

I'm Socorrinha DCosta and now we have module 2

of unit 1 that is kingdom protista and this module deals with general characters of phylum protozoa so basically in this module we are going to describe the general characters of phylum protozoa and see a few common examples of this protozoans and at the end of this module we will be able to explain the characteristic features of phylum protozoa so let us start with the general characteristic.

the word protozoa is derived from the greek word protos which means very first and zoon which means animal so now that you are familiar with the history of animal classification we know that protozoan no longer may be regarded as the very first primitive animal. on the slide

you can see images of a few protozoans you can see the paramecium you can also see a colony of vorticella and here you can see the trypanosoma which is found in the blood so these are a few of the common examples of the protozoans

so protozoans occur in aquatic environment fresh water as well as salt water and you also find it in moist soil now there are exceptions wherein some protozoans may occur in very extreme conditions also but they are exceptions other than that the protozoans need moist environment to grow and develop they are generally microscopic in size and they are very simple with the protoplasmic grade of organization so all the basic functions needed for their survival are carried on in their protoplasm they are unique cellular with no tissues no organs they could be solitary like the paramecium you can see over here or they could be colonial like how you had seen in the vorticella colony they have variable body shape and symmetry now the body may be naked or it could be covered by a thin covering which is known as the

pelican some of the protozoans  
also show skeletal layers  
now if there are unfavorable condition  
then the protozoan may form a  
cyst around them and go in a dormant  
stage  
and it will become active once the  
favorable condition  
Return. Some other protozoan can also  
show what is known as theca so you can  
see in the image over here theca is  
nothing else but  
closely fitted plates of cellulose  
these are known as the theca still  
others  
can show what is known as lorica so as  
you can see in the image  
lorica it's a gelatinous film  
and it is less closely fitted  
compared to the theca it has an  
opening  
at the anterior end and  
base may be attached to the substratum  
the  
other skeletal structure which can be  
seen in some of the protozoans  
is known as the test or the shell.  
it is very loosely fitted around the  
protozoan and it has  
more than one opening so these are some  
of the skeletal structures  
which some of the protozoans showed  
now all protozoans possess nuclei  
this nuclei could be single they could  
be multiple  
they could be of same size structure  
or they could be macronuclei and  
micronucleus  
macronucleus would be slightly bigger  
and it is also known as the  
somatic nucleus and it plays a role in  
the metabolic activities  
whereas the micronucleus would be the  
smaller nucleus  
which is known as generative nucleus and  
it plays an active role in sexual  
reproduction  
then the nucleus could also be vesicular  
or it could be compact so the  
micronucleus of paramecium caudatum  
would be a  
vesicular nucleus wherein it would have  
a distinct nuclear membrane  
nucleoplasm with nucleoli  
and the macronucleus of paramecium  
caudatum would be a compact nuclei  
with inconspicuous nuclear membrane  
very less amount of nucleoplasm and  
uniformly distributed chromatin material  
the next characteristic feature about  
protozoans  
is the locomotory organelles they have

varied locomotory organelles and  
this is an important characteristic  
feature of them  
so some of the protozoans may show  
pseudopodia  
which are temporary projections  
pseudopodia again  
could be of various type like filopodia  
reticulopodia  
actinopodia then others could show  
flagella  
still others could show cilia like  
paramecium would have cilia all over  
the body  
or still others could show particular  
contractile structures  
like the myonins and then there would be some  
parasitic form  
the important locomotory organelles  
would be the pseudopodia flagella  
cilia and molecular contractile  
structures  
nutrition in protozoan is again of  
different types  
they could be holophytic preparing their  
own food  
they would have  
a  
chloroplast and chromatophores or  
they could be holozoic wherein they  
would ingest  
food in the form of other animals and  
then this food  
would be taken up into the food vacuole  
and digested  
or they could be saprozoic wherein they  
would feed upon the dead and decaying  
organic matter  
or they could be parasitic respiration  
is usually by diffusion through the  
general body  
surface the undigested food matter  
is thrown out of the body either through  
diffusion  
or they could form structures known as  
cytopage  
now what happens in the protozoans is  
when they're living in the aquatic  
environment  
there are chances of watering entering  
into the animal body  
either by end osmosis or while the  
animal is feeding  
so there is a constant need to maintain  
this hydrostatic balance within the  
protozoan and this is achieved with the  
help of contractile vacuoles  
the protozoans may show asexual as well  
as sexual reproduction  
so asexual reproduction forms could  
include binary fusion  
wherein the individual is divided into

two daughter individual  
and here the karyokinesis is immediately  
followed by the  
cytokinesis some could also show budding  
where a small bud is formed and it will  
detach from the parent and develop into  
the  
new daughter individual or they could  
show sporulation  
wherein the karyokinesis is not  
immediately followed by the  
cytokinesis and in sexual reproduction  
we can have gamete formation wherein the  
two gametes  
will fuse or they can be conjugation  
wherein the two individuals  
will unite temporarily for  
sexual reproduction and their life cycle  
may show alternation of generation  
wherein the  
asexual mode of reproduction may be  
altered with the  
sexual mode of reproduction so this is  
about the general characteristics of  
phylum protozoa