

seem to absolutely require, for their welfare, subjection to a temperature almost as low as freezing point. They also survive, as we have seen, extremes of dryness. It would appear from Carl Semper's experiments that the eggs of *Artemia* must be both dried and frozen before they will pass through their normal embryonic changes. Thus does Nature exhibit to us her strange paradoxes! The two most hurtful and fatal influences, so far as the eggs of most aquatic animals are concerned, appear in the Phyllopods to be the necessary and most favorable conditions for development. Under these conditions the eggs may remain for lengthy periods without hatching out. Semper, for example, obtained eggs of *Artemia* in dry mud in 1872, but the young brood did not hatch out for five years. *Branchipus* eggs were kept in like manner, in dry mud, from 1867 until 1877, and after this long period of dessication, and apparent dormancy, produced the nauplii, or young of *Branchipus*, in the normal manner. Experiments of this nature with the eggs of *Lepidoptera* and other Arthropods ended always in fatal results. It is a curious fact that the eggs of *Branchipus* flourish under great extremes of temperature. They will freely hatch out in any temperature between 32° F. and 86° F.; but at the latter temperature the young nauplii emerge in about twenty-four hours, whereas at a point midway (58° F.) they take several weeks to hatch.

With such wonderful powers of endurance, so far as its eggs are concerned, it is no matter of surprise that *Branchipus* thrives in the shallowest ponds—mere rain-pools in fact—which are frozen into solid sheets of ice, or dried up into cakes of hard mud. Each winter and each dry summer sweeps away the whole race of adults: but the eggs survive as fine dry dust. The mummified and frozen eggs are caused to hatch when the appropriate season comes, though several seasons may clapse before the new generation bursts forth from the shell. Intense summer heat or an unseasonable return of frost may suddenly cut off the brood in the midst of their activity; but their eggs sink into the underlying mud, and endure for one or for many seasons until