

Welcome to this session on

biology of aquarium Fishes.

This session will be discussing

the common characters and sexual

dimorphism of freshwater and marine

aquarium fishes such as Molly.

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Science and Commerce for women.

And this session will discuss the

characters of *Poecilia sphenops*,

which is a scientific name for common Molly.

The distribution,

biology and ecology of common Molly

and the sexual dimorphism in Molly.

At the end of the session,

the student will be able to summarize

the family details of Poecillidae,

explain the characters and biology

of *Poecilia Sphenops* and understand

the sexual dimorphism in Mollies.

Family poecillidae are characterized

as live bearers, and they give

birth to live free swimming young.

The etymology is Greek in origin,

poecilos means a condition

with different colors.

All fishes of this family are livebearers

except for the genus *Tomeurus*,

which are egg layers.

Poecillidae are characterized by small

fishes with laterally compressed bodies,

and they lack a lateral line.

These features are native to the Americas,

such as Jamaica, Barbados,

Brazil and Trinidad.

They inhabit the freshwater

and brackish water,

but are also reported from coastal waters.

Poecillidae family is represented

by 44 genera and 349 species.

These include the well known
aquarium fish is such as guppies,
mollies, platys, and swordtails.

Now all these are live bearers.

There are numerous advantages
of livebearers as the newly born
juvenile fish are larger than the
newly hatched fry of the egg layers.

Now these since their sizes larger,
they have a lower chance of mortality
by predation from their parents
or due to natural causes and they
are easier to care for as they
can be fed the adult fish food.

Now, in the case of Mollies,
it is better to separate the
Pregnant female as soon as she has
released the young ones because
there is a tendency of the adults
to feed on the young ones so it's
always better to separate out the

Female after she has released the offspring.

Poecilia sphenops was described

by volunteers in 1846.

The name Common Molly.

These species belongs to

the class actinopterygii,

which are a Ray finned fishes order

Cypridontiformes.

Which stands for toothed carps

and family poecillidae.

The IUCN Red List of this animal

has not been evaluated.

Now here you can see the image.

This is Poecilia sphenops.

It has an oblong body, rounded body.

This is a female here with a small head.

The head region is very small and

it is dorsoventrally flat and.

The caudal peduncle is around this region.

Here is the caudal peduncle.

The region between the body and the

caudal fin is the caudal Peduncle.

It is rounded.

The jaws are protruding and

they're slightly upturned now.

These fishes are omnivorous,

inhabit and predominantly feed on algae,

but they can also survive an insect.

Larvae and floating vegetation

so they pick up the food which is

floating on the surface of the water,

with their upturned mouth.

There they have a rounded

dorsal and caudal fin.

White varieties of mollies

are red and some are reported

to grow up to 20 centimeters,

but more or less their size.

The standard size of Mollies is

between five - 13 centimeters,

very with the exception of a few,

which grew up to 20 centimeters in the wild.

Now wild varieties are very dull colored.

Here you can see this is a wide

variety of poecilia sphenops.

It is very dull colored with few

spots scattered spots on the body.

This is one of the spots on the body.

This particular image is of a male

Molly and you can see the gonopodium

which is the modified anal fin.

It has a rounded dorsal and caudal fin,

and in the case of wild varieties

these friends have a yellow margin,

bright yellow margin and dull

silver colored body.

The molly is distributed in Central America.

There is countries of Colombia and Mexico.

And introduced populations have been found

in the Caribbean islands that have been

successfully introduced in Europe and Asia.

As aquarium fishes, so most of the

colorful varieties of mollies are

are introduced in Europe and Asia.

Now these are shallow water inhabitants,

and primarily feed on algae

and other plant matters,

but they can also feed on insect larvae.

They can thrive in oxygen depleted waters.

If you remember that their mouth is upturned

and they mostly are close to the surface.

So in oxygen depleted waters,

they can pick up the oxygen from the surface.

Now they occur in Shoals

under floating vegetables.

Now there is a distinct difference

between fishes that form Shoals.

And fish is that form schools.

Schools is when they go in a

particular direction while Shoals.

Are formed

As a social interaction now in the

case of Mollies, they're gregarious,

or they're very playful.

Fish is, and they prefer to form shoals.

They are known to control mosquito populations by feeding on mosquito larvae.

Now, artificial varieties of Molly have been bred, and they are successful aquarium fish is an often they're reared artificially.

The minimum tank size required for Mollies is around 60 centimeters.

An optimum growth conditions being temperature of 21 to 28 degrees centigrade with a pH of 7 to 8.5.

Now these artificial varieties are highly adaptable to a wide range of environmental fluctuations.

That is the reason they have been found in South southern Caribbean and Europe and in Asia.

Applied ecology of Mollies.

Now there are several artificial varieties which are commercially

sold throughout the world.

But of all these,

the black Molly is the most

popular aquarium fish.

And in the Canadian know,

Molly can be easily fed green algae,

or it readily accepts dry food.

Now this is an image of a

black lyre tailed Molly.

So there is a variation in

the caudal fin of this Molly.

You can see here this is

the lyre shaped tail, now,

lyre is a musical instrument,

and this Molly has been named

after that instrument.

There is a lyre, tailed Molly,

and in this case also it is a male,

and you can see clearly hear

the gonopodium again.

The oblong body,

an slight difference in coloration,

overall body which has scattered spots.

Sexual dimorphism is the morphological difference between individuals of different sexes within the same species and as

I said as we discussed for guppies,

sexing is easier among the livebearers

and the guppies and mollies have

similar characteristics when it comes

to differentiating among the sexes.

Now, in the case of.

Molly is also the females are

larger than the males.

Here the female grows up to 12 centimeters,

while the male will grow only

up to 8 centimeters,

and the males are again more

colorful than the females.

The male, as we said earlier,

possesses a gonopodium.

This is the anal fin.

It is a modified anal fin which is
in the form of a cube shaped structure.

It is a modified anal fin which is in
the form of a cube shaped structure.

Now this organ is responsible for
transferring the sperms into the female.

And the female is distinguished by
the presence of the gravid spot which
developed when the female matures.

And as the female is closer to birth,
it darkens in color.

Now among the spotted mollies it is
difficult to distinguish the spots.

But when the female is retaining the eggs,
it is easier to see the gravid spot.

Now this is a Dalmatian, Molly.

It is a male Molly and you can
see the elongated dorsal fin or
patterned body with a small head,
rounded caudal fin and the gonopodium,
which is here modified anal fin.

fin in the female Molly.

You can see the dorsal

fin is slightly shorter.

Coral finish rounded and the

anal fin is rounded.

These are my references.

Thank you.