

ON THE OCCURRENCE OF CREPIDULA FORNICATA, L., OFF THE COAST OF ESSEX.

By WALTER CROUCH, F.Z.S. (*Vice-President*).

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OF the family Calyptræidæ, so far as I am aware, only one genus and species has hitherto been recorded as occurring in Great Britain; *i. e.*, *Calyptræa sinensis*, of Linnæus. This marine mollusc is, I believe, mainly confined to the Southern coast and Channel Islands. I have taken live specimens off the coast of South Devon, and also near Weymouth, Dorset, where it is fairly common, and generally found attached to stones.

On the 6th of September, 1891, when staying at Brightlingsea, in Essex, I ferried over one morning to Stone Point, St. Osyth, there awaiting some friends who were staying at East Mersea, and had agreed to bring the boat over to the "hard" to fetch me; but the sea was very rough, rolling in from the German Ocean with a S.W. wind, making the estuary of the Rivers Colne and Blackwater choppy and dangerous. They dared not venture, nor would any boatman take me across, so I turned my attention to the shore and surroundings. The previous day I had found *Paludestrina ventrosa* by the thousand in the brackish water of the ditch of the Martello Tower on the Point.

In getting marine species I was not very successful, but I took a quantity of *Truncatella truncatula*, *Lacuna crassior*, and a few *Anomia ephippium*. The former were all on the underside of large stones, and had never before been recorded in Essex.

My surprise was great when on turning over a broken bit of oyster-shell (not a native), on the *Zostera* which abounds here and is rolled in like ropes by the sea, to find attached a *dead* shell of *Crepidula fornicata*, a shell common on the east coast of North America. I remained searching for a long time, picking up and examining every bit of oyster-shell I could see, but could not find another.

From later inquiries I ascertained that at some time young American oysters had been laid down here to fatten, but whether from the east or west coast I could not discover. That fact, however, sufficiently accounted for a non-European shell being found there, and I concluded that it had been brought over attached to the oyster. I was aware that French and Portuguese oysters had often

been laid down, but never before this that American ones were also employed for this purpose.

Having a meeting of the Essex Field Club next day at St. Osyth, and along the sea-wall, I exhibited the shell, and subsequently made a note of it in THE ESSEX NATURALIST (Vol. v., p. 260, Dec., 1891.)

I thought no more about this occurrence until the 4th of March, 1893, when I received a small parcel of marine forms from the Crouch river, taken by John Bacon whilst engaged in the oyster fishery on board a Burnham smack. Amongst the contents, fish, nudibranchs, etc., I found a living example of the same *Crepidula*, which he mentioned in his letter as a "Crow oyster on a Stone." It may be well to add that Burnham, close to which these were taken, is about sixteen miles in a straight line from Stone Point, and by sea round the coast of the Dengie Hundred and up the river, over twenty miles. I wrote back at once to Bacon to ask if this was the first shell of the kind he had seen, and requested him to look out for more; to which he replied: "I can remember these for fifteen to twenty years; although I have known them so long they are very scarce. I have caught them in different parts of the Crouch and Roach rivers. I do not know, nor do I think, that any American oysters or spat has ever been laid down in either of our rivers."

Later on he told me that he had heard they were fairly common in the Blackwater; but neither my friend Mr. Fitch, F.L.S., who knows the river well, nor myself, has ever caught it whilst dredging, though we have taken over fifty species of mollusca in that river.

On the 15th of April, Bacon sent me another live specimen, and one to Mr. Fitch; both of these were from oysters at the Ferry layings (Cricksea). My specimen died during the night, but I took it up the next day to the Natural History Museum to show Mr. Edgar A. Smith; and we there took out the animal and put it in spirit. The shell of this is very concave, and rich in colour inside, the septum pure enamel-white; and we then compared it with shells from North America in the Museum, which were practically identical.

When visiting Maldon, later on, Mr. Fitch gave me the other shell. It is larger, flatter, and the inside colour more mottled; and the oyster on which it was found is not a native, but a French one

laid down when about a year old. I have lately (December 14th, 1893) received another shell from Burnham-on-Crouch.

All these shells present considerable variability in shape, size, and colouring, much as the American specimens do, as they adapt themselves to the shape of the object on which they adhere.

I have compared the radula of one of these with the drawing by Troschel, to which it corresponds.

I may add that I received with the last shell a quantity of jelly-like spawn, which is said to be that of the mollusc in question.

It is certainly curious to find living specimens of a North American species on our shores. They have, no doubt, been introduced with oysters, have found conditions favourable for existence in our layings; and may even have propagated their species, although we have at present no certain evidence of this.

On reading some notes upon this subject at a meeting of the Malacological Society of London (*vide* Proc. Mala. Soc., Vol. i, p. 19), on the 14th July last, I was informed by Mr. H. Wallis Kew that some dead shells had been found on the Lincolnshire coast, in 1887-8, by Mr. Arthur Smith of Great Grimsby, who had recorded them in the [Yorkshire] "Naturalist" for 1888, p. 275. Mr. Smith's note is as follows:—

"While searching for specimens on Grimsby Beach, I found a shell which I did not recognise as being British, nor had I found or seen such a shell before. This was in November, 1887. Some weeks after I found another. I sent one to the Natural History Museum at South Kensington. It was kindly returned to me as *Crepidula fornicata*, a native of the east coast of North America, and I was told that it had possibly been thrown out of some ship with ballast, and then washed ashore; but as I continued to find specimens I could scarcely think this to be the case. After making inquiries I have learnt that they are brought from America with the American oysters, which are deposited at Cleethorpes for the use of visitors to this seaside resort in the summer season. As yet I have not found living specimens, although a friend assures me they are often adhering the shells of the oysters when first brought here."

The occurrence of this species is again mentioned by Mr. Kew in his "Shells of the Lincolnshire Coast" ("Naturalist," 1889, pp. 358, 359), and I have since had the opportunity, through his kindness, of seeing the shells which were taken in the Humber.¹

¹ I may add that Mr. H. Wallis Kew, F.Z.S., is the author of a very interesting book published recently, on "The Dispersal of Shells."