

inner side, converting them into effective paddles. At the base of the mouth, projecting like a rostrum, are the two simple ocelli, black eye-spots, one on each side, provided with a thick translucent cornea, a thickening of the integument.

Authorities state that *Hydrachna* has no heart, but that the blood is forced from one part of the body to another by the irregular motions of the alimentary canal and the muscles of the limbs, as the animal is most restless and in constant movement. Breathing is effected by small rudimentary tracheæ, though certain mites breathe by means of the skin. Some of the species allied to *Hydrachna* are parasitic in water-beetles and aquatic Hemiptera, others spend all their lives (young and adult) in fresh-water mussels (*Unio*, &c.). Most of them live in ponds and streams, but others, like *Pontarachna*, are marine. The relationship of these interesting creatures to the true spiders, the scorpions, the false-spiders or "harvest-men," the whale-lice or *Pycnogonidæ*, the Chelifers and the Tardigrades or water-bears, gives importance to any feature in their structure or life history. If, as some authorities hold, *Limulus*, the King-crab, be really an Arachnid, the Hydrachnidæ or water-mites, have very ancient phylogenetic connections.

EXPLANATION OF FIGURE ON PAGE 100.

SCARLET OVA OF THE RED WATER-MITE, *Hydrachna*.

1. Three eggs attached by facets to each other amidst *Confervæ* $\times 90$.
 - a. Scarlet vitellus or yolk-ball.
 - b. Thin membrane around the vitellus.
 - c. Pitted chorion or egg capsule.
2. Portion of external capsule more highly magnified.
3. Group of eggs attached to twig. Natural size.