

ART. XXVIII.—*Brief Contributions to Zoölogy, from the Museum of Yale College. No. XIX.—Recent Additions to the Molluscan Fauna of New England and the adjacent waters, with notes on other species ;* by A. E. VERRILL.

THE new edition of Gould's Invertebrata of Massachusetts, edited by Mr. W. S. Binney, and published in 1870, was intended to include all the Mollusca, exclusive of the Bryozoa, hitherto observed on the coast of Massachusetts, as well as those from the adjacent waters farther north. Practically, therefore, it included all, or nearly all, the species known from New England and the adjoining British Provinces. A few New England species, previously described or recorded, were, however, omitted or accidentally overlooked. In the present communication it is my intention to enumerate the marine species from New England and closely adjacent waters, not included in Binney's Gould,

* Newcomb's Orbit of Neptune, p. 76.

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whether previously known or more recently discovered, so far as known to me from personal observation or from the statements, believed to be reliable, of others;* to describe several new species recently discovered; and to record a few observations on the distribution, structure, and affinities of species previously known.

As more detailed descriptions and fuller synonymy will be given in a work on the Mollusca of the coast of southern New England, now in preparation for the Transactions of the Connecticut Academy of Science, the species will be treated here as briefly as possible. It is believed, however, that the figures will prove sufficient, even with short descriptions, for the easy identification of the new species.

List of species not included in Binney's Gould.

- Rossia palpebrosa* Owen (?); Hyatt in third Annual Report of the Trustees of the Peabody Academy of Science, p. 79, 1871. Manchester, Mass., in stomach of Hake,—A. Hyatt.
- Mangelia cerinum* = *Pleurotoma cerinum* Stimp. and Kurtz; Shells of New England, p. 49, pl. 2, fig. 2, 1850. New Bedford, Mass.—Dr. Stimpson; Vineyard Sound, 8 to 10 fath.,—A. E. V. and S. I. Smith.
- Scalaria Humphreysii* Kiener. Greenport, L. I.,—Sanderson Smith; near Great Egg Harbor, N. J.,—J. E. Todd; Stonington, Ct.,—Linsley ("*S. clathrus*"). The occurrence of this species at Stonington needs confirmation. Linsley's species may have been *S. Grælandica*.
- Aciria borealis* Morch. = *Scalaria borealis* Beck, 1841, = *S. Eschrichtii* Möll., 1845. Eastport, Maine, 10 to 40 fath., shelly bottom,—A. E. Verrill and S. I. Smith; Greenland,—Möller.
- Aclis polita* V., sp. nov. Plate vi, figure 5, ×5 diameters. Eastport, Maine, 20 fathoms,—A. E. Verrill.
- Turbonilla elegans* V., sp. nov. Pl. vi, fig. 4, ×5 diameters. Vineyard Sound, 8 to 10 fath., shelly,—A. E. V., S. I. Smith.
- Stylifer Stimpsonii* V., sp. nov. On *Euryechinus Dröbachiensis* V., in 32 fathoms, off Long Island,—Capt. Gedney.
- Cæcum costatum* = *Cæcum Cooperi* Smith (non *C. Cooperi* Carp.), 1863. Pl. vi, fig. 6, ×24 diameters. Vineyard Sound, 6 to 8 fath.,—A. E. Verrill; Long Island,—Sanderson Smith.
- Doris bifida* V., this Journal, II, vol. 1, p. 406, 1871. Eastport, Me., and Savin Rock near New Haven, under stones at low water, laying eggs Oct., 1871,—A. E. Verrill.
- Doridella obscura* V., this Journal, II, vol. 1, p. 408, 1872. Near New Haven at Savin Rock and off South-end, 4-6 fath-

* The following species need confirmation: *Lepton fabagella* Con., Newport; *Yoldia Gouldii* (Dekay); *Tellina versicolor* Dekay (Stratford, Conn.,—Linsley); *Solen viridis* Say (Stonington,—Linsley; N. Jersey,—A. E. V.); *Fusus imbricatus* Dekay; *Littorinella levis* (Dek.) = *Rissoa Stimpsoni* Smith (Stratford, Dekay).

- oms,—A. E. V. and E. T. Nelson; Great Egg Harbor, N. J., 2 fathoms, shelly,—A. E. V., S. I. Smith, and J. E. Todd.
- Dendronotus robustus* V., op. cit., p. 405, fig. 1.
Eastport, Me., and Grand Menan,—A. E. V. and O. Harger.
- Cavolina tridentata*. Fresh shells dredged in 20 to 25 fathoms off Martha's Vineyard,—A. E. V., Dr. A. S. Packard.
- Styliola vitrea* V., sp. nov. Plate vi, figure 7, $\times 3$ diameters, off Gay Head, among *Salpæ*,—A. E. V. and Dr. A. S. Packard.
- Martesia cuneiformis* Adams, = *Pholas cuneiformis* Say.
New Haven, in shells,—G. H. Perkins, perhaps imported.
- Angulus modesta* V. Plate vi, figure 2, $\times 5$ diam.; 2^a, nat. size.
Vineyard Sound, 6 to 8 fath., and off New Haven,—A. E. V.
- Gastranella tumida* V., sp. nov. Pl. vi, fig. 3, $\times 16$ diam., 3^a, $\times 6$ diam. Off South-end, near New Haven, 4 to 6 fath.—A. E. V.
- Semele equalis*, = *Amphidesma equalis* Say.
Stonington, Conn.,—Linsley. This has not been found by recent collectors on this coast, and therefore needs confirmation.
- Cryptodon obesus* V., sp. nov. Plate vii, figure 2, $\times 3$ diam.
Off Martha's Vineyard, 20 to 25 fathoms, mud,—A. E. V., Dr. A. S. Packard.
- Cyclocardia Novangliæ* = *Actinobolus (Cyclocardia) Novangliæ*
Morse, first Annual Report of the Trustees of the Peabody Academy of Science, p. 76 (figure), 1869.
- Astarte lutea* Perkins, Proc. Bost. Soc. Nat. Hist., xiii, p. 151, figure, 1869. Near New Haven,—Perkins. The relations of this form are not yet fully ascertained.
- Modiola hamatus*. Pl. vii, fig. 3, $\times 2$ diam., = *Mytilus hamatus* Say.
New Haven harbor and vicinity, usually attached to oysters,—G. H. Perkins, A. E. Verrill; Gulf of Mexico,—Say.
- Cynthia pulchella* V., this Journal, III, vol. i, p. 98, 1871.
Eastport,—A. E. V.; Newfoundland Banks,—T. M. Coffin.
- Glandula arenicola* V., sp. nov.
Murray Bay, Gulf of St. Lawrence,—Dr. J. W. Dawson.
- Molgula retortiformis* V., this Journal, vol. i, p. 56, fig. 3, 1871.
Bay of Fundy,—A. E. V., S. I. Smith, O. Harger.
- Molgula papillosa* V. Pl. viii, fig. 4, $\times 2$ diam.; op. cit., p. 57, fig. 4 b, 1871.
Eastport, Me.,—A. E. V.; off Martha's Vineyard,—A. Hyatt.
- Molgula littoralis* V., op. cit., p. 56, fig. 4^a, 1871.
Eastport, Me.,—A. E. V., S. I. Smith, O. Harger.
- Molgula pannosa* V., op. cit., p. 55, fig. 2.
Bay of Fundy,—A. E. V.; Murray Bay,—J. W. Dawson.
- Molgula pellucida* V. = *Molgula producta* Binney, pl. 22, figs. 315, 316, but not the description (non Stimpson).
- Eugyra pilularis* V. = *Molgula pilularis* V.; l. c., p. 56, fig. 4 c.
Eastport, Me. and Grand Menan,—A. E. V. and S. I. Smith;
off Martha's Vineyard, 20 fathoms, mud,—A. E. V.

- Perophora viridis* V., this Journal, vol. ii, p. 359, 1871.
Wood's Hole and Vineyard Sound, low water to 10 fath.,—
A. E. V. and S. I. Smith.
- Amouroucium glabrum* V., this Journ., vol. i, p. 288, figs. 20–22,
1871. Eastport, Me. and Bay of Fundy,—A. E. V.; Murray
Bay,—J. W. Dawson.
- Amouroucium pallidum* V., op. cit., p. 289.
Eastport, Me. and Bay of Fundy,—A. E. V.; off Martha's
Vineyard,—A. Hyatt.
- Amouroucium pellucidum* V., op. cit., p. 290.
Point Judith, R. I.,—J. Leidy; Vineyard Sound, etc.,—A. E.
V., S. I. Smith, J. E. Todd.
- Amouroucium stellatum* V., op. cit., p. 291.
Vineyard Sound, Mass., 1 to 10 fathoms,—A. E. V., S. I.
Smith, J. E. Todd, H. E. Webster.
- Amouroucium constellatum* V., this Jour., ii, p. 359, 1871. With
the preceding.
- Macroclinum crater* V.; op. cit., i, p. 292, figs. 23–25, 1871.
Banks of Newfoundland,—T. M. Coffin.
- Lissoclinum aureum* V., op. cit., p. 444, fig. 26, 1871.
Eastport, Me.,—A. E. Verrill.
- Lissoclinum tenerum* V., op. cit., p. 445, 1871.
Eastport,—A. E. V.; Newfoundland Banks,—T. M. Coffin.
- Leptoclinum albidum* V., op. cit., p. 446.
Long I. Sound to Labrador; common in Vineyard Sound,
8–10 fathoms, on shells and stones.
- Leptoclinum luteolum* V.; op. cit., p. 446.
Vineyard Sound, 8–10 fath.,—A. E. V., S. I. Smith; Bay of
Fundy,—A. E. V.

BRYOZOA.

- Alcyonidium ramosum* V., sp. nov. Pl. viii, fig. 10, ×2 diam.
Long I. Sound, near New Haven, in 1 to 5 fath., common,
forming large, much branched, arborescent clumps, a foot or
more high,—A. E. V.; Vineyard Sound, Mass., and Great
Egg Harbor, N. J.,—A. E. V., S. I. Smith and J. E. Todd.

The following species have been found on the shores of Long
Island, but probably not in New England waters:

Donax fossor Say; *Arca ponderosa* Say; *Sigaretus perspectivus*
Say; *Diplothyra Smithii* Tryon (Staten I.); *Margarita ornata*
Dekay.

Changes in the Nomenclature of Species previously recorded.

It is not intended to revise, at this time, the entire list of
New England species; but merely to enumerate a few of the
more important and necessary changes. Mr. Dall* has already

* Proceedings of the Bost. Soc. of Nat. Hist., xiii, p. 240, March, 1870.

given a revised list of the species described in Binney's Gould, and has referred the species to the recently proposed genera of the Messrs Adams and others, but not always correctly, even if we admit the validity of the genera recognized by him. Corrections have also been made by others, which are here omitted.

Nassa vibex, var. *fretensis* = *N. vibex* (pars) Say; Binney = *N. fretensis* Perkins.

Astyris lunata = *Columbella lunata* (Say) + *B. Wheatleyi* Dekay (var.) = *C. Gouldiana* Ag.

Lunatia heros = *Natica heros* Say + *N. triseriata* Say (var.).

Elysiella catulus (gen. nov.) Plate vii, figs. 5, $\times 3$ diam., and 5^a, = *Placobranchus catulus* Ag.

Onchidoris tenella V., this Jour., vol. 1, p. 407, = *Doris tenella* Ag.

Onchidoris grisea V., l. c. = *Doris grisea* Stimp. (MSS.) in Gould.

Onchidoris pallida V., l. c. = *Doris pallida* Ag., in Gould.

Ensatella Americana (Gould, nom. prov.) = *Solen ensis* Gould (non Linn.)

Periploma papyracea. Plate vii, figs. 1, 1^a, $\times 4$ diam., 1^b, $\times 30$ diam.; pl. viii, fig. 1 (anatomy) = *Anatina papyracea* Say.

Turtonia nitida V. (sp. nov.) Plate vii, fig. 4, $\times 40$ diam., and fig. 4^a, = *T. minuta* Gould (not of European authors).

Astarte undata Gould (nom. prov.) = *A. sulcata* Gould, pars (not of European writers).

Astarte lens Stimp. (MSS.) = *A. crebricostata* Gould, fig. 440 (not of Forbes).

Astarte quadrans Gould = *A. quadrans*, + *A. Portlandica* Migh.

Pecten tenuicostatus = *P. tenuicostatus*, + *P. fuscus* Linsl. (young).

Anomia glabra V. = *A. ephippium* (pars) Linn.; Gould, + *A. electrica* Binney (non Linn.), + *A. squamula* Gould (non Linn.), young.

Ostræa Virginiana Gm. = *O. Virginica* Lam. + *O. borealis* Lam. + *O. Canadensis* Lam.

Leptoclinum luteolum V. = *Didemnum roseum* Binney (non Sars).

Botryllus Gouldii V., l. c. = *B. Schlosseri* Gould (non Pallas).

Molgula Manhattensis V., l. c. = *Ascidia Manhattensis* Dekay + *A. amphora* Ag.

Molgula psammophora V. = *A. psammophora* Ag.; Binney.

Eugyra glutinans V. (Möll. sp.) = *Glandula fibrosa* B., pars (species figured), not of Stimpson.

Glandula mollis Stimp. = *G. mollis* B., pars (not the figures).

Pera crystallina V. (Möll. sp., 1845) = *Pera pellucida* Stimp. 1852.

Cynthia partita Stimp. Pl. viii, fig. 7, = *C. partita*, + ? *C. rugosa* Ag. (MSS.) + *C. stellifera* V. (var.)

Cynthia carnea V. = *Ascidia carnea* Ag. + *C. gutta* Stimp. + *C. placenta* (pars) Pack. (species figured by Binney).

Cynthia monoceros (Möll. sp.) = *C. condylomata* Pack.
C. echinata (Linn. sp.) = *C. echinata*, + *C. hirsuta* Ag. (young).
Ciona tenella V., l. c. = *Ascidia tenella* Stimp. + *A. ocellata* Ag.
Ascidiopsis complanatus, gen. nov. (Fab. sp.) Plate viii, fig. 8,
part of gill, = *Ascidia callosa* Stimp.

[To be continued.]