XXVI.—Shells of the Littoral Zone in Jersey.—Supplement*.

By E. Duprey.

The littoral zone of the south coast of Jersey is the rich field that has yielded the following additional harvest of shells. The greater number are of small size, and have been obtained by sifting seaweeds about low-water mark and in rock-pools. Many have been found in fine shelly gravel, a few others in a peculiar and, I believe, hitherto unnoticed habitat.

Conchologists are well aware that the ordinary and common abode of a great variety of marine animals is under stones. But if such stones as lie flat upon the ground are often turned over and examined, those which are buried more or less deeply are overlooked. At first sight their appearance is not promising, especially when the upper surface alone is visible; yet I would invite attention to them when in the lower part of the littoral zone.

It may be found hard work to turn over stones buried 8 or 10 inches or more, and weighing upwards of a hundredweight; but a welcome reward will often follow. Surprising as it may seem, living under the ponderous mass delicate and rare little mollusks come into view, such as Argiope capsula, Chiton scabridus and C. cancellatus, Rissoa striatula and R. lactea, Adeorbis subcarinatus, and Arca lactea, this last rarely. I have also noticed an Ascidian, a Serpula, a Spirorbis, and a few sponges, one of which forms a thin brown velvety pile. These underground marine mollusks are mostly gregarious; and four or five species may be found living together. It is also worthy of notice that their shells are all devoid of colour, being whitish or stained with a ferruginous tint. Sometimes (as in the case of Rissoa striatula and R. lactea) the stones are imbedded in a firm clayey sand; but generally the ground consists largely of stones and pebbles, intermixed with sand and gravel and a little mud. Such a soil is easily permeable to water, but not shifting to any extent, as proved by the growth of algae and Zostera. A glance at one of the “good” stones when turned over is enough to show that only a portion of the under surface was in contact with the underlying soil. The other or “fertile” portion must have overlain a space filled with clear water, and formed, as it were, the roof of a miniature underground cavern. The force of the current above during the ebb and flood of the tide is no doubt sufficient to induce a slight flow of the water permeating the loose

* See the Ann. & Mag. Nat. Hist. for October 1876.
soil, thus supplying the wants of the little inhabitants, who, if deprived of light, live concealed, and thus protected, from many of their enemies. I may add that the shells of the Rissoas and Chitons are not worn, as must be the case if they were habitually rubbed against and forced through sand.

Beyond low-water mark, secure in this "buried habitat," these and other perhaps unknown species may long defy the efforts of the dredger.

Most of the species have been found alive; when otherwise, mention is made that dead shells only have been met with.

The nomenclature is that of Dr. Jeffreys's 'British Conchology;' and in this, as well as in my first list of Jersey shells, the more rare or doubtful species have been submitted to the kind inspection of Dr. Jeffreys.

**Brachiopoda.**

*Argiope capsula,* Jeffr. This minute shell, hitherto obtained only with the dredge, is also an inhabitant of the littoral zone on several parts of the coast of Jersey, where it is found in the "buried habitat" previously described; often in company with *Chiton scabridus,* *Adeorbis subcarinatus,* and other species. Gregarious and abundant, not unfrequently a hundred and more may be seen attached to the same stone. I have even met with it under some which were completely hidden from view beneath the soil. But the advancing tide will seldom permit one to pick them all from the rough surface, as this must be done one by one, for they are easily crushed. A brush does not answer. Full-grown shells are about 0.04 inch in length. The colour is white; but very often they have a rusty appearance, from being attached to a piece of ferruginous hornblendic rock.

**CONCHIFERA.**

*Lima subauriculata,* Mont. Valves only; they are not uncommon in shelly gravel,

*Mytilus modiolus,* L. Valves only.

*Modiolaria marmorata,* Forbes. As usual, in the skin or tegument of an ascidian affixed to the "roots" of a *Laminaria.* Also amongst seaweeds (young specimens).

*Crenella rhombea,* Berkeley. A few valves in shelly gravel in Pontac and Samarès Bays.

*Lepton nitidum,* Turt. Valves only.

—— *sulcatus,* Jeffr. In sittings; rare.

—— *Clarkiæ,* Clark. Found living in St. Aubin's and Samarès Bays. The young shells are transparent and glossy; the adults generally have a rusty appearance. Odd valves are not uncommon.

*Montacuta bidentata,* Mont. Dead shells in St. Aubin's Bay.
Kellia suborbicularis, Mont. This is a newly recognized inhabitant of the middle portion of the littoral zone, where it was first found by the Rev. F. Lallour in shallow rock-pools, nestling in the nooks and crevices in the thick calcareous crusts of Melobesia polymorpha. I have met with it on several parts of the coast in this habitat. This is perhaps a littoral variety; the incurrent tube of the animal is fully as long as the shell is wide, whilst the excurrent tube is sessile. My largest specimen is $\frac{1}{4}$ of an inch in breadth.

Axinus flexuosus, Mont. Found living in sand amongst Zostera with Lopipes lacteus and Lucina borealis (a small var.). Odd valves are very common in St. Aubin’s Bay.

Cyamus minutum, Fabr. In rock-pools amongst small seaweeds; far from common and of a whitish colour.

Cardium tuberculatum, L. Living, in St. Aubin’s Bay.

Cardium fasciatum, Mont. A valve only.

Circe minima, Mont. Living at low water in coarse gravel at La Rocque and in Samarès Bay.

Venus gallina, L. In St. Aubin’s Bay.

Lucinopsis undata, Penn. In gravelly sand at La Rocque.

Tellina pusilla, Phil. Dead but fresh-looking shells.

Psammobia tellinella, Lam. Besides the ordinary or coloured form, it also occurs of a pure white.

— Ferroënsis, Chemn. Living in St. Aubin’s Bay.

Donax politus, Poli. Sometimes of a uniform very light colour (one only).

Scrobicularia prismatica, Mont. Dead shells.

— alba, W. Wood. Living in sand.

Ceratisolen legumen, L. Dead shells only.

Solen pellucidus, Penn. A few specimens with S. ensis in St. Aubin’s Bay. Both species emerge quite out of the sand as the tide begins to rise.

Thracia papyracea, Poli. This and the next species have been found alive at La Rocque (Rev. F. Menard).

Corbula gibba, Olivi.

Saxicava rugosa, L. In default of limestone this boring shell avails itself of the thick calcareous crusts of Melobesia, where it is occasionally found in rock-pools not much below half-tide. Young and very small specimens are also found nestling in the crevices of pieces of cork (net-floats).

Teredo navalis, L. In timber from the lower portions of the old landing-stage in Victoria Harbour.

— megotara, Hanley, var. mionota. In floating timber, cast ashore.

— , var. subericola. This minute form is occasionally found alive or quite fresh in bottle-corks and net-floats left on the shore by the tide.

GASTROPODA.

Chiton scabridus, Jeffr. This newly recognized addition to the list
of British mollusks is not uncommon in the "buried habitat" before mentioned; as many as half a dozen occur sometimes under one stone. *C. cancellatus* is occasionally found with it. Adult specimens are \( \frac{1}{4} \) inch long. For description of animal and shell see the ‘Annals & Magazine of Natural History’ for July 1880.

*Cyclostrema nitens*, Phil. Not full-grown; in siftings from Samarès Bay.

*Trochus tumidus*, Mont. Dead shells are not uncommon in shelly gravel from about low-water mark in the same locality.

--- *cinerarius*, L., var. *pallescens*. Without coloured markings; corresponding with the variety *pallescens* of *T. umbilicatus*.

*Rissoa cancellata*, Da Costa. Found dead with *Trochus tumidus*.

Although a common Herm shell, I have not found it alive in Jersey, where in its place *R. lactea* is rather common. Of this last I have several times found more than a dozen, and once forty-three alive, under one stone.

--- *calathus*, F. & H. With *R. cancellata*, but more rare; dead shells only.

--- *inconsipicua*, Alder, var. *variogata*.


--- *fulgida*, var. *pallida*.

--- *semistiata*, Mont., var. *pura*.

*Hydrobia ulvae*, Penn. Rather small.

*Jeffreysia diaphana*, Alder. Obtained by sifting small seaweeds. My largest are hardly 0.06 inch long.

--- *opalina*, Jeffr. With the preceding; my largest are only 0.06 inch in length.

*Skenea planorbis*, Fabr., var. *maculata*.

--- *hyalina*.

These two varieties live amongst small seaweeds, whereas I find the reddish-brown or typical form in fine gravel.

*Homalogyra atomus*, Phil., var. *vitrea*.

Another variety has on the last whorl three reddish-brown bands on a light-coloured ground.

--- *rota*, F. & H. In siftings from St. Aubin’s and Samarès Bays and from Pointe des Pas. Occurs sparingly, and is difficult to find, on account of its extremely small size.

*Truncatella truncatula*, Drap. Dead shells.

*Aclis unica*, Mont. In siftings from Pointe des Pas. Rare.

--- *supranitida*, S. Wood. A dead specimen in fine shelly gravel.

*Odostomia nivosa*, Mont. In rock-pools.

--- *Lukisi*, Jeffr. Dead specimens.


--- *rissoidea*, Hanley, var. *dubia*. Dead.

--- *plicata*, Mont.

--- *diaphana*, Jeffr. Rare. (Near the Hermitage.)

--- *obliqua*, Alder. Rare. (St. Aubin’s.)

--- *Warreni*, Thompson. At St. Aubin’s and La Rocque.

--- *decussata*, Mont.

--- *interstincta*, Mont.
Odostomia interstincta, var. terebellum.
    The seven last species I have found dead only, in fine shelly
gravel from low water.
    — spiralis, Mont. Alive in a rock-pool in St. Aubin's Bay.
    — fenestra, Forbes. Dead.
    — pusilla, Phil. Dead only.
Ianthina rotundata, Leach. About the middle of July 1879, after
long-continued westerly winds, Ianthinas were cast ashore about
high-water mark. They were only half-grown; and the animals,
though apparently dead, were quite fresh. Nearly one third
had their float still attached. Many cartilaginous shields of
Velella were found at the same time.
Eulima intermedia, Cantraine. Dead and broken shells in Samarès
Bay.
    — distorta, Deshayes.
Velutina laevigata, Penn. A dead specimen.
Cerithiopsis tuberculatis, Mont. Amongst seaweeds and under
stones. Size very variable.
Murex erinaceus, L., var. melanostoma.
Defrancia linearis, Mont. Dead.
Pleurotoma costata, Donovan. Dead.
    — nebula, Mont.
Utriculus mammillatus, Phil. Dead.
    — truncatus, Brug.
    — obtusus, Mont. The dead shells are common; the living rather
    rare.
Bulla striata, Brug. A dead and rather worn specimen in St.
Aubin's Bay. Perhaps brought in ballast.
Melampus myosotis, Drap. Dead.
    — var. ringens. Dead.
Otina otis, Turton. I have found the empty but fresh-looking shell
in siftings from Pointe des Pas.

CEPHALOPODA.
Loligo media, L. Caught with a net near low water in St. Aubin's
Bay.

LAND SHELLS.
Limax arborum, Bouch.-Chant.
    — levis, Müll.
Testaceella Maugei, Fér. At different times the late Dr. M. Bull
found a specimen crawling at the foot of a garden-wall in St.
Saviour's Road; and I have since obtained several from that
neighbourhood. When full-grown the shell is half an inch in
length.
Helix concinna, Jeffr. Dead.
Achatina acicula, Müll. My specimens have been found in a
garden.
Cyclostoma elegans, Müller. Dead and empty, but with the operculum still closing the aperture.

This last, together with Helix concinna, Melampus myosotis and its variety, and Truncatella, I have found on the shore only, mixed with more common land-shells, a few days after a very high spring-tide. They were all full of air, very buoyant, and were left on the sand by the receding tide at its upper limit. May they not have been wafted over from the opposite coast of France by the strong tides and currents?

XXVII.—Descriptions of four new Species of Helicidæ.

By Edgar A. Smith.

The British Museum has recently purchased a small series of shells, said to have been collected at D’Entrecasteaux Island, off the south-east of New Guinea. Besides the new species about to be described, it includes examples of Helix Tayloriana, Adams & Reeve, = H. yulensis, Brazier, Helix Broadbenti, Brazier, and a very beautiful variety of H. cornucillum, Hombron & Jacquinot. It is rather larger than Reeve’s figure (Conch. Icon. f. 502), and has the black band twice as broad, and the lip much more expanded and of a pretty rose-colour.

Helix (Geotrochus) Tapparonei.

Testa imperforata, trochiformis, lactea, labrum versus lutescens, superne zonis tribus vel quatuor inaequalibus nubilo-rosaceis (una prope suturam interrupta) ornata, undique minute, oblique corrugata. Anfractus quinque, levissime convexi, celeriter acressentes, sutura lineari sequenti; spira concavissula, apice elevato, subobtuso, nigro; anfr. tertius et quartus infra suturam lacteis, inferne roseo suffusi; ultimus in medio acute angulatus, inferne paulo convexus, prope labrum subito valde descendens; apertura valde obliqua. Peristoma saturate nigrum, contractum, margine dextro insigniter bisinuato, aliquanto infra medium columellam versus acuto producto, vix expanso; margo columellaris latus, reflexus, vix planus sed leviter excavatus, in medio marginis tuberculis duobus parvis munitus, superne callo nigro longe intrante labro junctus.

Longit. 24 millim.; lat. maxima 38, min. 30.

I do not know any species sufficiently approaching that now described with which a comparison can be made. Helix Macgillivrayi has a somewhat similar indentation of the outer