glasses for a near-sighted person.

The genus *Sapphirina* is closely related to *Corycæus*, and has the same peculiar eyes. The only mention of these *conspicilla*, which has been made by any previous author, is to be found in a memoir in F. J. F. Meyenii Obs. Zoolog. in Itin. circum Terram institutas accedunt Guil. Erichsonii et H. Burmeisteri Descript. et Icones Insectorum a Meyenio in ista Expeditione collectorum; from the 16th vol. Nova Acta Cæs. Leop. Car. Nat. Cur., page 156, pl. 27.—The species (probably a true *Sapphirina*) is called *Carcinium opalinum*. The *conspicilla*, by a mistake of observation (and it is not the only one in the description and much magnified figure), are spoken of as *dimples* (Grubchen). They are not noticed by Thompson who established the genus *Sapphirina*. Similar eyes occur in some of the *Caligus* group, and the writer has established one genus, *Specilligus*, on this ground, which otherwise is identical with *Nogagus*.

A cornea of lenticular form is by no means peculiar to these species of Crustacea; but they have hitherto been observed only in compound eyes, in which case the lens and cornea are minute and not far distant.

4. *Contributions to Conchology, Nos. 1-4: and Monograph of Stoma*, a new genus of new operculated land shells, by Prof. C. B. ADAMS, of Amherst College.—Although more than three centuries have elapsed since the West India Islands were first revealed to Europe, it may safely be said that few portions of the world can reward the search of the naturalist with so much that is novel and interesting. This is

\* See last volume, p. 280; also, Proceedings of the Acad. Nat. Sci., Philadelphia, 1845, ii, 285.



more particularly true as regards the department of mollusca, and especially the tribe of air-breathing or land mollusca.

A few only of the larger species of this tribe found their way at an early date into European cabinets, and were described and figured by the conchological writers of the last century. At a later period, through the intercourse between France and the islands dependent on her, French cabinets were enriched with many species from Hayti, Martinique and Gaudaloupe, which adorn the great monograph commenced by Baron Ferussac. The Rev. Lansdowne Guilding, an accomplished English naturalist, resident for many years upon the island of St. Vincents, brought to light the productions of that island; and since then, resident collectors at St. Thomas and at other islands have added something to our knowledge of the land conchology of their vicinities.

The monograph of the genera *Helicina* and *Cyclostoma* in Sowerby's *Thesaurus Conchyliorum*, contained many new West India species. Dr. Gould has described a few species from the island of Cuba, in these and other genera; and Dr. L. Pfeiffer, the author of the admirable *Monographia Heliceorum Viventium*, also collected many new species from the same island and has published them in Wiegmann's *Archiv*. A recent hasty visit to the same quarter by Dr. Newcomb, has acquainted us with interesting species from the Isle of Pines, and Mr. Gosse, an English gentleman who visited Jamaica to collect birds, brought home also many new shells which now enrich the Cumingian collection, and have been described by Dr. Pfeiffer.

But the only published work of any extent, which professes to give a detailed account of the conchological fauna of any part of the West Indies, is d'Orbigny's *Mollusques de Cuba*, forming part of Ramon de la Sagra's history of the Island of Cuba. This work is still incomplete. The first volume of the "*Mollusques*" was published in Paris in 1841, and is yet little known in this country.

Such are the sources of our knowledge of the West India land shells, aside from that supplied by Prof. Adams's labors in Jamaica. A visit to that island in the winter of 1843-4, enabled him to ascertain just enough of its zoological and especially its conchological riches, to excite a desire in lovers of science that this field might be more thoroughly explored. A hasty examination of but a small portion of the island on that occasion, enriched our catalogues with about 120 new species, of which about 70 were marine, and 50 were land-shells.

In the winter of 1848-9, Prof. Adams made a second visit to this island, and a brief review of the results is contained in the papers named at the head of this article. We see with surprise how rich a field has been lying neglected almost at our doors. The "*Contributions to Conchology*" contain descriptions of 137 supposed new species of land and fresh-water shells; and these added to those found in the first visit, make a total of 187 species contributed to science by Prof. Adams. The extent of this "contribution" will be appreciated, when it is observed that the whole number of land and fresh-water species yet known to inhabit the island is only 286.

The operculated species constitute a large share of this increase; of 101 species from Jamaica, 66 were discovered by Prof. Adams. Among



them there is a new genus called *Stoastoma*, characterized by a semi-circular aperture and projecting labrum, embracing as far as known, about a dozen species, all minute, and forming a connecting link between *Cyclostoma* and *Helicina*. Many of the new species of *Cyclostoma* are remarkable for their beauty, as for instance, *C. Augustæ*, *C. proximum*, *C. 5-fasciatum*, and *C. ignilabre*; and others for the novelty of their forms, such as *C. monstrosum* and *C. tectilabre*, in which last the operculum is much larger than the aperture, and is of course entirely external. The genus *Trochatella* furnishes some beautiful species, of which *T. Tankervillei*, *Sow.*, and *T. Josephinæ*, *Adams*, are worthy of note—the latter forming a connecting link between the typical species of the genus and that most elegant of land-shells, the *T. pagoda* Velasquez, from the Isle of Pines.

Of the 157 species of Jamaica *Helicidæ*, Prof. A. has contributed more than 100, many of them of unusual beauty, and of which we instance *Cylindrella Agnesiana*, *Achatina elegans* and the group it represents, *Helix peracutissima*, *H. fluctuata*, *H. virginea*, &c.

Professor Adams has also contributed much, bearing upon the important subject of geographical distribution. The most striking result presented, is that while the marine species of the West Indies are widely distributed, some few extending to Brazil, to our Southern States, and even to West Africa and the Mediterranean, and not more than ten or fifteen per cent. being peculiar to Jamaica,—the case is quite the reverse with the terrestrial shells, not more than six to nine per cent. of the Jamaica species being common probably to this and any other island. Dr. Gould has noticed similar facts in examining the terrestrial shells from the several islands and groups in the Pacific, and from the little we know of the fauna of the other West India islands, there is reason to believe that the law will hold good in regard to most of them. Of the few species which are common to the islands in general, many, there is reason to believe, have been distributed by human agency. Of the 230 species of *Helicidæ* on the contiguous islands of Jamaica and Cuba, only *nine* are said to be common to both, and a closer examination of the specific character of these, will probably show some of them to be really distinct. Nor can we suppose that future explorations will materially alter the per-centage of community of species, for since most of them are restricted to limited localities—such researches will increase the number of new and peculiar species, in at least as great a proportion as of those common to other islands. These facts show that the field open to the conchologist in the tropical archipelagos is far wider than was ever supposed. For if an examination of one tenth of the surface of Jamaica has led to such results, how will our future catalogues be swelled with the lists of species still undiscovered on that island and the other great islands of Cuba, Hayti, Porto Rico, besides the many of smaller extent. And if this law holds true of different islands of the same group, how much more in regard to groups which are widely separated? It renders almost certain, what at one time would have been thought impossible—that the existing species of terrestrial shells may far outnumber the marine species.

Some remarks upon the different proportion in which certain genera of land shells are distributed in the eastern and western hemispheres,



may not be out of place here. Of the genus *Clausilia*, so abundant in the old world, and especially in the southeastern parts of Europe, and now embracing about 200 species, but one has been found upon this continent. One species only is known in the West Indies, and this is an aberrant form, quite different in aspect from those of Europe. But the place of this genus is well supplied in tropical America by *Cylindrella*, of which about 70 species are already known, more than 30 of them existing in Jamaica. On the other hand, the Philippine Islands furnish the only species of *Cylindrella* which is known to exist in the eastern hemisphere. The genera *Proserpina*, *Tomigerus*, *Gesmelania* and *Stoastoma*, are, as far as known, confined to the western hemisphere, while with only one or two exceptions, *Vitrina* has been found only on the eastern. *Achatinella* and *Pupina* are restricted to the islands of the Pacific, and *Tornatellina* as yet contains but one West India species.

The following table, although based on data necessarily imperfect in the present state of our knowledge, may have some interest in showing the proportion which the known terrestrial species of Jamaica, bear to those of the West Indies,—and also the proportion which the latter bear to the known terrestrial species of the globe.

	Total No. of known species.	No. of known West India species.	No. of known Jamaica species.	Proportion of W. I. species to the whole.	Proportion of Jamaica spec's to the whole.
Fam. CYCLOSTOMIDÆ.					
Truncatella,	15	4	3	27 per cent.	20 per cent.
Pupina,	10	0	0	0 "	0 "
Cyclostoma,	300	82	63	27 "	21 "
Stoastoma,	11	11	11	100 "	100 "
Helicina,	160	54	24	34 "	15 "
	496	151	101	37.6	20
Fam. HELICIDÆ.					
Daudebardia,	3	0	0	0 "	0 "
Vitrina,	60	0	0	0 "	0 "
Succinea,	75	14	4	19 "	5 "
Helix,	1,250	151	61	12 "	5 "
Anostoma,	3	0	0	0 "	0 "
Tomigerus,	2	0	0	0 "	0 "
Streptaxis,	26	0	0	0 "	0 "
Pruserpina,	6	4	2	67 "	33 "
Bulimus,	700	39	16	5½ "	2 "
Achatinella,	30	0	0	0 "	0 "
Achatina,	192	51	28	26 "	15 "
Gibbus,	2	0	0	0 "	0 "
Gesmelania,	4	4	4	100 "	100 "
Cylindrella,	69	57	35	83 "	51 "
Balea,	9	0	0	0 "	0 "
Tornatellina,	11	1	0	9 "	0 "
Clausilia,	225	1	0	½ "	0 "
Pupa,	175	23	9	13 "	5 "
	2,842	345	159	12 "	5½ "

The family of Auriculidæ has not been worked out with sufficient accuracy to institute a similar comparison, but the whole number of known species contained in it does not probably exceed 100.



The following table, which is made up from such data as are furnished in Pfeiffer's *Monographia Heliceorum* :

Cuba,	92 species.	Barbadoes,	}	7 species.
Jamaica,	145 "	Granada,		
Hayti,	10 "	Trinidad,		
Porto Rico,	16 "	Bahamas,		3 "
St. Thomas,	}	Bermuda,		4 "
Tortola,		General,		5 "
St. Croix,		Uncertain,		14 "
St. Vincents,	8 "			
Guadaloupe,	}			344 "
Martinique,				

The table is of use only to show how little we yet know of the other West India islands. In this estimate, which is confined to the *Helicidæ*, each species is referred to the island or group, supposed to be its proper habitat.

We are happy to say that Prof. Adams is engaged upon an extended monograph of the shells of Jamaica, in which his labors will be presented to the world in a more complete form, and it will no doubt be eagerly awaited by the lovers of natural science. J. H. R.

5. *Eryx maculatus*, a new species from Madras; by EDWARD HALLOWELL, M.D., (Proc. Acad. Nat. Sci., Philad., July, 1849, p. 184.)—Head of moderate size, depressed, covered with scales, larger in front; rostral plate large, triangular; a single nasal plate on each side; nostril small; thirteen labial plates margin the upper jaw; pupil vertical, eye surrounded by a circular series of plates; iris brownish red; neck of same size as head posteriorly; body thicker in the middle, becoming somewhat slender towards the tail; scales small, carinated; a row of single plates under the tail, followed by others which are bifid; tail short, truncate, (mutilated?)

*Color*.—Light brown above, with numerous spots of the same tint but darker; abdomen light slate color.

*Observations*.—This beautiful reptile was pointed out to me so long ago as 1840, by the late Dr. Harlan. It was brought from Madras, in the neighborhood of which it was found upon a sandy soil. It appeared to be perfectly harmless. The drawing was taken during life by Mr. Richard, and is remarkable for its accuracy. The above short description is made up from it, the notes which were written during its life having been mislaid. It is so good however, that a description of any kind is almost unnecessary. The entire length was about one foot and a half. I have long hesitated to publish a description of this animal, coming as it does from a part of the British possessions so well known as Madras, but having recently observed in the *Annals and Magazine of Natural History*, several species of reptiles described by Mr. Gray, as new from the same locality, not being found in the British Museum, and differing so entirely as it does from any figure of *Eryx* hitherto published, I have ventured to present it to the Academy with the name I have given it.

6. *Descriptions of four new species of North American Salamanders, and one new species of Scink*; by Prof. SPENCER F. BAIRD, (Jour. Acad. Nat. Sci., Philad., [2], i, 292.)—The following descriptions conclude a memoir exhibiting great research, which presents a revision (without