

ON THE HABITS AND DISTRIBUTION OF THE GEODUCK, A CLAM OF THE PACIFIC (*Glycymeris generosa*, Gld.), WITH SUGGESTIONS AS TO ITS INTRODUCTION INTO THE ATLANTIC COAST OF THE U. S.
(See page 21.)

By HENRY HEMPHILL.

DEAR SIR: I have your favor of September 30, making inquiries in regard to *Glycymeris generosa*, Gld., as to its value as an article of food, and the possibilities of acclimatizing it on the Atlantic coast, &c.

In reply I would say, I think it would be a most desirable addition to our list of edible clams, first, on account of its large size, and, second, for its delicacy and rich flavor, which, when it became generally known, I do not hesitate to say, I think would make it more highly prized than any other bivalve. Unfortunately, however, it seems to be quite rare, although it has a wide range upon our coast. I have collected it in Puget Sound, near Olympia, and here, in San Diego Bay; it is also said to be found near San Francisco Bay, and it is very probable that it exists in all the intervening bays and points where favorable conditions are to be met with. Its variety, however, may be more apparent than real, as its habits and the conditions under which it lives are such as to make it difficult to find, and when found, it is obtained only by hard labor during extreme low tide. Its station, both in Puget Sound and San Diego Bay, is about the same, at extreme low tide. At Olympia I noticed the siphons of several individuals protruding above the surface of the bottom in about one fathom, and it is not improbable that it ranges to much greater depths. In both places it also selects about the same kind of bottom to burrow in, namely, muddy sand, generally free from gravel. It burrows about $2\frac{1}{2}$ or 3 feet below the surface. It can be found only when it protrudes its pipes above the surface, after the tide has run out. The receding tide fills up the holes made by the siphons with sand and mud, and if they did not move them it would be impossible to find them. The specimens I collected in Puget Sound were much larger than the specimens I collected in San Diego Bay, and it may be possible that the cooler or northern waters furnish more nutritious or more abundant food than the warmer or more southern stations. On account of its large size, thin shell, and rich flavor, it may be eagerly sought after by many marine animals, and that matter should be taken into consideration if an attempt is made to colonize it on the Atlantic side. The largest specimens I have seen would, I think, furnish about one pound or more of good delicious flesh, enough for four or five persons to eat at one meal. I think its flesh too rich to permit of regular stuffing or gormandizing, although I ate quite heartily of it for several successive meals, and experienced no bad or disagreeable sensations afterwards. I think it would be esteemed more as a delicacy than a regular everyday diet. I can see no good reason why it could not be acclimatized on

the east coast. From its wide range on this side, I think it capable of readily adapting itself to almost any ordinary conditions, and it is very probable that many localities can be found on the Atlantic coast just as favorable for its development and existence as occur within the limits of the twelve or fifteen hundred miles of its range on this side. Puget Sound would be the best place at which to secure specimens. It is very rare at San Diego. I have not found a dozen specimens during the several years I have collected here, while at Olympia three men could secure a dozen at one low tide or in one day. The greatest difficulty to overcome in attempting to colonize it on the east side would be found in the long time it takes to cross the continent and in having it reach its destination in strong and vigorous condition, so that it would be able to struggle successfully with any difficulties that might occur in its new home. Since receiving your letter I have thought that point over, and the following has suggested itself to my mind as probably the best plan that could be adopted to insure success: Have galvanized iron tanks made, two feet square and three feet high; have strong handles attached so that they could be moved without jolting or jarring; attach a faucet, say, one foot below the top to draw off the water when necessary. Cover the bottom of the tanks with muddy sand, say, six inches deep; place the specimens on the sand in their natural positions, siphons up; then fill in again with the muddy sand, covering the specimens about one foot deep; then fill the tanks to the top with sea water. Draw off the water once or twice every twenty-four hours, letting it remain off, say, half an hour each time, so as to keep up the natural conditions as nearly as possible. A supply of sea-water would have to be taken along, while crossing the continent on the cars, and this should be carried in galvanized iron tanks or tin cans, as water remaining in wooden vessels, barrels, &c., for several days becomes more or less charged with acids which might prove destructive to the animals and defeat the plan. Having selected a place for the colony, dig down, say, eighteen inches and place the specimens in their natural positions, siphons up, then fill in around the specimens, and drive a stout stake near each one, noting the distance and direction, so that they could be easily found when desirable. They should be closely watched for several successive tides, and observations made on their movements, &c. This method would be quite expensive, but it is the only one that has occurred to me which I think would prove successful. The shells are large, and the length of time it takes to cross the country would prove destructive, if they were kept out of the water so long. I believe this covers about all the information I can give on this subject, and if it will serve any scientific purpose, or add to the knowledge of these lowly animals, I shall be much pleased.

SAN DIEGO, CAL., *October 17, 1881.*