

held in place by the flat oval chelæ which are tightly clasped over it. At the opening it stretches out as far as it can reach without leaving the burrow, and dropping the armful of sand it smooths it down until it is level with the surrounding surface. This process is then repeated until the burrow reaches a great depth, for I have dug for three or four feet without reaching the end, and all the specimens which I kept in confinement burrowed to the bottom of the aquarium.

When the burrow is finished the animal spends most of its time near the top, and as the semicircular exopodites of the abdominal appendages complete the outline formed by the convex dorsal surface, it completely fills the circular tube, into which the constantly vibrating scoop-like abdominal appendages carry a continuous current of water, which escapes through the loose sand.

The whole organisation of the species,—the convex body, the semicircular swimmerets, the small closely approximated eyes, and the broad flat claws,—adapt it for its mode of life, and it is doubtful whether any other species is more completely subterranean in its habits. Although it is very common at Beaufort, I have captured only one specimen while swimming, and it very rarely ventures more than a few inches from the burrow.

Its movements when seizing its prey are so rapid that the eye can scarcely follow them, and the attempt to cut off its retreat with a trowel usually results in cutting the animal in two, although this is the only method of capturing them which I have found at all successful.

This species, when kept in confinement, makes a faint stridulating noise by rubbing the uropod against the lower surface of the telson. *Squilla empusa* stridulates vigorously in the same way, and its habits, which I have also had an opportunity to observe, are quite different from those of *Lysiosquilla excavatrix*. It is very active, swimming swiftly through the water, and pursuing its prey to a great distance from its burrow, so that it is frequently captured in the water by the trawl or sein. It inhabits muddy rather than sandy bottoms, and its burrow is a shallow U-shaped tube, open at both ends, and excavated entirely by the action of the current of water which is set up by the abdominal appendages.

*Ontogeny.*—*Lysiosquilla excavatrix* is one of the few Stomatopods which have been traced through their metamorphoses, and the fully grown larva, which is a long-spined *Lysioerichthus*, is shown in Pl. XI. figs. 1–3.

I shall show in the section on Stomatopod larvæ that it probably hatches as an *Erichthoidina*, with five pairs of biramous thoracic appendages; the sixth, seventh, and eighth thoracic somites distinct but without appendages, and the telson joined to the last thoracic somite with no intervening abdominal region. In the youngest *Erichthus* stage, however, there is a long segmented abdomen with four pairs of fully developed appendages, and the thoracic somites from the third to the eighth have no appendages, while those of the first and second thoracic somites have their adult form. The lateral edges of