HYDROGRAPHY AND SEDIMENT PROFILE OF MALPE AND GANGOLLI ESTUARY-LINKED COASTAL WATERS, SOUTHWEST COAST OF INDIA

Hande H S* and Madhyastha M N**
* Department of Biology International Center for Health Sciences Manipal-576119. ** Department of Biosciences Mangalore university Mangalagangotri-574199.

ABSTRACT

Bottom water hydrography and sediment profile of the estuary-linked coastal waters of Malpe and Gangolli were analyzed for a period of two years. Salinity of bottom water and interstitial salinity showed significant spatial and temporal variations. The dissolved oxygen showed significant seasonal variations. Among the nutrients, organic carbon showed significant spatial variations with high percentage of organic carbon in finer sediments in the coastal waters. The total nitrogen showed post-monsoon peak in most of the stations. Stations M1, M2, G1 and G2 showed a low percentage of silt-clay fraction, mainly because of the filtering capacity of these estuaries. The sediments in these stations were negatively skewed and well sorted.

Key words: sediment, bottom-water, hydrography, seasonal, estuary, coastal, salinity, monsoon, nutrients, sand, silt, clay
FRESH WATER ALGAE FROM PASHAN LAKE

B.N. Zaware¹ and S. D. Pingle²

¹Department of Botany, Baburaoji Gholap College, Sangvi, Pune 411 027
²Department of Botany, P.V.P. College, Pravaranagar, Loni 413713

ABSTRACT

Pashan lake is situated northwest to Pune railway station on NDA road. It is about 3 km from University of Pune and 7 km from the Pune Railway station. The lake was screened for different forms of algae during the year 2001. Periodic collections have been made from different selected sampling points of the lake at an interval of a fortnight during January 2001 – December 2001. The samples have been collected in polyethylene bottles and preserved in 4 % formalin and or Lugol’s solution for detail studies. The live as well as preserved forms were observed under phase contract microscope and identified with help of Philipose, Smith, Fritsch and Prescott. Individual algal form or colony was photominigraphed in Department of Botany, University of Pune, Pune 411 007. During the studies several algal forms were encountered, most of these were planktonic, free floating, some were epiphytic and few were epizoic. The algal forms belong to 42 different genera of Cyanophyceae, Chlorophyceae, Bacillariophyceae, Dinophyceae, Chrysophyceae and Euglenophyceae. Amongst these Ankistrodesmus, Pinnularia, Gomphonema, Pediastrum, Scenedesmus, Tetraedron, Hydrodyction, Chara, Nostoc, Oedogonium, Anabaena, Pithophora, Rhizoclonium, Cosmarium, Spirogyra, Closterium, Coelastrum and Cylindrospernum were found to be common.
LIMNOLOGICAL CHARACTERISTICS OF AN ABANDONED LIMESTONE MINING POND (MINES 1, TANCEM), IN ARIYALUR, TAMIL NADU

R.SORUBA* AND J.EBANASAR**

*Lecturer in Botany, Quaid-E-Millath College for women, Chennai - 2.
**Lecturer in Zoology, Government College (Autonomous) Kumbakonam.

Abstract

Limnological characteristics of pond formed by mines I of TANCEM(Ariyalur, Tamil Nadu) was carried out from August 1999 to August 2000. This is formed by limestone mining. No limestone mining activity is going on at present. 20 parameters (physico chemical) were estimated. pH value was found to vary from 7.2 to 9.3. Dissolved oxygen varied from 8.4 to 31.2 mg/l. The present study reveals that this water can be used as a water source both for drinking, domestic purposes and aquaculture practices.

(Keywords-limestone mine pond, dissolved oxygen, total alkalinity, pH, potability)
GROWTH AND BIOCHEMICAL CHARACTERISTICS OF OSCILLATORIA SUBBBREVIS SCHMIDLE

Jitha G and Ammini Joseph
School of Environmental Studies, Cochin University of Science and Technology, Kochi-682016

ABSTRACT

Oscillatoria subbrevis was isolated and purified to monocultures in BG 11 medium. The biomass yield at ambient conditions and media of different pH and alkalinity were screened. The amount of chlorophyll and phycocyanin was estimated. The species is mat forming type and could be harvested as mat floats as scum in 12-15 days. The protein, lipid and carbohydrate content of the species were analyzed. The species has biochemical composition of 40% proteins, 7% carbohydrates and 1.26% lipids.
A REVIEW ON THE QUANTUM OF PHYTOPLANKTONIC PRIMARY PRODUCTION OF A POLLUTED FRESH WATER POND

N. RAJAKUMAR

Reader in Botany, N.G.M. College (Autonomous) Pollachi - 642 001

ABSTRACT

Phytoplanktonic primary productivity was estimated in 1996 in a polluted fresh water pond christened Krishnan Anaikattikulam (KAK Pond) located near Pollachi. In 1996 it was concluded that the pond exhibited high rates of gross primary productivity (GPP = 24.97 gC/m^3/day in June 1996). The GPP and NPP values along with rich phytoplanktonic content of water mass (68450 0/1 in June 1996) were indicative of highly polluted nature of the pond. Five years later in 2001 a review on the quantum phytoplanktonic primary productivity of the pond was carried out and it was concluded that the GPP, NPP and phytoplanktonic values were high during summer month (GPP = 27.37 gC/m^3/day, NPP = 22.12 gC/md/day. Phytoplankton = 775000 0/1 in June 2001). This review study as supported by the data on GPP, NPP and phytoplanktonic; content has confirmed the fact that the pollution level of the pond gained forward momentum over the last five years. The results are discussed in detail with reference to previous literature.
STUDY ON THE EFFECT OF ZINC ON THE RESPIRATORY PHYSIOLOGY OF CLARIAS GARIEPINUS

N. Chenthamarai Selvi and S. Sivakamasundari
Department of Zoology, Pachaiyappa’s College, Chennai – 600 030.

Abstract

The toxic effect of zinc on the respiratory parameters namely the rate of oxygen consumption, the rate of carbon-di-oxide elimination, the respiratory quotient and histopathology of gills were studied in African catfish, Clarias gariepinus. The 96 hours LC50 (Lethal concentration-50) value for zinc in this fish was estimated. Behavioural responses such as changes in their swimming behaviour and opercular beat of fishes exposed to various sublethal concentrations of zinc (25 ppm, 50 ppm, 75 ppm and 100 ppm) were observed. There were more significant changes of fishes exposed to concentrations of 50 ppm, 75 ppm, 100 ppm of zinc than in 25 ppm of zinc. The rate of oxygen consumption were increased in experimental fishes exposed to 25 ppm and 50 ppm of zinc (0.3389 ± 0.0579 ml O₂/g/h/l and (0.3916 ± 0.0759 ml O₂/g/h/l) whereas for 75 ppm and 100 ppm of zinc (0.1437 ± 0.0829 ml O₂/g/h/l and 0.1160 ± 0.0465 ml O₂/g/h/l) the oxygen consumption rates were decreased. The rate of carbon-di-oxide elimination showed an increase in fishes exposed to 75 ppm of zinc (0.0895 ± 0.0367 ml CO₂/g/h/l). But in fishes exposed to 100 ppm of zinc showed a decreasing trend in the rate of carbon-di-oxide elimination (0.0610 ± 0.0065 ml CO₂/g/h/l). The respiratory quotient showed an opposite trend to the rate of oxygen consumption. The histomorphological studies of the gills of C. gariepinus exposed to zinc using Haematoxylin and Eosin stains revealed a damage of the cells of the primary gill lamellae, secondary gill lamellae, gill filaments and cartilaginous gill bar.
PHYSIOLOGICAL ECOLOGY - GLYCOLLATE EXCRETION AND PHOTOASSIMILATION OF ORGANIC SUBSTRATES IN DIM LIGHT, DILUTE FWM

Nomita Chowdhuri Sen
Retired Professor and Head in Botany, 236 Gupteshwar, Premnagar, Jabalpur 482 00.

Abstract

The importance of glycollate excretion and photoassimilation of organic substrates in dim light is now generally accepted in oceanography. Physiological studies with unialgal clones (batch culture) seem to generate insight into this process in freshwater ecology.

The result of experiments show that the cell division in a strain of Chlorella can not begin unless an equilibrium concentration between its extra and intracellular glycollate has been established. Obviously, this is not a simple equilibrium, perhaps Donnan distribution. To stimulate the resting membrane, larger amount of current needs to flow to depolarize it. At equilibrium, the potential across the membrane is the force exerted by voltage gradients tending to move them in opposite directions, when activity coefficients are equal on the two sides; for positively charged cations, inside potential across the membrane with respect to outside, is negative if the concentration is less than one or low.
FRESH WATER BLUE GREEN ALGAE FROM GOA

Vijaya Kerkar & Sharmila Madkaiker
Department of Botany, Goa University, Goa. 403 206.

Abstract

The present survey was undertaken along various places of Goa. Blue green algae were collected from various habitats such as astatic ponds, lakes, pools and ditches. The present random survey has resulted in the discovery of 46 species belonging to 23 genera representing 7 families viz. Chroococcaceae, Stigonemataceae, Oscillatoriaceae, Nostocaceae, Scytonemataceae, Microchaetaceae, and Rivulariaceae. Oscillatoria, Aulosira, Calothrix, Nostoc, Anabaena, Rivularia and Cylindrospermum were found to be dominant in the collection. The Blue green algae are first time studied from Goa region.
REMOTE SENSING TECHNIQUES FOR WETLAND MAPPING IN HARYANA STATE

K E Mothi Kumar, TBVM Rao and Jitendra Prasad
Haryana State Remote Sensing Application Centre (HARSAC)
CCS HAU Campus, Hisar 125 004.

ABSTRACT

Wetlands have assumed a considerable significance in recent years with the growing interest in them for the productive and retentive uses to which they could be best utilized. Such uses include for supplementing human dietary requirements, their ecological significance in terms of flood control, water purification, aquatic productivity and micro climate regulation; and as habitats of fish, birds and wildlife. A wide variety of wetlands like marshes, swamps, bogs, peat lands, open water bodies, mangroves, tidal marshes, etc., exist which can be used profitably for meeting some of the human requirements and for environmental amelioration.

Realizing the importance of the wetland inventory in the country, the Ministry of Environment and Forests, Govt. of India has initiated national project on Wetland Inventory in the country using the satellite Remote Sensing techniques. In Haryana state, HARSAC has undertaken the mapping of various wetlands on 1:50,000 scale using the pre and post monsoon satellite (IRS LISS – II) data of Indian Remote sensing Satellite.

Under this study an attempt has been made to identify, delineate, and to map the various man made and natural inland wetlands in the state. The following categories were delineated: lakes / ponds, Ox-bow lakes / cut off meanders, waterlogged (seasonal & permanent), reservoirs, tanks and ash / cooling pond etc. An attempt has been made to calculate the areal extent of each wetland in pre and post monsoon seasons, their water spread, central latitude, longitude, turbidity status and vegetational status.

The present paper discusses the methodology adopted, results obtained in the state of Haryana and the limitations of the study in detail.
WATER CHARACTERIZATION AND CONSERVATION OF TEMPLE PONDS OF KOLLAM, KERALA

V.Sulabha and V.R. Prakasam
Department of Environmental Sciences,
University of Kerala, Trivandrum – 695581

Abstract

The fresh water ponds lying adjacent to temples are called temple ponds. In the present study, five temple ponds of Kollam were analysed for water characteristics during 1999-2000 in order to assess their quality and suitability for bathing. Analysis showed that water was turbid, pH ranged from 6.8 to 9.7, DO content was low and the concentration of nutrient salts was high. Water characteristics except pH and turbidity generally conformed to the quality tolerances for swimming pools. It is pointed out that temple ponds are important aquatic habitats that should be protected with a view to conserve water and local biota.

Key words: Temple ponds, water quality, conservation
ECOLOGICAL STUDY OF UJANI DAM BACKWATER AT SIDDHTEKA TAL, KARJAT, DIST-AHMEDNAGAR

A.B. Gore* and S.D. Pingle

*Department of Botany, Shri Chhatrapati Shivaji Mahavidyalaya. Shrigonda - 413701
**Department of Botany, P.V.P. College, Pravaranagar, Lori - 413 713.

Abstract

An attempt has been made to assess the water quality of Ujani Dam backwater at Siddhateka and nearby stations. The study was carried out by collecting water sample from five sampling stations. The samples were collected monthly from October 2000 to March 2001. The samples were analysed for parameters such as temperature, pH, dissolved oxygen, electrical conductivity, TDS, BOD, free CO₂, total alkalinity, chlorides, hardness, calcium, magnesium, phosphate.

At the same time macrophytes collected in aquatic and marginal area tolerating alkaline nature of water were recorded.
LIMNOLOGY OF A POLLUTED MOAT AT VELLORE, TAMIL NADU

K. Padmavathy

Hydrobiological Research Station, Department of Fisheries, Chennai- 600010

Abstract

Vellore fort moat, a perennial water body receives sewage from municipal discharge. Frequent fish mortalities were recorded due to limited quantity of dissolved oxygen. The physico chemical factors which are contributory causes are discussed. The remedial measures to maintain the requisite level of dissolved oxygen are given.
PRODUCTIVITY AND FISH PRODUCTION IN CERTAIN RESERVOIRS IN TAMILNADU

V. Ananchiammal (alias) Sundari, K. Padmavathy, Rajeswari Balasubramaniam and J. Sekar

Hydrobiological Research Station, Department of Fisheries, Chennai – 600 010.

Abstract

A description of the limnology of nine man made reservoirs-Aliyar, Amaravathy, Thirumoorthy, Sathanur, Bhavanisagar, Palar Parandalar, Manjalar, Uppar and Perumpallam is highlighted. Limnological parameters were observed. Estimation of fish production, based on gross primary production is given. Actual fish landed were below the estimated production in most of the reservoirs. Suitable management measures for optimum yield are suggested.
GROWTH RESPONSES OF CALOTHRIX ELENKINII KOSS TO VARYING pH AND UREA CONCENTRATIONS.

Sobha, V. and K. Danielkutty*
Department of Environmental Sciences, University of Kerala, Kariavattom, Thiruvananthapuram

*Department of Botany, St. Thomas college, Kozhecherry, Panthanamthitta (Dt.), Kerala.

ABSTRACT

Growth responses of Calothrix elenkinii Koss to varying pH and urea concentrations were studied. Calothrix elenkinii is a heterocystous, nitrogen fixing, filamentous blue-green algae identified from our monthly sample collection from the rock pool selected for hydrographical and phycobiocenoses study.

Optimal growth of this blue green algae occurred at pH 9 and urea concentrations 50 mg/l followed by pH 8 and 20 mg/l urea. pH of the culture medium (Chu-10) exhibited definite change. The success of an organism in a peculiar dynamic environment depends on how far it can resist the changing environmental factors. These are discussed.
HYDROGRAPHY AND PHYCOBIOICOENOSSES OF TWO FRESHWATER ECOSYSTEMS IN KERALA.

Sobha, V and K. Danielkutty*
Department of Environmental Sciences, University of Kerala, Kariavattom, Thiruvananthapuram

*Department of Botany, St. Thomas College, Kozecherry, Pathanamthitta (Dt.), Kerala.

Abstract

Kerala is enriched with temples and associated water tanks. Rock pools are also common, formed by erosion or quarrying. An attempt to compare the hydrography and phycobiocoenoses of two fresh water ecosystems viz. a temple pond and a rock pool is undertaken for a period of eight months study. The physico-chemical analysis revealed that the rock pool is more suitable for the growth of phytoplankton. Lesser values of pH, hardness, alkalinity, dissolved solids, sulphates, nitrates, sodium and SDT are exhibited by rock pool. However it has higher values of calcium content, dissolved oxygen, phosphate and CO₂. In rock pool 37 algal genera and in temple pond 24 genera with numerical dominance of Cyanophyceae in both cases were observed and discussed. The lesser number of algal taxa in temple pond is attributed to its pollution level.
HYDROLOGICAL PARAMETERS OF MUTTUKADU – BACKWATER OF BAY OF BENGAL.

M. Prema and B. Subramanian
Department of Botany, Ethiraj College for women, Chennai.

ABSTRACT

Periodical collection of water from the backwaters of Bay of Bengal at Muttukadu was carried out from October 1995 to February 1998.

Water temperature and pH was noted at site. Salinity, Nitrate and Phosphate were determined by chemical analysis of water collected every month, using standard methods. Air temperature and rainfall were obtained from Meenambakkam observatory. The salinity of the water shows wide fluctuation from 25 ppt to a high of 35 ppt. Rainfall instead of bringing down the salinity, tends to keep it at the higher range. This is probably due to leaching of salts from surrounding old abandoned salt pans.

Nutrients, nitrates and phosphates tend to be high during the period of low salinity.
PERIODICITY AND SUCCESSION OF PHYTOPLANKTON OF PASHAN LAKE

S.D. Pingle

Post-Graduate Dept. of Botany, P.V.P. College, Pravaranagar, a/p - loni kd - 413713, Maharashtra.

Key words- Algae-Phytoplankton-Periodicity-Succession.

ABSTRACT

Pashan Lake, the impoundment created by damming of Ram River, is situated about 9-km. south of Pune station, within the limits of Pune Municipal Corporation. The lake was studied over two years (1975-1977). Collections of phytoplankton were made periodically at the interval of a month. Both qualitative and quantitative analysis of phytoplanktons were done and it was observed that Chlorophycean phytoplanktons were present throughout the year, the peak of population was observed in the month of August 1975 and 1976 and the lowest population in Feb. 1976 and 1977. The Euglenophyceae and Bacillariophyceae also occur throughout the year, but population was quite less as compared to Chlorophyceae. The Euglenophyceae showed maximum population in March to June, whereas Bacilariophyceae in March and October. Chrysophyceae and Dinophyceae together showed maximum population as the Chlorophycean algae represented by lowest in population. Apart from these studies individual species of some algae showed interesting periodicity and succession.
POSSIBLE SCOPE OFFERED BY CERTAIN FRESH WATER GREEN ALGAE IN BIOTECHNOLOGICAL RESEARCH

Sankaran. V

Krishnamurthy Institute of Algology, Chennai.

Introduction:

Studies on fresh water algal biodiversity of the Anamalai Hill ranges, Tamil Nadu, India have been carried out from time to time (See Sankaran 2001). Three of the algal taxa recorded from this area viz *Echallocystis fritschii*, *Characiosiphon rivularis* and *Cladophorella calcicola*, remarkable with respect to their structure and distribution appear to be important tools for biotechnological studies, from the academic as well as applied angles. This is an attempt to involve these algal taxa in biotechnological studies.

The alga is macroscopic, resembling colonies of *Nostoc*. The thallus size of the alga is influenced by the velocity of the water current. Thalli reach upto 15.0 sq cm and is dark green in colour. The growth is pseudo-dendroid. Elliptic cells measure upto 20.2 μm long X 10.0 μm broad. Chloroplasts 1.20 / cell. The mother cell wall is funnel shaped after gelatinization of the apex with 2 daughter cells at the mouth. Thallus mucilage is formed by the gelatinizing cell walls. The thalli emanate an odor. The alga was collected in a mountain stream at Valparai (Alt. 3000ft).

*Characiosiphon rivularis*
FOOD SPECTRUM OF THE FRESHWATER FISHES OF TAMILNADU

M.B. Raghunathan, K. Remadevi and T.J. Indira

Southern Regional Station, Zoological Survey of India, 130, Santhome High Road, Chennai - 28.

ABSTRACT

An attempt has been made to study the food habits of 131 freshwater fishes of Tamilnadu from available literature and from inferences drawn from habitat preferences and general morphology of the species. It is found that the ichthyofauna of Tamilnadu comprises chiefly of Cyprinids followed by Silurids and Percoids. This is also reflected in the predominance of omnivory and herbivory over predatory habits.
EFFECT OF BIOSCREENS ON THE SURVIVAL AND GROWTH OF ROSY BARB (BARBUS CONCHONIUS)

K. Sankaraiyah¹ and D. Manikandavelu²

1. Lecturer, Department of Zoology, SRM Arts and Science College, Kattankulathur.
2. Asst. Professor, Live stock research station, Tamil Nadu University of Veterinary and Animal Sciences, Kattupakkam

ABSTRACT

An attempt has been made to evaluate the effect of articles suspended inside the water on the growth and survival of rosy barb, an ornamental fish, under periodic organic loading. The study reveals the fact that the pollution probability of organic loading could be minimized by nylon hangouts. Grafted to that effective transformation of organic load into fish biomass through immersed substrates as a possibility has been illustrated in this study.
TAXONOMY, MORPHOLOGY AND CULTURE OF
HAEMATOCOCCUS (HAEMATOCOCCACEAE, VOLVOCALES,
CHLOROPHYCEAE) FOR ASTAXANTHIN PRODUCTION

N. Jeeji Bai and S. Kumaravel

Parry Agro Industries Ltd., R&D Laboratory, c/o Carborundum Universal, Thiruvottiyur,
Chennai 600 019

ABSTRACT

The alga Haematococcus pluvialis has come into prominence in recent years as a possible candidate for mass production for its red astaxanthin pigment. This pigment is in demand not only in poultry and aquaculture for the attractive pink colour of the eggs and the flesh and skin of fish but also as a human nutritional supplement because of its vitamin A activity and antioxidant property.

Important literature data on nomenclature, taxonomy, morphology, ultrastructure, nutrition, physiology, conditions for increased astaxanthin biosynthesis and mass culture of this promising alga, have been briefly reviewed.
SEASONAL POLLUTION ASSESSMENT THROUGH COMPARATIVE HYDROBIOLOGICAL STUDIES IN ENNORE AND KOVALAM ESTUARIES

E. Padmini and M. Kavitha

P.G. Department of Biochemistry, Bharathi Women's College (Autonomous), North Chennai 600 108.
Key words: Estuary, Pollution, Hydrobiological, Seasonal, UV absorption.

ABSTRACT

Investigations into the impact of pollution in different seasons on physicochemical characteristics of Ennore estuary situated in north Chennai was conducted in 1999 - 2001. Water samples were collected from three different stations in Ennore estuary and were subjected to hydrobiological and UV absorption studies. The results obtained were compared with that of a control site, Kovalam estuary situated in south Chennai. It revealed that atmospheric temperature, water temperature, pH, salinity and suspended solids in waters of Ennore estuary were higher when compared to Kovalam estuary while dissolved oxygen in waters of Ennore estuary being lower than Kovalam estuary. Further, UV absorption studies indicated that station III of Ennore estuary is highly contaminated due to effluents when compared with other stations. The pollution impact was found to be predominant during summer and minimal during monsoon.
PLANKTONOLOGY OF INDIAN SALINE PONDS

Abdul A. Rahaman and Sosamma Esso

*PSG college of Arts and Science, Coimbatore* and *The Marine Product Export Development Authority, Kochi.*

**Introduction**

Microalgae are indeed the biological starting point for energy flow in most aquatic ecosystem, and as such are the basis of the food chain (Bradach et al., 1972). The solar saltfield, a special case of hypersaline ecosystem provides an opportunity to examine biological dynamics and trophic interactions along a gradient of increasing salinity.

The biotic species within a salina are very diverse in their response to salinity. There is a steady decline in the number of species with increasing salinity (Hammer, 1985 and Herbst, 1988). Britten and Johnson (1987) reported that the number of species get reduced steeply over the salinity range of 40-70 ppt, and then remains constant till 150 ppt, afterwards once again it falls until the salinity reaches above 300 ppt. The energy flow is usually large, but food chains are simple and often restricted to one producer and one consumer level.

There are numerous reports on the planktonology of inland hypersaline lakes (Borowitzka 1981). Very few studies have been made on the hypersaline solar salt ecosystems. Ramamoorthy and Thangaraj, 1980; Zhang-Runsheng et al., 1990).

Blue green algae tend to be characteristic of highly productive saline lakes and diatoms are less commonly dominant (Hammer, 1981). Liu Zhili and Liu Xuexian (1990) observed that the assemblages of cyanophytes, especially some genera of Oscillatoria, associated with sheath trapping, binding and to a lesser extent cementing of carbonates and sulphate sediment in the salt work form the algal mat.

*Artemia* forms the major, some time the only consumer in the hypersaline ecosystem, *Artemia* is a non-selective voracious plankton feeder (Anderson, 1958), and its density is largely determined by the availability of phytoplankters. Dana and Lenz (1986) opined that the size of brood also correspondingly reduced with decrease in algal density during summer season in major *Artemia* habitats like Mono Lake, Great Salt lake.

The role of microalgae and *Artemia* in the production of high quality salt have been well documented (Davis, 1992). Sorgeloos (1990) worked on prediction, monitoring and management of algal blooms and their detrimental effects on solar salt production. Rahaman et al., (1992, 1993) and Ed Burnard (1992) have given detailed account of biological management of solar saltworks through the maintenance of a balanced equilibrium between microalgae and *Artemia*.

The present study highlights the biological factors both qualitatively and quantitatively at Kelambakkam and Vedaranyam solar saltwork and also their relation to the hydrological factors.
EPiphytic algal Community of Yercaud Lake, Yercaud, Salem Dt., Tamil Nadu

S. Chandra, M.D. Vijaya Parthasarathy, R. Rangarajan and V. Krishnamurthy

Krishnamurthy Institute of Algology, Chennai - 600 034

ABSTRACT

Epiphytic algal Community of Yercaud Lake, Yercaud, Salem Dt., Tamil Nadu was studied at a place in the vicinity of a nursery adjoining the lake margin. The algae were epiphytic on various aquatic or semi-aquatic plants such as Eichhornia, Salvinia, Polygonum, Centella and Commelina. The algae were collected by scraping from the surface of the host, at two month intervals for a year. Each collection was examined immediately and a portion of it was transferred to culture in Bold’s Basal Medium. At the end of six weeks, the cultures were examined and the algae coming up in culture were recorded. The Chlorophyceae were the most dominant epiphytic algae, diatoms subdominant and blue greens were the least frequent among the epiphytes. Water samples were also collected at the same time and analysed for potassium, and phosphorus. Abiotic parameters such as air and water temperature, light intensity were recorded at the time of each sampling.

A comparison of the algae found on direct examination and the algae coming up in culture showed a number of algae only in culture. This and seasonal succession of the epiphytic algae in the lake are discussed in relation to changes in physico-chemical parameters of the habitat.
MACROINVERTEBRATE DISTRIBUTION AND RECOLONIZATION ON STONES IN THE BHADRA RIVER

G.M. Malathesh and S. Ravichandra Reddy

Department of Zoology, Bangalore University, Jnana Bharati, Bangalore 560 056

ABSTRACT

Recolonization studies on benthic invertebrates of temperate streams and rivers have shown that, animals quickly reappear in the affected areas. Although a few studies have been made on distribution of aquatic insects in small streams in India, information on recolonization of benthic invertebrates in tropical rivers is lacking. The present study is an attempt to understand the distribution and recolonization pattern of benthic macroinvertebrates on the stones of a given stretch of the Bhadra river, Western Ghat. The ratio of initial benthic density to recolonized benthic density remained higher (0.76) than the ratio of initial benthic density to benthic density to colonized on newly introduced stones (0.58) of the river. The pattern of recolonization and new colonization by the major taxa of benthic invertebrate varied considerably. Members of Ephemeroptera, Coleoptera and Megaloptera displayed high rate of reestablishment. Members of Coleoptera were the early colonists on the newly introduced stones and preferred smooth surface stones. It appears that, build up of adequate detritus and micro flora influence the reestablishment of the early colonists.

Introduction