

A third example of this disposition, in an animal belonging to the same class of Crustaceans, whereby the legs are reduced to soft paddles, and combine the functions of respiration with those of locomotion, is afforded by the *Branchipus stagnalis*, (*Cancer stagnalis*, Lin.), of our English ponds, (see Pl. 45, Figs. 3, e. 4, e. 5, e.)

In the comparison here made between four different families of Crustaceans, for the purpose of illustrating the history of the long extinct Trilobites, by the analogies we find in the Serolis, Limulus, and Branchipus; we have a beautiful example, taken from the extreme points of time

horny transverse plates (Fig. 2, e. 2, e'. and 2, e'') supporting the fibres of the branchiæ, and at the same time acting as paddles for swimming. The same disposition of laminated branchiæ is found also in the Serolis, Fig. 7. e. Fig. 8, is a magnified representation of these laminated branchiæ, very similar to those at Figs. 3, e. and 5, e.

Thus while the Serolis (Fig. 7) presents an union of antennæ and crustaceous legs with soft paddles bearing the Branchiæ, we have in the Limulus (Fig. 2), a similar disposition of legs and paddles, and only slight traces of antennæ; in the Branchipus, (Figs. 3 and 5,) we find antennæ, but no crustaceous legs; while the Trilobite, being without antennæ, and having *all its legs* represented by soft paddles, as in Branchipus, is by the latter condition placed near Branchipus among the Entomostracous Crustaceans, in the Order of Branchiopods, whose feet are represented by ciliated paddles, combining the functions of respiration and natation. At Pl. 45, Fig. 3. e, Fig. 4. e, Fig. 5. e, represent the soft branchiæ of Branchipus, performing the double office of feet and lungs.