Palaemon is a fresh water Prawn. It performs respiration by 3 organs.

1. Gills or Branchiae
2. Epipodites
3. Lining of branchiostegites

1. Gills or Branchiae:

1. There are eight pairs of gills.
2. They show semi-lunar shape.
3. They are arranged vertically one, behind the other in a row.
4. The third pair of gills are the smallest.
5. The gills are attached by their middle part to the body, which is called root.

According to their attachment three types of gills are seen in Palaemon.

i) Podo branches: The gills are attached to podomere. Ex: The first pair of gills are attached to the coxae of the second maxiiii pedes.

ii) Arthro branches: These are attached to the arthrodial membrane which concects the appendage to the body. Ex: The second and third pairs of gills are attached to the arthrodial membrane joining a limb with the body.

iii) Pleuro branch: The gills are attached to the lateral walls of the body. Ex: In Palaemon 5 pairs of gills are attached to the lateral walls of the thorax, one above each walking leg.

Structure of gill:

1. A gill consists of a narrow 'vertical axis' with two rows of thin "gill plates".
2. The gill plates of each row are arranged like the leaves of a book.
3. Such gills are called phyDobranches.

1. Axis and Blood Supply:

1. The axis of the gill contains a central core of connective tissue.
2. It has three longitudinal blood channels. Two are lateral longitudinal channels.
3. The third one extends beneath are groove between the rows of gill plates and is called median longitudinal channel.
4. The lateral longitudinal channels are connected together at intervals by transverse channels.
5. The transverse channel present opposite to the root of the gill receives the afferent braftchial channel which brings deoxygenated blood from the body.

6. Each lateral channel gives off a slender marginal channel to each gill plate of its side.
7. It opens into the median longitudinal channel.
8. The median longitudinal channel gives of the efferent branchial channel that carries oxygenated blood to the pericardial sinus and the heart.