

Welcome students to the ninth module common characters and sexual dimorphism of fresh water and aquarium marine aquarium fishes like in this module we will be discussing about swordtail this particular module is from the second unit of aquarium fish grouping biology of aquarium fishes outline introduction to swordtail ecology and behavior of salte sexual dimorphism of certain variants of swordtail and economic importance of sorting will be discussed in this module learning outcomes at the end of this module the student will be able to state the classification behavior and ecology of saw tail describe the features of saw tail explain sexual dimorphism and swordtail cite examples of selectively bred variants of saw tail list the economic importance of salty introduction saw tale as well known as a very common aquarium fish very pretty looking fish it belongs to the family poeciliidae day of life bearing tooth cups live perils are those fishes in whom there is internal fertilization so the eggs are fertilized internally and incubated and then the young ones are hatched or given birth tooth cups are those carps or those fishes which have teeth in their upper as well as lower jaw so sawteel belongs to this family having this two particular characters and characters to be precise now the sword tail is named so because of the sword leg extension which you can see in this particular picture the sword is formed from the lower rays of the caudal fin the lower rays of the caudal fin they get modified and it forms the sword now the sword is present only in the males and not in the females this fish is native up to north and central america its average lifespan is about five years but if it's uh well looked after then it can live for more than five years it's a very active fish very peaceful fish and it's also a good jumper so it's always advised to keep the aquarium covered when you are housing the salt dudes saute belongs to phylum caudata class actinopterygii order cyprinodontiformes family poeciliidae genus *Xiphophorus* species *Xiphophorus birchmanni* in this picture you can see the wild type the wild type saw tail which is which has a greenish hue okay there is a red line here in the center on either side of the on the lateral sides ecology and behavior saw tails are known to inhabit fast flowing streams rivers around vegetation they like lotic waters which are high in dissolved oxygen they are omnivorous inhabit that is they feed on worms crustacean insects molasses whatever available animal matters there and also on plant matter they have been the pelagic in nature that is you find that in the benthic waters as well as in the pelagic waters depending on the uh the time of the day they will be either in the pelagic waters or in the benthic waters in the natural environment the male sometimes exhibits territorial behavior that is in a aquarium tank if you are housing saw tales it is advised to put one male to about four to five females if there are more males than the males tend to be aggressive and they exhibit territorial behavior sex reversal sex reversal is seen in female sword tales the female saw tales if they get infected or if they undergo some mutation they change their sex to the male sex and then they develop the sword which is characteristic of only the males so sex reversal is seen in female saw tales which undergo the sex change and become physiological male 1 characteristic features the native species which you can see in the diagram here it's a diagrammatic representation of the saute the native salt tail it has an olive green body with a red or a yellow stripe and silver belly the yellow stripe or the red stripe is present on the lateral side on both the lateral sides and sometimes the fish may have some speckles the speckles may also be present on the dorsal fin usually they are restricted to the dorsal side but sometimes to the dorsal fin also you'll find the speckles the sawtail is a moderate sized fish it is sturdy it has a slender elongated body their size ranges from about 11 to 16 centimeter they do not grow very big they have two pairs of paired fins that is pectoral paired pectoral fins and paired pelvic fins and three unpaired fins that is the dorsal unpaired fin the caudal fin and the anal fin also the males have something called as the gonopodium sexual dimorphism and sautes now this picture you can uh very well see the pronounced difference in the male and the female saw tail the males have something called as the sword which is not their present in the female the females also tend to be larger than the males the males are slender and they are elongated whereas the females are broader and broader and a little rounder the anal fin is modified in the male to form the gonopodium the

middle the lower middle rays the middle rays of the anal fin they get modified to form the gonopodium which is used to transfer the sperms during the breeding season during the breeding time the sperms are transferred by means of the gonopodium into the female body cavity the anal fin in the female is fan shaped not modified into anything also as have mentioned earlier there is the formation of the sword which is the form from the modification of the dorsal fin in this picture also you can see the sexual dimorphism you can see the spawning patch the silver belly of the female and the male has the sword this is the most common uh sortil which is found in the aquarium shops it's also called as a marigold saute so for porous hiliary is the scientific name variance of saltile now due to selective breeding and some mutations different colors and exaggerated fin has been developed in a saw tail okay in this particular picture you can see it's it is the lighter tails or tail okay layer tail meaning the tail has been modified to form two swords two there are three lobes of the caudal fin and two lobes are elongated to form the sword whereas the normal or the natural habitat you find only one sword but because of human intervention or manipulated breeding selective breeding you have the development of two swords besides the layer tails or till there are different varieties some are stated here the berlin swordtail which happens to be red in color with black spots the frankfurt saw tail which is red on the front half of the body and as black on the back half then you have the hamburg saw tail which is mostly black in color with the yellowish fins and the scales on the sides are shiny greenish or bluish metallic sheen economic importance the sawtel is used as a model organism for genetic research a lot of chromosomal animal anomalies are started in using this fish as a model organism it is it happens to be also a very very popular ornamental fish worldwide not only in india everywhere the sortil happens to be a very pretty looking fish because of the different colors and fin which is present also sortil can be used as a bio control agent against mosquito larvae and some countries uh this particular fish was introduced as a bio controller agent but it has become invasive in those countries so you have to uh take care while using it as a bio control agent other things which have to be taken in into consideration when you're using or when you're housing the sortilino aquarium is that it goes very well with mollies guppies or platies even angelfish only what is to be avoided is that cichlid fishes are to be avoided along with the sautes and whereas the diet is concerned you can feed them commercially available granulated feed or flake feeds but sometimes it is recommended to supply some live feed live food also some vegetable material these are the references you can refer the references or to prepare your study material