Rayat Shikshan Sanstha's

Radhabai Kale Mahila Mahavidyalaya, Ahmednagar

Reaccredited with 'A' Grade by NAAC/An ISO 9001:2015 Certified College
Affiliated to Savitribai Phule Pune University, Pune (PU/AN/ASC/034)

1.3.3 – Number of Students undertaking project work/field work/internships

Projects Student List

2021-2022

Rayat Shikshan Sanstha's

Radhabai Kale Mahila Mahavidyalaya, Ahmednagar

Accredited 'A' Grade by NAAC

DEPARTMENT OF ZOOLOGY

All the students are informed to contact Teacher In-charge for finalizing the project title.

Students Projects AY 2021-22

Sr No	Students Name	Teacher In charge	Title
1	Baig Mahevish Haroon	Mr.M.R.Khan	"Study on Different Genetic Traits of Under Graduate Students of Women's College."
2	Vanita Manohar Dhumal	Mr.M.R.Khan	"Methods of detection of Adulterants in Honey, Milk and Grains."
3	Gaikwad Akanksha Vinayak	Dr.G.A.Raut	"Diversity of Land Snail in Alhanwadi Village Ahmednagar."
4	Ghadage Vidya Nilesh	Mr.M.R.Khan	"Study of IR Spectroscopy of Biological Fluids."
5	Kajal Ankush Jadhav	Mr.M.R.Khan	"Comparative Histological study of Liver and Stomach in Ratus."
6	Khokar Shakera Abdus Salam	Mr.M.R.Khan	"Study of diversity of Ants (Hymenoptera: Formicidae) in a Womens college campus of Ahmednagar City."
7	Lahare Manisha Ashok	Mr.M.R.Khan	"Study of Ticks and Mites infestation on Cattle's of Village Pimpalgaon Malvi District Ahmednagar."
8	More Utkarsha Bapusaheb	Mr.M.R.Khan	"Determining the total hardness of different water samples."
9	Farkade Samiksha Shivmurati	Dr.G.A.Raut	"Veterinary pest of Pimpalgaon Malvi."
10	Sadaphal Arpita Nandkumar	Dr.G.A.Raut	"Estimation of free CO_2 in given water sample."
11	Saswade Aditi Ramkisan	Mr.M.R.Khan	"Study of diversity of Ants (Hymenoptera: Formicidae) in Temples of Ahmednagar city."
12	Sayyed Misba Mushtaque	Dr.G.A.Raut	"Study of structural pest."
13	Shaikh Aasiya Rafik	Dr.G.A.Raut	"A study on stored grain pest."
14	Shaikh Afsha Akil	Dr.G.A.Raut	"Study of gut parasite of Cockroach."
15	Shaikh Afsha Ilyas	Dr.G.A.Raut	"Comparative studies of Haemain crystals of different animals and structural and statistics analysis in Ahmednagar City."
16	Shaikh Anam Taher	Dr.G.A.Raut	"A study on Household Pest and its management."

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17	Shaikh Bilquis Molana Alimuddin	Ms.T.K.Phase	"Determination of Biological Oxygen Demand (BOD) of different water samples."
18	Shaikh Farheen Fhaibaz Anwar	Ms.T.K.Phase	"Study of Edible Fish Diversity in Ahmednagar Fish Market."
19	Shaikh Kashaf Kasam	Ms.T.K.Phase	"Study of Avain Diversity of Ahmednagar City."
20	Akanksha Dattatray Shelke	Ms.T.K.Phase	"Study of blood pressure measurement and pulse rate in relation with Age and Weight in Womens college."
21	Tamboli Shifa Altaf	Ms.T.K.Phase	"To study diversity of Zooplanktons in Fresh Water Ponds and Lakes of Ahmednagar city, Maharashtra."
22	Abhilasha Dattatray Kasar	Ms.T.K.Phase	"Statistical analysis of fruit fly observed in orange garden at Walki by fruit fly trap method."
23	Aishwarya Thosar	Ms.T.K.Phase	"Comparative Histological study of Ileum and Rectum in Ratus."

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HEAD
Department of Zoology
Radhabai Kale Mahila Mahavidyalaya
Ahmednagar

A Project (ZO 3611)

On

"to Study the Diversity of Zooplanktons in Fresh Water Pounds and Lakes of Ahmednagar city, Maharashtra ."

Completed Under
2 Credits (CBCS)

Savitribai Phule Pune University, Pune

Submitted by

Miss .Tamboli Shifa Altaf

T.Y.B.Sc Zoology

Submitted To,

Department of Zoology

Rayat Shikshan Sanstha's

Radhabai Kale Mahila Mahavidyalaya, Ahmednagar

Reaccredited with 'A' Grade by NAAC/An ISO 9001:2015 Certified College

May, 2022

SELF DECLARATION

I the undersigned student of T.Y.B.Sc Zoology hereby declare that the work carried out in the project (ZO 3611) entitled **"to Study the Diversity of Zooplanktons in Fresh Water Pounds and Lakes of Ahmednagar city Maharashtra. "** completed under the guidance's of **Miss. T.K.Phase** This is my original work submitted to Department of Zoology, Radhabai Kale Mahila Mahavidyalaya, Ahmednagar for 2 Credit under CBCS of Savitribai Phule Pune University, Pune.

Date: 4-6-2022

Place: Ahmednagar 414001.

Miss. Tamboli Shifa Altaf

T.Y.B.Sc

Department of Zoology,

Radhabai Kale Mahila Mahavidyalaya,

Ahmednagar.

CERTIFICATE

This is to certify that, the project (ZO 3611) work entitled **"to Study the Diversity of Zooplankton in Fresh Water Pounds and Lakes of Ahmednagar City Maharashtra."** successfully completed by **Miss.Tamboli Shifa Altaf** is carried out under the supervision and guidance of **Miss.T.K.Phase** for the 2 Credits under CBCS of Savitribai Phule Pune University, Pune for T.Y.B.Sc Zoology.

Date: 04/08/2022

Place: Ahmednagar 414001.

Miss.T.K.Phase
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Heartfelt thanks to Principal, Radhabai Kale Mahila Mahavidyalaya, Ahmednagar for providing necessary facilities for the project.

Date: 4-6-2022

Place: Ahmednagar

Miss. Tamboli Shifa Altaf

T.Y.B.Sc

Department of Zoology,

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Index

Introduction

Plankton is defined as all those organisms suspended in free water (Goldman and Mann, 1980). The plankton comprises of aquatic organisms which drift passively and have limited ability to move contrary to the movement of the water mass. Plankton can be divided into phytoplankton and zooplankton (Chiu et al., 2007). The term 'phytoplankton' encompasses all suspended microalgae in a waterbody belonging to all taxonomic algal groups and includes the cyanoprokaryotes or bluegreen algae. Phytoplankton, together with other aquatic plant life, are the primary producers in aquatic ecosystems and form the basis of the food web (Hötzel and Croome, 1999).

zooplankton is the animal portion of the plankton(lsmail ,2012). zooplankton is defined as pelagic animal which are unable to maintain their position by swimming against the physical movement of water (Goldman and Mann 1918).They occupied both freshwater and saline water and also can be found in almost all water bodies including river, stream ,Lake ,reservoir , pounds ,irrigation Canals rice field and temporary water body. zooplanktons are the key role in the pelagic food web by controlling phytoplankton production and shaping pelagic ecosystem . They are heterotrophic animal that are incapable of synthesizing organic matter itself (Ismail,2012).planktonic algae is grazed by a Varity of larval and adult zooplanktons(Barnes,1980). Then they are being feed upon by fishes, aquatic insect and some others aquatic organisms.

zooplanktons is essentially a group of non motile or have little mobility organism relative to the water mass .They drift with the current,susceptible to pollutants, land use and other occurred within the aquatic system. The group of freshwater zooplankton can be divided into main groups namely protozoa, Cladocera, Copepoda, Rotifera and ostracoda . The zooplankton occupies a key position in shaping the pelagic food web by acting as primary consumer in aquatic food chains or food web in the aquatic environment. Therefore in order to understand the function of zooplankton

in food webs and food chain and it is necessary to gain knowledge about temporal and spatial structure of zooplankton in community in the aquatic environment.

Zooplankton diversity reflects the water quality and they are the good indicators of changes taking place in the water resources.(Kabra et.al 2016). The Biodiversity of aquatic life conservation is an important task because day to day pollution is increasing and their direct effect is on aquatic life. In present days, the biodiversity is in danger due to pollution and human activities. Conservation of biodiversity is essential so it is compulsory to keep update knowledge of every aquatic species diversity. The density of planktons in water body determines stocking rate of fishes because they are the chief sources of the food of commercially important fishes as well as development in production of inland fishery sector. The presence and dominance of zooplankton species played a very significant role in the functioning of freshwater ecosystem.

Therefore, present investigation or project was undertaken to study the zooplankton diversity of fresh water pounds and lakes of Ahmednagar city, Maharashtra , India with following aims and objectives-

- To study the diversity of zooplankton.
- Collection and Identification of Zooplankton by using standard methodology .
- Importance of zooplankton in ecological environment.

• Defination

Zooplankton are heterotrophic plankton. Plankton are organisms drifting in oceans, seas, lakes and bodies of fresh water. The word zooplankton is derived from the Greek zoon, meaning "animal", and plankton, meaning "wanderer" or "drifter".

• Diversity and classification of zooplanktons.

Zooplankton are microscopic animals which float freely in the aquatic ecosystems and whose distribution is primarily determined by water currents. The majority of them are unicellular or multicellular with a size ranging from a few micrometres (Protozoa) tomore than a millimetre (macro-zooplankton) (Goswami, 2004). In aquatic ecosystems, zooplankton form an important link in the food chain from primary to tertiary levels leading to the production of fishery, also as

intermediaries for nutrients/energy transfer between primary and tertiary trophic level (Gajbhiye, 2002). Furthermore, a specific group of zooplanktons which was Cladocera, Copepoda, ostracoda and Rotifera are important in freshwater ecosystem in food webs (Imoobe and Akoma, 2009).

Zooplankton are characterized by their faunal diversity and arrays of animal organism, varying in size from microns (μ) to several millimetres (mm). No single system of classification has been adopted universally as mentioned by Gajbhiye (2002). They are classified into several groups by size (Cushing, 1989).

1. UltraPlankton : <5 μm
2. Microplankton : 5-60 μm
3. Nanoplankton : 1-500μm
4. Mesoplankton : 0.5-1.0 mm
5. Macroplankton : 1-10 mm
6. Megaplankton : 10-20 mm

- **Protozoa.**

Free-living protozoa are ubiquitous in natural freshwater environments (Valster et al. 2006). Free-living protozoa feed on bacteria, algae, fungi, other protozoa, and organic detritus in biofilms or in the planktonic phase, thereby affecting the structure of microbial communities. In turn, the community of free-living protozoa depends on the diversity and abundance of bacteria in the biofilm and in the planktonic phase (Cavalier-Smith 1993; Martin and Manfred 2001; Rønn, McCaig et al. 2002; Parry 2004; Cavalier-Smith 2009).

The functional roles of free-living protozoa derive from their small size. The smallest are about 2 μm, most flagellates are smaller than 20 μm, amoebae <50 μm and ciliates <200 μm. In exceptional cases, amoebae and ciliates may reach 2mm (Finlay and Esteban 1998). The taxon Protozoa is attributed to georg August goldfuss, who proposed the term in 1818 to embrace the "infusoria", some bryozoans, and various other small animal-like creatures; but it was not until the mid-19th century that the term was first used to refer exclusively to single-celled organisms. In the

last 150 years, a wealth of new species has been revealed, revisions to the classification of Protozoa have hardly kept pace (e.g. see Hausmann and Hulsmann 1995). It has even been difficult for the term Protozoa to contain the expanding diversity (giving way in recent decades to re-adoption of Haeckel's 'protista', which includes all protozoa, algae and lower fungi) (Cavalier-Smith 1993; Finlay and Esteban 1998).

• Rotifera.

Rotifera is a group of primary freshwater invertebrates (Dang et al. 1980; Balian et al. 2008). It is mostly of microscopic size and a single major taxonomic category that is characteristic of freshwater habitat (Chung et al. 1991). They are about 50–200 µm in size (Schmidt-Rhaesa et al. 2008), with the smallest about 40 µm and largest about 2mm (Dang et al. 1980). The phylum Rotifera contains about 2,030 species classified in three main groups, the marine Seisonida (3 species), the Monogononta (1,570 species) and the unique, exclusively parthenogenic Bdelloidea with 461 clonal species (Segers 2007).

In previous studies, 1,500 species, including 120 genera, have been described across the world (Donner 1966), but less than 5% of these are marine or brackish species. In freshwater ecosystems they play an important role in the food chain and primary production and also as a biological indicator for water quality (Chung et al. 1991). They are permanently and obligatorily connected to aquatic habitats in all active stages, only their resting stages are drought-resistant. The most well-known and diverse are the predominantly freshwater Bdelloidea and Monogononta (Balian et al. 2008). The body is divided into three regions: a head, a trunk and a foot. The head region bears the ciliated crown or corona. In some species the trunk is enclosed by a hardened lorica (Dang et al. 1980; Narumon and Boonsatien 2006; Schmidt-Rhaesa et al. 2008).

• Cladocera.

PHYLUM ARTHROPODA ¬ CLASS BRANCHIOPODA ¬ ORDER CLADOCERA

Cladocerans are important contributors to the fauna and energy dynamics of most lentic freshwater ecosystems (Giller and Malmqvist, 1998). However, lotic waters have been viewed as largely

inhospitable environments for Cladocerans development (Viroux, 2002). Despite this, many studies have found them to occur in rivers and streams, sometimes in significant abundance (Kim and Joo, 2000) but usually low in species richness (Burger et al., 2002) and indicate them to occur in predictable groupings (Jackson et al., 1992). These cladocerans are commonly known as 'water flea' as they are recognized by the unclear segmented body which consists of two main parts, the head and trunk. The head bears two pairs of antennae which act as their locomotion organs while the trunk is covered by a bivalve carapace (SilvaBriano and Mirabdullayev, 2004). Cladocerans reproduce mostly asexually via parthenogenesis, but can reproduce sexually based on the environmental conditions (Zadereev, 2003). Resting eggs from fertilization or, in some species, asexual reproduction can be produced if the presence of crowding or toxic food is signaled (Dodson et al., 2010). This causes the carapace, an extension of its back, to thicken, called the ephippium. These eggs are resistant to desiccation and can survive on dry land or in water sediments for lengthy periods of time (Mort, 1991). Leaving diapause, which is a halt in its growth cycle, requires favorable stimuli from the environment (Dodson et al., 2010). Cladocerans are one of the important elements in the aquatic micro-faunal food webs (Shiel, 1995). Cladocerans feed on algae, small rotifers, and copepods (Dodson et al., 2010).

Their metabolic rate is variable with temperature, and death can occur above the required optimal temperature (Dodson et al., 2010). Underfood limiting conditions, a smaller body size is favored (Dodson et al., 2010). For example, Bosmina may be able to out-compete a larger species because it could grow faster when food is limited (Sommer et al., 1986). Additionally, cladocerans that have a larger body size seem to be scarce when fish are present as fish are visual predators (Sommer et al., 1986). They are the main food of choice of almost all young freshwater fishes as well as other macroinvertebrates (Silva Briano and Mirabdullayev, 2004).

- **Copepoda.**

PHYLUM ARTHROPODA ¬ CLASS COPEPODA

The free-living copepods are divided into three suborders i.e. Calanoida, Cyclopoida, and Harpacticoida (Wetzel, 1983). Copepods have a segmented body with an exoskeleton and five pairs of jointed appendages (Reid and Williamson, 2010). The first antennae, one of the notable

appendages, have roles in reproduction, locomotion, and feeding. Calanoids and cyclopoids can be distinguished by their first antennae, with calanoids possessing the long antennae (Wetzel, 1983). Copepods dominated the zooplanktonic community in both freshwater and marine ecosystems (Boxshall and Halsey, 2004). Generally, copepods form a major component with about 50% of zooplanktonic community and are the essential food source to many primary carnivores, including fish (Pechenik, 2005).

Unlike cladocerans and rotifers, copepods only reproduce sexually and have a larval stage called the nauplius. Temperature, food availability, and predation heavily influence their mating behavior and variations in their dynamics (Reid and Williamson, 2010). Egg development and clutch size have been known to be dependent on temperature for copepods (Devreker et al., 2009). They arealso known to have a broad adaptation to unfavorable environmental conditions. They respond by reducing their metabolic rate and entering diapause (Reid and Williamson, 2010).

- **Ostracoda.**

PHYLUM ARTHROPODA ¬ CLASS OSTRACODA

The Ostracoda are small, bivalved crustaceans which are found in both freshwater and marine environments. Their average size is about 1mm, but in fresh water they range in length from 0.35–7 mm (Deflandre, 1966). There are probably at least 25,000 extant species, of which roughly 12,000 have been described (3,000 freshwater, 9,500 marine), ranging in size from 0.2–2 mm, and rarely to 32 mm (Cohen et al., 2007). At present with 2,103 species and 209 genera of free-living, non-marine Ostracoda of the world (Martens et al., 2011).

Ostracods are very common in most inland waters, where they abound in benthic and periphytic animal communities, but they also occur in marine, interstitial and even (semi) terrestrial environments (Balian et al., 2008), in lake, pools, swamps, streams, cave waters, heavily polluted areas, etc (Deflandre, 1966). Most ostracods are benthic, some are demersal plankton, swimming for short distances. Ostracods include detritivores, scavengers, herbivores, suspension-feeders, predators, commensals and a single fish parasite (Cohen et al., 2007). Identification of Ostracoda

are provided by: valves of carapace (size, shape, colour, surface sculpturation), including left and right valves similar to bivalvia of Mollusca, fuca, and abdomen.

- **Ecological Importance.**

Zooplankton of freshwater systems has been recognized as an important energy resource for fish of small body size that, in turn, provide energy to piscivorous fish consumers higher up the food web (Kingsford et al., 1999). Within this context, zooplankton have been recognized as an important trophic link between primary production and consumers (Jones et al., 1999).

Zooplankton may form an important component of the biological communities for their ability to cycle nutrients in the aquatic environment (Kobayashi et al., 1998). The water quality was also improved by zooplankton grazing on phytoplankton and bacteria (PintoCoeluo et al., 2005). According to Paterson (2001), zooplankton communities are highly sensitive to environmental variations, such as water temperature, light, pH, DO, phosphate, food availability (algae and bacteria) and predation by invertebrates and fishes. Therefore, the changes in zooplankton abundance, species diversity, or community composition can provide potential indications of environmental changes or disturbances.

Most of zooplankton species have short generation times usually took a day or weeks jaiswal et al., 2014) which makes them suitable indicators to assess the ecosystem health due to their ability to respond quickly to environmental stress (Gannon and Stemberger, 1978).Understanding their structure communities and the affecting factors to diversity and abundance, as well as their linkages with the other ecosystem components is essential tooptimize the resources use and to improve the sustainable management of the river ecosystems.

zooplankton have been identified as good bio-indicator species. According to zannatul and muktadir (2009), Brachionus dolabrorus, Keratella tropica and Hexarthra mira were indicators for high turbidity with high suspended solids. Study by Naumann et al. (2011) revealed that genus Brachionus, Keratella, Trichocerca, Filinia, as well as species K. cochlearis, Polyartha macrouruss, P. euryptera, Pompholyx sp., Asplanchna sp., Trichocerca sp., Moina sp., Ceriodaphnia sp., and Diaptomus sp. known to be the indicators for eutrophic waters. Case et al. (2008) also noted the shortest life cycle among the plankton are some of the specialties that make rotifers to be a great

biological indicator, fairly distinct patterns displayed in the species composition and abundance as the water quality changed spatially and rapid reproduction and growth rate. In addition, rapid turnover rates and small in size of rotifers allow them to contribute significantly to nutrient recycling in aquatic habitats and to have sensitivity in the changes of the aquatic ecosystem (Zannatul and Muktadir,2009).

• Role in biogeochemistry

In addition to linking primary producers to higher trophic levels in marine food webs, zooplankton also play an important role as "recyclers" of carbon and other nutrients that significantly impact cycles, including the biological pump. This is particularly important in the oligotrophic waters of the open ocean. Through sloppy feeding, excretion, egestion, and leaching of fecal pellets, zooplankton release dissolved organic matter (DOM) which controls DOM cycling and supports the microbial loop. Absorption efficiency, respiration, and prey size all further complicate how zooplankton are able to transform and deliver carbon to the deep ocean.

Sloppy feeding and release of DOM

Excretion and sloppy feeding (the physical breakdown of food source) make up 80% and 20% of crustacean zooplankton-mediated DOM release respectively, In the same study, fecal pellet leaching was found to be an insignificant contributor. For protozoan grazers, DOM is released primarily through excretion and egestion and gelatinous zooplankton can also release DOM through the production of mucus. Leaching of fecal pellets can extend from hours to days after initial egestion and its effects can vary depending on food concentration and quality. Various factors can affect how much DOM is released from zooplankton individuals or populations. Absorption efficiency (AE) is the proportion of food absorbed by plankton that determines how available the consumed organic materials are in meeting the required physiological demands. Depending on the feeding rate and prey composition, variations in AE may lead to variations in fecal pellet production, and thus regulates how much organic material is recycled back to the marine environment. Low feeding rates typically lead to high AE and small, dense pellets, while high feeding rates typically lead to low AE and larger pellets with more organic content. Another contributing factor to DOM release is respiration rate. Physical factors such as oxygen availability,

pH, and light conditions may affect overall oxygen consumption and how much carbon is loss from zooplankton in the form of respired CO_2. The relative sizes of zooplankton and prey also mediate how much carbon is released via sloppy feeding. Smaller prey are ingested whole, whereas larger prey may be fed on more "sloppily", that is more biomatter is released through inefficient consumption. There is also evidence that diet composition can impact nutrient release, with carnivorous diets releasing more dissolved organic carbon (DOC) and ammonium than omnivorous diets.

Carbon export

Zooplankton play a critical role in supporting the ocean's biological pump through various forms of carbon export, including the production of fecal pellets, mucous feeding webs, molts, and carcasses. s are estimated to be a large contributor to this export, with copepod size rather than abundance expected to determine how much carbon actually reaches the ocean floor. The importance of fecal pellets can vary both by time and location. For example, zooplankton bloom events can produce larger quantities of fecal pellets, resulting in greater measures of carbon export. Additionally, as fecal pellets sink, they are reworked by microbes in the water column, which can thus alter the carbon composition of the pellet. This affects how much carbon is recycled in the euphotic zone and how much reaches depth. Fecal pellet contribution to carbon export is likely underestimated; however, new advances in quantifying this production are currently being developed, including the use of isotopic signatures of amino acids to characterize how much carbon is being exported via zooplankton fecal pellet production. Carcasses are also gaining recognition as being important contributors to carbon export. Jelly falls – the mass sinking of gelatinous zooplankton carcasses – occur across the world as a result of large blooms. Because of their large size, these gelatinous zooplankton are expected to hold a larger carbon content, making their sinking carcasses a potentially important source of food for benthic organisms.

Factors affecting zooplankton distribution and abundance.

Water quality assessment is often viewed as an integrated environmental indicator of ecosystem function and stress. According to Hasan et al. (2015), poor water quality may cause disturbance to the natural ecosystem, affecting the food chain, and degrade population of aquatic life and wildlife.

Changes in growth and the corresponding increases in impervious surfaces and decreases in natural vegetation have resulted in severe impacts on ecosystem health and integrity, riparian zones and water quality over time.

According to Ma et al. (2009), human activities were found to be the cause of higher levels of several parameters like pH, total suspended solids (TSS) and chemical oxygen demands (COD) in the developed area. The causes of water pollution are diverse and vary both spatially and temporally. This included the release of wastewater from scattered industrial operations (Wang et al., 2008) and urbanized areas (Drechsel and Varma, 2007) as well as sediment discharge from cultivated land affected by soil erosion (Vigiak et al., 2007).

Clear cutting eventually will increase the water temperature as the solar radiation reaching the stream after the removal canopy cover that been provided by the forest (Brown and Krygier, 1970). According to Krenkel (1979), the deforestion at upstream has drastic changes to the downstream river by increasing in water temperature with decreasing DO. As a results,water temperature increased and decreased in DO will affect the distribution aquatic life such as plankton and fish.

Physical factors such as discharge and water retention time have been reported as the most powerful environmental factors limiting zooplankton production and distribution in rivers (Basu and Pick, 1996). However, those zooplankton studies have focused on large lowland rivers, and relatively little is known about temporal and spatial distribution of zooplankton in small rivers.

Literature Review

Odum (1971) discussed zooplankton is also sensitive to their environment and a change in zooplanktons concentration can indicate a suitable environmental change. The diversity of species, amount of biomass and abundance of zooplanktons communities can be used to determine the health of an ecosystem. Saldeek (1983) reported that among zooplanktons Crustaceans, Cladocerans and Copepods can be used as indicators of aquatic environment. Allan and Dall (1991) reported zooplankton to be rich in essential amino acid and fatty acids docosahexacnoic

acid and elcosaptaenoic acid. Dobriyan et al., (1993) observed that the highest planktonic diversity was in the winter months when the water temperature is low, water current is low and the water is clear without turbidity. Brett et al (1994) investigated fresh water diversity of California and observed the species dependent effect of zooplankton's on the phytoplanktonic ecosystem and concluded that the presence of predaceous cladocerans and copepods have a direct effect on the presence of a several algae species, dissolved nutrients and the ciliate microzooplanktons.

Kobayash et. al., (1998) reported the zooplankton density was negatively correlated with turbidity, conductivity, temperature and amount of phosphorus present. In recent studies, biodiversity of zooplankton of nine different water bodies of South Rajasthan is studied by Sharma et al., (2002) total 144 zooplanktonic forms were reported belonging to 3 phyla, 27 families, 64 genera and represented by 13, 39, 22 and 6 forms respectively. Biodiversity in the zooplankton has been calculated in the Menhinick's index and values have been discussed in relation to physico-chemical characteristics and primary productivity. Dutta et al.,(2004) investigated fresh water diversity of Jammu and collected 51 species of zooplanktons belonging to 35 species of Protozoa, 8 species and 2 larvae of Crustaceae, 5 species of Rotifera, 1 species of Porifera, 1 species of Platyhelminthes and 1 species of Annelida. Zafar and Sultana., (2005) studied the river Ganga at Kanpur reported the zooplanktons and macroinvertebrate diversity and observed that the quality of the water was responsible for quantitative and qualitative variations in zooplanktons.

Mathivanan et al., (2007) studied plankton of River Cauvery water (Tamil Nadu) The qualitative and quantitative evaluation of the variation in river water showed high quantity of zooplankton population throughout the study period and rotifers formed dominated group over other groups organism. This study revealed that the water of River Cauvery is highly polluted by direct contamination of sewage and other industrial effluents.. Uttah et. al,. (2008) studied Biosurvey of planktons as indicators of water quality in River Calabar, Nigeria. They reported zooplanktons belonging to Copepods, Protozoa, Polychaetalarvae, Cyclopodia, Cladocera, Arthrotoda, Ostracoda, Rotifera, Malacostraca and Foraminiferada. The Copepods were the most abundant group. Vanjare, et al., (2010) studied zooplankton from a river Mula, Pune, Maharashtra. Rotifera and Cladocera are free living zooplankton elements known to dominate freshwater habitats. 18 Rotifers and 10 Cladocerans were recorded during this study. This study showed an attempt to

monitor a polluted habitat for zooplankton. Khanna et al., (2012) studied the analysis of water samples for plankton diversity of river Ganga, In this study of river Ganga, among the zooplankton, Protozoa, Rotifera, Cladocera, Copepoda, Ostracods constitute the main component. Singh, (2013) studied biodiversity of river Gomti is heavily affected by pollution. Planktons are important biological parameters to access the pollution level. This study shows biological productivity as ecological indicator to identify the ecological quality of river Gomti. The zooplankton community comprised Protozoa 5 species, Rotifera 3 species, Cladocera 2 species and Copepoda 1 species. The zooplankton population was observed maximum during monsoon season but it was low in summer season. Umadevi (2013) studied the abundance, composition and distribution of zooplankton in relation to water quality parameters in Karanja River in Karnataka.36 species of zooplankton were identified as a total, which included 14 species of Rotifera 11 species of Cladocera 8 species of Copepoda and 3 species of Ostracoda.

Watkar and Barbate (2013) studied zooplankton diversity of River Kolar, Saoner, District. Nagpur, Maharashtra. This study revealed 28 species of zooplankton belonging to five major group Janmoni et al., (2014) studied zooplankton diversity of the two rivers Kaliani and Dhansiri receiving oil refinery effluent from NRL. A total of 11 genera of zooplankton belonging to 5 groups. Cladocera, Copepoda, Ostracoda, Protozoa and Rotifera. This study revealed seasonal variations of zooplankton abundance were pre monsoon (29%) Post Monsoon (25%), winter 25% and monsoon (21%). Sarwade and Kamble (2014) studied Quantitative assessment of plankton of the river Krishna, District, Sangli, Maharashtra. Diversity of Zooplankton included, Cladocera, Rotifera, Protozoa, Nematoda, Aostraca, Schizopyrenide and copepoda as major groups, with 25 genera. Rotiferans were found dominant with 9 species. Protozoans were second dominant group with 8 diversified species.Cladocerans included 2 species. Nematoda, Schizopyrenida each Aostraca and showed 1 type of species.Copepoda showed 3 types of species. Dede and Deshmukh (2015) studied the zooplankton composition and seasonal variation in Bhima river near Ramwadi Village, Sholapur District. A total of 21 species were found in this river. These belongs to Cladocera, rotifer, Copepoda and Ostracoda. Among these 9 species belongs to Rotifera, 5 species belongs to Copepoda, 5species belongs to Cladocera, 3 species belongs to Ostracoda.Rotifera was found dominant group. The study of season wise zooplankton analysis showed an average

abundance of species in winter season, lower in monsoon season and maximum occurrence in summer season, due to different environmental condition of water bodies. Eyo and Paul, (2015) studied great KWA River, Nigeria. They astimeted a total of 23 species of zooplanktons belonging to 5 taxonomic groups viz. Rotifera, Arthropoda, Palaemonidae, Ciliophora and Annelida. Rotifera was the most abundant group and Annelida was least represented groups. Kumar and Khare (2015) studied diversity of plankton and their seasonal variations of density in the Yamuna River at Kalpi This study revealed that zooplankton were belong to 22 species of genera, Cladocera 5 species of 5 genera, Copepoda 2 species of 2 genera. Among recorded zooplankton Rotifers population was dominant during entire study span. Bislab and Kar (2016) studied Diversity of zooplankton in river Siang of Arunachal Pradesh, India. They estimated 24 different genera of zooplanktons among which Protozoa were represented by 5 genera, Rotifera by 7 genera, Cladocera by 5 genera, Ostracoda by 1 genus, and Copepoda by 5 genera. Bishnoi and Sharma (2016) studied Planktonic variations in a lotic water body of shriGanganagar district, (Rajasthan) The zooplankton of gang canal comprises of 6 genera out of which 3 belong to the Rotifera, 2 to Cladocera and 1 to Protozoa. The zooplankton assemblage of the Gangcanal is contributed primarily by Cladocerans and Protozoans Rai et al., (2016) Studied plankton composition, seasonal variation and diversity indices in river Narmada at Jabalpur region. Plankton diversity is one of the most important ecological parameters in water quality. The zooplankton comprises of Phylum Rotifera, Cladocera, Copepoda and Protozoa A total of 23 species of zooplanktons were recorded belonging to Rotifera 7 species, Cladocera 4 species, Copepoda 5 species and Protozoa 7 species. Chanchala et al., (2017) studied zooplankton diversity of river temari at Jabalpur district.They reported total 34 species of zooplanktons belonging to 6 species of Protozoa , 11 species of Rotifera, 6 species of Copepoda, 2 species of Ostracoda and 9 species of Cladocera. Robiul et al., (2017) studied diversity indices of plankton communities in the river meghna of Bangladesh. Their zooplankton of study Rotifer, revealed Copepods, Cladocera, and Ostracoda as major groups. The highest number of genera was found in the family Copepoda and Cladocera.

Therefore present investigation or project is formulated to assemble the information regarding diversity and quantitative study of zooplankton in fresh water pounds and lakes of Ahmednagar city, Maharashtra, India

Material and methodology.

Material :

Plankton net, transparent plastic jar, 4% formalin, slide and coverslip, dropper, compound microscope/Electric microscope , note book, mobile camera etc.

Methods:

1. Study area

for the present investigation water samples were we collected from the four different sampling stations, in freshwater ponds and lakes of Ahmednagar city, Maharashtra, India.

Sample A is collected from kapurwadi lake located, latitude-19°06'58.3"N(19.116199), longitude-74°47'05.6" E (74.784898). Sample B collected from Bardari, latitude-19.120621 longitude-74.851552. Sample C from Dargah daira,latitude-19.109225,longitude-74.760807 and Sample D collected from Radhabai kale mahila mahavidayalaya, Ahmednagar. latitude-19°6′17.24″N(19.104791) —longitude-74°44′28.18″E (74.741163).

2. Collection of sample:

the survey and collection of zooplankton samples was carried out from month of March during the year 2022 .water samples were collected during morning hours between 8 :am to 11: AM. These samples are collected from four different ponds and lakes of Ahmednagar city , Maharashtra. these ponds and lakes are Basically used for drinking water for domestic purpose and fishery activities by local fishermen communities. The plankton samples were collected by the help of plankton net .Generally, plankton net with 40 micron mesh size it is good for collection of sample. The water sample was filtered through the plankton net in 100ml sampling bottle attached to the plankton net. The collected plankton sample was preserved in 4% formalin. About 1ml 0r 1drop is taken on slide and observed under the microscope with in 10x,40x magnification. Rough sketches are drawn on note book and identity.

3. *Identification:*

The Zooplankton are identified with the help of standard literature up to generic level by using standard keys of Needam and Needam (1962), Adoni et al. (1968), Michael (1984), Tonapi(1980), Trivedy and Goel (1984), Edmondson (1959), Pennak (1978), Reddy (1994), Dhanapathi (2000), Bhouyain and Asmat (1992).

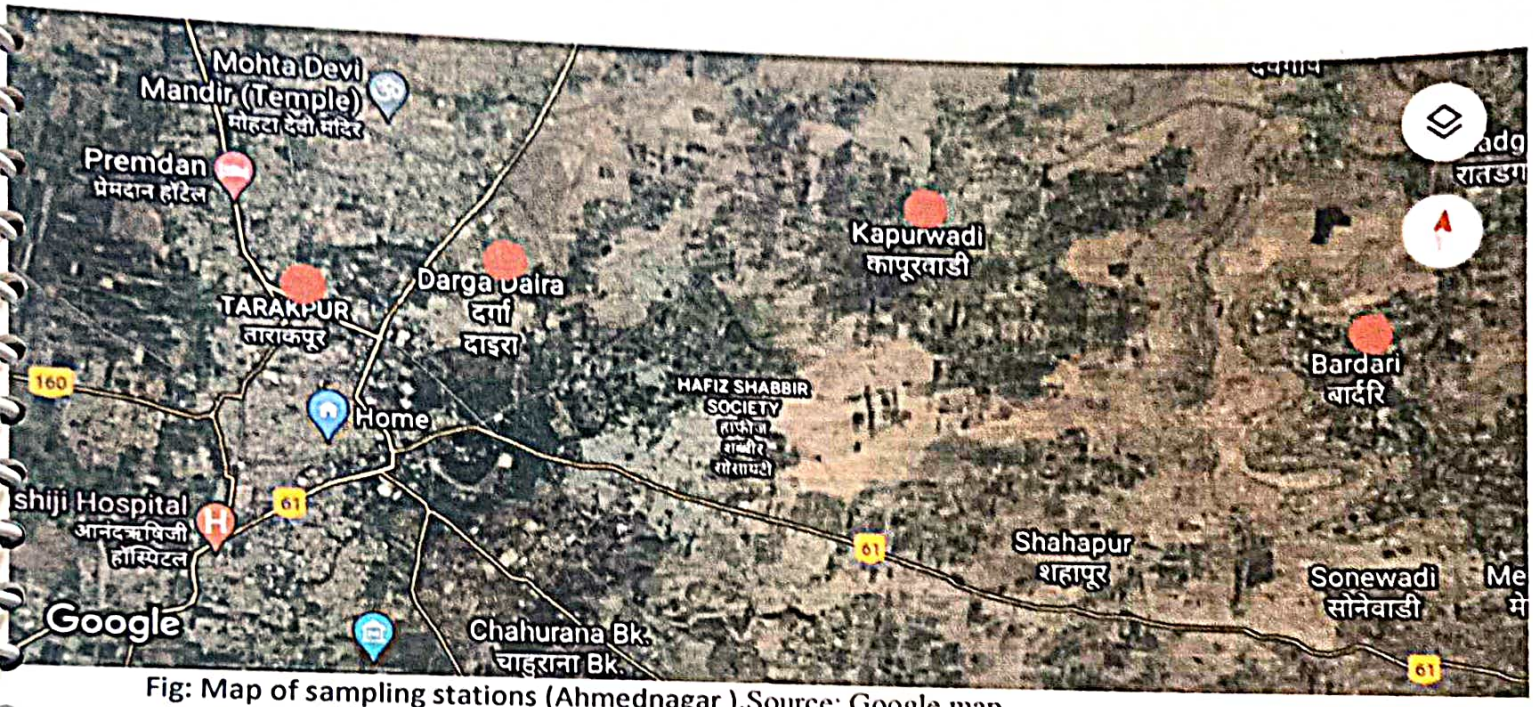


Fig: Map of sampling stations (Ahmednagar).Source: Google map

The given table showing water sample collection site.

Samples	Stations	Latitudes or longitude.
Sample A	Kapurwadi lake	latitude 19°06'58.3"N (19.116199), longitude-74°47'05.6" E (74.784898)
Sample B	Bardari	latitude-19.120621,longitude-74.851552
Sample C	Dargah daira	Latitude-19.109225,longitude-74.760807 a

Sample D	Rkmm.college at tarakpur.	latitude19°6′17.24″N (19.104791) —longitude-74°44′28.18″E (74.741163).

- ***Result Table:***

No	Zooplanktons Group	Species	Sample A	Sample B	Sample C	Sample D
1	Protozoa	Paramecium caudatum	+	–	–	+
		Euglena	+	+	+	-
		Euglenoids	+	+	+	+
2	Rotifera	Brachionous falcatus	–	+	–	+
3	Cladocera	Dephnia magna	+	+	-	-
		Dephnia longispina	–	+	+	–
4	Copepoda	Cyclops sp	-	+	-	-
5	Ostracoda	Hemicypris sp.	-	+	+	+
		Cypris subglobusa	+	-	+	-
		Dolerocypris sinensis.	+	+	–	–

Result and discussions

During present investigation we are found total 10 species of zooplankton. Among which 3 species belonging to Protozoa, *Paramecium caudatum, Euglina ,Euglenoids.* 1species belonging to Rotifera, *Brachionus falcatus.* 2 species belonging to Cladocera, *Dephnia magna, Dephnia longispina.* 1species belonging to Copepoda, *Cyclops* sp. 3 specie belonging to Ostracoda, *Hemicypris sp, Cypris subglobusa ,Dolerocypris sinensis.*

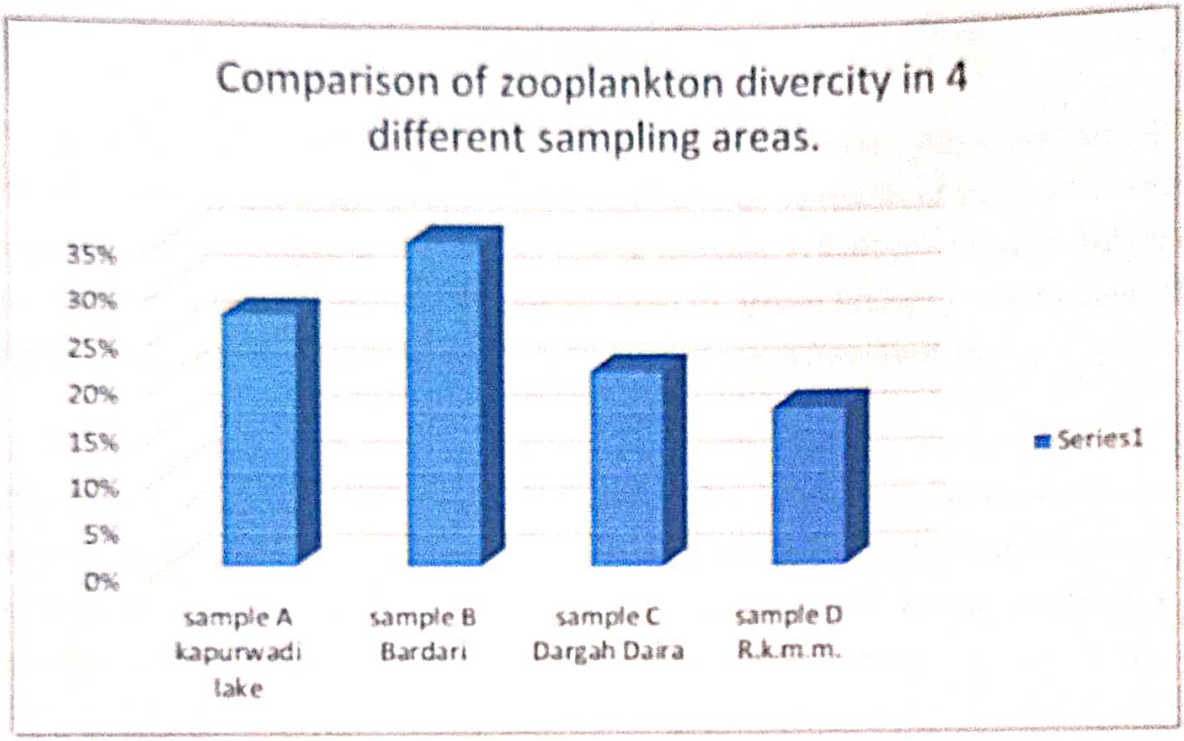
For the present investigations were we collected water samples from four different sampling stations.

In **kapurwadi lake** sample we are found 6 species. Among 3 species belonging protozoa, *Paramecium caudatum, Euglina, Euglenoids.* 1species belonging to cladocera, *Dephnia magna.* 2species belonging to Ostracoda, *Cypris subglobusa, Dolerocypris sinensis.*

In **Bardari** sample we are found 8species. Among 2 species belonging to Protozoa, *Euglina, Euglenoids.* 1 Species belonging to Rotifera ,*Brachionus falcatus.* 2 species belonging to Cladocera ,*Dephnia magna, Dephnia longispina.* 1 species from Copepoda, *Cyclops sp.* 2 species belonging to Ostracoda, *Hemicypris sp, Dolerocypris sinensis.*

In **Dargah daira** sample we are found total 5 species. Among 2 species belonging to Protozoa ,*Euglina, Euglenoids.* 1species from Cladocera, *Dephnia longispina.* 2 species belonging to Ostracoda, *Hemicypris sp, Cypris subglobusa.*

We are collected last sample from **Radha bai kale mahila maha vidayalaya** Campus pond. In this sample 4 species are found. 2 species are belonging to protozoa, *Paramecium caudatum, Euglenoids.* 1species from Rotifera, *Brachionus falcatus.* 1species belonging to Ostracoda, *Hemicypris sp.*


Comparison of zooplankton divercity in 4 different sampling areas.
35%
30%
25%
20%
15%
10%
5%
0%
sample A kapurwadi lake
sample B Bardari
sample C Dargah Daira
sample D R.k.m.m.
Series1

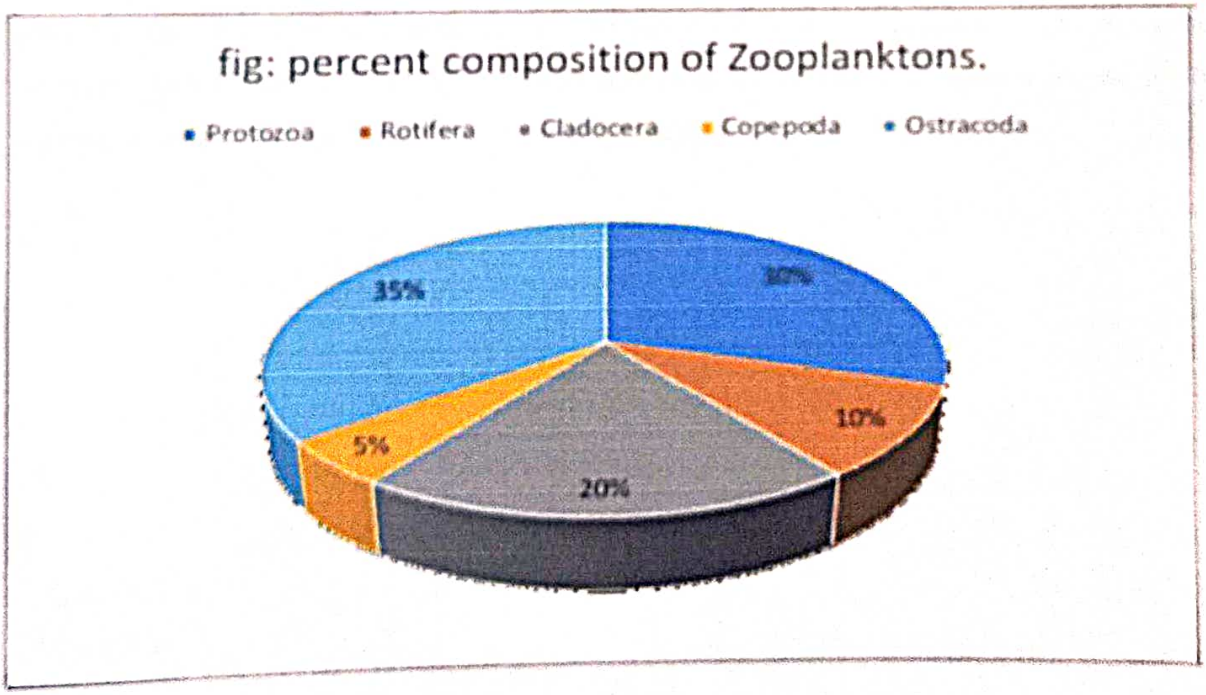


fig: percent composition of Zooplanktons.
Protozoa
Rotifera
Cladocera
Copepoda
Ostracoda
35%
10%
5%
20%

Conclusion

The present investigation reveals that the diversity of zooplankton plays very significant role in the functioning of freshwater ecosystem. We recorded total 10 species of zooplankton among which 03 species belonging to Protozoa, 01 species belonging to Rotifera , 02 species belonging to Cladocera,01 species belonging to Copepoda and 03 species belonging to Ostracoda. The maximum number of zooplankton species are found in sample B from **Bardari**.

The Diversity and population of zooplanktons in water provided significant information about the available sources for supporting life for fishery development. In present days, the biodiversity is in danger due to pollution and human activities. So, Conservation of biodiversity is essential so it is compulsory to keep update knowledge of every aquatic species diversity.

The density of planktons in water body determined stocking rate of fishes because they were the chief sources of the food of commercially important fishes as well as development in production of inland fishery sector. The presence and dominance of zooplankton species played a very significant role in the functioning of freshwater ecosystem.

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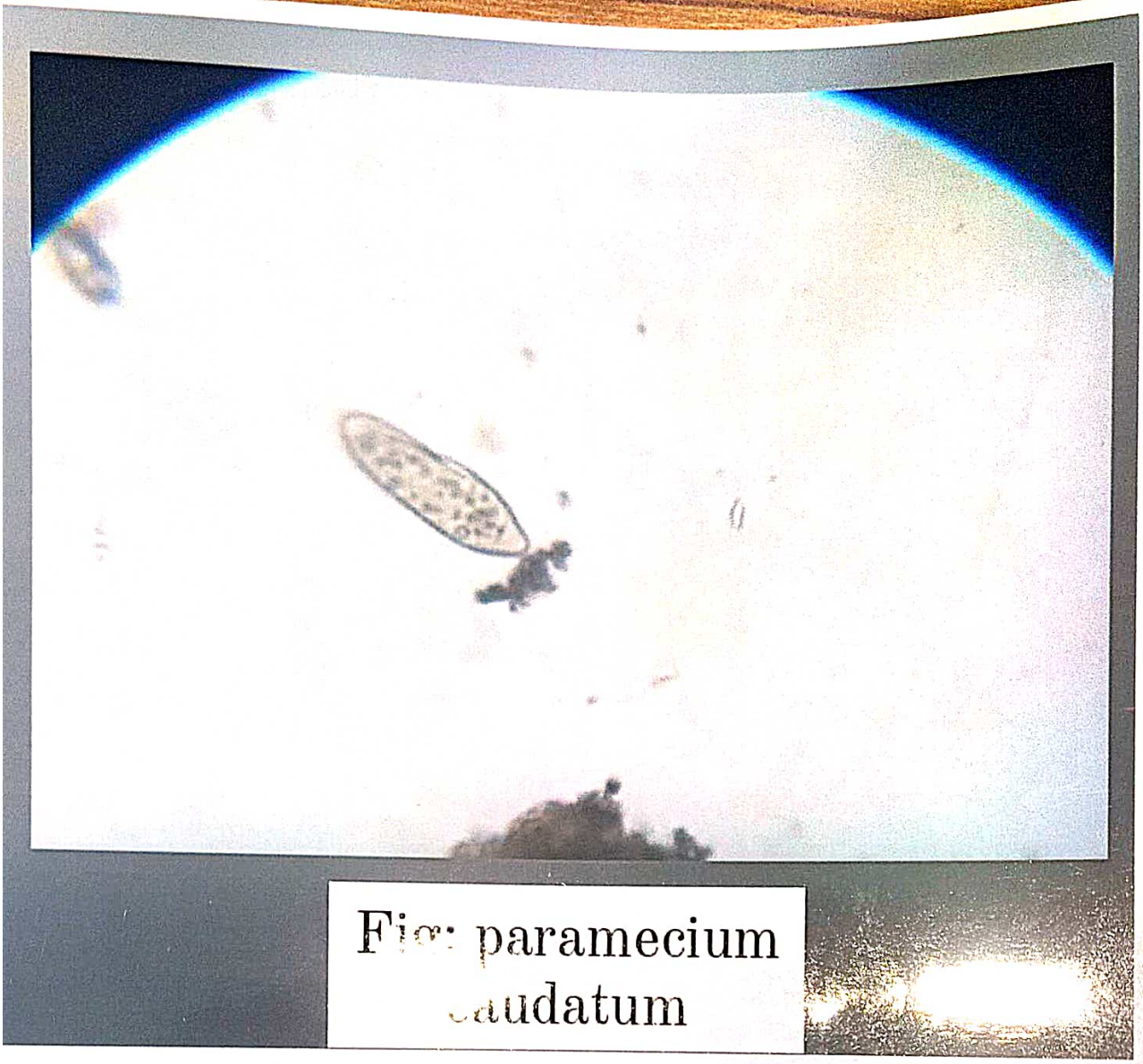

Fig: paramecium caudatum

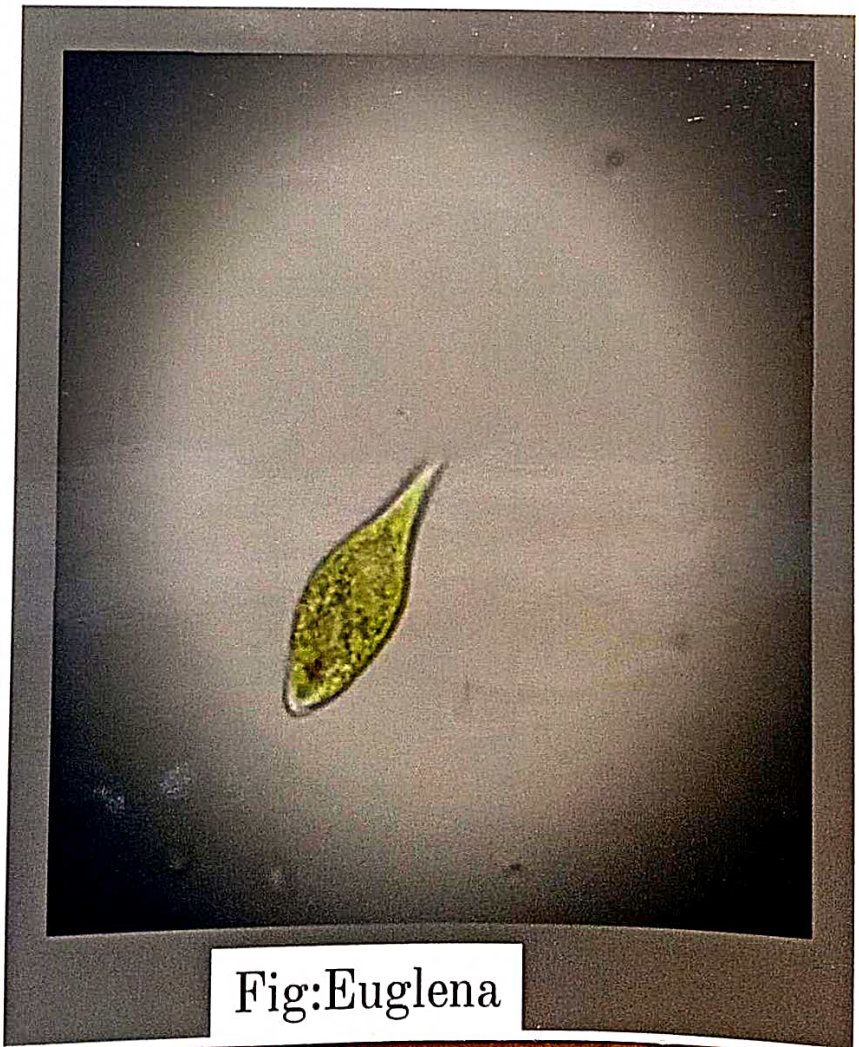

Fig:Euglena

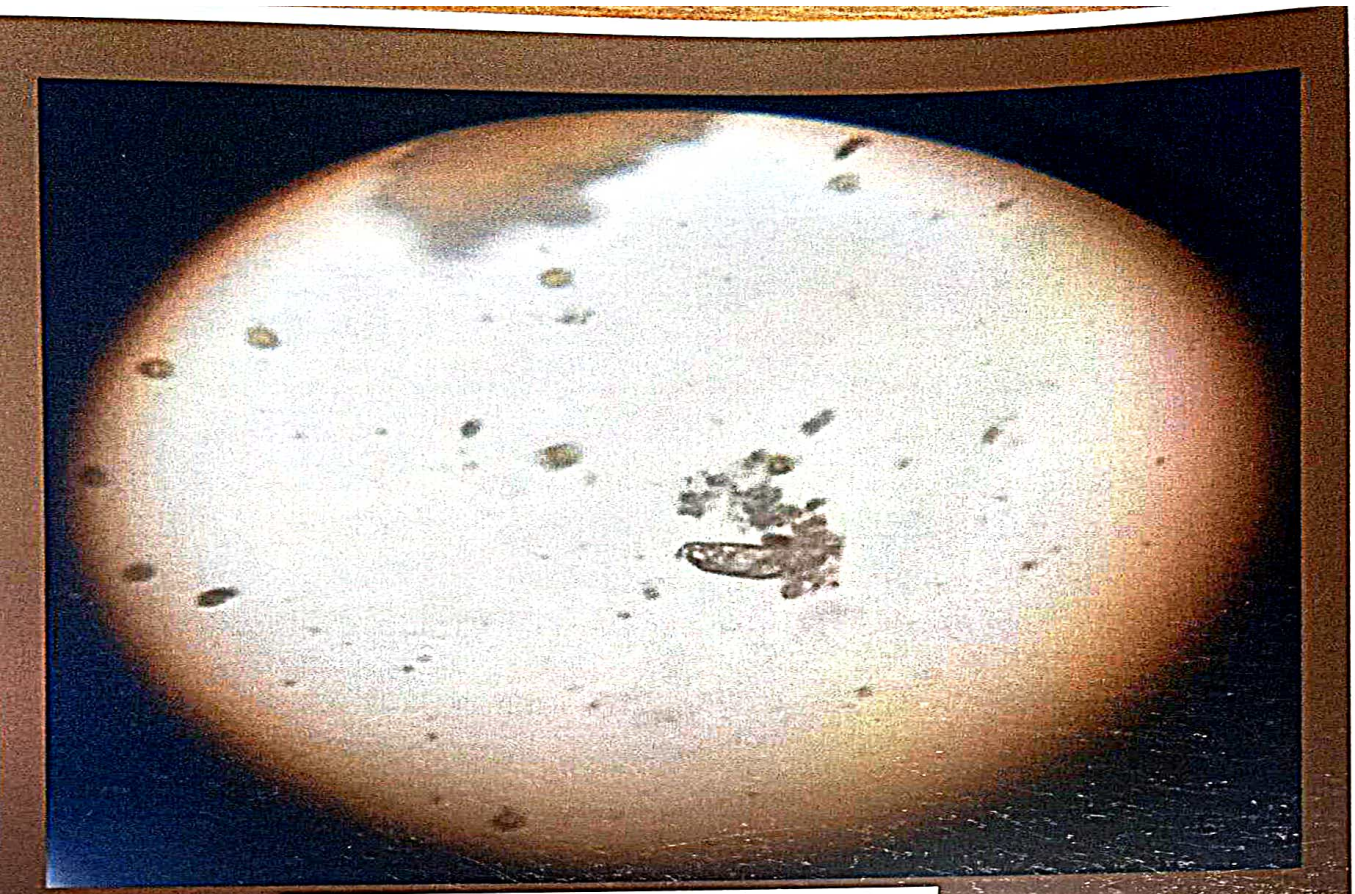

Fig:Euglenoids

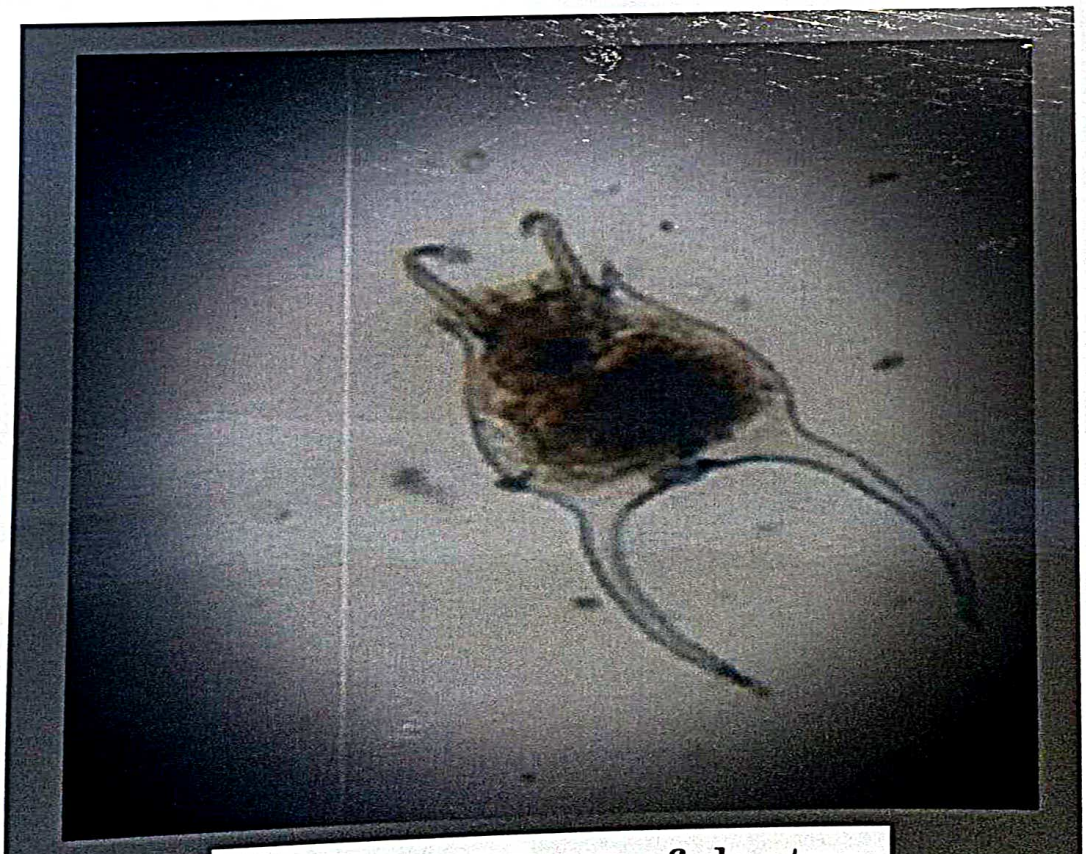

Fig:Brachionus falcatus

Fig:Dephnia magna

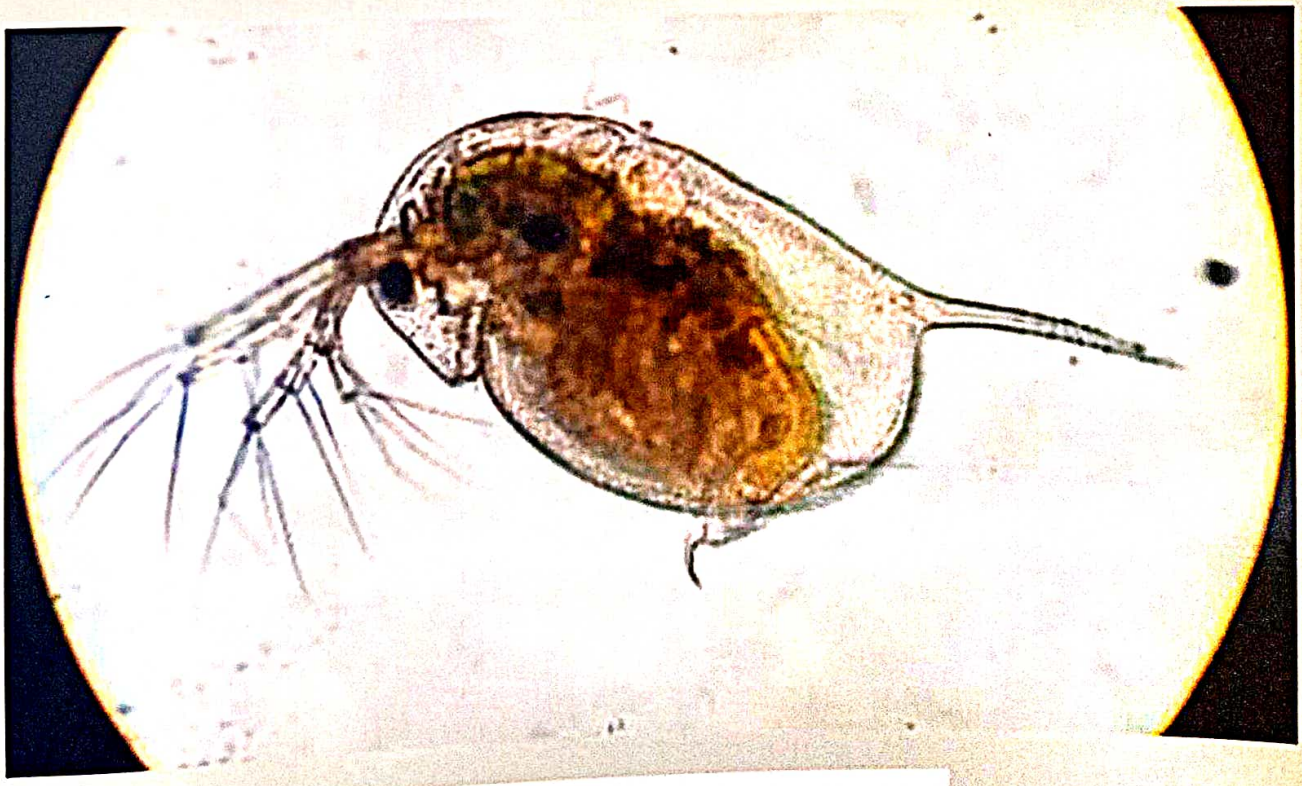

Fig: Dephnia longispina

Fig:Cyclops sp.

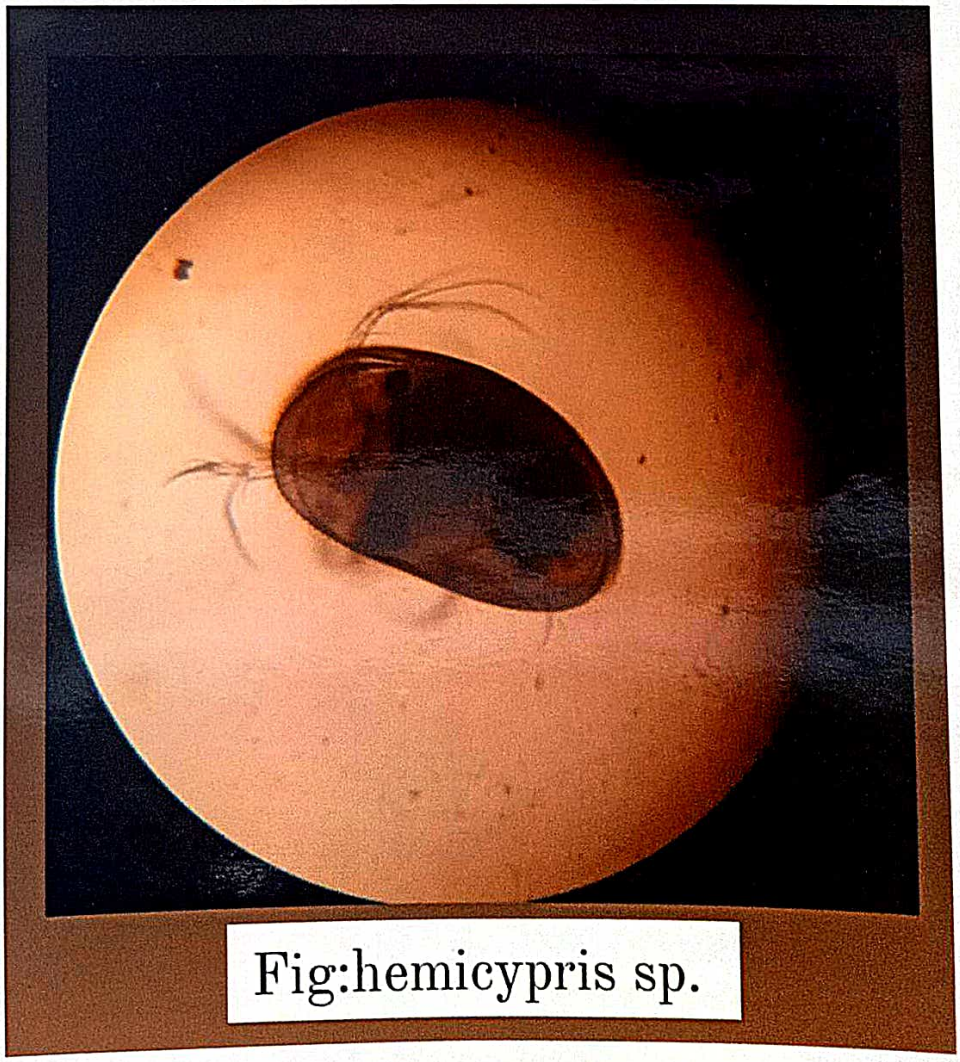

Fig:hemicypris sp.

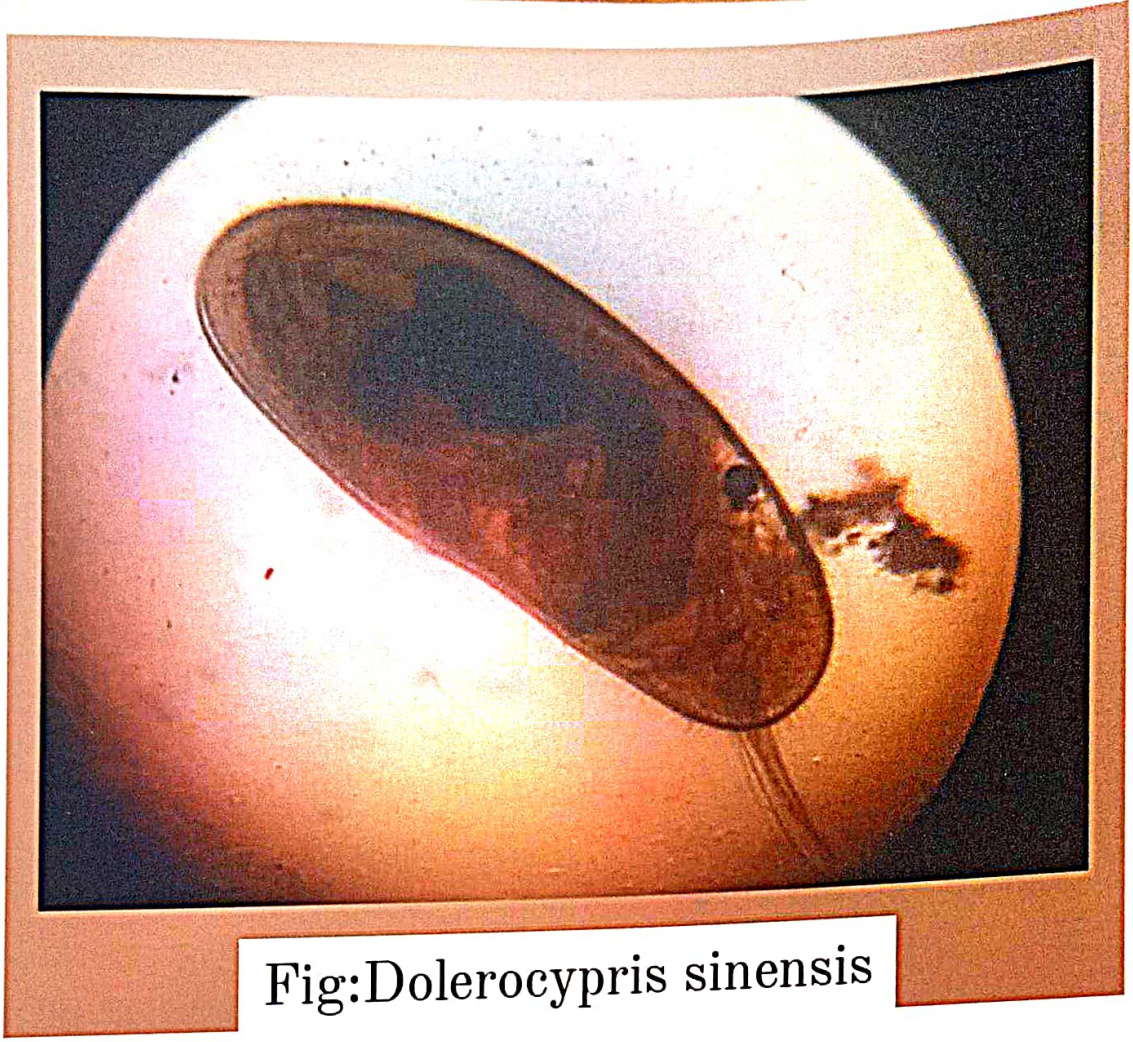

Fig:Dolerocypris sinensis

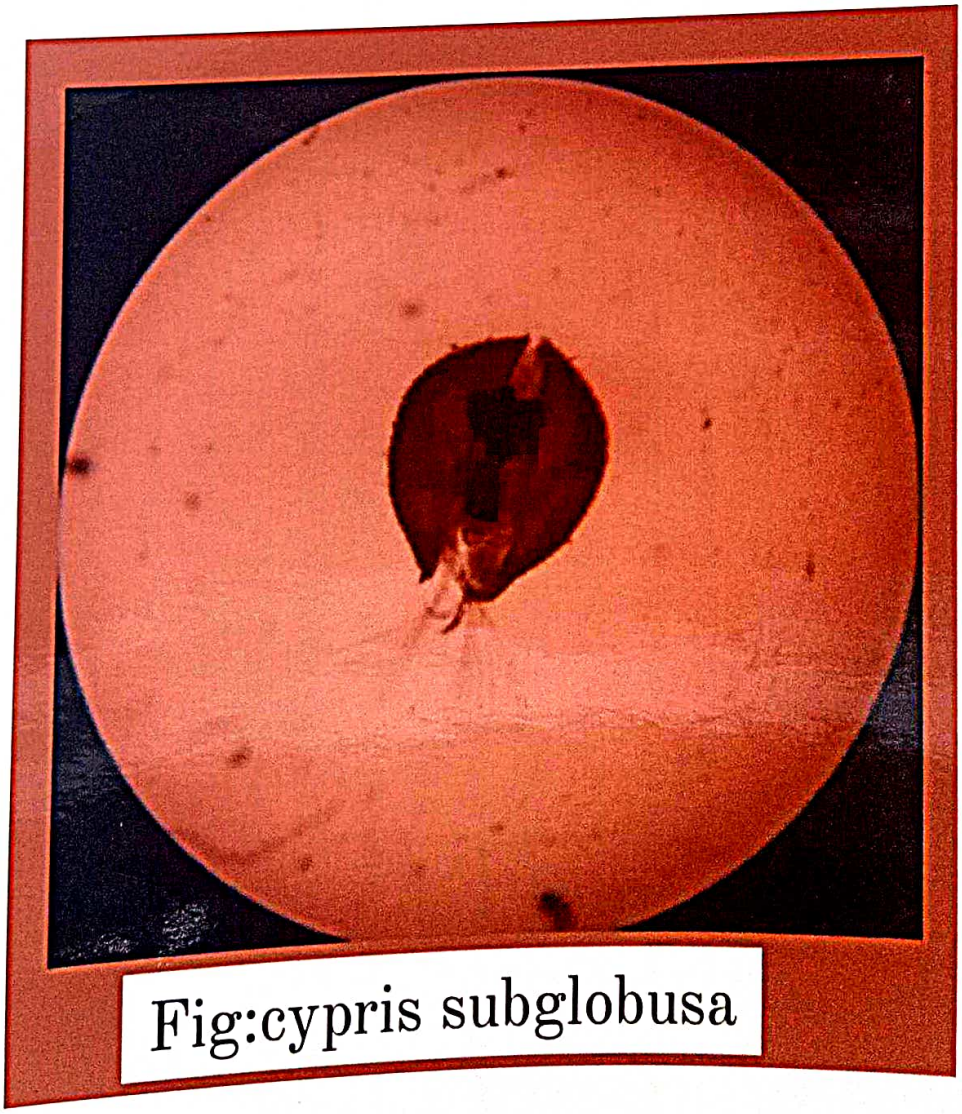

Fig:cypris subglobusa

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Department of Chemistry

List of Project Students M. Sc. II Organic Chemistry 2021-22

Sr. No.	Name of Student	Project Title	Name of Supervisor
1	Swati Ganpat Shirsath	Synthesis of 1,2,3-Triazole Incorporated Thiazolidine-2,4-dione Derivatives	Dr. M. H. Shaikh
2	Sonali Dinkar More	Synthesis of 1,2,3-Triazole Incorporated Thiazolidine-2,4-dione Derivatives	
3	Pratiksha Narayan Shinde	Synthesis of 1,2,3-Triazole Incorporated Phenol Derivatives	
4	Dipali Sanjay Chavan	Synthesis of 1,2,3-Triazole Incorporated Phenol Derivatives	
5	Nayan Dilip Shelke	Synthesis of 1,2,3-Triazole Incorporated Pyrazole Derivatives	
6	Kalyani Rajendra Abhale	Synthesis of 1,2,3-Triazole Incorporated Pyrazole Derivatives	
7	Ankita Sunil Mandlik	Synthesis of 1,2,3-Triazole Incorporated Thiazolidine-2,4-dione Derivatives	
8	Punam Shankar Rathod	Synthesis and Characterization of (2*E*, 11*E*)-*N'*-benzylidenecinnamohydrazide	Dr. R. S. Endait
9	Swapnali Savkar Shinde	Synthesis and Characterization of (4*E*)-4-Benzylidene-1-Phenyl-1*H*-pyrazol-5(4*H*)-one	

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Department of Chemistry
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Ahmednagar

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Department of Physics
Project list B.Sc. 2021-22

Sr. No	Name of the Student	Title of the Project	Name of Guide
1	Darekar Anjali R.	Study of Nuclear Detector	Ms. A. B. Abdule
2	Kale Tejashri M.	Synthesis and characterization of PbS thin film by SILAR method	
3	Lagad Akshata G.	Quiz game Buzzer for four participants	Mr. A. K. Kapare
4	Mhaske Sunita S.	Rain Fall detector	
5	Nalage Akshata P.	To Study the LASER	Dr. S. S. Kekade
6	Pathan Muskan A.	Water Level Controller	
7	Temkar Sakshi D.	Study of "Solar Panel"	Mr. P.V. Kurkute
8	Bansode Priyanka D.	"5V Dual Regulated Power Supply"	

Head
Department of Physics
R.K.M.M.Ahmednagar

Rayat Shikshan Santha's

Radhabai Kale Mahila Mahavidyalaya, Ahmednagar

F.Y.B.COM. - 2021-2022

ADD ON-Computerised Accounting

Sr. No.	Roll Number	Student ID	Student Name
1	2120772	20210086	ABHANG DIKSHA NAVANATH
2	2120774	20210077	ADHAV ARATI YOGESH
3	2120775	20210048	ADHAV SAYALI BAPU
4	2120776	20210150	ADHAV SWAMINI DHARMA
5	2120773	20210049	ADHAV SHRUTI ADINATH
6	2120777	20210043	AKOLKAR SANJANA NAVNATH
7	2120778	20210548	ALHAT VRUSHALI MALHARI
8	2120779	20210094	AMBEKAR PALLAVI DEVIDAS
9	2120780	20210078	ANBHULE PRITI PARAJI
10	2120771	20211120	ANDHALE SAKSHI AMBADAS
11	2120781	20210095	ATHARE SUJATA MITHU
12	2120782	20210141	AVHAD PAYAL ANIL
13	2120783	20210199	BASKAR VISHAKHA AMOL
14	2120784	20210193	BERAD DHANASHREE BALASAHEB
15	2120785	20210223	BHAGAT POOJA DNYANDEV
16	2120786	20210053	BHAGWAT PRIYANKA BAPU
17	2120787	20210089	BHAIRAT DHANASHREE CHAKARDHAR
18	2120788	20210059	BHAMBE SANIKA DIPAK
19	2120789	20210080	BHAND RENUKA RAGHUNATH
20	2120790	20210060	BHOR BHARATI MOHAN
21	2120791	20210079	BHUTKAR BHAIRAVI ARUN
22	2120792	20210034	BORKAR AISHWARYA RAJENDRA
23	2120793	20210066	CHAVAN NIKITA RAJU
24	2120794	20210122	CHAVAN PRANALI ARJUN
25	2120795	20210070	CHITALE VAISHNAVI SATISH
26	2120796	20210233	DAHALE POOJA ANIL
27	2120798	20210093	DALVI TANUJA RAJENDRA
28	2120797	20210465	DALVI PRITI BAPU
29	2120799	20210010	DAREKAR SHRUTUKA SUBHASH
30	2120800	20210052	DEVIKR VAISHNAVI DADA
31	2120801	20210026	DHANAWADE SUPRIYA YALLAPPA
32	2120802	20210124	DHAWALE DIVYA SAMBHAJI
33	2120803	20210105	DHAWALE MAYURI SAMPAT
34	2120804	20210221	DHAWALE VAISHNAVI RAVSAHEB
35	2120805	20210949	DHURPATE TEJASWINI PRAKASH
36	2120806	20210163	GADE SAKSHI MACHINDRA
37	2120894	20211291	GADELOHAR VAISHNAVI BHARAT
38	2120807	20210097	GAIKWAD DIVYA DNYANSHWAR
39	2120808	20210088	GAIKWAD KOYANA ESHWAR
40	2120809	20210139	GAIKWAD LOPMUDRA SHAHAJI
41	2120810	20210145	GAIKWAD RUPALI SANJAY

42	2120811	20210036	GAIKWAD SAKSHI SANTOSH
43	2120812	20210566	GANGARDE PRATIKSHA MAHADEV
44	2120895	20211282	GAWATE VAISHANAVI ADINATH
45	2120813	20210041	GHADAGE PRANITA RAJENDRA
46	2120814	20210251	GHADGE VAISHNAVI ANIL
47	2120815	20210116	GHUGARKAR PRIYANKA BHAUSAHEB
48	2120816	20210024	GHUGARKAR TRUPTI RAMESH
49	2120817	20210372	GHUMARE PRITI CHANDRAKANT
50	2120818	20210014	GORE SHIVANI DATTATRAY
51	2120819	20210017	JADHAV KANCHAN SANJAY
52	2120820	20210092	JADHAV DURGA LOKESH
53	2120821	20210166	JARE PALLAVI VIJAY
54	2120822	20210126	JARE SAKSHI SANDEEP
55	2120823	20210188	JARHAD DNYANESHWARI KESHAV
56	2120824	20211180	JARHAD SUPRIYA RAMESH
57	2120825	20210220	JAWARE UTKARSHA BHARAT
58	2120826	20210925	KADAM MAYURI DINAKAR
59	2120827	20210039	KALE DHANSHRI DATTATRAY
60	2120828	20210063	KARALE KAVERI ASHOK
61	2120829	20210183	KARALE NIKITA DEVIDAS
62	2120830	20210062	KARALE VAISHNAVI VIKRAM
63	2120831	20210304	KHANDAGALE BHAGYASHRI ASHOK
64	2120832	20210224	KURHADE SONAM SOMNATH
65	2120833	20210042	KURHE BHARATI VILAS
66	2120834	20210222	KURHE PALLAVI BHAUSAHEB
67	2120835	20210021	LAWANDE SAKSHI RAMESH
68	2120836	20210180	LOKHANDE VARSHA RAJESH
69	2120837	20210736	MADANE KOMAL CHHAGAN
70	2120838	20210142	MAKASARE PRACHI SURESH
71	2120839	20210091	MALI RAVITA JAGMOHAN
72	2120840	20210001	MIRAGE RADHA GOKUL
73	2120841	20210068	MORE AKSHADA NITIN
74	2120842	20210033	MORE GAURI JALINDAR
75	2120843	20210485	MOTE VAISHNAVI GITARAM
76	2120844	20210138	MULE SHAMAL BHAGWAN
77	2120845	20210022	NAJAN ASHWINI VISHNU
78	2120846	20210046	NARWALA SHRUTIKA ANIL
79	2120848	20210130	NIMASE SHRUTI BABASAHEB
80	2120847	20210113	NIMASE AKSHADA GORAKH
81	2120849	20210327	NIMSE TEJASWITA ARJUN
82	2120850	20210006	PACHANGE KAVERI SURESH
83	2120851	20210064	PATHAN KAUSAR KADAR
84	2120852	20210115	PAWAR ANJALI SHAHAJI
85	2120853	20210023	PAWAR KIRAN DATTU
86	2120854	20210107	PAWAR RUTUJA BABASAHEB
87	2120855	20210072	PAWAR SMITA SANJAY

88	2120856	20210108	POTE PAYAL BHAUSAHEB
89	2120857	20210027	RAHINJ DURGA KARBHARI
90	2120859	20210952	RAUT SHIVANJALI SANTOSH
91	2120858	20210915	RAUT SONALI SUNIL
92	2120860	20210084	ROKADE SUPRIYA SOPAN
93	2120861	20210071	SAPATE KOMAL NILESH
94	2120862	20210146	SASE ARATI POPAT
95	2120863	20210087	SASE MAHESHWARI SAMBHAJI
96	2120864	20210085	SASE SAKSHI SUDAM
97	2120865	20210214	SATRE PRIYANKA VIJAY
98	2120866	20210019	SHAIKH KANEEZ RASUL
99	2120867	20210018	SHAIKH KASHAF ISMAIL
100	2120868	20210274	SHAIKH MINAJ MANSUR
101	2120871	20210144	SHINDE PRATIKSHA NANDU
102	2120869	20210067	SHINDE BHARTI VIJAY
103	2120870	20210020	SHINDE MAYURI NAMDEV
104	2120872	20210123	SHIRSATH NIVEDINI BALASAHEB
105	2120873	20210045	SONAWANE ANISHA VINOD
106	2120874	20210472	SONAWANE PRIYA BAPUSAHEB
107	2120875	20210004	SONAWANE RUTUJA SHIVAJI
108	2120876	20210099	SONVANE SHIVANI ANIL
109	2120877	20210025	SUPARE PRIYANKA BANDU
110	2120878	20210011	SUPEKAR SONALI MAHADEV
111	2120879	20210175	SUSE AMRUTA NANDU
112	2120880	20210131	SUTAR SAKSHI SAYAJI
113	2120896	20211304	TAGADKAR VAISHANAVI DHONDIRAM
114	2120881	20210009	TIDAKE SAYALI JANARDHAN
115	2120882	20210219	TIKKAL VAISHNAVI NANDARAM
116	2120883	20210090	TIMKARE VAISHNAVI RAMDAS
117	2120884	20210262	TODMAL TEJASVINI KAILAS
118	2120885	20210136	TOGE MAYURI SOPAN
119	2120886	20210164	UGHADE AARTI RAJENDRA
120	2120897	20210093	VICHURKAR TANUJA SHYAM
121	2120887	20210037	VISHWASRAO CHATALI KISHOR
122	2120888	20210152	WAGH MEGHA VIJAY
123	2120889	20210149	WAGH NIKITA BHAUSAHEB
124	2120890	20210134	WANDHEKAR VRUSHALI BABASAHEB
125	2120891	20210125	WARE SHRUTI SHRIKANT
126	2120892	20210075	WAYBHASE PRACHI SANJAY
127	2120893	20210065	ZINE ROHINI SUBHASH

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Radhabai Kale Mahila Mahavidyalaya

M.Com.- II - 2021-2022

Sr. No.	Roll Number	Student ID	Student Name	Mobile
1	2121521	20211072	ALHAT RESHMA SUBHASH	9730285385
2	2121522	20210817	ANNADATE SHRADDHA MILIND	7972524618
3	2121570	20211229	Baravakar Mayuri Arun	8329582627
4	2121523	20210814	BELKAR ANKITA ANKUSH	9579208627
5	2121524	20210821	BERAD SHUBHANGI VISHWANATH	9552009988
6	2121525	20211049	BHAGAT KOMAL DNYANDEO	9307144008
7	2121526	20211055	BHINGARE ANJALI DATTATRAY	8308781690
8	2121527	20211198	BHOSALE SANCHITA EKNATH	9834581843
9	2121528	20210812	BHOSALE VIBHAWAREE ANAND	8975914406
10	2121529	20210785	BODHALE KARTIKI RAMDAS	9373428407
11	2121530	20210855	DARKUNDE MAYURI PRAKASH	7350708376
12	2121531	20210902	DAVKHAR RENUKA RAVINDAR	9373290704
13	2121532	20210907	DETHE JYOSHNA KACHARU	9067847003
14	2121533	20211003	DEVKAR ANUJA VISHNU	9766909081
15	2121534	20210881	GADAKH AISHWARYA VIKAS	9881960953
16	2121535	20211070	GADALKAR NIKITA RAJENDRA	9130390066
17	2121536	20210914	GAIKWAD KALYANI SUDHAKAR	8329988158
18	2121537	20210816	GAIKWAD MANSI PANDURANG	8600613098
19	2121538	20211054	GAIKWAD SHITAL DNYANDEO	9922573161
20	2121539	20210916	GHORPADE MADHURI MADHAV	9021294326
21	2121540	20210833	GHORPADE RADHIKA AMBADAS	8830035844
22	2121541	20211127	GITE POOJA CHANGDEV	9623609639
23	2121542	20211056	GORE PRATIKSHA DATTATRAY	9067380524
24	2121571	20211225	Jagtap Bhakti Dattatray	8766468781
25	2121543	20211156	JAVARE BHARTI GITARAM	9322189004
26	2121544	20210772	KAD PRATIKSHA SUDHAKAR	9579735648
27	2121545	20211190	KALAMDANE SNEHAL GOKUL	7083520294
28	2121546	20210946	KAMBLE SAYALI KAMBLE ASHOK	9021720274
29	2121547	20210944	KAMBLE SNEHAL ASHOK	9021720274
30	2121548	20210840	KARALE AARTI SHIVAJI	9373940098
31	2121549	20211051	KARALE DHANASHRI RAMESH	9403389354
32	2121550	20210771	KARJULE SONALI VISHWAS	7020717139
33	2121551	20210836	KHAN NABILA KADIR	8237423779
34	2121552	20210877	KOTKAR RUPALI DEVIDAS	9422662944
35	2121553	20210893	MORE PRATIKSHA BHAUSAHEB	8600895318
36	2121554	20211129	MORKAROSE YOGITA RAVINDRA	7038800023
37	2121555	20210807	MOTE POONAM SHAHARAM	9096845763
38	2121556	20210820	NAJAN PRIYANKA UTTAM	9049762442
39	2121557	20211020	NALBAND NISHANT ZUBER	7499303294
40	2121558	20211122	NATAK PRATIKSHA SHIVAJI	9579093199
41	2121559	20210993	NIMSE ANJALI ARJUN	9021614452
42	2121560	20211053	PATHAN FIZA RAHIMBAKSH	9657332422
43	2121561	20210858	RASAL KOMAL SANJAY	8080172153
44	2121562	20210810	SATALE MANJUSHRI KALYAN	8999011371
45	2121563	20210815	SHEDALE RUCHITA VILAS	9623710235
	2121564	20210846	SUPARE VRUSHALI BALASAHEB	8956655633

47	2121565	20210862	TAMBE BHAGYASHRI NAMDEV	9850170514
48	2121566	20210989	TAMBOLI MUSKURA NIJAM	8459205563
49	2121567	20211174	TIKKAL SEEMA SANJAY	9423753203
50	2121568	20210918	VIRKAR GEETA BALASAHEB	9049653532
51	2121569	20210791	ZAREKAR ZAREKAR APARNA	9325980636

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TY BBA(CA) Term 2 Project Guide

Sr.No.	Name	Project Name	Guide
1	Ghorpade Komal Raju Ithape Jyoti Satish	Online Costmatic Shop	Prof. kotkar A.L.
2	Pawar Akanksha Rajendra Pawar Pratiksha Mohan	Online Hotel Booking System	Prof. Kute A.S.
3	Nikale Madhuri Shivaji Akolkar Priti Ananda	Library Management System	Prof. kotkar A.L.
4	Shaikh Momin Afsha Iqbal Shaikh Momin Alisha Iqbal	Online Furniture Shop	Prof. Shinde N.R.
5	Sayyad Masira Akbar Sharma Indira Deepak	Electronic Shop	Prof. kotkar A.L.
6	Jadhav Pooja Ramesh Ingale Darshana Dilip	Online Footwear Management System	Prof. Kute A.S.
7	Wagh Shraddha Madhav Shaikh Muskan Husen	Agriculture Management System	Prof. Shinde N.R.
8	Karale Nikita Babasaheb Karale Neha Babasaheb	Online Clothes Shop	Prof. kotkar A.L.
9	Parvat Akanksha Madhukar Agale Sanskruti Somnath	Online Jwellary Shopping	Prof. Kute A.S.
10	Rokade Anjali Machindra Jaykar Sakshi Bagaram	Online Flower System	Prof. Shinde N.R
11	Dudhade Pratiksha Ramdas	Online Job Portal System	Prof. kotkar A.L.
12	Shaikh Saleha Salim Vaishnavi Ram Pund	Student Management System	Prof. Kute A.S.
13	Mote Sayali Sanjay Sonawane Shravani Vinod	Airline Reservation System	Prof. Shinde N.R
14	Khandagale Jayashri Ashok Khose Nikita Anil	Blood Donation Form System	Prof. kotkar A.L.
15	Farate Mayuri Mangesh Dethe Gautami Francis	Online Food Order	Prof. Kute A.S.

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Department of B.C.A.
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TY BBA(CA) Term 2 Project Guide

Sr.No.	Name	Project Name	Guide
16	Jaware Bhagyashree Bhaskar Nehul Twinkal Manik	Music Library Management System	Prof. Shinde N.R
17	Vighave Sayli Arun	Online glossary Shop	Prof. kotkar A.L.
18	Kamble Tejal Raju Kale Divya Bharat	Online Cake Ordering System	Prof. Kute A.S.
19	Gaikwad Priyanka Babasaheb	Online Art Gallery	Prof. Shinde N.R

HEAD
Department of B.C.A.
Radhabai Kale Mahila Mahavidyalaya
Ahmednagar
HOD

BBA(CA)

Evs Project

S.Y. B.A - 2021-22

1) Priti Raosaheb Auchite
2) Ishwari Dnyaneshwar Akhade
3. Jadhav Snehal Sudam
ND 4) Sheikh Seem Sabeel incomplete
NO 5) Pawar Jayshree Babasaheb. Pawar
NO 6) Patare Geeta Eknath. Patare
Yes 7) Godase Shubhangi Vikram. Godase.S.V.
No 8) Jagtap, Rajesh Kangjiya Jagtap
No 9] Birare Pallavi Rajendra Pallavi
No 10] Mirpagar Minakshi Sunil Minakshi
No 11] Dahatonde Kalyani Dattatraya
No 12] Aishwarya Kalis Shinde A.K.Shinde
No 13) Korde Vaishnavi Sudhakar Korde.V.S
No 14) Khude Preeti Ganpat Khude
No 15) Bhingardive Kalpana Nandram Kalpana
No 16) Arati Dileep Rathod Arathod
No 17) Sakshi Nitin More Sakshi
No 18) Smita Popat Kale Kale
Yes 19) Tabassum Salim pathan T.S.Pathan
Yes 20) Bade Nikita Subhash Bade
No 21) Chitalkar Sonali Sukhdev
No 22) Khaman Rohini Ramdas
No 23) Bhagat Kavita Vilas Bhagat
Yes 24) Bhagat Rohini Navnath Bhagat
Yes 25) Shaikh Ujma Sikandar Ujma.
Yes 26) Kale Prerana Sunil P.S.Kale
Yes 27. Amrute Prachi Uddhavrao. Prachi

No 28) Shinde Supriya Ajay
No 29) Telore sonali Balu
yes 30) sayyed shifa salim
No 31) Shinde Sharda Rajendra
Yes 32) Vitekar Truptee Santosh
Yes 33) Dhawade Rupali Dattatray
No 34) Sudrik Vaishnavi Bhausaheb.
No 35) Makasare Alisha Arun - A.A. Makasare.
No 36) Bhambel siya vijay - S.V.B.
No 31) Bilare Shradha Balu.
No 32 Shaikh Kulsum Raimohammad
No 33) Pathan Saniya Ajju
No 34) Ware Neha sunil
No 35] Jadhav Priyanka Appa
No 36] Tawale Bhakti Ramesh
No 37] Madhave Monika Babasaheb
No 38] Bankar Gayatri Sanjay
No 39) Sakshi Nandu Tak
No 40) Prerna Balasaheb Bhalerao
yes 41) Pathan Arbeena samir.
No 42] God Kalyani Nandu
43) Dukare Shital Madhukar
44) Katore Aparna sampat.
45) Bhingardeve Kalyani Chandrakant

BUS Project
S.Y. B. Com - 2022-23

Bhingardive Kalyani Nandram
yes 1) Dani vaishnavi sunil
2) Shaikh Alfiya Latif
3) Chavhan Bharti Bhaurao
4) Rokade Ashwini Sanjay
5) Padol Priti Santosh
6) Nimse Tanuja Sanjay
7) Sk Naik Abhilasha Bhagwant
8) Dube Nikita Sunil
yes 9) Bhumkar Mayuri Balasaheb
yes 10) Chavan Sakshi vinod
11) Makate Bhavana Babasaheb
12) Yewale pooja sanjay
13) Lotake Aishwarya Raosaheb
14) Prajapati Aanchal Ramsharan
yes 15) patare priyanka Bhaskar
16) Khandave Shubhangi subhash
yes 17) Danve Renuka Macchindra
No 18) Shingate Snehal Sunil
yes 19) Pansare Apurva Atul
No 20) Kale Aakanksha Ravindrakumar
No. 21) Londe vaishnavi Rajesh
Yes 22) Kakade Aishwarya Vijay
Yes. 23) More savita Rajendra
Yes 24) Dhamdhere Utkarsha Vilas
yes 25) Bhoge Akshada Balasaheb
yes. 26) Shaikh Tasmiya Shakil
Yes 27) Shaikh Anjum Shakil
No. 28) Geeta Machhindra Bhujbal
Bhagat Divya Ganesh
Vaishavi vani

Yes	Raut Akanksha Indrabhan	Raut. A. I
	Raut Nikita Dattatray	Raut. N. D
	Pagire Bhagyashri gorakshanath	~~Pagire~~
yes	Shinde Vaishnavi Bhimraj	Shinde. V. B.
yes	More shubhangi Ashok	Shubhangi.
yes	Gadallkar Vaishnavi Sunil	Vgadalkar.
Yes	Tamboli Sana Yunus	Sana.
Yes	Shingavi Gauri Kantilal	Gauri
~~No~~	~~Gaikwad Poornima sanjakant~~	~~Gaikwad~~
~~No~~	~~Mirpagar Minakshi santi~~	Minakshi
No	Bhite Priti Ranganath	Priti
~~NO~~	~~Jagruti Rajesh kanojiya~~	~~Jagruti~~
~~NO~~	~~Pallavi Rajendra Birare~~	Birare.
Yes	Nistane Shradha Sanjay	Shradha.
No	Bhise Pratiksha Rajendra	Bhise
NO	Kale Puja Rajendra	Kale
No	Dalvi Sayali Anil	Salvi
NO	Shinde Anisha Bhau	Anisha
	~~Ughade divya Rajendra~~	~~Div~~
No	Sosane Mayuri Ramesh	Mayuri
Yes	Neha Jalindar Pund	Neha
No	Vaishanavee ~~Atul~~ Sukhdev Gaikwad	Vaishnavee
yes	Gadakh chaitali Sarjerao	Gadakh.
No	Todmal Reshma Jayram	Reshma.
Yes	Jawale Gayatri Bhausaheb	Gayatri
52 ~~Yes~~ No	Ghadsingh Jiya Ravindra	Jiya
53	Shaikh shayna Hanif	Shayna.
54	Naik Nikita Bapurao	Naik
	Shinde Vaishnavi Sanjay	V. S. Shinde
55	Alhat Vishakha Nitin	Alhat. V.
	Tarwade Pallavi Chandrakant	P. C. Tarwade
	Raskar Hanmant Sanjay	Hanmant
	Pandhare Ankita Raju	Ankita
	Kad vaishnavi Santosh	Kad.

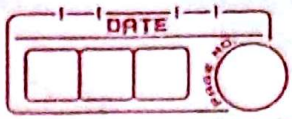
Environmental Science Project

B.Sc - 2021-22

Sr. No.	Name of Student	class	Sign.
1	Pathan Alfiya Javed	SY BSc	Alfiya
2	Dolase Pratiksha Ganesh	SY BSc	Pratiksha
3	Kurhe Aarti Vilas	SY BSc	Kurhe
4	Dangat Vaishnavi Adinath	SY BSc	Vaishu
5	Bhosale Rutuja Suresh	S.Y. BSc	Bhosale
6	Sayyad Muskan Sultan	SY BSc	Sayyad M.
7	Dusunge Manika Sanjay	SY. BSc	
8	Kadus Trupti Babasaheb	S.Y. BSc	Kadus
9	Ganje Pratiksha Sanjay	S.Y.B.Sc	GanjePS
10	Shaikh Hinakausar Amin	S.Y.B.Sc	Shaikh H.n.
11	Thombal Rutuja Dnyandeo	S.Y.BSc	TR
12	Adhav Sandhya Dnyandeo	S.Y.BSC	Adhav
13	Walke Sushama Pandit	S.Y.BSc	Walke
14	More Bhakti Anandrao	S.Y.B.Sc.	Bhakti
15	Pandarkar Vasudha Dada	S.Y.B.Sc	Vasudha P
16	Korhale Kajal Dattatray	S.Y.BSc	Korhale
17	Shaikh Rukhsar Reena Mo	S.Y.BSc	Rukhsar
18	Ghorpade Rutuja Dipak	S.Y.BSc	GhorpadeR
19	Theurkar Vandana Yuraj	SY. BSC	Theurkar
20	Adhav Harshali Bapusaheb	SY.BSc	Adhav
21	Birale Aarti Balu	SY.BSc	Aartibirale
22	Thombal Kshitija Balasaheb	S.Y.BSc	KT
23	Dhavade Radhika Pramod	S.Y.BSC.	Dhavade
24	Mahadik Archana Vishnu	S.Y.BSc	Mahadik
25	Jadhav Tisha Prakash	SYBSC	Tisha
26	Hosbing Monika Rajendra	S.Y.BSc	Monika
27	Devkhile Manisha Kantilal	S.Y.BSc	Devkhile

SY. Bsc

28) Pawar Anjali Santosh SYbsc Pawar
29) Kokate Pallavi Chandrakant SYBSc Pallavi
30) Nalkul Mayuri Shahaji SYBSc Mayuri
31) Mirchandani Aparna Sunil SYBSc Aparna
32) Shaikh Sadaf Sabir S.Y.B.Sc Shaikh
33) Tapkir Pragakta Ajinath S.Y.Bsc
34) Shaikh meharaj yakub S.Y.BSc Shaikh
35) Kale Bhagyashri shankar S.Y.Bsc Kale
36) Timkare priyanka Balasaheb S.Y.bsc Timkare
37) Jadhav Preeti Raju SY.bsc Jadhav
38) Kale komal Santosh SY.bsc K.S.Kale
39) Pawar karishma kachru S.Y.BSC Karish
40) Sanap prajakta Bhagwan S.Y.B.Sc.
41) Sase shivani Vijay. SY bsc Shivani
42) Shinde Pranjal Kailas SYBSc Pranjal
43) Bhosale Manishri Daulatrao S.Y.BSc
44) Aakash Kavita shyamsingh SY.Bsc Kavita
45) Shaikh Ayesha shahabuddin S.YBSc Shaikh
46) Bankar Puja Ramdas S.YBsc Puja
47) Pawar Shraddha Suresh S.YBsc Shradh
48) Avhad Smita Shashikant S.YBSc Avhad
49) Bhawar Rutuja Bansi - SYBSC - Rutuja
50) Shaikh Bushra Hasan - SYBSC - Shaikh
51) Khan Muskan Riyaz SYBSC - Mkhan
52) Patare Bhakti Vitthal SYBSc Bhakti
53) Mujawar Bushra Akbar SYBSc Bushra
54) Kamble Nehakumari Balasaheb SY.Bsc
55) Shinde Pranjal Kailas SYBSc Pranjal



Enagul

STBSc

No 55	Jadhav Ashwini Gorakh	Afzal
56	Korde Rutuja padmakar	Korde R.P
57	Shaikh Sidra fatima Shahajan	Sidra
Yes 58	Pathan Jiyasha Harun	Jiyasha
59	Sayyed Misba Faruk	Sayyed
No 60	Shaikh Zainab Mukhtar	Zainab
No 61	Shaikh Shaffaq Rijaj	
No 62	Shaikh divya taj M.	
63	Gaikwad Sakshi Bhausaheb	Gaikwad
64	pathan Tanvir shah.	
65	Dhamane Sonal Santosh	Dhamane
66	Pund Pradnya Balasaheb	
Yes 67	Jadhav Bhagyashri Sunil	Jadhav
Yes 68	Kadam Namrata Vishwanath	Kadam
yes 69	Muthe Rutuja Daulat	Rutuja
No 70	Patare Swati Vijay	Patare
Yes 71	Jadhav Dhanashri Sunil	Jadhav
No. 72	Ughade divya Rajendra	
73	Devkar Shweta Bharat	Shweta
74	Bhujbal shradha Balasaheb	Bhujbal
No 75	Pathan Mishah Nisar	
No 76	sayyed Fiza Irfan	Fiza
no 77	Sayyad mahin Altaf	
No 78	Beg Naushin Fakruddin	Naushin
79	kale Geetanjali Rajendra	kale G.R
80	kothimbire Chaitali Pravin	P.
81	Shaikh Lubina Mustak	Lubina
82	Shaikh Misba Rijaz	misba

S.Y. BSC. EVS. Extended.

No 1)	zine Tejaswini chandrabhan	Tejaswini
2)	Dusunge Monika sanjay	~~Monika~~
3)	Gunjal Vaishanvi Raju	Gunjal V.R
4)	Jangam Vanda Somnath	~~Jangam~~
5)	Khan Humera F. Shahnawaz	
6)	Shinde Sandhya Surendra	~~Shinde~~ S.
No 7)	Shaikh Aayesha Mobin	Shaikh
8)	Qadri Saiba fazluddin	Saiba
9)	Biraee Aarti Balu	Aartibiraee.
10)	Sayyed Numa Sabir	Numa
11)	~~Pawar~~ Rutuja Dnyanadeo	~~Rutuja~~
12)	Prajapati AAchal Ramsharan	Aanchal.P
13)	kole komal Santosh	k.s.kale
14)	Jadhav Preeti Raju	Jadhav
15)	kale Geetanjali Rajendra	kale.G.R

Rayat Shikshan Sanstha's

Radhabai Kale Mahila Mahavidyalaya, Ahmednagar

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Department of Geography

भूगोल विभागांतर्गत द्वितीय व तृतीय वर्षातील भूगोल विषय स्पेशल असलेल्या विद्यार्थिनींनी गुरुवार दि.१२ मे २०२२ रोजी धनगरवाडी ता.नगर येथे जाऊन गाव सर्वेक्षण केले. या सर्वेक्षणासाठी पुढील विद्यार्थिनीं उपस्थित होत्या.

Sr.No.	Student Name	class
1	JAGRUTI RAJESH KANOJIA	SYBA
2	RUPALI DATTATRAY DHAWADE	SYBA
3	GEETA EKNATH PATARE	SYBA
4	KALYANI RAOSAHEB GAIKWAD	TYBA
5	MADHURI SUNIL SASE	TYBA
6	VANITA JALINDAR SASE	TYBA
7	SHINDE VAISHNAVI GANESH	TYBA

Sign:

HoD

HEAD
Dept. of Geography
Radhabai Kale Mahila Mahavidyalaya
Ahmednagar

Sign:

Principal

PRINCIPAL
Radhabai Kale Mahila Mahavidyalaya
Ahmednagar