

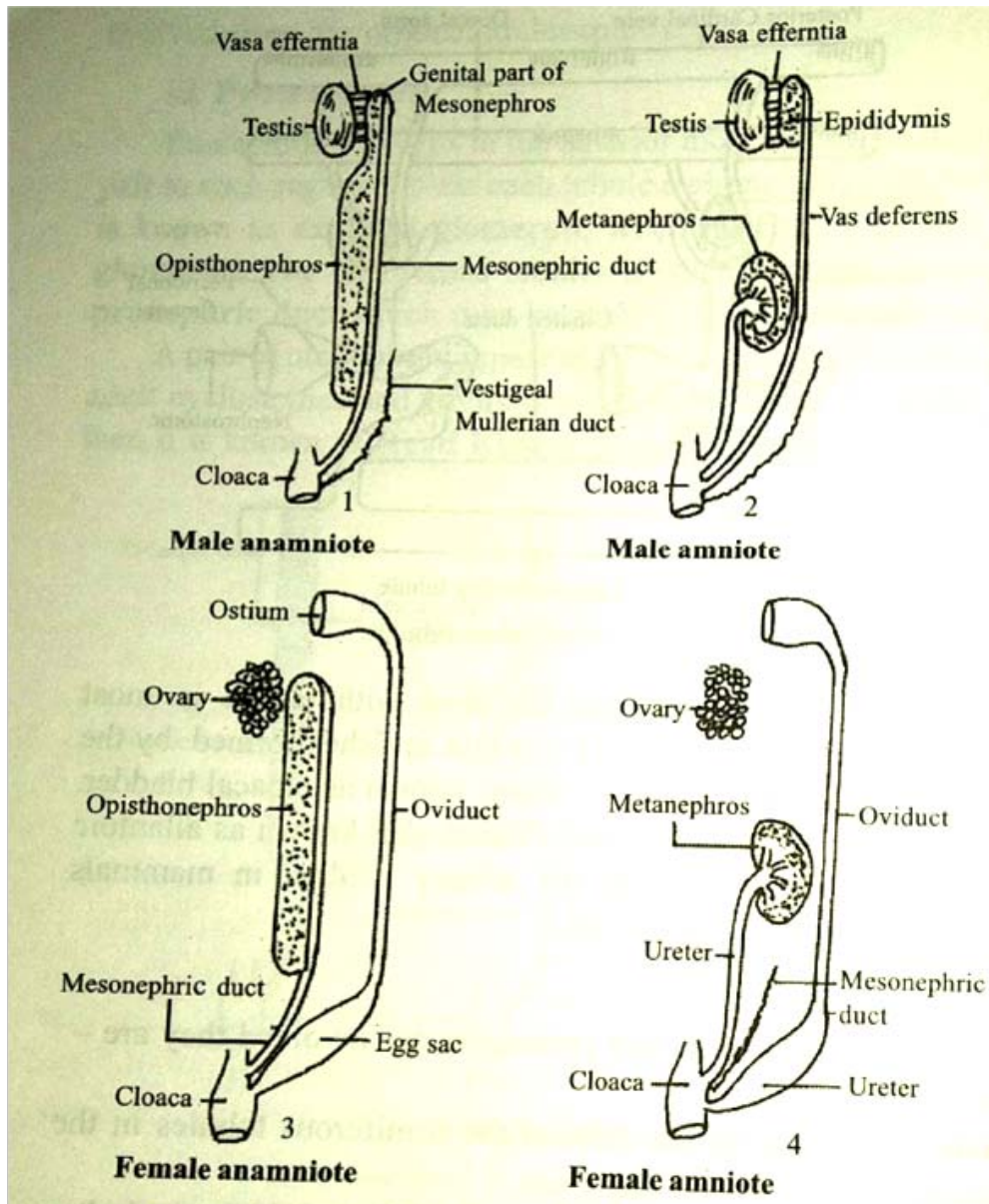
Modification of urino-genital ducts

Wolffian duct :

Mesonephros develops from that part of the nephrotome which lies behind the pronephros. At first it consists of a segmental uriniferous tubules, each with a peritoneal funnel opening into the coelom and a glomerulus enclosed in a Bowman's capsule. These mesonephric uriniferous tubules join with the existing pronephric duct on each side. These ducts are now known as **mesonephric duct** or **Wolffian duct**. In **anamniotes** the anterior portion of mesonephric kidney comes to serve as the male genital system. The uriniferous tubules of the anterior portion of mesonephric kidney connect with vasa efferentia. Thus the mesonephric kidney of adult anamniotes has an anterior genital portion and posterior renal portion. The mesonephric duct or Wolffian duct is now converted into **Urogenital duct**, it serves both as a urinary duct and as a vas deferens for sperms. In **amniotes** the metanephric kidney has its own ureter and so the Wolffian duct here has lost urinogenital function and retained only the genital function which has been separated from urinary function of an aminotes. In amniotes the Wolffian duct is converted into an entirely **genital vas deferens**.

Mullerian duct:

It has been seen that in anamniotes the male sex organ the testes is associated with kidney but in female anamniote the ovaries are never connected with the kidneys, nor are they connected with their ducts in most vertebrates, hence ova pass into the coelom after being discharged. In female anamniotes a coelomic funnel is formed from the nephrotome. The funnel grows back to form a groove on each side and ultimately the groove becomes closed to form a duct known as oviduct or **Mullerian duct** which lies on the outside of the mesonephric duct and runs backward to join the cloaca. A Mullerian duct also appears in the male but it is suppressed by androgen hormones and it soon becomes vestigial. Thus there are two ducts on each side in female anamniotes, a Mullerian duct acting as an oviduct and Wolffian duct serving as a ureter. In female amniotes the development of **Mullerian** and **Wolffian** duct is the same as in amniotes but as the metanephros has its own ureter so the Wolffia duct degenerates leaving only vestiges the Mullerian duct persists as an oviduct.



Fate of Mesonephros in anamniote and amniote